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## INCOMMENSURABILITY AND THE PRIORITY OF METAPHYSICS

**Abstract.** I aim to reject a semantic doctrine, “Incommensurability”, commonly attributed to Kuhn and Feyerabend. They also subscribe to the neo-Kantian metaphysical doctrine of “Constructivism” which stands opposed to “Realism”. I argue that the Incommensurability issue comes down to the Realism issue. On the Realism issue I reject four arguments for Constructivism. Two Kantian arguments make the mistakes of using an *a priori* methodology and of not “putting metaphysics first”. Two arguments by Hoyningen-Huene and his co-authors support relativism but do nothing to support the Kantian core of Constructivism. I conclude by arguing against “meta-incommensurability”.

I share the common view that Thomas Kuhn and Paul Feyerabend enormously improved our understanding of the history and epistemology of science. Their suggestions about the semantics of science are interesting but, in my view, dubious at best. Their anti-realist views on the metaphysics of science are a disaster. I shall be concerned with that disaster and with its connection to the incommensurability issue.

### I. INCOMMENSURABILITY

I shall argue against an incommensurability thesis. My argument is partly a response to the views of Paul Hoyningen-Huene and his co-authors, particularly to his *Reconstructing Scientific Revolutions* (1993), a sympathetic and wonderfully scholarly account of Kuhn’s views. I shall draw on my *Realism and Truth* (1997). The thesis I shall reject is:

**Incommensurability:** Terms in rival comprehensive theories in a domain differ sufficiently in meaning, especially in reference, to make the theories incomparable.

What sorts of theory comparison is Incommensurability against? A straightforward sort would arise if the two theories share referents. As a result, some parts of one theory would be logically inconsistent with some parts of the other, and some parts would entail some parts of the other. But there could be more complicated sorts of comparison where referents were not shared; for example, Michael Martin’s case where terms in the two theories have overlapping referents (1971); or Hartry Field’s case where the theories share *partial* referents (1973). The intuitive idea of theory comparison is that what one theory says about *x* or about *Fs* is in agreement or disagreement with what the other says about *x* or about *Fs*. Sometimes the disagreement might be over the very existence of *x* or *Fs*. Agreement and disagreement at the observational level is, of

course, particularly important to theory comparison. Incommensurability denies that any of these sorts of comparison of rival theories is possible.

Clearly Incommensurability, with a capital “I”, has been stimulated by the writings of Thomas Kuhn (e.g., 1970) and Paul Feyerabend (e.g., 1981a; 1981b) on incommensurability. But do Kuhn and Feyerabend actually embrace Incommensurability? Their writings on the matter are so notoriously various and vague as to leave plenty of room for disagreement over interpretation. Hoyningen-Huene argues that the incommensurability that Kuhn has in mind does *not* imply incomparability (1993, pp. 218–222). I will address this interpretative issue briefly in a moment, but it is not really my concern.<sup>1</sup> Whatever the truth of it, the rejection of Incommensurability is worthwhile for two reasons. First, the writings of Kuhn and Feyerabend have been commonly taken to imply Incommensurability: Hoyningen-Huene gives a long list of philosophers “among many others” who have construed Kuhn and Feyerabend in this way (p. 218n). Second, rejecting Incommensurability is sufficient to remove the worries occasioned by those writings for a realist view of science. Indeed, if the claims in those writings about meaning change and translation failure do not threaten theory comparison then, whatever their purely semantic interest, they do not pose any special problems for the epistemology and metaphysics of science.

## 2. REALISM AND CONSTRUCTIVISM

My position on the realism issue is captured by the following doctrine:

**Realism:** Tokens of most common-sense, and scientific, physical types objectively exist independently of the mental.

At the observable level, the tokens in question are of stones, trees, cats, and the like; at the unobservable level, they are of electrons, muons, curved space-time, and the like.<sup>2</sup>

Realism stands opposed to a variety of doctrines. The one that concerns us most is usually called “Constructivism”. It starts from two Kantian ideas. The first of these is that the knowable world of “appearances” – stones, trees, cats, and the like – is partly constituted by the cognitive activities of the mind. Kant called this world “the phenomenal world”. According to Kant himself, the mind constitutes the phenomenal world by imposing *a priori* concepts. In recent times the restriction to *a priori* concepts has been removed: the mind may impose any concept, or a theory, or a language. The second Kantian idea distinguishes objects as we know them from objects as they are independent of our knowledge. The latter objects make up “the noumenal world” of “things-in-themselves”. Only the noumenal world, forever inaccessible and beyond our ken, has the objectivity and independence required by Realism. The phenomenal world of familiar objects does not, as it is partly our construction. So, where the Realist thinks that stones, trees and cats are both knowable and independent, Kant thinks that they are knowable but dependent, being partly constituted by us and partly by an unknowable independent world.

Constructivism adds a third idea to these two Kantian ones: relativism. Kant was no relativist: the concepts imposed to constitute the known world were common to all

humankind. Constructivists drop this universality. Different languages, theories, and world views are imposed to create different known worlds. In sum:

**Constructivism:** The only independent reality is beyond the reach of our knowledge and language. A known world is partly constructed by the imposition of concepts. These concepts differ from (linguistic, social, scientific, etc.) group to group and hence the worlds of groups differ. Each such world exists only relative to an imposition of concepts.

