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# Electronic Translations Possible in Five Years

New York, Feb. 11 (UP).—An electronic brain smart enough to translate a whole Russian book at a glance may be developed within the next five years, a mathematician said today.

Such a robot scholar might even be educated well enough, he said, to pick out only the interesting parts of any foreign-language publications for conversion to English.

Peter Sheridan, an International Business Machines Corporation mathematician, said if scientists started working today they could perfect such a linguistic machine in three to five years.

Whether IBM is working on such a gadget is classified information, Sheridan said. But he indicated that Georgetown University experts may have started work on such a project.

Under a Georgetown assignment, Sheridan has spent the last six months feeding Russian into IBM's newest and most-powerful high speed calculator and getting English out.

The machine, known as "701," is called officially the electronic data processing machine. In addition to its linguistic talents, it is able in four minutes to do complicated mathematical problems that would take a man 1,500 hours to solve.

Before performing its first translating job, the machine figured out wing loading factors for airplanes. Now it is working on problems connected with the after-burner design of jet airplanes. Three years ago, engineers would have had to guess at that answer. Now they can have it figured out to the last decimal.

The electronic brain is composed of 12 units, the size of large refrigerators, containing about 39 miles of coaxial cable. A total of 300 amperes of current travel from cell to cell in the "brain." It takes only two amperes to kill a man, Sheridan said.

The current is so heavy, that 80 tons of air conditioning equipment under the floor constantly blows on all the parts to keep them cool.

Sheridan and Georgetown experts gave the machine a Russian

vocabulary of 250 words and eventually it translated 200 sentences. It would be possible for 701 to "learn" about 500 words, but another machine will have to be developed for further linguistic work.

"With a 'dictionary' of 60,000 entries and 60 to 100 rules of syntax, a computer could take a whole area of technical literature and translate freely," he said.

"It would be most useful in libraries where research could be carried out by scholars without their having to take time to do the translating."

IBM has rented several of its 701 models to the Government and industry for important mathematical computations. It is manufacturing about 18 of the brains each year.