

Three Solutions to the Liar Paradox

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Abstract. This project extends the diagrammatic notation developed in Palider et al (2021) to the logical debates held in the medieval time period, specifically exploring the solutions to the Liar Paradox as provided by three medieval logicians: John Buridan, Albert of Saxony, and Thomas Bradwardine. These arguments can be incredibly dense in nature, and almost incoherent when read in original texts. My project showcases four types of diagrams present these arguments in a form that is understandable to the modern reader while retaining all the components and formulation of the original medieval logician’s argument.

Keywords: Medieval logic, Insolubilia, Liar Paradox.

1 Abstract

Reconstructing and analyzing the validity of different arguments in medieval logic is a complicated and challenging pursuit for the modern-day researcher. Medieval logicians employed terms and criteria that are no longer formally used, and often disagreed on the usage of those terms. Without the right arsenal of definitions and assumptions made by the original logician, researchers may find texts detailing medieval logic challenging to understand and difficult to interpret. A pivotal part of that arsenal is finding more interactive, intuitive, and effective ways to present such arguments, and drawing connections between definitions used by various medieval logicians. The diagrammatic notation developed in Palider et al (2021) can be readily applied to scientific belief systems and philosophical discourse alike and has been found useful in depicting the framework used by many scientists, theologians, and philosophers of the Middle Ages. This project now extends this notation to the logical debates held in the medieval time period.

In medieval times, the Liar paradox, a paradox about the truth value of the proposition “This statement is false”, was included in the category of semantic and epistemic paradoxes called insolubilia. My project aims to use the diagrammatic notation to expound on the solutions to the Liar paradox as presented by John Buridan, Albert of Saxony, and Thomas Bradwardine. The Liar Paradox determines the truth value of the proposition “This statement is false”. These three scholars concluded that the Liar paradox is false, but they did so using different arguments and premises. These arguments are incredibly complex given the nature of the paradox. They rely on conceptions of supposition and signification. Moreover, the criteria by which supposition and signification relate to the truth of a proposition are specific to each logician. Much like debates in the twentieth century on truth, reference, and meaning, these medieval scholars would not be simply applying logical principles to various cases, they would be questioning the logical framework itself by taking various

stances on the philosophy of language and logic. My presentation would showcase multiple types of diagrams, each serving a unique purpose and offering researchers an incredible set of tools for reconstructing the logicians' worldviews and arguments.

During the course of my research, I found that the medieval solutions for the Liar paradox hinge on two criteria for truth: supposition and signification. However, most medieval philosophers seem to disagree on how to use these criteria and do not have commonly accepted definitions for them. The taxonomy diagrams coalesce definitions of signification and supposition implicit in various authors' arguments and make them more accessible than plain text. The taxonomy diagram (Fig. 2) shows the signification and supposition criteria used in medieval times.

The theory-relation diagram enables the diagrammer to correlate different semantic terms and gain intuition about how medieval logicians understood and used these terms in their arguments. They draw from analysis of secondary sources, such as Stephen Read and P. V. Spade, two expert historians on medieval logic, further illustrating the logical validity of the arguments along with their explicit and implicit premises. The theory-relation diagram (Fig. 3) shows Albert of Saxony's solution to the Liar Paradox, detailing his implicit assumptions and how he uses bivalence along with supposition and signification criteria to show that the Liar proposition is false. Adding definitions of supposition and signification explicitly in the diagrams outlining the logicians' arguments greatly clarifies the solutions to the paradox.

Lastly, I use mosaic comparison diagrams to highlight points of agreement and disagreement between the three logicians by illustrating points of agreement and divergence in their arguments, bringing together three different worldviews. This project uses three types of diagrams to illustrate arguments themselves. It further uses other types of diagrams to better contextualize each logician's perspective on the Liar Paradox, such as timeline diagrams (Fig. 1).

My presentation highlights not only how the diagrammatic notation is successful in simplifying challenging arguments in medieval logic, but also discusses the potential areas of limitation and improvement for the notation. The visuals created necessitate the need for diagrams in medieval logic and philosophy. On the whole, I seek to showcase that diagramming arguments in medieval logic and the definitions behind them are pivotal to presenting the arguments with precision and clarity that is not accessible through plain text.

