This is a very rich book that details the hitherto untold history of conventionalism. Its key message, summarised neatly in Chapter 1, is twofold: convention has emerged as a novel epistemic category (mostly in the writings of Henri Poincaré) but *qua* epistemic category, it is distinct and disjoint from truth. Not only can there *not* be truth by convention, but (Ben-Menahem tells us) the very idea of truth by convention is an oxymoron (3). The true history of conventionalism, then, is the history of how convention *cannot* be masqueraded as truth. To a great extent, this view is revisionist, though Ben-Menahem documents her claims carefully. For instance, she argues that the very idea that there can be truth by convention is not something we get from a proper reading of the writings of conventionalists; rather it is largely the product of Quine's reading (and criticism) of conventionalism, a criticism based on the (presumably false) premise that truth and convention are not disjoint categories (253).

Undoubtedly, in Poincaré's writings convention is introduced as a new epistemic category — in particular one that captures the status of judgments (or propositions) that, though they may well have some kind of empirical underpinning, are neither a posteriori (empirically) justified, nor a priori demonstrable (and neither simply contingent, nor necessarily true). Ben-Menahem rightly parallels this move to Kant's own Copernican revolution. Yet the judgments to which this novel epistemic category applies are held true, and there is nothing more to their being true than their being held to be true. Conventions may well be definitions (though they are a lot more too), but definitions can well be true; what places them apart, *qua* conventions, is that their truth is neither a matter of what the world is like nor a matter of demonstrative proof.

Ben-Menahem rightly identifies two versions of conventionalism. The first is as necessary (logico-mathematical) truth, the other is as exploration a consequence of the alleged underdetermination of the theories by evidence. The two versions need not coincide. Actually, they highlight an important distinction between two conceptually different problems: on the one hand, there is the problem of separating the empirical (factual, synthetic etc.) from the non-empirical (rational, a priori etc.) either in general, or within a theory (or a conceptual framework). On the other hand, there is the problem of grounding the choice between alternatives (theories or linguistic frameworks) when empirical evidence and other theoretical reasons (answerable to truth in a straightforward way) are exhausted.

Chapter 2 is about the so-called French conventionalism of the beginning of the twentieth century. We are offered a careful study of Poincaré's conventionalism, focused mostly on his theory of geometry. Ben-Menahem's central

point in this chapter is that for Poincaré 'necessary truths cannot be conventions' (44). Poincaré did indeed think that the principles of arithmetic were not conventions (since they were synthetic a priori and necessarily true). But it is arguable that he operated with an idea of relative (framework-dependent) necessity: the basic conventions (principles of geometry and of mechanics) are not on a par with synthetic a posteriori propositions. They cannot be falsified by experience (a) because if they *were* to be tested they would be tested holistically, and in any case (b) they are not really testable because they do not apply (at least directly) to the world of experience. Rather they constitute the framework-dependent object of knowledge. Besides, the claim that the same facts can be represented in two different geometrical languages does not imply that there is no truth by convention (66). Facts, that is, empirical (physical) facts, are metrically amorphous, for Poincaré. No geometry (of those within the constant curvature family) is dictated or forbidden by them. But they become the object of knowledge only after they have been placed in a geometrical framework. Within it, the interesting task for Poincaré is to separate those claims that are genuinely empirical from those claims that are stipulative; but this does not imply separating truths from non-truths. Actually, the truth of the stipulation (geometrical principles and the principles of mechanics) is presupposed for making intelligible and testable empirical claims.

Chapter 3 is a deep and interesting attempt to re-evaluate Einstein's reaction to geometrical conventionalism and his debt (redeemed or unredeemed) to Poincaré. Chapter 4 (in my opinion, the best in the book) tells the conceptual history of implicit definitions. Perhaps, the best case that can be made in favor of stipulative truth is by virtue of implicit definitions of concepts. This idea is present in Poincaré, but was developed by Hilbert and by Carnap. Ben-Menahem's main point is that implicit definitions cannot serve their purpose of explicating the idea of stipulative truth (or truth by convention) because their very possibility relies on considerations of consistency and satisfaction, which are non-conventional (161). This is debatable; not because consistency is a conventional matter, but because the whole idea of implicit definition is based on the claim that — in certain cases — consistency is the sole requirement for satisfaction. In any case, the attraction of implicit definition is that the stipulation of the truth of certain conditions determines (that is, *creates*) the meaning of certain concepts — hence there is no possibility that the relevant concepts have a meaning that violates these conditions. Though in Section 6 of this chapter Ben-Menahem does discuss Carnap's later work, I would have expected a more detailed investigation of Carnap's attempt (based on his re-invention of Ramsey-sentences) to split a theory into two components, one (conditional in form) that implicitly defines the theoretical concepts and the other empirical. The conditional form of implicit definitions is a good way to make sure that they are non-arrogant, that is that they do not have (or generate) any empirical consequences — a thing that would be detrimental to their being stipulative.

Chapter 5 is a careful analysis of Carnap's early conventionalism, as this is expounded in *Logical Syntax of Language*. Here again, the main point is that for Carnap too 'the categories of truth and convention are mutually exclusive' (180). There seems to be a change of emphasis at this chapter: truth and convention are disjoint because convention is a category applied to *rules* and these cannot be said to be true (or false) (196-7, 214). But isn't it the case that rules can be part of the implicit definition of a concept? And then, don't we go back to truth by stipulation? This shift from propositions to rules is examined in greater detail in Chapter 7, but as Wittgenstein is quoted as saying there, the boundary between rule and proposition is not very sharp (291).

Chapter 6 details Quine's battle with conventionalism. He made a name by criticising (among other things) the very idea of truth by convention, but he was also adamant that conventions are parts of our 'fabric of sentences.' Ben-Menahem analyses the role in Quine's philosophy of the argument from the underdetermination of theories by evidence. It is this kind of argument (together with the thought that confirmation is holistic) that guides Quine to argue against the possibility of a priori (and hence unrevisable) knowledge; and hence against the possibility that conventions capture the valid residue of the traditional conception of the a priori. As Ben-Menahem highlights, Quine plays one route to conventionalism (implicit definitions as an account of necessary truth) against the other route (conventional choice between competing theoretical systems). The thrust of a possible objection to this line of thought is given, but not explored, in footnote 35 (240). Commitment to holistic confirmation does imply that everything that is confirmable from experience is confirmed, when the theory as a whole gets confirmed; but it does *not* imply that every part of a theory (including logic and mathematics) *is* confirmable on the basis of experience. Carnap would never have conceded the latter, though he might well have toyed with the former.

Chapter 7 is on the later Wittgenstein and his critique of rule-following. Ben-Menahem puts forward a rather challenging interpretation of Wittgenstein as an iconoclast who, on the one hand, criticises conventionalism (and convention-based responses to the rule-following problem) on the grounds that it tries, in vain and in a wrong-headed way, to justify and explain rule-following, while on the other hand, admits that, *descriptively*, conventions are part of a practice of following rules. The discussion of Wittgenstein is subtle and invariably interesting. Drawing on the difference between justifying a practice and describing a practice from within, Ben-Menahem's Wittgenstein denounces the alleged need to offer 'a foundationalist understanding of conventionalism' (299).

Conventionalism should be read by anyone interested in a variety of central philosophical issues: in a certain sense, it is a treatise on the core themes of analytic philosophy and their conceptual development.

Stathis Psillos
University of Athens