So Constructivists believe in what Hoyningen-Huene aptly calls “the plurality-of-phenomenal-worlds thesis” (1993, p. 36).

Examples of constructivist worlds include the stars made by a Goodman “version” (1978); the constructed worlds of Putnam’s “internal realism” (1981); the worlds built by a Whorfian language (1956); the many worlds created by the “discourses” of structuralists and post-structuralists. Most important for our purposes, according to Kuhn and Feyerabend the ontologies of scientific theories are constructivist worlds.

It is common to interpret Kuhn and Feyerabend as subscribing to Constructivism, but the interpretation has not been without its problems. It is comforting, therefore, to find Hoyningen-Huene (1993) giving an authoritative argument for this interpretation of Kuhn.<sup>3</sup>

### 3. THE RELATION BETWEEN THE REALISM AND INCOMMENSURABILITY ISSUES

No position on Realism *entails* a position on Incommensurability because Incommensurability is a semantic doctrine whereas Realism is not. Still arguments can be mounted from a position on Realism to a position on Incommensurability with the help of semantic assumptions. Consider this argument first:

Constructivism → Incommensurability.

Adopt the common assumption that meaning is to be explained at least partly in terms of reference. Let T1 and T2 be examples of rival comprehensive theories. What might the terms of T1 and T2 refer to? According to Constructivism, they cannot refer to the same entities, because with the move from T1 to T2 the world changes. Indeed, although some entities exist-relative-to-T1 and others exist-relative-to-T2, no sense can be made of any of these entities existing “absolutely”. So the potential referents, or even potential partial referents, of T1 terms are different from the potential referents of T2 terms. So there is no way that T1 and T2 can be compared in the way that concerns Incommensurability: they cannot agree or disagree about *x* or *F*s because they are not talking about the same *x* or *F*s.

In light of this let us briefly consider the earlier-mentioned issue about the interpretation of Kuhn. Since Hoyningen-Huene thinks that Kuhn is a Constructivist, what could be his basis for claiming that Kuhn holds T1 and T2 to be nonetheless comparable? One basis (1993, pp. 219–220) comes from Kuhn’s talk in his later writings of incommensurability being merely “local” (1983, pp. 670–671). This implies a more moderate relativism, hence more moderate Constructivism, than we have been

discussing, a move back toward Kant. The local conceptual differences between T1 and T2 may leave the theories with a lot conceptually in common. To the extent of what is in common, T1 and T2 construct the same world. Reference to that common world could enable some theory comparison.<sup>4</sup> But, to repeat, Incommensurability is worth rejecting whether or not, and to whatever extent, Kuhn is committed to it.

Call the negation of Incommensurability, “Commensurability”, and consider:

Realism → Commensurability.

This argument is not so easy. According to Realism, the world remains constant through theory change and a certain part of that world is the common domain of T1 and T2. It can then be argued that, by and large, these theories succeed in referring, or at least partially referring, to parts of this domain and this provides sufficient basis for theory comparison.<sup>5</sup>

Assume that I am right about this. So we have a plausible route from Realism to Commensurability as well as one from Constructivism to Incommensurability. There are surely other plausible routes to Commensurability, ones that do not involve Realism. However, I claim that there are *no* plausible routes to Incommensurability that do not involve establishing, or simply assuming, Constructivism or some other form of antirealism. So, Incommensurability depends on antirealism.

Hoyningen-Huene, and his co-authors Eric Oberheim and Hanne Andersen, may very well agree. In their review (1996) of Howard Sankey’s book defending a commensurability thesis (1994), they criticize Sankey’s argument on the ground that he “presupposes realism” (1996, p. 133). In another work, Oberheim and Hoyningen-Huene insist that “incommensurability was not introduced within a realist context” but rather in (what I am calling) a Constructivist one (1997, p. 450). They go on to talk of the “blatant inefficacy” of my own arguments against incommensurability “from the perspective of the non-realist proponent” (p. 452).

It fits my prejudices nicely that the Incommensurability issue should rest on the Realism issue. And I am rather delighted by the stereotypical nature of this particular debate: German Kantianism versus Australian Realism (1997, pp. vii, x).

In the light of this, it would, of course, beg the question against Incommensurability to presuppose Realism. Oberheim and Hoyningen-Huene allege (pp. 451–452) that I did beg this question, but they are wrong. I did not presuppose Realism, I *argued* for it and against Constructivism.

#### 4. SUMMARY OF AN ARGUMENT FOR REALISM

Here is a summary of my argument for Realism.<sup>6</sup> I start by observing that Realism about the ordinary observable physical world is a compelling doctrine. It is almost universally held outside intellectual circles. From an early age we come to believe that such objects as stones, cats, and trees exist. Furthermore, we believe that these objects exist even when we are not perceiving them, and that they do not depend for their existence on our opinions nor on anything mental. This Realism about ordinary objects is confirmed day by day in our experience. It is central to our whole way of viewing the world, the very core of common sense. Given this strong case for Realism, we should give it up only in

the face of powerful arguments against it and for an alternative. There are no such arguments. That concludes the case for Realism.

