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COMMENT ON SCHLIESSER

Daniel Dennett

Eric Schliesser invites us all to consider the genus *strange inversion of reasoning* of which Darwin's, Turing's, and Hume's are my favorite species. He agrees with me that Turing's strange inversion is very closely related to Darwin's, a pair of sibling species, and I agree with him that Hume's is quite different in structure — a second cousin, perhaps. Schliesser proposes that Spinoza is the vector or source of the common ancestor of them all, a point about which I am happy to be instructed, but must confess to having absorbed most of whatever Spinozistic memes I share via indirect, multi-generational paths rather than through concerted analysis of Spinoza's writing. I read Spinoza's *Ethics* as a freshman at Wesleyan, and though I studied parts of it quite energetically, I was put off in the end by the discovery that he never uses one of his axioms! (I can't remember which one — it has been that long since I've looked with any care at it, aside from a little brush-up over 30 years ago when I taught the undergraduate history of modern philosophy course at Tufts for a few years.) I am happy to make this confession, not just because it probably confirms what anybody who knows my work habits and attitudes would suspect in any case, but because it provides a good exhibit of a sort of subtle memetic influence I think is hugely underestimated: we supposedly hyper-rational philosophers (and scientists!) tend to have a narcissistically distorted "Whig history" view of our own methods and triumphs. We tend to assume that our settled opinions, the points that really do go without saying, have survived the gauntlet of "all things considered" when in fact we are enabled to do whatever good work we do by more or less subliminal habits of attention that screen off logical possibilities unexamined and unquestioned. As in chess, there are too many options to consider, so we all automatically and mostly unconsciously engage in heuristic pruning that tames the search tree. Moreover, the

"principles" we rely on to govern this pruning are typically themselves "home truths" we have picked up from our trusted parents or teachers or colleagues (or students!) without noticing. (See my commentary on Hayley Clatterbuck for more on our not-so-*echt* Popperian hypothesis-testing.

Schliesser's suggestion is that we can combine my colleague George Smith's innovative analyses of the challenges in the history of science with Wilfrid Sellars' concepts of the manifest and scientific images (another favorite meme of mine), to see just how strange and wonderful science and philosophy are, at their best. Here is the key passage from Schliesser (I have included his footnotes, which are worthy of a double look):

> Dennett's genealogy of modernity – Spinoza, Hume, Darwin, Turing – can complement George Smith's insights into the history of science. For this genealogy suggests there exists a basic good trick that facilitated the explosion of scientific knowledge of the last few centuries.[1] I call it 'basic' not because it is simple or the only such trick. I do wish to convey it is rather fundamental. For, while it would be too simple to reduce Dennett's whole philosophy to the following point, it is also true that Dennett's works show – and the resistance to and basic misunderstandings of his ideas reveal – that in context each of these strange inversions of reasoning would have been really hard-won and at odds with how we are led to think and conceive of the world.[2]

Sellars cites Spinoza (I had forgotten this) in his introduction of his distinction, acknowledging his antecedents: "One thinks, for instance, of Spinoza, who contrasted man as he falsely conceives himself to be with man as he discovers himself to be in the scientific enterprise." Sellars disagrees with Spinoza about giving the scientific image the palm, largely because he (Sellars) thinks qualia — of all things! — defy resolution in the scientific image. Even my heroes don't always see the full import of their innovations. In any event many contemporary philosophers join me in finding Sellars' suggestion that "the world we live in" (the common sense, everyday world of people, colors, tables, songs, promises and dollars, for instance) is not easily or directly put into registration with the scientific world of atoms, electrons, photons, molecules. The basic ontologies are even comically out of synch. What is the chemical formula for a promise or a song? What is the mass of a dollar? We do not underestimate the difficulty of putting together the two images, but how often do we pause to consider what a triumph of human imagination it is that we have the scientific image at all?

Sellars distinguished a "pre-scientific, uncritical, naïve conception of man-in-the-world … [which] might be called the 'original' image"' [1962, p. 6ff] from what he called the manifest image, a "refinement or sophistication" of that original image. [See my book, p. 61 fn 15.] He goes on to describe this refining transition from original to manifest: it is not a *strange* inversion, one gathers, but a rather normal enlargement of practical knowhow and generalized lore:

> By empirical refinement, I mean the sort of refinement which operates within the broad framework of the image and which, by approaching the world in terms of something like the canons of inductive inference defined by John Stuart Mill, supplemented by canons of statistical inference, adds to and subtracts from the contents of the world as experienced in terms of this framework and the correlations which are believed to obtain between them. Thus, the conceptual framework which I am calling the manifest image is, in an appropriate sense, itself a scientific image. . . . There is, however, one type of scientific reasoning which it, by stipulation, does *not* include, namely that which involves the postulation of imperceptible entities, and principles pertaining to them, to explain the behavior of perceptible things [Sellars (1962), p. 7].

