Philosophical Psychology

Reply to Silberstein

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This response to Silberstein's review undertakes two tasks. First, it attempts to clarify aspects of Cognitive Pluralism and its relationship to anti-reductionism. Second, it engages Silberstein's claim that traditional metaphysics of mind is dead, or at least should no longer be pursued.

Keywords: Cognitive Pluralism; Explanation; Metaphysics; Philosophy of Mind; Pluralism; Reduction; Relativism

Michael Silberstein (this issue) has written a thorough, accurate, insightful and quite generous review of my book, *Beyond reduction* (Horst, 2007). Indeed, with so many "blurbable" assessments, it is the sort of review that any author should be happy to receive. But the issues Silberstein raises are ones that either *will* or *should* occur to other readers as well, and so I am grateful for this opportunity to respond and elaborate on things that might not have been completely clear in the book.

I shall, however, note that the majority of Silberstein's critical engagement is directed at part 3, the discussion of Cognitive Pluralism. I suppose that this is both understandable (as Silberstein is already in agreement with much of the major critical project in parts 1 and 2) and appropriate (as Cognitive Pluralism is the main positive theoretical contribution of the book). I would, however, caution those who have not yet read the book itself that I regard the critique of mainstream positions in philosophy of mind in parts 1 and 2, and the argument that philosophy of mind requires some serious rethinking, as constituting the core of the book. If most readers were to agree with Silberstein that this critical project has been successfully carried out, I would deem the book to have accomplished what I hoped for it, even if no one else read part 3, which was written as an initial exploration of the question, "where

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might we go from here?'' However, I suspect that most readers will not share Silberstein's pre-existing sympathies with my critique of mainstream metaphysics of mind, and if they accept my conclusions at all, will need to be dragged towards them kicking and screaming. As I shall confine myself here to addressing Silberstein's criticisms, the reader will need to pick up the book itself to engage the points on which he and I agree.

Because Silberstein's criticisms are mostly directed at the most original and hence least familiar ideas introduced in *Beyond reduction*—those connected with Cognitive Pluralism—I shall provide a very brief summary of those ideas before turning to the criticisms leveled against it.

(1) It is a basic principle of human cognitive architecture that we understand the world through a proliferation of special-purpose, domain-specific models of aspects of the world. Each of these employs a representational system that is good for rendering a useful and efficient model of its target domain and, as a consequence, each is idealized.

(2) The idealization of the models, and their use of particular representational systems, *can* result in incommensurabilities between models.

(3) Some, at least, of the failures of reducibility (and other disunities of knowledge) that we actually find, both among and outside of the sciences, are a product of such incommensurabilities.

(4) It is *possible* that human cognitive architecture is such that we cannot attain to a form of understanding that incorporates all that we understand through multiple models into a single comprehensive and consistent model.

1. Silberstein's Criticisms

Silberstein raises a number of criticisms, most of which are directed against Cognitive Pluralism:

(A) Explanatory pluralism does not entail Cognitive Pluralism.

(B) The failure of what I have called ''broad reductionism'' does not entail that there are not other ways in which scientific explanations can be unified, including other ways called ''reductions.''

(C) I have drawn too weak a conclusion regarding traditional metaphysics of mind: philosophy of mind should not merely be challenged and reshaped, but abandoned entirely in favor of philosophical commentary on the sciences of cognition.

(D) Cognitive Pluralism seems self-refuting: it is a grand unifying theory that posits that there cannot be a successful grand unifying theory.

(E) Neither my critique of broad reductionism nor Cognitive Pluralism provides a successful way of saving the ''manifest image.''

(F) Cognitive Pluralism shares in the faults of postmodern relativism.

2. Explanatory Pluralism and Cognitive Pluralism

Silberstein's first concern is that an acceptance of *explanatory* pluralism (which he embraces) does not commit one to an acceptance of *Cognitive* Pluralism (which he

does not). I agree with him that explanatory pluralism does not entail Cognitive Pluralism. Rather, explanatory pluralism is something that requires explanation, and Cognitive Pluralism is recommended, in part, as a potential explanation of it.

Having recognized that explanatory pluralism is a feature of present-day science, in spite of four hundred years of attempts to make the sciences conform to a different standard, we might well ask the question of why this is so. It seems to me that the answers that one might give fall into three groups. The first type of answer is that explanatory pluralism is but a symptom of the current immaturity of the sciences, and can be overcome in the long run. The second is that explanatory pluralism is a consequence of something about the world—the phenomena to be explained. The third is that the reason we require many forms of explanation is rooted in some fact about *us*, about how we *think about* the world.