What about *scientific* Realism, Realism about unobservables? The argument for it rests upon Realism about observables. The argument consists mainly in a simple but powerful inference to the best explanation: by supposing that the unobservables of science exist, we can give good explanations of the behavior and characteristics of observed entities, behavior and characteristics which would otherwise remain completely inexplicable.<sup>7</sup>

It can be seen, then, that the case for Realism partly rests on rejecting alternatives. In the present context, the alternative that we particularly need to reject is Constructivism. I shall start with some criticisms of Constructivism and then consider the arguments for it.<sup>8</sup>

### 5. CRITICIZING CONSTRUCTIVISM

Constructivism is surely the metaphysics of the twentieth century. It has its origins in the work of a great philosopher and has been urged by some outstanding ones. Despite this popularity, and the respect due to our elders and betters, we should not close our eyes to the fact that Constructivism is *prima facie* absurd, a truly bizarre doctrine. This emperor has no clothes.<sup>9</sup>

To start with, the idea of noumenal things-in-themselves is explanatorily useless and probably incoherent. Constructivists are attracted to things-in-themselves to provide an external constraint on theorizing. The plausibility of the view that there is *some* external constraint is, of course, overwhelming: there must be something outside us determining that some theories are better than others. However, things-in-themselves provide the appearance of constraint without the reality. Since we can, *ex hypothesi*, know nothing about things-in-themselves, we can know nothing about the mechanisms by which they exercise their constraint, nor can we explain or predict any particular constraint. For Kant himself, the very idea of *causal* constraint by the noumenal world is incoherent because CAUSALITY is one of the concepts imposed by us. So causality is part of the phenomenal world and cannot hold between the noumenal and phenomenal worlds. If this is not the position of a Constructivist, it surely ought to be. Why should causality be exempt from the rule of creation by imposition?<sup>10</sup> If it is not exempt, the Constructivist faces the same problem that has baffled Kant scholars for years: the nature of the non-causal constraint exercised by things-in-themselves.

Frederick Jameson captures the mysteriousness of the noumenal world (in discussing structuralism): it is "a formless chaos of which one cannot even speak in the first place" (1972, pp. 109–110). It is hardly ever mentioned without the protection of scare quotes or capital letters. Yet mentioned it often is. And, given the role that Constructivists want the noumenal world to play, it is not surprising that they should try to tell us about it. Yet, *ex hypothesi*, this is to attempt the impossible. For example, consider the problem of specifying the common domain of rival theories. The Realist can do this in terms of shared referents or, at least, shared partial referents. How can a Constructivist like Kuhn do it? Hoyningen-Huene points out that Kuhn appears to his critics to have the view that rival incommensurable theories "bear the same relation to one another as, for example, theories of the unconscious bear to theories on the stability of globular star clusters ...

[they] address differently constituted regions of the world" (1993, pp. 218–219). Hoyningen-Huene rejects the analogy, claiming that whereas "the latter theories have totally different domains ... incommensurable theories target *roughly the same* object domain, *as far as the world-in-itself is concerned*" (p. 219). But this talk, which treats the noumenal world as if it were the Realist world, makes no sense:<sup>11</sup> we can know nothing about what is targeted in an unknowable world.<sup>12</sup>

The noumenal world adds only an invisible fig leaf to the naked idealism of Constructivism. If the leaf is dropped we are left with a modified Constructivism, which seems to be the preferred view of Putnam (1981, pp. 61–62, 83) and the later Kuhn (1979). On this view, no account of constraints on our theorizing can be given. The modified Constructivist might deny that there are any constraints: we can think anything we like. That is not plausible (to put it delicately). Alternatively, he might claim that there are constraints but we can, in principle, say nothing about them: it is just an inexplicable brute fact that we cannot think anything we like. This replaces the earlier incoherence with silence. It is hardly an appealing position.

Worse still, if that is possible, is the idea that we make the known world of stones, trees, cats, and the like with our concepts. It is common to convey this idea with the help of the cookie-cutter metaphor: the dough (the noumenal world) is independent of the cook (us); the cook imposes cookie-cutters (concepts) on the dough to create cookies (appearances). But how could cookie cutters in the head literally carve out cookies in dough that is outside the head? How could dinosaurs and stars be dependent on the activities of our minds? It would be crazy to claim that there were no dinosaurs or stars before there were people to think about them. Constructivists do not seem to claim this. But it is hardly any less crazy to claim that there *would not have been* dinosaurs or stars if there *had not been* people (or similar thinkers). And this claim seems essential to Constructivism: unless it were so, dinosaurs and stars could not be dependent on us and our minds.

Finally, there is an old problem for relativism: arbitrarily excluding from the scope of the theory something dear to the theorist's heart. In this case, why do the languages, concepts, cultures, and so forth, that do the worldmaking not themselves exist only relative to ... ? Relative to what? Themselves? The "texts" themselves start to shimmer and lose their reality.

