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 Documenta-
   tion (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 ana-
   lysis. 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 langua-
   ge 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 in-
   formations to be used in the analysis and synthesis.

3. MT from German is being developed for texts in automatic data proces-
   sing.   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.