I have tried, in the book, to point out that the widespread assumption that the answer *must* be of the first type is largely ungrounded, and is at best an expression of philosophical taste and at worst a Kantian dialectical illusion. Indeed, I think that as soon as one poses the question of whether it seems likely that evolution (or, for that matter, Divine creation) would result in human beings who can understand everything in a single well-unified way, much of the allure of the explanation from current ignorance grows dim. Nonetheless, I regard it as an *open empirical question* whether we can bootstrap beyond explanatory pluralism with the kinds of minds we have. Even (4) in my summary of Cognitive Pluralism above is cast only as a possibility claim. And indeed, I think the most cautious view to take would be that there are good reasons to suspect that human cognitive architecture biases us to learn about the world through a proliferation of special-purpose models ([1] in my summary), while remaining neutral on the question of whether this is a condition we can move beyond.

I think that *part* of the allure of the explanation from current ignorance stems from thinking that its only alternative is some kind of ontological disunity in the world itself. This second alternative (attributed in the book to Dupré, 1993, 2001) is indeed one that I find myself having a hard time making much sense of. Perhaps we need separate theories of the fundamental physical forces because they are in fact fundamental and independent. But this would not account for the diversity of models in the special sciences, nor for the use of different models in different situations in subdisciplines of physics such as fluid dynamics. Unless one embraces a view like Aristotle's, on which there are an enormous number of phenomena that have their own natures, I see little way of accounting for explanatory pluralism as reflecting some pre-existing ontological pluralism. If there is reason to doubt that abiding explanatory pluralism is a result either of present ignorance or of some kind of radical ontological disunity, we have reason to look to the nature of our own minds to see if there might be an explanation to be found there.

While explanatory pluralism does not *entail* Cognitive Pluralism, I think that cognitive ethology, developmental psychology, and cognitive psychology give us some empirical reason to believe that our minds are biased towards understanding new domains by coining new models, or adapting and revising existing models

through processes like metaphor. If this is so, then, proceeding in its customary ways, the mind would end up with explanatory pluralism. Perhaps the sciences as we know them, if pursued for another hundred years—or some radically different type of scientific understanding, or mystical insight—might be able to afford us with a different type of understanding, which encompasses all that we understand now, but without division into domains and perspectives. But, equally well, perhaps not. Abiding explanatory pluralism is a real possibility, and is the only possibility that seems remotely evidenced by our current understanding of the world, and if it should prove to be our lot, chalking it up to how our minds are built seems to me the most reasonable alternative.

3. Notions of "Reduction" and "Unification"

While Silberstein shares my negative assessment of the strong kind of reduction familiar from the work of Carnap, Nagel, and Oppenheim/Putnam (and from Early Moderns such as Descartes and Hobbes, albeit in the older terminology of "resolution and composition"), he worries "that Horst mostly ignores all the unity that exists in science and would be hard put to explain it given Cognitive Pluralism" (p. 567)—in essence, that I have thrown out the baby of unification with the Logical Empiricist bathwater. There are, of course, a lot of things that might fall under the heading of "unity"; but as Silberstein has not provided a list of what he has in mind, I shall address some cases that seem likely to be of concern.

First, as I note in the book, the word 'reduction' has itself been used to express a variety of types of relations. My criticisms were directed principally at a notion I designate *broad reduction*, the history of which I traced from the seventeenth century (Galileo, Hobbes, Descartes) through the twentieth (Carnap, Nagel, Oppenheim/ Putnam). Broad reductionism was inspired by the examples of mathematical deduction and construction, and the characteristic feature of a broad reduction is that all of the features of the reduced domain can be derived as consequences of the reducing theory. This has been a standard usage of the word 'reduction' in philosophy. However, it is also true that some philosophers of science (who agree that broad reductions are rare in the sciences) have, of late, tried to reclaim the word 'reduction' for weaker types of part–whole explanations.

The reason that I concentrated upon the strong notion that I dubbed "broad reduction," and devoted only a few pages to weaker notions, is fairly straightforward. On the one hand, strong notions of reduction have had a profound historical influence on debates in philosophy of mind, not only in the twentieth century, but dating back to the seventeenth, and they continue to haunt discussions of the mind both in philosophy of mind and in public discourse. On the other hand, it is easy to see *why* philosophers of mind would be primarily interested in broad reduction, as it is a form of explanation that has strong metaphysical implications. If one can reduce a mental property M to a physical property P in this way, then $P \rightarrow M$ is metaphysically necessary and M is metaphysically supervenient upon P. In addition, a

number of philosophers, from Descartes to Chalmers, have also drawn the converse inference: that if M is not reducible to P, then M is not metaphysically supervenient upon P either. Broad reduction is thus very enticing for metaphysically-minded philosophers, as it pays the dividend of metaphysical necessity.

