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Tamás Demeter, *David Hume and the Culture of Scottish Newtonianism: Methodology and Ideology in Enlightenment Inquiry*, Boston: Brill, 2016, 221 pp.

Up till this day one cannot find much scholarship which situates Hume in the context of early modern natural philosophy. Tamás Demeter's new book, *David Hume and the Culture of Scottish Newtonianism*, does a spectacular job in filling this gap. His monograph is the most comprehensive pursuit to understand Hume's place in the Newtonian tradition of natural philosophy. Demeter specifies Hume's place both in the context of Newtonian moral philosophy and Newtonian chemistry and physiology.

Little if no detail is left out of the book. Demeter considers Hume's contributions in relation to the works of several figures, including David Fordyce, Francis Hutcheson, George Turnbull, and Adam Smith (in moral philosophy) and Archibald Pitcairne, Robert Whytt, George Cheyne, William Cullen, and William Porterfield (in chemistry and physiology). In addition, Demeter provides new insights into the much studied Hume-Newton relationship.

Demeter says that the motivation for writing the book came while he was reading the epistemic and metaphysical arguments present in Hume's first *Enquiry* some ten years ago. Then he felt that the appropriate way to approach these arguments is by contextualizing them to the then-contemporary culture of natural philosophy and knowledge-producing practices (p. ix).

A central question of the book can be summarized as follows: what is the relation between the conceptualization of natural and of human phenomena? What kind of methodology, reasoning, and ideology pertain to both of these domains? Demeter shows that they are on a par with each other. "The languages in which one can talk about phenomena of nature and human nature sometimes reveal a remarkable convergence," he notes (p. 1). He makes an even bigger claim: "Enlightenment philosophy in Scotland—and early modern philosophy in general—should be seen as an integrated enterprise of moral and natural philosophy and conceived as intellectual enterprises that developed hand in hand" (p. 5). To justify this claim, Demeter has decided to focus on the intellectual roots of Hume's methodology and ideology in his science of human nature in relation to the culture of eighteenth-century Scottish Newtonianism.

We might tend to see the histories of natural sciences and humanities/social sciences as two different sides of a coin. This tendency is apparent in C.P. Snow's famous essay on the "two cultures," although Snow himself seems to have urged for bringing this dichotomy

down.¹ Demeter remarks that such an image of the "two cultures" cannot be applied to the early modern intellectual world. Rather, scholars in this period pursued a unified and comprehensive explanation of the interrelations of the physical, physiological, mental, ethical and theological aspects of the world (p. 13). The seventeenth- and eighteenth-century discussions took place just before different special disciplines started to emerge as separate domains with their own scopes of investigations. Demeter concludes that "the separation of what we call today 'the history of philosophy' and 'the history of science' inculcates a distorted image of early modern philosophy" (p. 14).

Demeter begins the book by challenging a pervasive assumption about Hume's Newtonianism. It is usually thought that Hume was the Newton of the moral sciences. According to this received view, Hume implemented parts of Newton's dynamic concept of matter to his theory of ideas. Demeter encapsulates this view: "Hume's outlook on the mental world is thus frequently described in terms of conceptual atoms whose association is compared to interparticulate attractions modeled on Newtonian forces in general, and gravity in particular" (pp. 1-2). He then goes on to challenge this received conception. He argues that Hume and many other Scottish Enlightenment philosophers were sympathetic to the *Opticks*-inspired vitalist tendencies in natural philosophy. The Queries of the *Opticks* are sensitive to qualitative differences and emphasize the role of active forces, both in nature and in human nature.

Enlightenment vitalism aimed at unraveling the secrets of living nature. It understood nature as a dynamic and harmonic entity. It posited, as Peter Hans Reill puts it, "the existence of self-activating forces and 'principles' in living matter."² Living matter takes the form of organized bodies which strive and have sympathies and elective affinities. Consequently, the vitalist natural philosophy declined the mechanist philosophy which argued for a sharp dividing line between non-mental matter and living mental beings.