Constructivists typically vacillate between talk of theories or experience and talk of the world.<sup>13</sup> This vacillation is important to the appeal of their message. For, although it is false that we construct *the world* by imposing concepts on *the world*, it is plausible to suppose that we construct *theories of the world* by imposing concepts on *experience of the world*. The vacillation helps to make the falsehood seem true.

## 6. REJECTING TWO KANTIAN ARGUMENTS FOR CONSTRUCTIVISM

What then is the case for Constructivism?<sup>14</sup> It arises out of alleged problems for Realism. I shall start with two Kantian arguments and then consider two arguments that Hoyningen-Huene proposes on behalf of Kuhn.

The main ingredients for one argument come straight from Kant. How can we save knowledge in the face of Cartesian doubt? The gap between the knowing mind and the Realist world of independent objects is alleged to make knowledge of those objects

impossible. So the world we know about cannot be the Realist world. The only sort of world we could know about is one we partly constitute with our theories. Finally, we add relativism to this Kantian brew: when our theories change radically, so must our worlds.

A semantic variant of this argument can be abstracted from contemporary antirealist discussions. The gap between the knowing mind and the Realist world makes it impossible to refer to that world. So the world we refer to cannot be that world but must be a world we construct. With radical theory change goes reference to a different world.

I think that these sorts of argument are implicit in the discussions of Kuhn and Feyerabend and have frequently attributed a semantic one to them. Oberheim and Hoyningen-Huene dismiss the attribution (1997, pp. 448–449). I am not convinced by their dismissal but will not argue the matter. It is important to see what is wrong with these sorts of argument, whether or not they are to be found in Kuhn and Feyerabend.

The argument I have attributed to Kuhn and Feyerabend starts from a description theory of reference according to which the reference of a term in a scientific theory depends on the descriptions (other terms) the theory associates with it: it refers to whatever those descriptions (or most of them) pick out. Now with theory change, particularly radical theory change, is likely to go the view that those descriptions do not pick anything out. So, if we take the Realist view that a referent must exist independently of theory, we must conclude that, from the new perspective, the term in the old theory does not refer. This will be true even of an “observational” term; think, for example, of the change in descriptions associated with ‘The Earth’ that came with the Copernican revolution. However, if we abandon Realism we can take the old terms to refer to entities constituted by the old theory, entities that exist relative to that theory but do not exist “absolutely”.

Such arguments should give us pause. Speculations about what and how we can know and refer have led to disaster: a bizarre metaphysics. But why should we have any confidence in these speculations? In particular, why should we have such confidence in them that they can undermine a view as commonsensical as Realism? A Moorean point is appropriate: Realism is much more firmly based than these speculations that are thought to undermine it.<sup>15</sup> We have started the argument in the wrong place: rather than using the speculations as evidence against Realism, we should use Realism as evidence against the speculations. We should, as I like to say, “put metaphysics first”.

Indeed what support are these troubling speculations thought to have? Not the empirical support of the claims of science. This is most obvious with the epistemological speculations, but it is fairly obvious with the semantic ones. Thus, no attempt is ever made to establish empirically that a description theory of reference is appropriate for these scientific terms. In brief, the support for these speculations is thought to be *a priori*.<sup>16</sup> Reflecting from the comfort of armchairs, Constructivists decide what knowledge and reference *must* be like, and from this infer what the world *must* be like:

*A priori* epistemology/semantics → *a priori* metaphysics.

The Moorean point alone casts doubt on this procedure and the philosophical method it exemplifies, the *a priori* method of “First Philosophy”. But we can do better: the doubt is confirmed by the sorts of considerations adduced by Quine (1952, pp.

xi–xviii; 1961, pp. 42–46). These considerations should lead us to reject *a priori* knowledge and embrace “naturalism,” the view that there is only one way of knowing, the empirical way that is the basis of science.<sup>17</sup> From the naturalistic perspective, philosophy becomes continuous with science. And the troubling speculations have no special status: they are simply some among many empirical hypotheses about the world we live in. As such, they do not compare in evidential support with Realism. Experience has taught us a great deal about the world of stones, cats, and muons but rather little about how we know about and refer to this world. So epistemology and semantics are just the wrong places to start the argument. Instead, we should start with an empirically based metaphysics and use that as evidence in an empirical study of how we know and refer: epistemology and semantics themselves become part of science, they become “naturalized”:

Empirical metaphysics → empirical epistemology/semantics.

And when we approach our metaphysics empirically, Realism is irresistible. Indeed, it faces no rival we should take seriously.

Quine is fond of a vivid image taken from Otto Neurath. He likens our knowledge – our “web of belief” – to a boat that we continually rebuild whilst staying afloat on it. We can rebuild any part of the boat but in so doing we must take a stand on the rest of the boat for the time being. So we cannot rebuild it all at once. Similarly, we can revise any part of our knowledge but in so doing we must accept the rest for the time being. So we cannot revise it all at once. And just as we should start rebuilding the boat by standing on the firmest parts, so also should we start rebuilding our web. Epistemology and semantics are among the weakest places to stand.

