Robby Finley

Logic in Accounts of the Potential and Actual Infinite

Abstract:

My dissertation provides a detailed account of the historical role of the distinction between the potential and actual infinite in a variety of debates within natural philosophy and mathematics. It then connects these historical positions to modern debates over the possibility of pluralism within philosophy of logic and mathematics. In particular, it defends a view under which theories of the infinite and logic are justified abductively, and it argues that this abductive methodology provides space for an interesting pluralism about both the infinite and logical consequence. This argument relies on a detailed and thorough historical investigation into ancient, medieval, early modern, and modern views of the infinite, revealing a range of background metaphysical and epistemological commitments that motivate different abductive criteria for sophisticated philosophical positions on the infinite. It then suggests that charitable interpretations of the historical positions on the infinite should lead one to endorse a logical pluralism.