

Record in the Commens Bibliography. Retrieved from http://www.commens.org/bibliography/journal_article/sun-joo-shin-1999-reconstituting-beta-graphs-efficacious-system, 21.03.2023.

Type: Article in Journal

Author: Sun-Joo, Shin

Title: Reconstituting Beta Graphs into an Efficacious System

Year: 1999

Journal: Journal of Logic, Language and Information

Volume: 8

Issue: 3

Pages: 273-295

Keywords: Efficacy, Existential Graphs, Natural deductive system, Naturalness, Transformation rules, Visual features, Visual intuitiveness

Abstract: Logicians have strongly preferred first-order natural deductive systems over Peirce's Beta Graphs even though both are equivalent to each other. One of the main reasons for this preference, I claim, is that inference rules for Beta Graphs are hard to understand, and, therefore, hard to apply for deductions. This paper reformulates the Beta rules to show more fine-grained symmetries built around visual features of the Beta system, which makes the rules more natural and easier to use and understand. Noting that the rules of a natural deductive system are natural in a different sense, this case study shows that the naturalness and the intuitiveness of rules depends on the type of representation system to which they belong. In a diagrammatic system, when visual features are discovered and fully used, we have a more efficacious deductive system. I will also show that this project not only helps us to apply these rules more easily but to understand the validity of the system at a more intuitive level.

DOI: 10.1023/A:1008303204427

Language: English