We start with metaphysics. We have already summarized our argument for a Realist one. Does the history of science, so nicely revealed by Kuhn and Feyerabend, demand any modification of this Realism? As theories have changed, have we abandoned our belief in entities that we previously thought existed? First, consider observables. Theoretical progress certainly results in the addition of new observables, terrestrial and celestial, to our catalogue. But there have been very few deletions. Cases like witches, Piltown Man, and Vulcan are relatively rare. There have been some mistakes, but there is nothing in our intellectual history to shake our confidence that we have steadily *accumulated* knowledge of the make up of the observable world. We have been wrong often enough about the *nature* of those entities, but it is *their* nature we have been wrong about. We have not been wrong about the fact of their existence. In brief, theory change is no threat to Realism about observables.

Furthermore, we should be sufficiently confident of this metaphysics to reject any theory of language that fails to fit it. It is not that the historical facts of theory change, together with a description theory of reference for scientific terms, show Realism to be false. Rather, those facts, together with Realism, show the description theory for those terms to be false. Many ideas for other theories of reference compatible with Realism have emerged in recent times.<sup>18</sup>

It is less easy to rebut Kuhn and Feyerabend on unobservables. It is plausible to suppose that we have often been wrong in thinking that an unobservable exists. Even there, Kuhn and Feyerabend’s commitment to the description theory leads them to



exaggerate our degree of error. Without these exaggerations, scientific realism is not in much trouble: while our views of, say, the subatomic particles have changed and evolved, we still believe in the entities posited by Bohr and Rutherford. *At most*, the history of science should make us cautious in our commitment to unobservables. It should not lead us into Constructivism (1997, section 9.4).

The discussion in this section is intricate enough to warrant a summary. The background to the discussion is our earlier argument for the plausibility of Realism (section 4) and the implausibility of Constructivism (section 5). The Kantian arguments for Constructivism and against Realism rest on speculations in epistemology and semantics. Against the background – the plausibility of Realism and implausibility of Constructivism – the Moorean point is that we should prefer Realism to the Kantian speculations; we should put metaphysics first. This point is good on its own but when supported by naturalism it is formidable. From the naturalistic perspective these speculations cannot be supported *a priori* and they do not come close to having the empirical support enjoyed by Realism. The arguments for Constructivism use the wrong methodology and proceed in the wrong direction.

I turn now to the arguments that Hoyningen-Huene offers on behalf of Kuhnian Constructivism.

#### 7. REJECTING TWO KUHNIAN ARGUMENTS FOR CONSTRUCTIVISM

Oberheim and Hoyningen-Huene dismiss the idea that Kuhn and Feyerabend were led to incommensurability and Constructivism by their semantics. Rather, these doctrines “were the result of attempting to achieve a historical understanding of the development of science” (1997, p. 449). How did they result? We need to be particularly concerned with how the history of science is supposed to support Constructivism, because without Constructivism the case for Incommensurability collapses (section 3).

In his book, Hoyningen-Huene emphasizes Kuhn’s revolutionary historiography of science which was to be the basis for his view of science: “Kuhn’s goal is *to propose a new picture of science and scientific development, in particular of scientific progress, grounded in this new historiography*” (1993, p. 13). According to this historiography, episodes in the history of science are best studied and explained in their own right and not from the perspective of contemporary science. We need to see the world as the scientists of those times did, which may be difficult because those scientists saw the world so differently. This practice “requires an exact reconstruction of the period’s conceptual system” (p. 20). It leads to “a more alien, yet at the same time more reasonably alien, scientific past than the old historiography” (pp. 22–23). Hoyningen-Huene goes on to claim that the experience of the historian practicing this new historiography justifies the plurality-of-phenomenal-worlds thesis for the practice “*may produce a different phenomenal world – different, that is, by comparison with the historian’s own phenomenal world*” (p. 38). But, of course, this experience could justify the *plurality* of phenomenal worlds only if it has already been established that *there is a phenomenal world at all* in the relevant Kantian sense, a world partly constructed by the imposition of concepts. Perhaps Hoyningen-Huene takes this to have been established already by Kant. Mooreans and naturalists think that nothing could be further from the truth (section 6).

Kuhn and Feyerabend's illuminating view of the history of science alone does not support Constructivism. No more does their illuminating view of the epistemology of science. They claim that all statements, even "observation" statements, are epistemically theory-laden.<sup>19</sup> This claim is not novel – it is central to the Duhem-Quine thesis – but Kuhn and Feyerabend did more than anyone to establish it, producing a marvellous array of scientific evidence in its favor. Hoyningen-Huene sees an argument here for the plurality-of-phenomenal-worlds thesis: that thesis helps explain theory-ladenness (pp. 36–37). And so, in a way, it does. But this is not the *best* explanation because it is based on an implausible metaphysics. The best explanation is based on Realism. Against a Realist background theory-ladenness is readily explained by a naturalized epistemology that appeals to the psychological facts of belief formation. Theory-ladenness would provide a reason for going beyond Kant's metaphysics by adding a plurality thesis if we had already established that metaphysics. But we have not.