People everywhere have been reflective about their ontologies for a very long time, and have had local arguments about the existence of mermaids and dragons, manticores and witches, but these problematic ontological categories were always the same *sorts* of things as the uncontroversial lions and dwarfs and poisonous snakes. Sellars sees a saltation when it comes to imperceptible entities, but I don't think this draws quite the right line: magical spells, ghosts and gods were at least *strangely* imperceptible (when they wanted to be, usually) and they seem to me to belong in the (proto-)scientific manifest image. Perhaps we should be grateful for all the conveniently imperceptible supernatural beings and forces of pre-scientific thought for exercising our imaginations in unwitting preparation (preadaptation, to use the taboo term) for the bold scientific thought that blossomed in the 17th century.

In any case, Sellars largely ignores the transitions from mammalian "thought" through primate thought through hominin thought to human thought. (Let's not be mammalocentric; birds and cephalopods have proven to be very clever as well.) Were any of these innovations strange inversions of reasoning? I don't think so. A series of remarkably fruitful cognitive adjustments must have occurred, enabling not just opportunistic "tool" use and then tool-fashioning, and even tool-transporting, but

not fire-taming, food-cooking, and the rest of "primitive" human group activity. Is something like Sellars' *original image* shared with, or just prefigured in, the set of affordances common to chimpanzees and bonobos, for instance? Chimpanzees and bonobos may use "something like … the canons of statistical inference" to "add and subtract from the contents of the world." Many animals may well be unwitting Bayesian prediction-error-minimizers, but our human ancestors, equipped just as unknowingly with this pattern-finding neural machinery, have taken it further. If there is a great divide between the other great apes and us, Sellars' manifest image is already on our side, because it is a world of people who know they are people, who not only have a huge store of fact and fancy but know that they do. We don't just have a common set of affordances; we *share* them. We can *compare notes*, setting up opportunities for reflection on the very shared grounds for their convictions, which in turn created the selective environments that made *strange inversions of reasoning* both possible and rare, which is Schliesser's point.

There are good reasons (whether free-floating rationales or articulated canons of scientific method) for conservatism in thought. Beneficial mutations are rare, both in genes and memes, and among the canons of parsimony are *If it ain't broke, don't fix it* and (thanks to the late, lamented British Seagull outboard motor) *What isn't there can't break*.[3] So it is to be expected that major transitions of perspective will be strange inversions, greeted with a mixture of incomprehension and even hostility. Any major inversion of reasoning must compete for attention with all the crackpot theories of quantum consciousness, morphic resonances, ancient alien visitations, and clairvoyance, for instance. The Establishment is established not by fiat or rites of sanctification but by track record.

> Through a microscope, the cutting edge of a beautifully sharpened ax looks like the Rocky Mountains, all jagged and irregular, but it is the dull heft of the steel behind the edge that gives the ax its power. Similarly, the cutting edge of science seen up close looks ragged and chaotic, a bunch of big egos engaging in shouting matches, their judgment distorted by jealousy, ambition and greed, but behind them, agreed upon by all the disputants, is the massive routine weight of accumulated results [Dennett (2006), p. 372].

If you think you have a strange inversion of reasoning to offer to the world, you better be careful choosing your terms, and you better have some tempting results to lure your audience out of "normal science". That is probably why the history of philosophy so often appears to be an

amplified oscillation between extremely speculative, imaginative ventures on one side and puritanical varieties of positivism or what might be called pathological intellectual modesty on the other. If philosophy is, as I have often said, what you are doing when you don't know what the right questions are, this can help explain why, lacking any store of proprietary *results* (aside from the questions we have helped science articulate), we fall back on either the uncontroversial results of current science (which is often seen as dreaded *scientism*) or scholarship on the Great Works of philosophy. Both are excellent sources of understanding, and those scientists whose view of discovery implies that both of these paths are parasitical endeavors should consider the suggestion that they have traded their chance for an adventurous place on the cutting edge for an honorable, if more humble, role backing up the inversions of reasoning that no longer seem very strange.

NOTES

[1] If this is right, I was wrong to suggest that Spinoza does not belong in the history of science!

[2] My own sense is that this is due to a mixture of biology and deeply entrenched memes, especially what I have called in previous work, social, conceptual-necessitation relations.

[3] British Seagull outboard motors, famously simple and reliable, went out of production in the mid 1990's, just as the Internet was blossoming, which may explain why my efforts to google the genealogy of this wonderful motto — which I have known and used since my early sailing days in the 60s — has so far come up empty. How can it be that the official (and accurate, if boring) motto of British Seagull, *The best outboard motor for the world*, has survived while its competitor has gone extinct? I hope I can help revive it.

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