Hume is, however, an original thinker in his context. Many contributors to the Scottish Enlightenment, including Fordyce, Maclaurin and Turnbull, implemented Newton's theological framework in their works. Turnbull, for example, argued that the task of moral philosophy is to consider the godly origin of order, beauty, and perfection apparent in natural phenomena. Moral philosophy thus adds to natural philosophy in teasing out the theological

¹ C.P. Snow, *The Two Cultures*, Cambridge University Press: Cambridge, 1998.

² P.H. Reill, "Eighteenth-Century Uses of Vitalism in Constructing the Human Sciences," in D.R. Alexander and R.L. Numbers (eds.), *Biology and Ideology: From Descartes to Dawkins*, Chicago: University of Chicago Press, 2010, pp. 65–66.

and normative aspects of the world. In this image, "moral philosophy begins where the conclusions of natural philosophy are reached," Demeter writes (p. 17).

Hume could not have been more different. His ambition in the *Treatise* is to establish a "science of human nature." Hume explains the "mental geography" of the human mind by focusing on the origin and association of ideas, and how by employing these ideas we come to think, imagine, remember and reflect. This psychological endeavor is entirely independent of theological aspirations. Moreover, some of his views were in stark contrast to the received Christian philosophy. Famously Hume ended up denying the synchronic view of personal identity. If persons do not endure as single unities forever, there is no basis for moral reward or punishment in the afterlife.

Hume's Newtonianism involves, as Hume notes in the subtitle of the *Treatise*,³ "an attempt to introduce the experimental method of reasoning into moral subjects." Hume explicates his position:

We must therefore glean up our experiments in this science from a cautious observation of human life, and take them as they appear in the common course of the world, by men's behaviour in company, in affairs, and in their pleasures. Where experiments of this kind are judiciously collected and compared, we may hope to establish on them a science, which will not be inferior in certainty, and will be much superior in utility to any other of human comprehension (T Intro 10).

In Demeter's interpretation, this experimental starting point is "analogous with natural historical observation and description transposed into the sphere of moral phenomena" (p. 120). He further separates this approach into three viewpoints: 1) the third-person, observer account, 2) the second-person, participant perspective, and 3) the first-person perspective, i.e. introspection. The third-person viewpoint concerns the passions of human beings in their common course of action. The second-person viewpoint focuses on the interaction of humans, the way humans are able to communicate their thinking and passions to each other. The first-person viewpoint starts with phenomenological evidence, how we immediately feel things by ourselves and how they seem to appear to us. This last perspective has only a limited role in the Humean science of human nature and should be corrected and methodized by the other viewpoints.

Given this clarification, a critical question arises. Is Hume's reference to "experiments" in his study of the human mind only a metaphor? Usually the notion of

³ David Hume, *A Treatise of Human Nature*, ed. by D.F Norton and M.J. Norton, Oxford: Clarendon Press, 2007 (T).

"experiment" means a set-up in the natural sciences where an isolated target-system is affected upon. There are variables that can be manipulated. This enables making predictions. This yields results which include error estimates.

In some sense Hume's appeal to experimentation is metaphorical. Experimentation requires intervention; it requires producing artificial scenarios which do not exist in nature without human manipulation (p. 123). As in the case of the first-person introspective approach, experiments have only a limited role as they would distort our grasp of human behavior in peoples' everyday practices. Demeter encapsulates Hume's application of experimentalism as follows:

[Hume] is using both history and observation as sources of *experimenta crucis*: showing the explanatory strength and plausibility of his theory by enabling phenomena to pick out which among alternative explanations hold true (see EPM 5.17,⁴ T 1.3.9.14). An explicit example is his discussion of why love is always followed by benevolence and hatred by anger when he contrasts two possible hypotheses and decides between them on the basis of observation (T 2.2.6.3–4). Instead of accumulating several examples, Hume carefully chooses cases he considers crucial in a given context and highlights features that make them supportive of his account. It is thus not the way in which empirical material for theory building is gained, but the methodological role it plays that makes this material experimental (p. 124).

