the majority of the rules are dictionary rules, this problem is closely related both to the problem of constructing microglossaries and to the subsequent problem of choosing a particular microglossary suitable to a given text.

Our current approach to this problem entails the construction of key word lists in the first stage of analysis which guide the computer in its choice of a previously constructed microglossary. Work to date indicates adaptations of this technique may not only contribute to the solution of storage and access problems but also facilitate analysis and simplify problems of semantic resolution.

Word-Meaning and Sentence-Meaning*

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A theory of semantics is presented which (1) defines the meanings of the most frequently occurring semantic morphemes ('all', 'unless', 'only', 'if', 'not', etc.), (2) explains their role, as semantically interdependent structural-constants, in giving rise to sentence-meanings, (3) suggests a possible approach to a sentence-by-sentence recognition program, and (4) offers a feasible method of coordinating among different language systems synonymous sentences whose grammatical features and structural-constants do not bear a one-to-one correspondence to one another. The theory applies only to morphemes that function as structural-constants and their interlocking relationships, denotative terms being treated as variables whose ranges alone have structural significance in sentence-meaning. The basic views underlying the theory are: In any given sentence, it is the particular configuration of structural-constants in combination with specific grammatical features which produces the sentence-meaning; the defined meaning of each individual structural-constant remains constant. The word-meanings of this type of morpheme, thus, must be carefully distinguished from the sentence-meanings that configuration of these morphemes produce. Sentence-synonymy is not based upon word-synonymy alone. Contrary to the popular view that the meanings of all of the individual words must be known before the sentence-meaning can be known, it is shown that one must comprehend the total configuration of structural-constants and syntactical features in a sentence in order to comprehend the correct sentence-meaning and that this understanding of the sentence as a whole must precede the determination of the correct semantic interpretation of these critical morphemes. In fact, the structural features that produce the sentence-meanings may restrict the possible meanings of even the denotative terms since a structural feature may demand, for example, a verbal rather than a noun phrase as an indispensable feature of the configuration. Two or more synonymous sentences whose denotative terms are everywhere the same but whose structural configurations are not isomorphic express the same fundamental sentence-meaning. The fundamental sentence-meanings can be explicitly formulated, and serve as the mapping functions to co-ordinate morphemically-unlike synonymous sentences within a language system or from one system to another. The research goal of the author is to establish empirically these translation rules that state formally the structural characteristics of the sentence configurations whose sentence-meanings, as wholes, are related as synonymous.

Translating Ordinary Language into Symbolic Logic*

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The paper describes a computer program, written in COMIT, for translating ordinary English into the notation of propositional logic and first-order functional logic. The program is designed to provide an ordinary language input to a COMIT program for the Davis-Putnam proof-procedure algorithm. The entire set of operations which are performed on an input sentence or argument are divided into three stages. In Stage I, an input sentence 'S', such as "The composer who wrote 'Alcina' wrote some operas in English," is rewritten in a quasi-logical notation, "The X/A such that X/A is a composer and X/A wrote Alcina wrote some X/B such that X/B is an opera and X/B is in English." The quasi-logical notation serves as an intermediate language between logic and ordinary English. In Stage II, S is translated into the logical notation of propositional functions and quantifiers, or of propositional logic, whichever is appropriate. In Stage III, S is run through the proof-procedure program and evaluated. (The sample sentence quoted is of course 'invalid', i.e. non-tautological.) The COMIT program for Stage III is complete, that for Stage II is almost complete, and that for Stage I is incomplete. The paper describes the work done to date on the programs for Stages I and II.

The Graphic Structure of Word-Breaking

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In a recent paper[1] the authors have shown that it is possible to determine the possible parts of speech of

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[1] "Prolegomena To a Study of Written English," J. L. Dolby and H. L. Resnikoff.