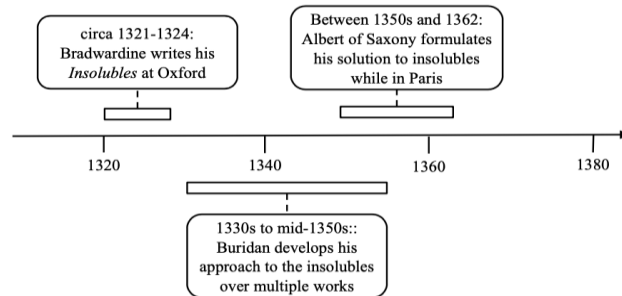


Fig. 1. A timeline diagram contextualizing the influence and context of Thomas Bradwardine, Albert of Saxony, and John Buridan. It aids the main text, diagrams, and arguments.

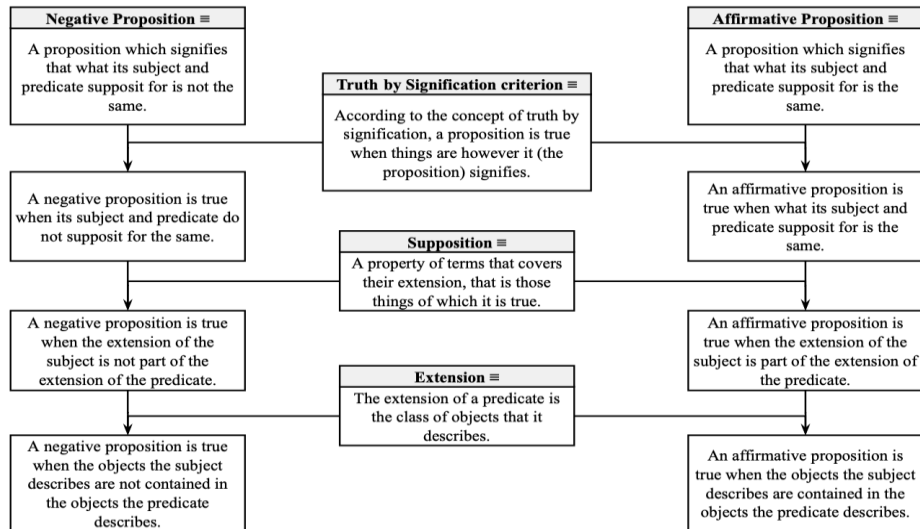


Fig. 2. A diagram showing the truth criteria employed by medieval logicians.

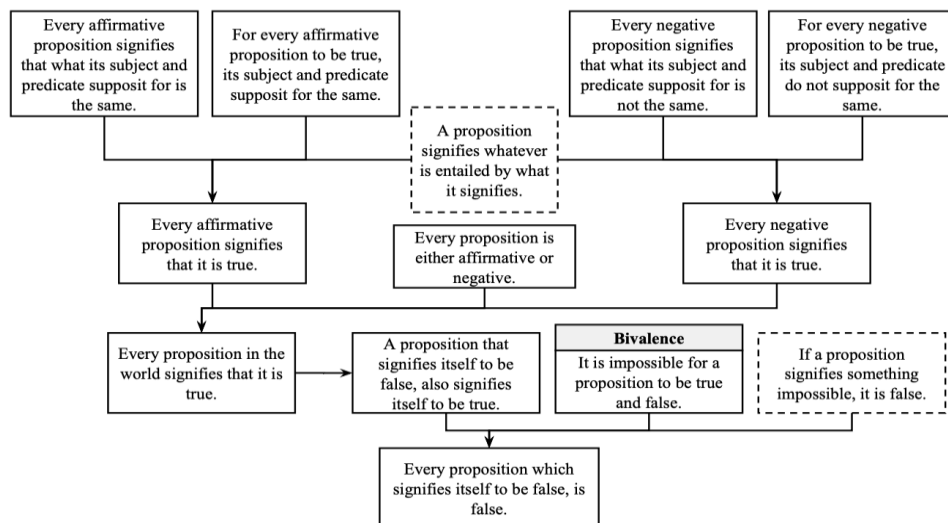


Fig. 3. Albert of Saxony's solution to the Liar Paradox.

References

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