Weaker notions of "reduction"—such as those that amount to specification of a mechanism or part–whole explanations that do not entail all of the relevant properties of the "reduced" phenomenon—do not have this kind of metaphysical implication. Indeed, their advocates (e.g., Bechtel, 2007; Bickle, 1998, 2003) are often explicitly dismissive of traditional metaphysical questions. Silberstein similarly endorses the view that we should abandon what he calls "scholastic" approaches mired in modal metaphysics entirely, going so far as to opine that philosophy of mind is dead. I shall address differences in our attitude towards traditional metaphysics in the next section. For now, the important point is that I focused upon "broad" reductions because those are the only kind I am aware of that have implications that are relevant to familiar conversations about the metaphysics of mind. Silberstein may feel that those conversations should be ignored or avoided; but he should, I think, agree that, *if* they are to be engaged, it is broad reductions that require philosophical scrutiny.

There is also, however, a *rhetorical* reason that I have chosen to confine my use of the word 'reduction' to this very strong form of explanation. And that is that this usage of the word has become deeply entrenched both in philosophy of mind and in public discourse. The claim that the mind is "reducible" to the brain, for example, is widely taken to be a "nothing but" kind of claim, and linked with a suspicion that, if we are nothing but material beings, such things as consciousness, intentionality, free will and human dignity are illusory. *That* kind of claim, I contend, is both false and harmful. The idea that the sciences as we know them, or contemporary philosophy of science, underwrite "nothing but" claims is one that deserves to be dealt with severely. I can understand why philosophers of science may wish to reappropriate a good word for more useful ideas that are in search of a word. But I also think it very unlikely that they will be able to get anyone outside of a small circle of philosophers of science (and a few philosophers outside it) to remember that what they are talking about is not the "nothing but" kind of reduction that has been so influential from Early Modernity through most of the twentieth century. So I think the better course is to cede the word to Carnap and Nagel, and then try to raze it to the ground and salt the earth so that nothing will grow there again in our generation.

Silberstein's review also mentions mechanistic explanations and dynamic explanations that make use of differential equations, and writes:

> Dynamical and mechanistic explanation of the same complex system get at different but related features of said system described at different levels of abstraction and with different questions in mind (Chemero & Silberstein, 2008a). There is no *a priori* reason to claim that either kind of explanation is more fundamental than the other, nor any reason both explanations might not interlock rather than be incommensurable, even if you cannot replace one vocabulary with the other. (p. 572)

I would also endorse looking for dynamical and mechanistic explanations, and using them where you can get them (which is a lot more often than you can get broad reductions). And I agree with Silberstein that, at least in philosophy of the cognitive sciences, the preferred practice should be to look at actual explanations from the scientists and build theories from those—or if they are too varied to submit to general characterizations, produce a lot of case studies. Silberstein also agrees with me that what we are faced with is not convergence upon a single super-model of everything, but a variety of models and forms of explanation that support, supplement, and sometimes compete with, each other in a variety of ways.

But what are we to say when we find that our understanding of some phenomenon involves multiple models which the scientist has to know how to move between and use in tandem? Does this show that knowledge can be "unified," albeit in a much more complicated fashion than previous generations suspected? Or does it show that knowledge is "disunified," in that we cannot integrate our knowledge into the form of a single super-model of everything? Here we are at risk of wrangling over the uses of words. But actually I think these are the wrong questions to ask. It would be better to begin by taking inventory of the kinds of relations one actually finds between models in the sciences—that is, to ask "what kinds of connections are there, and where are they to be found?"

To put it differently, Silberstein both embraces explanatory pluralism and seems to suggest that explanatory pluralism is compatible with "unification." If this means merely that there are important partial explanatory relations between theories, I agree, and believe that mapping these out is an important project in philosophy of science, albeit one that goes well beyond the scope of this book. On the other hand, if he has some more comprehensive notion of "unification" in mind, I would ask what exactly this notion is, and how it is compatible with an abiding explanatory pluralism.

4. Rejections of Metaphysics

Arguably, Silberstein's first two objections are ultimately corollaries to a deeper view he holds: that traditional metaphysics of mind ought to be abandoned in favor of philosophical commentary on the sciences of the mind in the way that philosophy of physics and philosophy of biology restrict themselves to commentary upon those sciences. If he is correct, then the moral of part 2 of *Beyond reduction* should have been something different: rather than simply trying to show materialists and dualists that they have been arguing their positions on the basis of some mistaken assumptions, I should have encouraged them to leave off their "scholastic" wrangling altogether.

