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ON THE CONCRETE SIGNATURE OF LINCOS

Abstract

LINCOS is a Lingua Cosmica developed by the second author in a number of essays [1] and has been devised as an aid in interstellar communication between intelligent mutually alien societies. The system is based on type theory and constructive logic and is particularly useful for describing logic relations in various contexts. Its terms are expressed essentially in the formalism of the lambda calculus and partly due to this LINCOS texts have a distinct abstract signature. This aspect has been investigated in some detail by the second author [2].

In the present paper, complementary to the work mentioned above, we consider LINCOS texts from a more linguistic point of view. Our aim is to describe a measure, a concrete signature, which characterizes these texts and differentiates them from texts in a natural language. Previous work by the first author [3] documents extensive investigations into the generic attributes of terrestrial languages, at varying levels of abstraction, and methods by which non-linguistic phenomena is separable from natural language. The discovered distinctive parameters that comprise this signature of natural language, produced by our Lingua ex Machina, provide a robust platform for this investigation; however, like music, human authorship underpins core constructs and constraints in logic construction. Nevertheless, distinctive measures are discernable across the structural hierarchy and in this paper we present our initial findings for a concrete signature for LINCOS.

[1] Alexander Ollongren, Logic Design of a Linguistic System for Interstellar Communication (unvollendet), monograph in preparation, 2008 [2] Alexander Ollongren, On the signature of LINCOS, Paper for the 1st IAA Symposium on Searching for Life Signatures, Paris, September 22 – 26, 2008 [3] Elliott, J. Detecting the Signature of Intelligent Life: Paper for the 1st IAA Symposium on Searching for Life Signatures, Paris, September 22 – 26, 2008