There is another important nuance in Hume's experimentalism. It is the experimental *reasoning*, rather than just the method, which is crucial to his whole philosophical system. He sides with the experimental tradition in natural philosophy against the speculative or hypothetical one. Famously Hobbes applied a geometrical approach in his political philosophy, and Descartes used first principles based on intuition and *a priori* reasoning in his metaphysics and philosophy of mind (p. 126). Hume blatantly denies that there is such a thing as *a priori* factual knowledge; propositions concerning facts require experimental reasoning (EHU 4).⁵ If they fail to stand this experimental test, as "divinity and school metaphysics" do, they should be "committed to the flames" for they "can contain nothing but sophistry and illusion" (EHU 12.34).

Based on my competence, I find very little to criticize in Demeter's book. To my knowledge, no work so far has contextualized Hume in the tradition of Scottish Enlightenment natural philosophy so thoroughly. The impact of the work is truly original: It

⁴ David Hume, *An Enquiry concerning the Principles of Morals*, ed. by Tom L. Beauchamp, Oxford: Clarendon Press, 2006.

⁵ David Hume, *An Enquiry concerning Human Understanding*, ed. by Tom L. Beauchamp, Oxford: Clarendon Press, 2000.

shows that Hume's science of human nature is developed hand in hand with a vitalistically oriented Newtonianism.

Although the scope of Demeter's book and its respect to the details are very impressive, it seems that he does not consider a possible mechanist reading of Hume. There are clearly some mechanist tendencies in his work. A good example is his concept of causation. Hume is not (at least according to the standard interpretation) a mechanist in the sense of Boyle⁶ or Locke⁷. Due to his concept empiricism, as expressed in his copy principle, Hume denies that we have access to the micro constitution of matter. The putative corpuscles that make matter are unperceivable. We do not have any impression-based ideas of them. Thus we are not licensed to infer that this corpuscular structure is responsible for causal interactions among bodies. But in many respects Hume models his concept of causation by reference to artifactual machinery. This is apparent, for example, in his references to the operations of clockworks, strings, pendulums, and wheels (EHU 8.13). I have previously argued that these cases "indicate a mechanical understanding of causal relations between species of objects."⁸ What is more, Hume categorically distinguishes between causes and effects. This is a criterion of mechanical philosophy as identified by Walter Ott.⁹ It instantiates a mechanical conception because it differs from the Aristotelian tradition in which "effects" are "included" in their "causes."¹⁰

I also found the last section of the book, "Moral Philosophy and Normative Morality," to be a bit out of place. As a reader, I was left wondering why this chapter appears in the book. It is not clear how Hume's positions in meta-ethics, normative morality and political philosophy could be motivated by Newtonian natural philosophy. Demeter introduces a myriad of subtle analyses, including, for example, the notions of objective morality, the common point of view, the difference between matters of fact and vices and virtues, and the role of subjective factors, sympathy and sociability in moral evaluations. I do not see how

⁶ See Robert Boyle, "The Excellency and Grounds of the Corpuscular or Mechanical Philosophy" in Michael R. Matthews (ed.), *The Scientific Background to Modern Philosophy: Selected Readings*, Indianapolis, Cambridge: Hackett Publishing Company, 1989, pp. 111-123.

⁷ John Locke, *An Essay concerning Human Understanding*, ed. and abr. by Kenneth P. Winkler, Indianapolis, Cambridge: Hackett Publishing Company, 1996, IV.iii.25.

⁸ Matias Slavov, "Newtonian and non-Newtonian elements in Hume," *Journal of Scottish Philosophy* 14 (2016), pp. 275-296, at p. 290.

⁹ Walter Ott, *Causation and Laws of Nature in Early Modern Philosophy*, New York: Oxford University Press, 2009, p. 14.

¹⁰ Daniel Garber and Sophie Roux, "Introduction," in Daniel Garber and Sophie Roux (eds.), *The Mechanization of Natural Philosophy*, Boston Studies in the Philosophy of Science, Dordrecht, Heidelberg, New York, London: Springer, 2013, p. xi.

these (no doubt perfectly competent) analyses fit in the rubric of "The Culture of Scottish Newtonianism"—or at least this is not properly spelled out.

The merits of Demeter's book are nevertheless substantial. I recommend *David Hume and the Culture of Scottish Newtonianism* for anyone who is interested in the integrated history of the natural sciences and humanities/social sciences, the work of Hume and the history of philosophy as contextualized in its social environment.

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