

“Plausible insofar as it is intelligible”: Quine on underdetermination

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Abstract Quine’s thesis of underdetermination is significantly weaker than it has been taken to be in the recent literature, for the following reasons: (i) it does not hold for all theories, but only for some global theories, (ii) it does not require the existence of empirically equivalent yet *logically incompatible* theories, (iii) it does not rule out the possibility that all perceived rivalry between empirically equivalent theories might be merely apparent and eliminable through translation, (iv) it is not a fundamental thesis within Quine’s philosophy, and (v) it does not carry with it the anti-realistic consequences often associated with the thesis in recent debates. The paper analyzes Quine’s views on the matter and the changes they underwent over the years. A conjecture is put forth about why Quine’s thesis has been so widely misrepresented: Quine’s writings up to 1975 tackled primarily the formulation and justification of the thesis, but afterwards were concerned mostly with the question whether empirically equivalent rivals to the theory we hold are to be considered true also. When this latter discussion is read without bearing in mind Quine’s earlier formulation and justification of the thesis, his thesis seems to have stronger epistemic consequences than it actually does. A careful reading of his later writings shows, however, that the formulation of the thesis remained unchanged after 1975, and that his mature and considered views supported only a very mitigated version of the thesis.

Keywords Quine · Underdetermination · Empirical equivalence · Theory translation

Quine is widely regarded as one of the main proponents of the thesis that natural science is underdetermined by observations.¹ His views on the matter,

¹ See, for example, Sklar (1975, p. 379), Newton-Smith (1978, p. 71), Horwich (1982, p. 61), Worrall (1982, p. 202), Ariew (1984, p. 313), Bergström (1984, p. 349; 1993, p. 331; 2004, 91 ff.), Ben-Menahem

however, changed several times over the years. He held one version or another of the thesis throughout his writings, but his formulations were revised at least twice, and at least three times he changed his mind about whether empirically equivalent yet rival systems of the world can be simultaneously thought to be true.² Quine's views are thus not easy to learn, and perhaps for that reason have been frequently misrepresented.

A common mistake consists in assigning to Quine belief in a thesis stronger than the one he actually put forth. This is not surprising, given his influence as a proponent of the thesis. One is rather naturally led to believe that it was somehow fundamental in his philosophy. Yet, closer inspection shows that within Quine's philosophy the thesis is not fundamental in any sense. The version of the thesis which Quine eventually settled for is too weak to support any strong metaphysical or epistemological doctrines, and it is neither obviously true nor is it clear what its implications are. It is nonetheless a plausible thesis, especially for an empiricist such as Quine; moreover, it is suggested by other doctrines within his philosophy, holism in particular.

The main goals of this paper are to lay out Quine's views on underdetermination as clearly as possible, track down the changes they underwent, and to try to understand why they have been so systematically misread in the recent literature. These are tasks which have only partially been undertaken in the literature, most notably by Gibson (1988 and 1998).³ The intention here is both to complement existing expositions and correct some common misunderstandings. In doing so, a few implications of Quine's analysis of the thesis for the ongoing debates on underdetermination are explicitly stated. A secondary goal is to show that despite Quine's influence as a proponent of the thesis, his views contain a rather neglected alternative to the ones which currently prevail.

The paper begins with a brief introduction. Section 2 tracks down changes in Quine's formulation and justification of the thesis up to 1975. Section 3 focuses on later writings and Quine's vacillations on the truth of empirically equivalent rival theories. Section 4 concludes the paper with a summary and brief discussion of some of the ways in which Quine's views have been misrepresented.

1 Introduction

As mentioned above, Quine constantly upheld the thesis of underdetermination but changed his mind several times about its consequences and about how to best formulate it. While asserting the thesis, he often qualified it with phrases which indicate that he did not regard it as immediately clear or evident. He wrote, for example, that underdetermination is "slippery when we try to grasp it more firmly" (1975b, p. 80) and "plausible insofar as it is intelligible, but less readily intelligible than it may

Footnote 1 continued

(1990, p. 262), Laudan (1990, 271 ff.), Laudan and Leplin (1991, p. 449), Earman (1993, p. 31), Kitcher (1993, pp. 249–251), Hoefer and Rosenberg (1994, 593 f.), Kukla (1996, p. 139), Leplin (1997, p. 203), Yalçın (2001, *passim*), Stanford (2001, S8 n.), Devitt (2002, 31 ff.), Okasha (2002, p. 304), and Massimi (2004, p. 243). In fact, nearly all recent publications on underdetermination acknowledge Quine's contribution.

² See Quine (1955, p. 254; 1960, pp. 22–23; 1969, p. 302; 1970, pp. 178–179; EESW, 1975a, *passim*; 1975b, p. 79; 1981, pp. 21–22, 29–30; 1984, p. 294; 1998b, pp. 156–157; 1987, pp. 9–10; 1990b, pp. 13–15; 1992a, pp. 95–101; 1992b, p. 9).

³ See also Bergström (1990, 1993, and 2004).