Hyper Dimensional Logics

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0.0 Introduction

This short paper adumbrates a conception of spatially-represented logics following the tradition of C.S. Pierce's *Existential Graphs* (the immediate precursor to formal symbolic logic)[2], G. Frege whose *Begriffsschrift* or "Thinking Notation" is the first systematic formal symbol logic and artificial language, and Hilbert Space formalisms of *Quantum Logic*.[3]

The idea here is to represent propositions in a manner roughly summarized as "overlaying" multiple spaces on top of each other in a dimensionally enhancing way. I'll proceed to clarify and articulate these notions in a more formal way below but will first take some time to describe and outline multiple relevant historical formalisms.

1.0 Historical Precedents

1.1 Pierce's *Existential* Graphs

1.2 Frege's *Begriffsschrift*

1.3 Hilbert Space formalisms of *Quantum Logic*

Classical Quantum formalisms treat propositions as state-space vectors or points.

2.0 Initial Definitions

Lower Dimensional Logic.

Logical Dimension.

Dimensional Enhancing.

Higher Dimensional Logic.

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[2] http://www.jfsowa.com/pubs/egtut.pdf

[3] https://www.whitman.edu/Documents/Academics/Mathematics/klipfel.pdf

3.0 Symmetries and Symmetry Breaking

I should think that we can portray disputation, that is *monologically* arguing sequentially using evidence and valid inference patterns as a kind of symmetrical relationship. In some cases, where the evidence or argumentation is preponderantly superior, the symmetry is broken and we declare a winner.