

## From the Heights of Metaphysics: A Reply to Pickering

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I felt I should reply to Andy Pickering's short Response to my long Review of his book; I did not want to leave it uncontested in the literature.<sup>1</sup> I will pick up a couple of points from his comments to indicate just what it is that he has failed to grasp about my Review. If these points are understood, then all else falls into place.

Though Pickering writes that my critical remarks 'form a disconnected series' [AP, 307], I think on the contrary that the seven sections of my Review raised questions about each of the central themes of his book.<sup>2</sup> Of course, for the sake of clarity – and to respect the property of a language that is written linearly from left to right and from top to bottom – all could not be 'mangled' together, and they were presented in sequence, which may explain their apparent unconnectedness from Pickering's 'point of view'. So let us briefly recall the content of those sections, answering his comments along the way.

In the first section, I pointed out that the 'dialectic of resistance and accommodation', which is the central analytical tool proposed in the book, was reminiscent of Piaget's theory of knowledge acquisition, but with one major difference: Piaget was explicitly structural in his analysis (via the concept of 'scheme'), whereas Pickering is purely phenomenalist. I thought a comparison of the two would make clear the limitations of Pickering's dialectic, which offers no way (except verbal) to make possible a real integration of different elements of practice through their incorporation into a practical scheme of action, which orients (and thus limits) future action [YG, 319–20]. The second section discussed Pickering's return to realism, and showed that his approach was simply a restatement, in a new language, of classical positions, using terms too loose to effect a 'renewal' of the debate. But on these sections, Pickering has nothing to say.

The third section, on agency, again focused on a concept central to Pickering and followed in detail the way in which this 'agency' supposedly works. I concluded that since things 'just happened' (as Pickering writes so many times in his book), agency was in fact a kind of inertia that just *resists* action, instead of acting by itself. For if words have meaning, 'agency' must be more than 'resistance'. It is in this context that I sketched out the example of the blind man. I insisted that I thought this discussion purely metaphysical, but that it could not be passed over, given the importance it

seemed to have for Pickering. Now, true to his ‘metaphysical turn’, he devotes most of his Response to this example, although it takes less than two pages out of sixteen in my Review. Though I used that example, as well as Otto Sibus’s reconstitution of Joules’ experiment, to talk about the problem of the persistence of entities in time, which makes Pickering’s concept of emergence problematic, his comments are limited to repeating that things really emerge in time. Thus he tells us that before Glaser embarked upon his project, ‘there were no bubble chambers anywhere’ [AP, 308]. Of course there were none, but the point here is that, as I wrote in my Review, Pickering again confuses *machines*, which are composed objects, and *entities*, which are not composed; they thus ‘have a distinct ontological status’ [YG, 326]. And to make things even more complete, I added [YG, 333, note 12] that ‘effects’ like Hall or Zeeman effects also had a different ontological status, only to make clear that if one wants to talk about ontology one should take these differences seriously, or at least *argue* against them. This I take to be the kind of confusion that makes Pickering’s ‘metaphysics’ superficial. But in his Response, Pickering chose not to raise (or to grasp?) those questions, preferring to repeat the obvious: the bubble chamber did not exist before Glaser, and here is a proof that things emerge in time . . . .

Section four took up the question of Pickering’s ‘theory of everything’ (TOE). Far from a simple ‘mockery’ [AP, 310, note 2], this section took seriously Pickering’s writing about ‘*cabalos, virinculi, montani*’, and other demons [MP, 243]. By the way, I must note that in the reviews I have seen of *The Mangle*, no-one seems to have taken that part seriously: reviewers, curiously, simply pass over in silence on the concept of ‘non-standard agency’. As a firm believer in argumentation and in charitable interpretations, I choose to look at the consequences of what seems at first sight to be a ‘non-standard analysis’ in the sociology of science. But to be complete on that topic, I should have added that for the blind man of my example, if things happened to move around him in curious ways, he would probably attribute that to a playful friend playing tricks on him, before thinking about ghosts, or any other non-standard agency . . . . In all cases, however, he would apply the principle of sufficient reason: nothing happens without a reason. And I am ready to bet on this anthropological description of what he would do! The other comment I made on Pickering’s TOE was, I think, also important, but was somehow made difficult to read. I thus take the present opportunity to correct a sentence that contained two important typos that made it incomprehensible. I noted that by making his concepts applicable to everything, he was falling into an old trap described long ago by Aristotle, that ‘there is an inverse relation between the *extension* and the *intension* of a concept’ [YG, 326] – or, in less philosophical terms, a notion applicable to everything is empty. But on this Pickering has nothing to say.

