

Abductivism About Relating Logics: The Case of Scientific Understanding

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Relating logics are a family of logics of relating connectives. What groups together these logics is the goal that, through the implementation of certain connectives, one could account “for the relation of sentences in terms of various connections: content relationship (analyticity, relevance, etc.), causality, temporal order, preference order, etc.” [2, p. 579]. This idea suggests that the element that is shared through all these logics is the intuition that, at least in some cases, the relationship that exists between two or more propositions should not be reducible to the combination of the truth values of the individual components. However, such a broad concept makes it possible to identify as “relating” many very different logics which have many very different motivations. This could challenge the legitimacy of the unificatory label of this alleged family.

In particular, the above raises the question of, if many of the alleged relating logics can be also classified and easily understood under more traditional categories (relevant, paraconsistent, etc), why should we consider that there is anything that is shared by these logics that makes them saliently ‘relating’? This is, how can we explain the legitimacy of the label “relating logics”?

A way to respond to such a question is by appealing to a (methodological) abductivism regarding relating logics in general.¹ If doing so, one must either show that (i) relating logics can explain or justify certain theorems that we consider important to preserve in a better way than their rivals; or, one must show that (ii) relating logics can found a domain of application for which they fit more adequately the evidence than any of their rivals do.

Here, I focus on a case of (ii). I argue that relating logics can find a domain of application in the phenomenon of scientific understanding, and that this can constitute evidence in favor of their philosophical and methodological value. In particular, I claim that, seen as a methodological tool, they can help to significantly advance the philosophical debates concerning the nature of scientific understanding. My aims in this paper are two, first, from an abductivist perspective, to explain the value of providing a philosophical analysis of the import of relating logics. And, second, to explain where this value can be found.

In order to do the above, I proceed in four steps. First, I briefly introduce relating logics from a philosophical perspective. Second, I describe the antiexceptionalism vs. exceptionalism debate. Here, I also explain the importance of addressing relating logics from this perspective. Third, I argue in favor of an abductivist commitment towards relating logics by pointing at their possible contribution to the epistemology of science. Finally, I draw some conclusions.

References

- [1] O. T. Hjortland. Anti-exceptionalism about logic. *Philosophical Studies*, 174:631–658, 2017.

¹Abductivism is the view according to which, similarly to scientists, logicians are justified to choose a logical theory over another whenever having evidence in favor of it fitting more adequately the evidence, but also when ranking it higher than its rivals with respect to virtues such as strength, simplicity, and unifying power (Cf. [4], [1], [3]).

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- [4] T. Williamson. Semantic paradoxes and abductive methodology. In B. Armour-Garb, editor, *The Relevance of the Liar*, pages 325–346. Oxford University Press, 2017.