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ON MODALITIES IN LINGUA COSMICA LOGICA

Abstract

In the monograph *Astrolinguistics* [Springer Verlag 2013] and in recent papers by the author cum suis, the design and the use of a suitable linguistic system for the construction of messages for interstellar communication are described in detail. The linguistic system proposed is based on constructive logic. The suggested *Lingua Cosmica Logica*, referred to as LINCOS, has its roots in formal logic - more in particular the branch of logic called Calculus of Constructions with Induction (CCI), closely related to intuitionistic logic. Propositional and predicate logic are embedded ab initio in LINCOS. Using representations of the universal and existential quantifiers, complete Aristotelian predicative logic is expressible in LINCOS. Therefore the system can be considered to be complete in a static way. In order to treat aspects of situations of a dynamic nature, the system needs to be enriched by modalities, to be used as a means for expressing (modeling) certain relevant non-static logic notions. A modality is a meta notion in logic. In the present contribution a specific modality, called activation, is discussed and its use is illustrated. In that way a new step forward towards universality of *Lingua Cosmica Logica* is achieved.