

One-page summary of the paper.

Title

On a recent objection to Carnap's use of Ramsey sentences for the reconstruction of scientific theories.

The context

Carnap famously proposed to rationally reconstruct theories as partially interpreted axiom systems. The method of reconstruction which he presents in 1956 (sometimes referred to as the "received view of scientific theories") has been criticized on several counts and subsequently amended in a series of papers, including one posthumously published in 2000. One serious issue was raised by Hempel who questioned the possibility of a clear-cut distinction between factual and non factual sentences, for the sentences written in the theoretical (as opposed to the observational) sublanguage of the language used for the reconstruction. Hempel's objection prompted Carnap's recourse to Ramsey sentences, which then became the cornerstone of his new model of a rational reconstruction of theories. If T is the conjunction of the theoretical postulates and C the conjunction of the correspondence rules, then Carnap proposed to take ${}^R TC$ (= the Ramsey sentence of $T \& C$) and $({}^R TC \rightarrow TC)$ as the two components which divide TC into a factual part and an analytic part, respectively. The use of Ramsey sentences in this context gave rise to new objections such as Winnie's ("The implicit definition of theoretical terms", 1967) which has been much discussed in the literature. More recently, a new version of an old argument due to Newman (1928) has been used (Psillos, *Scientific Realism*, 1999, chap. 3; Demopoulos, "On the rational reconstruction of our theoretical knowledge", 2003; "Carnap on the rational reconstruction of scientific theories", 2007) and presented as a deep objection against Carnap's later model of scientific theories. The objection aims to show that in Carnap's new model, any theory T whose observational consequences are all true can be shown to be true itself, *by a purely logical (set theoretical) argument*. If this is the case, then, obviously, if we accept Carnap's model, we lose "an essential feature of the truth of our theories" (Demopoulos, 2003).

The aim of the paper

While many commentators consider that the Newmanian argument clearly establishes that Carnap's use of Ramsey sentences is wrong-headed, the aim of this paper is to re-examine its applicability in this particular case and to propose a rejoinder to the objection.

The argument

First, the new use of Newman's old argument is based on the presupposition that *all* the observational consequences of the theory are true, a presupposition that we are never in a position to assume. As a consequence, for any non-trivial comprehensive scientific theory, we are never in a position to apply the argument and prove that the theory is true in the intended model on the basis of a purely logical argument. Second, it should be noted that the version of Newman's argument applied to Carnap's rational reconstruction of scientific theories does not have the same significance as Newman's original argument as applied to Russell's structuralism and examined by Demopoulos and Friedman in 1985; whereas the original argument reaches its Russellian target, it does not apply directly to the late Carnap. Third, the new version of Newman's argument intends to show that Carnap's reconstruction misses "a preanalytic intuition that governs our conception of truth" (Demopoulos 2003, p. 388). The aim of Carnap's explication of scientific theories, however, is not to capture all of our preanalytic intuitions. On the contrary, Carnap's philosophical programme actually discards some common ideas about scientific theories, and there are reasons to doubt that the preanalytic intuitions he is supposed to miss actually are on his agenda.