

CAN OVERT SYNTACTIC STRUCTURE BE INTERPRETED
AS A LOGICAL DEVICE ?

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RESUME

Attempts to reduce syntactic structures to logical ones, as known to the authors, tend to discover a special kind of underlying structure beyond the overt syntactic constructions. In an alternative approach, the authors try to interpret as much as possible of overt syntactic structure, as immediately representing the elements of a particular logical calculus. The paper to be presented is planned to be an extension of the authors' Syllogon Model which will be published for the first time at the Conference of the Societas Linguistica Europea in Brussels, 2nd April, 1967.

It is asked whether the syntactic elements of natural languages can be said to correspond to the elements of the calculus of multiple relations, i.e., may be identified with the particular variables, constants, and operators of that calculus. This seems to be possible not only in the general sense that relations remaining under a certain threshold of logical complexity can be verbalized. (Such verbal paraphrasing may be exemplified by REICHEMBACH classifying the preposition between as a three-place relation, obviously relying on common understanding or alleged semantics. This interpretation reminds of illustrative examples in textbooks of symbolic logic.) It should, however, also be possible to show that, regardless of content, syntactic elements organize into specific sets according to their functions as logical entities.

The authors tentatively start from the axiomatic premises that the slot of the relation variables is filled by finite verb forms and combinations of the type copulative plus nominal, whereas the slot of object variables is filled by nominals (at least those being grammatical subjects and objects). A syllogon is defined as a syntactic construction when interpreted as a predicative function. A syllogon is called a n-syllogon if it is identifiable with a n-place relation. The class of the n-sylloga is the n-syllogeme.

All syntactic structures known to be universal are either 1-sylloga or 2-sylloga. (Possibly, syllogemes of higher order may be necessary to account for constructions with subordinate sentences). In order to become a statement, generally a predicative function must be either quantified, or its variables must be substituted by individual names. While the constituents of the predicative function must be overtly present in natural syntax, the explicit quantification of a syllogon is optional. Thus, many sentences, taken in isolation, remain mere predicative functions, which imposes serious restrictions upon any attempt to detect a peculiar covert structure (of separate sentences) aimed at by some linguists under the labels of depth structure, innere Form, nomostructure, and the like. Rather, something-like "quantification by context of situation" must be conceived of.

On the other hand, many of those linguistic elements denoting a qualification are loaded with additional meaning. It is distinguished, with regard to predicative functions in natural languages, between the strictly extentional aspect of quantification and additional features in the production of statements. (We therefore subsume both quantification and additional features under the more general label of amplification.)

Variables in the different slots may be augmented by subordinate syntactic elements. It is this device which provides natural languages with the possibility to hint, within its restricted algorithm, at fairly complex relationships. Present investigation is devoted to the question how subordinate sentences can be accounted for along the lines of the present scope.

It is to be hoped that the syllogon model, with its emphasis on the overt structure as a restricted but clearly determined logics mechanism, will offer a new way of tackling with the problems of ambiguity in translation.