MACHINE TRANSLATION
IN THE ALL-UNION TRANSLATION CENTRE

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Abstract

Since 1974 the USSR Translation Centre has sponsored the development of four machine translation systems: from English (two different systems), German and French into Russian. Both cyclic and continuous methods of analysis are used. The fields for translation: automatic data processing, electronics. General-purpose computers are used.
1. The translation of scientific and technical literature greatly contributes to research and development, therefore great attention is being paid in the USSR to the quickest possible translation from the most popular languages to Russian. The demand for translation grows. Since 1974 the All-Union Translation Centre (the USSR Centre for Translation of Scientific and Technical Literature and Documentation (VCP) sponsors the development of four machine translation (MT) systems: from English (two systems), German and French into Russian.

2. The bulk of technical literature is translated from English. One of the MT systems from that language is based on cyclic methods of analysis. Ambiguous words are translated using a special automatic contextological dictionary which makes it possible to choose the necessary equivalent for a given word out of a list of possible equivalents. The system is programmed in a special programming language of operands, convenient for linguists improving their dictionaries and algorithms on-line. The second system, which will translate texts in radio-electronics, uses a continuous analysis method based on tree-representation of English syntax. At present a comprehensive dictionary is being constructed comprising various grammatical and semantic informations to be used in the analysis and synthesis.

3. MT from German is being developed for texts in automatic data processing. This system will use an improved cyclic-type analysis method and a special dictionary of German, including not only word forms but also word stems, to better analyse complex German words in their most frequent species.

MT from French is intended to use continuous filter-type analysis, based on the idea of building up all possible syntactic structures for a given sentence and then rejecting all wrong ones through the use of filters, only the correct ones remaining.

4. All MT systems are programmed for "EC" computers, which allows for the general applicability of programs. Work is in progress on compiling various auxiliary dictionaries and concordances. Prospects are probed for constructing a universal synthesis algorithm on the basis of a generative grammar.