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ON THE UNVERSALITY OF LINGUA COSMICA LOGICA

Abstract

Abstract In recent papers and in the monograph 'Astrolinguistics' by the author c.s., the design and the use of a suitable language system for the construction of messages for interstellar communication are described in detail. The cosmic language, the LINCOS system proposed and referred to here as Lingua Cosmica Logica, is based on formal logic. More in particular it is based on the branch of logic called Calculus of Construction with Induction (CCI), itself being closely related to intuitionistic logic. Propositional and predicate logic are embedded ab initio in LINCOS. In the mentioned monograph it is shown that Aristotelian logic is expressible in LINCOS. In fact all types of syllogisms can be formulated as LINCOS terms, using representations of the universal and existential quantifiers. Therefore the system can be considered to be universal in a static way. In the present paper we consider ways and means for expressing dynamical relations in the system, using instruments from dynamic (modal) logic. For that purpose modal operators are introduced. In that way a step forward towards universality of Lingua Cosmica Logica is achieved.