Section five discussed what I saw as a ‘spontaneous breaking of symmetry’ in Pickering’s treatment of humans and non-humans. On the one hand, he writes that since he cannot attribute goals to non-humans,

while he cannot make sense of scientific practice ‘without reference to the intentions of scientists’, the symmetry between humans and non-humans ‘appears to break down’ [MP, 17]. In his Response, Pickering criticizes me for effecting a ‘clean split between the human and the non-human’ [AP, 309]. Now, as any reader can see, it is Pickering himself in his book who ‘effects a clean split’ in giving intentions to scientists and refusing them to objects which only react to human actions. My blind-man example took that asymmetry into account, so it is no surprise that it is not symmetrical. By saying that my story of the blind man ‘invites us to think about how we humans individually or collectively come to terms with a *dead* and *uninteresting* material world’ [AP, 309, emphasis added], Pickering is nearly right – except that the little particle ‘and’ is here again creating confusion by amalgamation: *dead* yes, but *uninteresting* no; objects *are* dead (excluding the living ones of course, which are not treated by Pickering) but very *interesting* for scientists, as well as for historians and sociologists of science. Instead of commenting on my being ‘traditional’ (curiously not seeing its ironical tone), Pickering could have used space to explain why he is in fact not symmetrical in his descriptions of actions, and why symmetry should be expected *a priori*. Clearly, my comments meant that I was willing to be enlightened on that apparent contradiction in the book: but, despite the clear title of that section of my Review, Pickering does not seem to have grasped the problem.<sup>3</sup>

This brings us to the section on individualistic history, which suggested, again on the very basis of Pickering’s descriptions of events, that compared to the original analysis of the bubble chamber and N/C technology provided respectively by Peter Galison and David Noble, Pickering’s treatment was turgid in style and fundamentally based on a very individualistic treatment of action, which goes so far as stating (as, again, I noted in my Review) that ‘scientific objectivity can be located already at the level of individual practice . . . prior to any social ratification’ [MP, 196]. I then noted that this view is hardly compatible with Pickering’s self-professed pragmatism [YG, 330], but that does not seem to be a problem important enough to be raised in his Response. When looked at from the point of view of the general structure of the narratives proposed, it is plain that everything in them is like a ping-pong game, be it between Morpurgo and his apparatus, Glaser and his bubble chamber, or even between workers and management. And it is significant that, as I noted in my Review, Pickering admits that he could indeed have told the story of Morpurgo along the same lines as he told the story of Glaser [MP, 72–73]. The problem was not the absence of macrosociological actors, but the fact that they are all treated similarly in a simple diadic relationship. But only a detailed comparative treatment of the different narratives could show that convincingly, and the examples provided in my Review simply pointed the reader in the right direction, so that s/he could easily find others.

We finally come to the last section, on resistance and constraint. Here the point is not the inability to ‘imagine any alternative to . . . constraint other than “total freedom” ’ [AP, 311, note 8], but to see how Pickering

manages in his book to provide any alternative. It is true that he has 'nowhere stated that contingency is all there is' [AP, *ibid.*], but the book clearly insists (like a mantra) that 'things just happened', and the only concept used to limit total freedom is of course the 'resistance' of the objects. But as I suggested in my Review with the example of Mozart [YG, 331], there are often social structures that play an important rôle in limiting possible actions. But here again, Pickering chose not to raise these questions.

Pickering may be right that 'the better arguments do not always win the day' [AP, 310], but they certainly have more chance of doing so when their presentation is not too mangled and, above all, when their author takes the time to answer competing arguments point by point by paying attention to their precise formulation, instead of simply stating that the original arguments were 'hard to grasp'. But this is not an easy task when one is contemplating one's own *oeuvre* from the top of a mountain, while looking down on those who tediously try to make sense of the bits and pieces of arguments collected in a book and who, finding them wanting, simply point to inadequacies, ready to be enlightened in their valley of the blind.

## Notes

1. Andy Pickering, 'In the Land of the Blind . . . Thoughts on Gingras', *Social Studies of Science*, Vol. 29, No. 2 (April 1999), 307–11 [hereafter 'AP']. For my Review, see Yves Gingras, 'The New Dialectics of Nature', *ibid.*, Vol. 27, No. 2 (April 1997), 317–34 [hereafter 'YG'].
2. His book, of course, is Andrew Pickering, *The Mangle of Practice: Time, Agency, and Science* (Chicago, IL: The University of Chicago Press, 1995) [hereafter 'MP'].
3. Here is another example of the difficulty Pickering has in grasping an argument: he writes that it is false to say, as I did [YG, 332], that he engages with straw opponents, and mentions his 'ten-page argument with David Bloor on SSK' [AP, 310] as if I did not mention that explicitly in my Review, when I wrote [YG, 321] that he criticized SSKers for having excluded material resistance and limited themselves to social variables. Of course, the difference comes simply from the fact that, while noting these specific instances, I formulated a general statement [YG, 332], after having noted other instances of false debates [YG, 322, 329 & 333, note 8].

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