Constructivism combines the Kantian idea of a phenomenal world, the Kantian idea of a noumenal world, and relativism. Kuhn and Feyerabend's views of history and epistemology would support the addition of relativism to the two Kantian ideas but they do nothing to support the ideas themselves.

Let us take stock. I have argued that Constructivism leads to Incommensurability and Realism leads to Commensurability. Furthermore, I claimed that without Constructivism, or some other form of antirealism, there is no plausible route to Incommensurability (section 3). So, we can refute Incommensurability by establishing Realism. The case for Realism is so strong that we should give Realism up only in the face of powerful arguments against it and for an alternative (section 4). I have argued against Constructivism, the alternative that concerns us, emphasizing the bizarre and mysterious nature of the doctrine (section 5). Adopting first a Moorean and then a naturalistic perspective, I have rejected two Kantian arguments for Constructivism (section 6). We have just seen that the arguments that Hoyningen-Huene proposes on Kuhn's behalf presuppose rather than argue for the Kantian core of Constructivism. Constructivism is not only implausible, it is unsupported. Realism still stands. If I am right about all this, the case against Incommensurability is made.

But one matter remains.

## 8. REJECTING META-INCOMMENSURABILITY

Hoyningen-Huene, Oberheim and Andersen, struck by the inconclusiveness of the realism debate, make the tentative proposal that the debate itself involves incommensurability, what they call "*meta-incommensurability*": because of meaning differences "effective means of rational *meta-theory* choice are not yet at hand" (1996, p. 138). If they are right about this, of course, the argument I have just summarized, purporting to give a rational basis for choosing Realism over Constructivism, must be a failure.

In support of meta-incommensurability, they claim:

there are several terms that change meaning when one crosses the line from realism to non-realism: namely, 'reality', 'world', 'theory comparison', 'fact', and even 'reference' itself... they purportedly refer to different things, based on the different metaphysical assumptions each party brings to the debate. (pp. 138–139)

This simply *assumes* that because the realist and the non-realist make different assumptions involving a word, and hence associate different predicates with it, its meaning and reference differ for them. This is to assume a description theory for these words. Why should we do that? We already know that description theories cannot be true for all words: these theories explain the meaning and reference of a word in terms of the meaning and reference of other words, a process that cannot go on for ever. Some words must “stand on their own feet” being explained (at least partly) in terms of some sort of relation to reality that is not mediated by another word (Devitt, 1996, pp. 159–160). We have been given no reason to suppose that the words in question are not of that sort.

The initial proposal of meta-incommensurability was cautious but the caution of Oberheim and Hoyningen-Huene soon disappears: “‘truth’, ‘world’, ‘fact’, ‘theory comparison’, and ‘reference’ ... *clearly* have different meanings for the realist and the non-realist” (1997, p. 453; my emphasis). Furthermore, they reject the idea that this thesis rests on semantic considerations, in particular on a description theory (p. 460).<sup>20</sup> Rather, it is “based on a contemporary historical case study” (p. 453). They see meta-incommensurability as the best explanation of a range of phenomena which they observe in the realism literature: “communication difficulties”; accusations that arguments are “circular” or “question-begging”; the sense that arguments are “indecisive” (pp. 453–459). This is ingenious. The phenomena that they identify cannot be denied. And if there is meta-incommensurability we would certainly expect these phenomena. But is meta-incommensurability really the best explanation of them? I think the answer is, “No”.

I start with a qualification. I would be the last to claim that there are *no* meaning differences in the realism debate, nor that such differences play no role in producing phenomena *of the sort* identified: I have often complained of the confusion over the word ‘realism’ itself. So I accept that incommensurability *sometimes* plays an explanatory role of the sort Oberheim and Hoyningen-Huene suggest. But this sort of incommensurability can easily be removed with a bit of terminological care. It is very different from their meta-incommensurability rooted in metaphysical difference, difficult if not impossible to remove.

Here is a reason for thinking that meta-incommensurability *may not* be the best explanation of the phenomena that they identify. Communication difficulties, accusations of circularity, and similar phenomena often occur in disagreements where it is very implausible that there are meaning differences. These may be humdrum disagreements of everyday life or “low-level” scientific disagreements within a paradigm. It is clear, then, that the occurrence of such phenomena does not *depend on* meaning differences between positions. Sometimes we need another explanation of these phenomena.

What other explanations are available? I shall briefly describe four features of the cognitive life that might contribute to such explanations. In light of these, it seems to me clear that meta-incommensurability *is not the best* explanation of the phenomena of the realism debate.

The first feature is the theory-ladenness of observation, a feature much emphasized by Kuhn and Feyerabend: what we make of our experience depends very much on what

we already believe, on what we expect. This applies to our linguistic experience as well. We interpret sentences that mean  $p$ , in our language as much as the speaker's, to mean  $q$  because, given our beliefs, including those about the speaker, that is what we expect her to be saying in the circumstances. We have "communication difficulties". This is surely part of the explanation of a phenomenon experienced by all journal reviewers: the author of a critical paper seems unable to read what is plainly on the page criticized.

