

# Towards Formal Logics for Structuralism, Deconstruction and the Hyperreal

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The Structuralist theory of meaning and the standard semantics of logics share a principal idea: both recognize the fact that meaning is not inherent, but constructed. This motivates the idea of defining a formal logic for the theories of Structuralism, Deconstruction and the Hyperreal. In this paper we present our results in working to a syntax and a model theory of such a logic. Note that even more so than syntax and model theory the proof theory of such a logic is dependent on which concrete theory we are dealing with, so we do not cover it in this foundational paper. A logic for these concepts would allow rigorous syntactic reasoning. This reasoning would be different in goal from the reasoning in other logics: since any logic that we construct will involve heavily debatable design choices, rather than providing us with generally accepted theorems or even statements that we consider to be true, it could be used in order to examine the consequences that a certain set of assumptions (which would correspond to debated assumptions in the literature) will lead to. It is important to understand that there are aspects of these theories which will, by their inherent resistance to a precise definition stay outside of the scope of any formal logic remotely similar to our current understanding. This dictates that formal logic can only ever be a tool in the discussion of these theories, a tool whose result must be closely examined and evaluated if they are to be useful. Also from the observation above it follows that one logic will not be sufficient, for each set of assumptions and ideas of the hyperreal, a separate logic will be necessary. We give fundamental ideas that will lay the groundwork for those multiple logics.

Through study of a selection of texts focused on Structuralism, Deconstruction and the Hyperreal we identify the basic concepts to represent in our logic. The most important ones where the concept of the binary opposite, the flipping of them and the idea of the hyperreal. There are 2 main ideas for the realization of these logics:

- (i) Firstly we propose to define an operator that maps a word to its binary correspondent, either in binary opposite pairs or in reality-simulation pairs. Note that this also allows the deconstructionist flipping of the binaries.
- (ii) Secondly we need to generalize the interpretation function. In order to faithfully represent the ideas of structuralism regarding the semantics of binary

opposites, we must allow for the interpretation function to not only map to single elements, but also to ordered pairs. This would preserve the necessary information for reasoning. This idea has many difficulties, both technical and philosophical, and we will discuss these in greater length in the paper.

Together these 2 additions provide the language to formulate some very basic ideas of structuralism, deconstruction and the hyperreal. This is demonstrated by 2 prominent examples from structuralist and post-structuralist literature respectively.

In conclusion we can say that while this project is still in the beginning of its development and its realizations has many difficulties, we have good reason to believe most of these are solvable, and the results so far seem to yield promising results.