Translation

SOME SEMANTIC CONSIDERATIONS IN RUSSIAN-ENGLISH MACHINE TRANSLATION

Larissa Toma, Paul Garrett, Ludek Kozlik, Donald Perwin,
and Chuck Starr
Latsec Inc.
La Jolla, California

Report No. RADC-TR-74-189, August 1974

The final RADC supported optimization phase of the SYSTRAN Russian-English translation system. The primary thrust of this effort was directed at implementing the use of semantic analysis in both source language analysis and target language synthesis. This project has shown semo-syntactic analysis to be a highly feasible means of sophisticating machine translation and decreasing the need for post-editing. [AD-787 671/7GA; PC $5.75,MF $2.25]

MACHINE TRANSLATION. A BIBLIOGRAPHY WITH ABSTRACTS

E. J. Lehmann
National Technical Information Service

Report No. COM-73-1171/8, October 1973 Price $20.00

Bibliography containing 100 selected abstracts of research reports retrieved using the National Technical Information Service on-line search system. Research on machine translation of various languages is covered. Topics concerning syntax, computer programming, computer hardware and semantics are included.

Translation

USERS EVALUATION OF MACHINE TRANSLATION, GEORGETOWN GEORGETOWN MT SYSTEM, 1963 - 1973

Bozena Henisz Dostert
Texas A&M University

Report No. AD-768 451

The utility of unedited Russian-English machine translation in operational environment. The study is based on the performance of the Georgetown MT system at the AEC Oak Ridge National Laboratory and EURATOM Common Research Center. Production volume, suppliers/ users of machine translation services, production cost, computer environment, and improvements since 1963. Methodology of collection and analysis of individual assessments. A wide range of uniformly favorable responses elicited by questionnaire and personal interview from users in the USA, Italy, Belgium, Germany and Holland.

MACHINE-AIDED EDITING

Peter P. Toma, Jerry A. Carlson, David R. Stoughton, Joann P. Ryan
Latsec Inc.
La Jolla, California

Report No. RADC-TR-73-368, December 1973

SYSTRAN system displays simultaneously on a CRT a Russian input sentence and the English output, plus some context. The editor can delete, insert, rearrange, etc, via key-board operations. Recommendations for optimization of this system include how editing functions might best be carried out on video editing terminals in conjunction with a computerized typesetting system. Various criteria for choosing a typesetter are considered, and a Photon Pacesetter Mark II is recommended to best serve the future needs of the Technical Translation Division at Wright-Patterson AFB. Explores the feasibility of automatically flagging SYSTRAN output through application of English well-formedness criteria. Includes a survey of the distribution in English of adnominal genitive constructions, compound nouns, and possessive-noun plus noun constructions and an illustration of how the findings of this survey might be applied to improve the English output of Russian adnominal genitive structures.
[AD-775 160/5GA, PC $500, MF $1.45]

Translation

DEVELOPMENT OF CHINESE-ENGLISH MACHINE TRANSLATION SYSTEM

William S-Y Wang, and Stephen W. Chan
University of California
Berkeley

Report No. RADC-TR-74-22, February 1974

Describes a 2-1/3 year effort to further develop the prototype Chinese-English Machine Translation System. Additional rules were incorporated into the existing grammar for Chinese analysis and interlingual transfer, with emphasis on the latter. CHIDIC was updated and revised. Approximately 16,000 new entries were added to CHIDIC, bringing the total available entries to over 73,000. Linguistic work on a random access dictionary incorporating feature notation was carried out. A new design for the translation system was initiated and partially programmed for conversion of the current system from a CDC 6400 version into an IBM version. Better control of the parsing process was achieved by improving the segmentation procedures during input, and by addition of more revealing diagnostic printouts as steps toward reduction of spurious ambiguities. The Model 600D Chinese Teleprinter System was used for the first time to prepare large batches of texts for input. A total of 307 pages of machine readable texts, comprising 300,000 characters were prepared during this report [AD-776 813/8GA; PC $4.75, MF $1.45]

THE EVOLUTION OF A COMPUTER MODEL OF AUTOMATIC TRANSLATION BASED ON JUNCTION GRAMMAR

Lance S. Smith
Brigham Young University

Proceedings of the [BYU] Linguistics Symposium, 1972

Initially the system was applied to Russian analysis and English synthesis. Later versions have Russian and English synthesis, and English, French, Spanish, Portuguese, German, and Japanese synthesis. Analysis is based on the junction grammar model of syntax, and has a vertical cycle, i.e., all the tests are applied to a single node before moving on to the next node. Reverse Polish notation is used to represent the analysis. A skeleton supervisor calls in language specific routines for language specifrc problems, for example, in the interlingual transfer process.

Translation

INTERACTIVE SENTENCE PARSING AND TRANSFER

Alan K. Melby
Brigham Young University

Proceedings of the [BYU] Linguistics Symposium, 1973

The system for manipulating syntactic analyses generated using the junction grammar formalization. The system is used to construct inputs for synthesis routines and to study comparative grammars of languages. In addition to operating on syntactic structures, semantic ambiguities are resolved by requests to the user.

ON THE FRENCH EQUIVALENTS OF ENGLISH PASSIVE CONSTRUCTIONS

Irena Bellert
Groupe de Recherches pour la Traduction Automatique
Universite de Montreal

Etudes de linguistique appliquee a la traduction automatique, 1974

Selection of passive, impersonal (il, on), reflexive, active. Keys are anaphora, modal, adverbs, quantifiers, by-phrase, heaviness.