The second is the general difficulty of putting together good arguments, and the undeniable extra difficulty of doing so in philosophy. It is very hard to think straight and particularly hard to do so about such abstract topics as realism. This difficulty is surely the explanation of many arguments in ordinary life and science that are circular, question-begging, or indecisive. And it is plausible to think that it is part of the explanation of these failures in many philosophical arguments.

The third is a bit more speculative. It seems plausible to suppose that we humans suffer from a certain rigidity in our thinking that makes it difficult for us to contemplate alien views. And the more alien and the more global the view, the greater the difficulty. So we should expect great difficulty in the realism debate. Sometimes, no doubt, difficulties with alien views arise from meaning differences but there seems no good reason for supposing that they all must. Why should we not regard it as a brute fact about us that, even with meanings constant, we find it difficult to "get our heads around" alien views? Certainly we do not know enough about psychology and semantics to rule this out.

Finally, a rather obvious feature of many debates in philosophy and elsewhere is the ego involvement of the participants: the participants are wedded to their views and "want to win". This can blind them to the faults in their arguments leading to question begging, circularity and the like.

Given the general availability of explanations built out of these four features, it is appropriate to invoke meta-incommensurability as an explanation of a particular phenomenon of question begging, circularity, etc, only if we have some independent reason for thinking that meaning differences are involved. This independent reason must arise from a semantic theory, however primitive. So an historical case study that does not invoke semantic considerations will not do the job of justifying a meta-incommensurability explanation of the phenomena of the realism debate, contrary to what Oberheim and Hoyningen-Huene desire. And, so far as I can see, the only semantic consideration that they can invoke to do the job is a description theory of reference. As I have pointed out, we have been given no reason to suppose that this theory is appropriate here.

I conclude that the meta-incommensurability thesis is false. My earlier argument for Realism and hence against Incommensurability stands.

Finally, it is just as well that the meta-incommensurability thesis is false because it is dangerous. If the thesis were true both sides of the realism debate would be immune to rational criticism. Post-modernists would relish such a conclusion but it should dismay the rest of us.<sup>21</sup>

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## NOTES

<sup>1</sup> Eric Oberheim and Hoyningen-Huene (1997) raise another interpretative issue. They distinguish between "Feyerabend and Kuhn's conception of incommensurability, in the sense that it was a result arrived at through historical analysis and ... a semantic conception of incommensurability within a realist framework". Whereas "contemporary literature" has been concerned with the semantic conception, Feyerabend and Kuhn's conception was not "restricted to such semantic issues" (p. 447). I have two comments. First, here and elsewhere, Oberheim and Hoyningen-Huene confuse the question "What is *the argument* for Kuhn and Feyerabend's incommensurability?" with the question "What is *the nature* of that incommensurability?". Whether or not the argument for (or against) their incommensurability is from historical analysis, within a realist framework, or whatever, is one thing, what that incommensurability *is* is another. (My "Maxim 1" makes an analogous point about the realism issue: "In considering realism, distinguish the constitutive and evidential issues"; 1997, p. 3). In particular, whether or not Kuhn and Feyerabend's incommensurability *is* semantic is a distinct matter from whether or not their argument for it is from "semantic theory" (pp. 447–452). My second comment addresses what Oberheim and Hoyningen-Huene have to say on the former question, the one about the nature of incommensurability. They reject the common view, which I share, that Kuhn and Feyerabend's incommensurability thesis is semantic. They insist that the thesis "was intended to involve more than semantic issues": it was intended to involve a neo-Kantian antirealism (p. 450). I have no doubt that Kuhn and Feyerabend subscribe not only to a semantic thesis like my Incommensurability but *also* to an antirealist metaphysics. I do doubt that they conflated them under the one term 'incommensurability'. But whether or not they did, they shouldn't: nothing but harm comes from the conflation of semantics with metaphysics. Or so I have argued (1997). To insist on distinguishing the semantic thesis from the metaphysical one is not, of course, to deny that the theses may be related. I shall explore the relation in section 3.

<sup>2</sup> I explain and argue for this nonsemantic characterization of realism in my (1997).

<sup>3</sup> Howard Sankey talks of Hoyningen-Huene's "novel interpretation of Kuhn's philosophy of science, which presents the latter within a neo-Kantian anti-realist framework" (1997, p. 437). What is novel, of course, is not the neo-Kantian (= Constructivist) interpretation itself, which has been widespread for years, but the thoroughness of the case for it, and the clear and detailed presentation of Kuhn's philosophy of science from that interpretative perspective.

<sup>4</sup> Hoyningen-Huene offers two other bases (pp. 220–221). I find these very unconvincing but will not argue the matter.

<sup>5</sup> The argument for Commensurability in my (1979) is implicitly an argument from Realism along these lines, and that in my (1997, section 9.6), is explicitly so (also Devitt and Sterelny 1999, pp. 227–228). Sankey (1994) is an extended argument of this sort; see also Sankey (1998).

