The semantic account of formal consequence, from Alfred Tarski back to John Buridan

# Abstract

The resemblance between Buridan’s and Tarski’s theories of formal consequence has long been remarked upon.[[1]](#footnote-1) But while long noticed, it has not yet been subjected to sustained analysis.

In this paper, I provide just such an analysis. I begin by highlighting the differences between classical consequence today and Tarski’s 1936 account (Tarski 2002). Following this, I introduce Buridan’s account, detailing its philosophical underpinnings, content, and distinction from the semantic accounts of Tarski and his successors. This in turn, provides the conditions requisite for a partial genealogy of the modern concept of formal consequence.

I show that Tarski’s account represents a genuine development from the Buridanian account to the degree that it employs the concepts of model, sentential function, and recursion, which were unavailable to Buridan. Other differences, however, represent more substantive disagreements. Buridan’s acceptance of modality, tense, and variable domains; his prioritizing the determination of the material parts of the sentence over the formal; his adoption of a token-based semantics grounded in natural languages, all were taken up *against* analogues of the contrary positions, found in Tarski, in Buridan’s own time.

In other respects, the difference between Buridan and Tarski’s approach to consequence is not so wide as their chronological distance from each other would suggest. In contrast with modern practice, neither construes the *relata* of formal consequence schematically. Buridanian causes of truth form analogues to the Tarskian concept of models of a sentential function. And both Buridanian and Tarskian accounts of following formally are given in terms of substitution - a Buridanian formal consequence is good if all sentences that could be formed by uniform substitutions on its categorematic terms are good, a Tarskian one if it is invariant under satisfaction of sentential functions obtained from it by substituting its non-logical constants with variables. Given this closeness, it is perhaps unsurprising that may of the genuine developments in formal logic over the past sixty years have involved a reappropriation of the Buridanian standpoint on just those topics where he disagrees with Tarski. In this reappropriation of the best elements of Buridan’s account into the context brought about by genuine developments since it, one might hope to find progress toward ... well, if not truth, at least how things are signified to be.

Keywords: Formal consequence, John Buridan, Alfred Tarski, demarcation problem

1. See (Moody 1952) (Kneale and Kneale 1962) (Dumitriu 1974) (Dutilh Novaes 2016) (Dutilh Novaes 2012) (Parsons 2014), and the editor introductions to (John Buridan 1976), (Kretzmann, Kenny, and Pinborg 1982) and (King 1985). [↑](#footnote-ref-1)