

Julien Murzi & Brett Topey (University of Salzburg): “Categoricity by convention”

On a commonly held naturalist metasemantics, the interpretation of a linguistic expression is fixed by the use we make of it. Widespread and intuitive though the view is, it seemingly faces inescapable problems. For one, logic would already seem to provide clear counterexamples: as first shown by Carnap (1943), our use of the logical connectives and quantifiers apparently underdetermines their interpretation – this is Carnap’s Categoricity Problem. Likewise, it’s been argued – by Skolem (1922) and Putnam (1977, 1980, 1981) among others – that, even if we take for granted the interpretation of logical expression, our use of mathematical language irredeemably fails to fix the interpretation of mathematical terms – this is Putnam’s Model-Theoretic Argument. The apparent mismatch between logico-mathematical terms and their interpretation is reflected in the epistemological challenge to explain why our logical and mathematical beliefs are so successful in tracking the logical and mathematical facts – this is the Reliability Challenge (Benacerraf, 1973; Field, 1989). We provide a logic first naturalist metasemantics, on which logical rules are assertion-based and the interpretation of the connectives and quantifiers of full classical second-order logic is uniquely determined, pace Carnap, by our dispositions to infer according to basic logical principles. This in turn makes available categoricity and quasi-categoricity results for a number of second-order mathematical theories and, we argue, paves the way for a realist epistemology of the a priori, as well as for a natural, and novel, criterion of logicity.