<sup>6</sup> Devitt (1997), particularly chapters 5 and 7; see also (1999).

<sup>7</sup> This simple argument should not be confused with a popular one captured by the slogan "Realism explains success". The popular argument uses Realism to explain the observational success of theories where the simple one uses Realism to explain the observed phenomena (1997, section 7.3).

<sup>8</sup> For more details, see my (1997), particularly chapter 13.

<sup>9</sup> Richard Rorty thinks it absurd to say "that we make objects by using words" (1979, p. 276). Nicholas Wolterstorff thinks that in saying this the Constructivist must be "speaking in metaphor. If we took him to be speaking literally, what he says would be wildly false – so much so that we would question his sanity" (1987, p. 233). David Stove has this to say in his chapter "Philosophy and Lunacy: Nelson Goodman and the Omnipotence of Words": "the statement that worlds can be made with words: a statement which, as Hume said of the doctrine of the real presence, 'is so absurd that it eludes the force of all argument'" (1991, p. 31).

<sup>10</sup> According to Hoyningen-Huene, "Kuhn stipulates [the noumenal world] to be *spatiotemporal*, not undifferentiated, and in some sense *causally efficacious*" (1993, p. 34). One wonders what Kuhn's justification could be for this departure from Kant.

<sup>11</sup> As, indeed, Hoyningen-Huene admits in a footnote (n. 119)! The admission totally undermines his rejection. See also sections 2.2.c–2.2.e where Hoyningen-Huene wrestles mightily with Kuhn’s attempts to describe the constraining role of the noumenal world (in the guise here of what Hoyningen-Huene calls “object-sided stimuli”). This discussion brings out nicely the futility of such attempts to speak the unspeakable.

<sup>12</sup> Alternatively, if we can know what is targeted in the noumenal world, why can we not know other things about that world? Why then does the noumenal world not collapse into the knowable Realist world? For more along this line, see Sankey (1997, pp. 439–440).

<sup>13</sup> For example: Whorf (1956, pp. 55, 162, 213, 253); Kuhn (1970, pp. 114, 117); Feyerabend (1978, p. 70); Latour and Woolgar (1986, p. 183); Hawkes (1977, p. 28).

<sup>14</sup> I am here seeking *rational* explanations of Constructivism; and I have done so at greater length elsewhere (1997, sections 13.4–13.7). But the popularity of a doctrine that is so bizarre and mysterious cries out for a different sort of explanation. For some learned, and very entertaining, suggestions, see Stove (1991). Stove thinks that antirealism, like religion, stems from our need to have a *congenial* world. For some suggestions by Georges Rey along similar lines, see my (1997, p. 257n).

<sup>15</sup> Steven Hales drew my attention to the Moorean nature of this point. Note that the point is not that Realism is indubitable, to be held “come what may” in experience: that would be contrary to naturalism. The point is that, *prima facie*, there is a much stronger case for Realism than for the speculations. (Thanks to Paul Boghossian.)

<sup>16</sup> In this respect, Kuhn and Feyerabend are very much part of the Establishment, despite the radical nature of their philosophy of science. They are part of a semantic tradition, one that includes the positivists before them and is still dominant to this day, that proceeds as if semantics is, at bottom, *rather easy*. At the level of terms (or concepts) we can rely on *a priori* intuitions about which features of a term (or concept) constitute its meaning. So to determine the meaning all we have to do is describe how the term (concept) is learned and used and we can simply “see” what its meaning is. Feyerabend remarks that “conversations about meaning belong in the gossip columns” (1981a, p. 113). Since his own writings are riddled with such conversations, we must see his remark as characteristic waggishness. Of course, one might wonder how an empirical theory of meaning *should* proceed. I think that it is very difficult to say. My attempt is (1996, chapter 2).

<sup>17</sup> A particularly important consideration against the *a priori*, in my view (1996, section 2.2), is the lack of anything close to a satisfactory *explanation* of a nonempirical way of knowing. We are told what this way of knowing is *not* – it is *not* the empirical way of deriving knowledge from experience – but we are not told what it *is*. Rey (1998) and Field (1998) have a more tolerant view of the *a priori*. My (1998) is a response.

<sup>18</sup> See for example, Kripke (1980), Putnam (1975), Dretske (1981), and Millikan (1984).

<sup>19</sup> Not to be confused with another thesis that they have also sometimes seemed to hold: that “observation” terms are *semantically* theory-laden. This thesis amounts to a description theory of those terms. One could believe the epistemological thesis that one’s judgment about the application of, say, ‘rabbit’ in a certain situation depends on all sorts of background assumptions about rabbits, whilst holding the semantic thesis that the meaning of ‘rabbit’ depends not on its relation to any other term but entirely on its direct causal relation to rabbits.

<sup>20</sup> This is not the same, of course, as rejecting that meta-incommensurability *is* semantic (as the characterization that opens this section shows it to be). However, they sometimes write as if the confusion of the argument and nature questions that I criticized in their discussion of incommensurability (note 1) may also be present in the their discussion of meta-incommensurability (pp. 453, 461).

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