Let me begin by clarifying where we agree and disagree. First, I am in full agreement about the importance of "hands-on" study (e.g., case studies) of the sciences of cognition (indeed, I have undertaken a number of such studies, see Horst, 2005a, 2005b, 2010, 2011). Second, as Silberstein notes, I have provided what I take

to be both strong and novel reasons for suspicion of the project of necessitarian metaphysics. Where we seem to differ is simply in the fact that he is convinced that the whole project of metaphysics of mind is hopeless and moribund, and I am not. Nor am I sure on what grounds he trumpets this conviction so confidently. The fact that metaphysics goes beyond empirical science does indeed suggest that metaphysical disagreements cannot be settled empirically. But it would be quite costly to simply stop talking about everything that cannot be decided empirically, as this would presumably require us to abandon all discussion of normative questions as well. So the discontinuity of metaphysics from empirical science cannot itself be adequate reason to stop talking about metaphysics unless we are ready to stop talking about a great many other things in addition. Some of the Logical Positivists were willing to embrace this conclusion, but I think we should be wary of following their example.

More practically, I am inclined to approach the question ''where do we go from here?'' through continuing philosophical dialogue. I have raised what I take to be serious issues for proponents of various positions in metaphysics of mind, but I view this as an opening gambit in a conversation that might ultimately clarify the nature of metaphysical speculation. It may be that Silberstein is correct in anticipating that the logical conclusion of such a conversation will be that we should give up metaphysics. But I would prefer to let the conversation play out and see where it leads rather than anticipating its conclusion in advance.

5. A Self-Refuting Grand Unifying Hypothesis?

Silberstein accuses me of setting up Cognitive Pluralism as a kind of grand unifying hypothesis to unite all knowledge. And, to make matters worse, it is a grand unifying hypothesis whose chief implication is that there cannot be (successful) grand unifying hypotheses. If these charges are just, then Cognitive Pluralism is guilty at once of the ultimate hubris, and also of being self-falsifying. This, I allow, would be a bad thing.

In the book itself, Cognitive Pluralism is not introduced as a grand unifying hypothesis, but as an empirically-plausible hypothesis that might go some ways towards explaining abiding theory pluralism. I do, however, believe that it affords a perspective on a number of other types of philosophical puzzles as well, and have drafted a good portion of a future book on these topics. And several of these are briefly explored in the final sections of *Beyond reduction*: the implications for modal metaphysics, kinship with the Transcendental Idealist's views on why subjectivity is special, and how Cognitive Pluralism might serve as a position in critical (as opposed to inventory) metaphysics. So if a ''grand unifying theory'' is simply one that sheds light on a number of seemingly disparate problems, I suppose Cognitive Pluralism fits the bill. On the other hand, if a ''grand unifying theory'' is supposed to be a kind of First Philosophy that provides a foundational, Archimedean standpoint for

understanding *everything* else, this is something that I would disavow as deeply incompatible with the whole pluralistic spirit.

Silberstein shows keen instincts in identifying this threat in my avowed kinship with philosophers like Kant and Husserl, whose Transcendental Idealisms *were* intended as new foundational theories upon which other knowledge might rest. And my explorations of the implications of Cognitivism and Pluralism for how we understand metaphysics do indeed parallel the fundamental inverting move of Transcendental Idealism. However, I view Cognitive Pluralism as implying (or at least allowing) a crucial difference. The model through which we understand the mind as employing multiple models, and also the transcendental model through which we understand the mind as dividing the world into a number of epistemic domains, are themselves subject to the limitations Cognitive Pluralism places upon models: they are themselves partial and idealized. There are problems on which they shed particular light; but there are other problems that can only be aptly modeled, and true claims that can only be made, in terms of alternative models. In particular, Kantian Idealism faces notorious problems when it comes to the question of evaluating whether the most basic features of our cognitive architecture (the Categories and Forms of Sensibility) represent the world *accurately*, as its only way of posing such questions would be by way of an impossible comparison of phenomena with noumena. With a pluralistic cognitive architecture, on the other hand, one model can be used to test another model *without there being a single model by which all other models can be tested*. That is, we correct and improve our models, and also attain an understanding of things that makes use of multiple models, by a kind of process of *epistemic triangulation*.

