ABSTRACT. I argue that there are good reasons to assume that Quine’s theory of reference and ontology is incompatible with reductive statements – such as ‘Heat is molecular motion’ or ‘Rabbits are conglomerations of cells’. Apparently, reductive statements imply certain intertheoretical identities, yet Quine’s theory of reference and ontology seems incompatible with intertheoretical identities. I argued that treating, for the sake of reconciliation, reductive statements along the lines of Quine’s theory of an ontological reduction (which does not imply intertheoretical identity) fails. Then I discussed two alternative strategies on behalf of Quine to handle reductive statements: the Holistic Strategy (which appeals to Quine’s notion of an all-encompassing background theory) and the Individuative Strategy (which draws on Quine’s notion of an apparatus of individuation). I argue that the Individuative Strategy promises to succeed. However, the Individuative Strategy obliges to revising Quine’s theory of an ontological reduction – a revision that, as I argue, can and should be implemented.

1. INTRODUCTION

The standard treatment of natural languages in terms of first order logic displays the logical form of English statements such as ‘Rabbits are conglomerations of cells’, ‘Heat pockets are clouds of moving molecules’, ‘Light beams are bundles of electromagnetic waves’, or ‘Galaxies are huge conglomerates of atoms’ as

$$\forall(x)(Fx \rightarrow Gx),$$

thus implying identity: under the given interpretation, every $F$ (if any) is identical with a $G$.

The statements just mentioned correlate observable objects (rabbits, heat pockets, etc.) with theoretical ones (conglomerations of cells, clouds of molecules, etc.). Or if, with Quine, we reject the distinction between observable and theoretical objects and take “all objects as theoretical” (1981a, p. 20), these statements correlate the objects in the domain of one theory (such as a commonsensical rabbit theory) with objects in the domain of another theory (such as a more esoteric molecular biological theory).
Thus if, also with Quine, we support the application of first order logic to natural languages, we are apparently committed to intertheoretical identities – identities of objects in the domain of one theory with objects in the domain of another theory. Yet not only does Quine reject a commitment to intertheoretical identities but also are there, as I shall show, good reasons to assume that central parts of Quine’s theory of reference and ontology are incompatible with intertheoretical identity.

I call statements of the above mentioned sort reductive statements, and argue that Quine’s own official treatment of reductive statements in terms of his theory of an ontological reduction fails. Then I offer two alternative strategies on behalf of Quine to account for these statements, one of which, I argue, promises to succeed.

Section 2 presents Quine’s views on reference and ontology and presents powerful reasons for the incompatibility of these views with intertheoretical identity. Section 3 discusses treating reductive statements in terms of Quine’s theory of an ontological reduction – Quine’s own official approach to the matter. I name this strategy the Reductive Strategy and argue that it fails. Section 4 is a brief interlude, arguing that Quine ought to abandon a certain device for carrying out ontological reduction: the so-called proxy function. This argument does not, however, affect the failure of the Reductive Strategy. Section 5 discusses the Holistic Strategy, which aims at explaining intertheoretical identity away by emphasizing Quine’s notion of an all-encompassing background theory. This strategy is weak, I argue, because it relies on an endorsement of radical holism – a doctrine that Quine has repudiated since the 1970s. Section 6 discusses the Individuative Strategy, which aims at accounting for reductive statements in terms of Quine’s notion of an apparatus of individuation. This strategy promises to succeed, I argue. However, making the Individuative Strategy airtight would mean considerably elaborating Quine’s theory of an apparatus of individuation – a goal that is beyond the scope of this paper. Section 7 finally brings the Individuative Strategy into harmony with Quine’s theory of an ontological reduction, by recommending a slightly different status for this theory compared to the status that Quine himself gives to it.

At times my discussion may seem pedantic. However, I am not splitting hairs here. An ardent commitment to reductionism is at the very heart of Quine’s overall project. The claim that the ontologies of the best scientific theories plus set theory exhaust reality is central to this project. Accordingly, a satisfying account of reductive statements has to be core to Quine’s overall enterprise, and we had better