

Why we are Baconian, not Humean, empiricists

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This entry started life as a Twitter thread.

Philosophical (hot?) take of the season: we (scientists and people in general) are empiricists, but not Humean empiricists. A much better fit is Baconian empiricism. Traditional British empiricism is a post-Descartes empiricism, and therefore a skeptical empiricism. Baconian empiricism is pre-Descartes and non-skeptical (but doesn't therefore regard knowledge of the natural world as trivial).

British empiricism inherited a problem from Descartes: how is the world of the mental (experience) connected to the physical world? This is a skeptical setup, much the same as one in neo-Platonism: how can the ideas we actually possess have any relation to Plato's perfect ideas? The answer, incidentally, was the same for St. Augustine as it was for Descartes: a benevolent god guarantees the proper connection.

But the skeptical setup ensures that no solution will be ultimately satisfying, and we see the consequences progressively worsening over the generations of, and following, the British empiricists.

Idealism is the most obvious symptom, but rejection of any knowledge at least of unobservables (whatever those are), and of genuine explanation of natural phenomena, are also typical. Kantianism, in turn, is an attempted solution to skeptical empiricism.

Bacon was very much concerned both with skepticism and with the severe difficulties associated with trying to understand nature. I'd say his unfinished treatise



on the scientific method, the *Novum Organum*, was largely addressed to those in power who he thought might succumb to skepticism about knowledge of the natural world. But the skepticism Bacon wanted to rebuff was not of Descartes's kind. It was rather about "the obscurity of nature, the shortness of life, the deceitfulness of the senses, the weakness of the judgment, the difficulty of experiment. . ." *Ars longa, vita brevis*.

To Bacon, human cognition was a warped mirror, that will tend to distort our perception of the natural world. But even a warped mirror is *part* of the natural world and interacts with the rest of it on equal terms. There is a suggested materialism about the mental. Bacon agreed with the skeptics that genuine understanding of nature was impossible, but he conditioned this conclusion on the use of then current ("Aristotelian") methods of investigation. The problems *could* be alleviated by adopting proper remedies. Thus he famously cataloged a number of sources of error, such as wishful thinking, confirmation bias, and our tendency to apply our favorite theory to every problem. Each of these require a countermeasure in the proper method(s) of science.

Bacon didn't finish his account of this method. We mostly have the tables of inductive reasoning that would produce the "first vintage" of our hypothesis, and a bunch of notes about things we ought to do after that (the "instances with special powers"). But Bacon also said that as our understanding of nature develops over generations of researchers (his solution to the complexity problem), both our concepts ("notions") and our methods are also likely to develop. The bottom line is that to Bacon there is no principled divide between the mental and the physical. Rather, human cognition is a deeply flawed instrument, existing and operating within and as a part of the physical world. Scientific method is for alleviating those flaws.

Bacon was celebrated as one of the founders of modern science up until the mid 19th century, when the tide turned for him. He was criticized for not himself having been an empirical scientist, for having no scientific discoveries to his name, and for his seemingly implausible scientific method (taken to be just the tables).

Hume, on the other hand, has been a favorite of generations of scientists and philosophers, despite the fact that no one can take the skepticism of this kind of empiricism seriously (as in acting according to it). The relevant cautions about empirical knowledge are in their right form in Bacon. Human cognition is part of the natural world, not separate from it, and its flaws can be addressed through improved methods, just as Bacon attempted, and as we continue to do.

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