

RUSSIAN LANGUAGE TRANSLATED AT
60,000 WORDS PER HOUR

Machine Translation, Ltd.
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The development of a test production system to translate one language into another by means of an electronic computer at the rate of 60,000 words per hour was demonstrated by this company at the end of June.

At a press demonstration of the system - called the Unified Transfer System (UTS) - an article from the Russian newspaper Pravda was translated into English at the rate of 60,000 words per hour or 17 words per second. Part of this article was also translated into German.

"This important scientific advance should establish American leadership in the field," stated Mrs. Ariadne Lukjanow, president of this firm, and inventor and developer of the system. "The Soviet Union has had more than one thousand persons engaged in research on machine translation for several years," she noted.

The UTS system has been designed for use on general purpose computers and is suitable for translation of any language into another as long as one language is an Indo-European tongue.

Mrs. Lukjanow announced that a full production system will be ready within 12 months. At that time, the translation speed will be increased to over 150,000 words per hour using the IBM 7090 computer. She predicted the system may be able to translate one million words per hour when used on IBM's new STRETCH computer.

Mrs. Lukjanow pointed out that the present test model incorporates only 50 per cent of the linguistic rules, yet still produces a highly acceptable translation. The remaining linguistic rules have been prepared and will be phased into the final production system.

She noted the significance of the UTS development by relating these facts:

1. Less than 10% of the scientific and technical data from Russia is available to U.S. scientists.
2. It is estimated by the House Space and Aeronautics Committee that there are only 1,000 professional Russian translators in this country and 80% of them are 60 years of age or over. A skilled person translates only 400 words per hour.

3. In the intelligence field, the need for translation is acute. A report of a Congressional Committee indicates that U.S. intelligence organizations translate only .09 of One per cent of Soviet publications and literature. If translation was limited to critical information only, it would necessitate the translation of 250 million words every month. This would require a 50-fold expansion of present government and private translation services.
4. Notice of the launching of the first Soviet satellite, including the frequencies of transmission, was published in a leading Soviet aviation publication several months before the Sputnik was actually launched. This important event was not brought to the attention of U.S. scientific and intelligence officials, because the article was translated only several months after the launching.
5. The two-way machine translation system UTS will make possible the translation and distribution of American textbooks and publications in underdeveloped countries, where Soviet-translated publications at present have little competition.

Mrs. Lukjanow - who has been working on the problem for six years - said Machine Translation Inc. now has a computerized Russian-English dictionary of over 5,000 Russian words and their 32,000 English meanings. By July 1, 1962, the dictionary will have been expanded to 50,000 Russian words and over 300,000 English meanings.

The Unified Transfer System combines the transfer of word function, word form, word meaning, and word distribution into a single transfer process. In order to achieve this transfer, a classification system has been devised for each of the transfers expressed in the form of a code, which is incorporated into unified code patterns.

Mrs. Lukjanow stated that Machine Translation Inc. hopes to translate, print and distribute Pravda and other Russian newspapers in the country on the same day they are published in Russia. The distribution of these publications could be limited to government agencies, universities and the press, she said.

"I see in the not-too-distant future one or two central translation centers in this country," said Mrs. Lukjanow. "These centers will be able to translate all needed foreign books and newspapers into English and our material into other languages," she concluded.