6. Cognitive Pluralism and Other Pluralisms

Here, of course, we have the kind of statement that opens the door to the criticism from Silberstein that I find most grievous: the likening of my view to that of anything-goes postmodern relativists. I suppose that using the term 'pluralism' inevitably invites such a misunderstanding. So let me try to set the record straight.

Some "pluralists" seem to hold that all ways of viewing the world are equally good, or at least that those that are internally consistent are. On such a view, one might take Ptolemaic, Newtonian and contemporary cosmologies as being equally good for the same ends, and indeed even the views of someone who thinks that Tolkien's books present an accurate ancient history of the real world. Maybe this is too much of a caricature and no one has ever really held such a view. But if they have, let me put it plainly: if your theory implies such conclusions, your theory is wrong.

By contrast, at present, it seems to me that General Relativity and Quantum Mechanics have as good a claim to the honorific 'true'—or whatever honorific you think should be applied to theories (in Horst, 2011, I prefer the term 'apt')—as any claims anyone has ever made. Yet they are notoriously inconsistent with one another. Likewise, as Wilson (2006) points out, the models we employ in different cases in fluid dynamics are both formally and semantically inconsistent with one another.

Moreover, the plurality of models is not confined to those that are mutually inconsistent. Positive scientific claims and normative ethical or aesthetic claims have little to do with one another, by and large. But in my view, this does not imperil the status of the claims of either. Neither, however, does it imply that the models and claims themselves are not individually subject to standards of evaluation and (in cases where there are multiple models addressed to the same phenomenon) comparison. Contemporary physics and biology are superior to their Aristotelian counterparts, the Big Bang theory is superior to Babylonian cosmogony, Plato's ethics is superior to that of Protagoras, and a theory that allows that I know that I mean *rabbit* and not *sum of undetached rabbit parts* is more psychologically accurate than one that says I do not.

I should also note a difference with many other ''pluralisms,'' including those of Quine and Davidson. Often, 'pluralism' signifies the view that there are many (equally good) *comprehensive* ways of understanding the world, sometimes called ''worldviews'' or ''frames of reference.'' My interest is not so much in competing ways of seeing the world *in toto*, but in the fact that real-world objects and events fall under a number of different descriptions, regimented by different models, such as gravitation and electromagnetism. One can be committed to two such models at once, while at the same time they are not unified as a single ''super-model,'' or even (in the case of Relativity and Quantum Mechanics) if they are inconsistent with one another. My ''pluralism'' consists in a plurality of mental models *endorsed by a single person*. Indeed, if Cognitive Pluralism in its strongest form is correct, none of us has anything like a ''worldview,'' if that means a way of understanding things that is at once consistent and comprehensive!

7. The ''Manifest Image''

Silberstein also describes my project as one of trying to save Sellars' ''manifest image.'' This characterization is perhaps appealing because part of my motivation for limiting the word 'reduction' to the broad reductions and then rejecting them is that the broad notion of reduction has often been associated with threats to things like consciousness, freedom and human dignity.

I have to confess that I never really bought in to Sellars' distinction between the manifest and scientific images. The Cognitive Pluralist turn has the implication that there is no *single* ''manifest image'' and likewise no *single* ''scientific image.'' We have many normatively infused ways of understanding ourselves, just as we have many scientific models of human beings and of the physical world. Moreover, it is not at all clear that these fall into two mutually exclusive classes of purely normative and purely positive discourse. On the one hand, notions of human dignity may be closely related to scientifically explorable facts about embodiment, as in the case of discussions of the rights of those in comas and permanent vegetative states. On the other hand, many philosophers of science have argued that scientific theories and practice are themselves value-laden.

Silberstein's deeper point here is that my anti-reductionism and Cognitive Pluralism do not really go very far towards making the world safe for things like consciousness, freedom and dignity. But that depends on how one thinks the issues shape up and need to be addressed. I think that human beings are by default deeply committed to a value-laden world. Indeed, it is probably as impossible to really pare off the normative from daily life as it is to spend a day as a Cartesian skeptic. There are, however, some specific ways that misunderstandings of the sciences have caused people to feel our humanistic self-understanding to be threatened. I have gone after one of these (reductionism) here, and another (the threat laws supposedly pose to free will) in *Laws, mind and free will* (2011). My supposition is that our commitments to things like consciousness, intentionality and free will have prima facie justification already, and that dissolving the supposed problems that might serve as defeaters for this justification provides the kind of philosophical therapy that is needed to dispel the specters of reductionism and determinism. There may be more robust types of assurance to be had, but I view these as important contributions in their own right. It is, to no small extent, philosophers who created these pseudo-problems in the first place, and it is only right for philosophers to attempt to dissolve them as well.

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