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Robot translates nimbly

by Harry C. Kenny, staff correspondent of CSM, New York

Kachyestvo uglya opryedyelyayetsya kaloryiynostjyu, i.e. The quality of coal is determined by calory content. Thus, the Soviet language, has been translated into English by an electronic "brain" for the first time.

Yet so far as the now famous International Business Machines computer 701 is concerned, it doesn't blink an additional red light or add another whir to its purr if another language is inserted into the machine to come out in seconds in English.

The Soviet language was chosen at the IBM demonstration here only because there is a relatively small number of students here of the Soviet language as it is so difficult to translate.

Significance pointed up.

The significance of the machine also is pointed up by the fact that there is a steadily growing accumulation of Soviet textual material whose true significance cannot even be estimated until its content can be converted into English.

The girl who operated 701 did not understand a word of Soviet speech and yet more than 60 Soviet sentences were given to the "brain" which translated smoothly at the rate of about 2 lines a second.

And then just to give the electronics a real workout, brief statements about politics, law, mathematics, chemistry, metallurgy, communications, and military affairs were submitted in the Soviet language by linguists of the Georgetown University Institute of Languages and Linguistics.

Flicked out nonchalantly.

The "brain" didn't even strain its superlative versatility and flicked out its interpretation with a nonchalant attitude of assumed intellectual achievement.

It is expected by IBM and Georgetown University, which collaborated on this project, that within a few years there will be a number of "brains" translating all languages with equal aplomb and dispatch.

"The potential value of this experiment for the national interest in defense or in peace is readily seen," Prof. Leon Dostert, Georgetown language scholar, said. Professor Dostert originated the practical approach to the idea of electronic translation. Along with Dr.Paul Garvin, director of the translation project, he spoke to the group of natural scientists, United States Government specialists, and the press who witnessed the demonstration at IBM headquarters here on Madison Avenue.

Enormous Potential.

"Those in charge of this experiment," the professor continued, "now consider it to be definitely established that meaning conversion through electronic language translation is feasible."

Although he emphasised it is not yet possible "to insert a Russian book at one end and come out with an English book at the other", the professor forecast that "five, perhaps three, years hence, interlingual meaning conversion by electronic process in important functional areas of several languages may well be an accomplished fact."

Actually, this demonstration was rated only as a scientific sample, or, as

Professor Dostert put it, “a Kitty Hawk of electronic translation.” Nevertheless, the success of the project contains enormous implications for both linguistics and electronics.

It is expected by IBM officials that the day will arrive when a simpler and cheaper machine will be available for less than the present $500,000 supercalculator.

Professor Dostert said that the 701 is overdesigned for the language translation problem and has many functions not necessary in this project but which were built in to solve problems in astronomy and physics.

He said the machine has a vocabulary of only 250 words, but it potentially could store hundreds of thousands.

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A Translating Machine.

One of the most difficult of human occupations to attempt to displace by machine, one would think, would be the translation of speech from one language to another. Yet on a modest scale the International Business Machines Corporation has undertaken it.

Using a standard electronic computer or “data processing machine”, experts have encoded a vocabulary of 250 words and added six rules of grammatical construction, after which the machine successfully rendered a series of sentences about politics, chemistry, and other subjects from Russian into English.

Such an accomplishment, of course, is far from encompassing the several hundred thousand words which constitute a language. And with all the preparations for coping with syntax, one wonders if the results will not sometimes suggest the stiffness of the starch mentioned in one of the sentences as being produced by mechanical methods.

Nevertheless, anything which gives promise of melting some of the difficulty which writers and speakers of different languages encounter in understanding each other - particularly as between English and Russian today - is certainly welcome.

Such devices used to be described as labor-saving inventions. Now it is known that men still will find plenty to do; electronics simply will multiply manifold the effect of their effort. The world still will have linguists and a need for many of them, but the speed with which ideas will leap the language gap will come closer to that of light.