8. Planning models of speech acts.
9. The impact of computer technology on education.
10. Metacognition—knowing about one's own knowledge and capabilities.
11. Models of word recognition; the role of orthographic redundancy.
12. Componential models of reading; the interaction of top-down and bottom-up processes.
13. Rhetorical features in children’s stories—point of view, inside view, author commentary, etc.
14. The role of beliefs and background knowledge in reading comprehension.
15. Readability formulas - their use and misuse.
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Conversion of a French Surface Expression into Its Semantic Representation according to the RESEDA Metalanguage
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Description of the Project:
The research work that we intend to present here represents a feasibility study concerning the automatic translation of natural language statements -- which describe the biographies of historical personages taken into account by the RESEDA system -- into the RESEDA semantic metalanguage.

The main RESEDA project concerns the creation and practical exploitation of a database containing the biographies of historical personages of the late Middle Ages in France. The most important characteristic of the system lies in the possibility of using inference procedures to question the database about causal relationships which may exist between the different recorded facts, and which are not explicitly declared at the time of data entry [Ref. 1 2].

1. The RESEDA metalanguage.

The biographical information which constitutes the system's database is organized in the form of units called "planes". There are several different types of plane; the "predicative planes", the most important, correspond to a "flash" which illustrates a particular moment in the "life story" of one or more personages. A predicative plane is made up of one of five possible "predicates" (BE-AFFECTED-BY, BEHAVE, BE-PRESENT, MOVE, PRODUCE); to each predicate, one or more "modulators" may be attached. The modulator's function is to specify and delimit the semantic role of the predicate. Each predicate is accompanied by "case slots" which introduce the predicative arguments; dating and space location is also
given within a predicative plane, as is the bibliographic authority for the statement. Predicative planes can be linked together in a number of ways; one way is to use explicit links of "coordination", "alternative", "causality", "finality", "condition", etc.

**Description of the method used**

In the field of the application of Artificial Intelligence techniques to natural language processing, from the very beginning, stress was put on the importance of semantic and pragmatic components. In this framework, creating a formal representation of the message carried by a surface expression is usually achieved by two methods.

The first, and most traditional, respects the usual progression of the three levels of analysis, morphological, syntactic and semantic whilst combining their results in a final interpretation.

Schank and Wilks, on the contrary, put forward the idea, which was subsequently taken up by many researchers, that a predominantly semantic analysis refusing the leading part of the syntax was possible. The deep structure representation that is being created is thus used to make appropriate predictions about the logico-semantic function of the elements that are progressively met during the examination of the surface structure representation.

The hypothesis adopted for this project draws more from this second method, in that the structures of RESEDA's internal representation provide, beforehand, a very complete framework of the predictions which are to be a guide in scanning the text to be translated into the system's metalanguage.

The first stage of the general translation procedure consists of marking the triggers, defined as lexical units which call one or more of the predicative patterns allowed for in RESEDA's metalanguage. Thus we do not take into consideration every one of the lexical items met in the surface text, retaining only those directly pertaining to the "translation" to be done.

The second stage of this general procedure consists of examining the triggers belonging to the same morpho-syntactic environment. If there are several predicate triggers in the same environment, and if the predicates triggered are the same -- which means that the predicates and case slots must be the same and that the modulators, dates and the space location information must be compatible -- then it can be said that the two triggers refer to the same situation. As a result, the predicative patterns are compiled as to obtain the most complete description possible; the predictions about filling the "slots" linked with the cases of the different "patterns", together govern the search in the surface expression. At the same time, the date or dates retrieved in the corresponding environment are inserted according to the global restrictions of the predicative patterns.

**Conclusion**

The study that we describe here is intended to automatically attain a representation of fundamental underlying semantic relationships corresponding to a French surface expression. These results can, in principle, be used not only in the framework of RESEDA, but in a number of different applications such as automatic abstraction, paraphrase, machine translation, direct encoding of natural language documents in a factual database, etc.

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**A Mechanism For Natural Language Access to Database Systems**

U. of Cincinnati

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This reports on an investigation focused on a transform mechanism for a natural language database query system being undertaken at the University of Cincinnati. The mechanism studies the questions involved in a natural language interface between the human environment and the database query languages used to access machine stored data. A major product of the research would be a methodology for the transformation of database queries in a natural language into database queries stated in the data manipulation language of a DBMS.

The investigation is concerned with a pattern driven transformation mechanism that uses a natural language to access machine stored data. This involves a mapping of a natural language (such as English) onto a computer database language statement. The transformation mechanism is separate from the target database management system. This separation will permit the easy transfer of an interface mechanism from one database system to another.