

Identifying Logical Evidence

Abstract. With the recognised weakness of historically prevalent account of logical knowledge, in terms of intuition and analyticity, a renewed interest in logical epistemology has been sparked. One recent suggestion is that we come to know logical claims similarly to how scientists know truths about the world, through abduction. However, at present, it's unclear exactly which data logical theories should have to explain, and how we should weight the competing strengths and weaknesses of logical theories. This talk proposes looking at historically important logical disagreements, and extracting from these debates an account of which data successful logical theories must accommodate.

We take ourselves to know certain logical claims, for example that Socrates is wise and just only if he's wise. However, we currently fail to have a viable account of how we possess logical knowledge. Historical attempts to explain this knowledge, such as appeals to intuition and linguistic proficiency, have been found to be ultimately unsatisfactory, either because they are metaphysically obscure or fail to explain logical disagreements (Williamson, 2007). Yet, it's imperative that we have a complete understanding of logical knowledge. While we use logic to form beliefs in all areas of life, such as when testing scientific theories and engaging in rational debate, we now have many competing logics at our disposal to do so, all of which lead us to reasoning differently in certain situations. Yet, in order to make informed decisions about which logics we should use, we require suitable criteria to adjudicate between them, which can only be developed with a full understanding of what constitutes logical evidence. Without such an account of logical evidence, we lack the resources to make principled and holistic decisions about the correct logic to use. Consequently, a new, more complete, explanation of logical knowledge is needed.

In order to supply such an explanation, prominent figures such as Timothy Williamson (2013), Graham Priest (2014) and Ole Hjortland (2017), have recently argued for a new account of logical knowledge, *logical anti-exceptionalism*, which emphasises that such knowledge isn't special in any sense, and that logic's method is akin to that of the natural sciences. Just as science proceeds by advancing theories attempting to best explain the relevant data, by a process known as *abduction*, so logic proposes theories to explain its own domain of data as lucidly and coherently as possible. Thus, we come to be justified in our logical beliefs by recognising which available logical theory best explains the relevant data.

Unfortunately, however, there is little agreement between proponents of *logical anti-exceptionalism* over what constitute these *relevant data* that logical theories must explain, and no clear indication yet of how we should settle the matter of which data are relevant. But, without a detailed account of what these data are, *logical anti-exceptionalism* cannot hope to provide the means to adjudicate between competing logics, a major motivation for any modern theory of logical epistemology. Thus, we need to know what type of data, exactly, logical theories must explain.

This talk argues that we can look to logical practice for help in both providing support for *logical anti-exceptionalism* and pinpointing the types of data logical theories must explain. While using the practice of researchers has proven a useful method to study how knowledge is acquired in the natural sciences (Burian, 2001) and mathematics (Mancosu, 2008), the same method has yet to be extensively used in the study of logic. Yet, just as philosophers of science have used historical scientific experiments and disputes as their data to infer how we come to know empirical claims, so we can use a *practice-based method* in studying logical knowledge. By taking logical arguments as our data, we can infer from these arguments the methodological principles that logicians rely upon, and the data their theories attempt to explain. The rationale for using practice to inform an

epistemology of logic is the presumption that generally, as with scientists, logicians provide suitable reasons for their claims even if, ultimately, they are not wholly satisfactory. Thus, we should expect logicians' arguments to provide insight into how we can come to know logical truths, and the data logical theories must accommodate.

To show the fruitfulness of this *practice-based* approach, the talk considers as a case study arguments from one of the most significant debates in modern logic, the dispute between classical logic and dialetheism over the truth of inconsistent theories. Concentrating particularly on Priest's (2006) initial arguments for dialetheism from the liar and Russell-set paradoxes, and classical replies to the arguments, it's proposed that both Priest and his classical opponents rely upon at least three methodological principles: Firstly, that linguistic and mathematical puzzles, such as the liar sentence and Russell set, can form part of a logical theory's *explanandum*; secondly, that linguistic norms form part of logical evidence, for example in admitting the need to take the meaningfulness of the liar sentences seriously; and thirdly, that mathematical concepts and findings form part of logical evidence, for example by suggesting that only classical logic can underpin mathematical results.

The talk concludes that these initial results from the *practice-based* approach provide both support for *logical anti-exceptionalism*, and details on the types of evidence a logical theory should accommodate. To offer support for their logical views, rather than attempting to settle disputes on purely definitional or intuitional grounds, logicians appeal to their logic's ability to explain certain relevant phenomena, including linguistic norms and findings from mathematics. We suggest that with yet further consideration of important logical disputes, we can hope to build an even fuller picture of logical epistemology and evidence.

References

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