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**Translating Machines?**

If machines can be built to count, calculate, play chess, even "think", why not a machine to translate one language into another? Scientists have been pondering this possibility.

Two ideas for electronic translating machines have recently been suggested, one by Warren Weaver of the Rockefeller Foundation, the other by A.D.Booth of Birkbeck College in London and R.H.Richens of the Commonwealth Bureau of Plant Breeding and Genetics at Cambridge.

Weaver's idea is based on the discovery by cryptographers during the war that certain frequencies of letter combinations, average intervals between letters and other alphabetical patterns "are to some significant degree independent of the language used." The techniques used to decipher messages in English also worked with surprising success on messages in other languages even when the cryptographer did not know the language of the message. Thus Weaver reports the case of an expert who decoded a column of five-digit numbers and obtained a series of 100 words which apparently made no sense. Linguists found, however, that he had reconstructed the message almost perfectly – the only reason he failed to understand it was that the words were not English but Turkish! Weaver therefore suggests that a translating machine might be designed along the lines of wartime deciphering devices. It would treat a foreign language as if it were a special code for English, and would translate the language by deciphering it in English terms.

The British workers – Booth is a designer of calculating machines, Richens a linguist – are planning a translator based on the storage or "memory" apparatus in a mathematical machine. The instrument's memory unit would store foreign words and their English equivalents. After "reading" the material to be translated by means of a photoelectric scanning device, the machine would look up the words in its built-in dictionary, and pass the translations on to electric typewriters. If the machine came across a strange word not stored in its dictionary, it would chop up the word until it found recognizable segments or syllables and give the meaning of these; from these fragments the meaning of the whole word might be deduced.

While translating machines might not be able to do justice to the linguistic niceties of literary or diplomatic English, Richens is convinced they could translate scientific articles: "The resultant translation would be highly artificial and would be what I would call standardized pidgin English. This, though no doubt highly repugnant to those whose main interest ... is esthetic, will constitute no obstacle to those whose chief purpose in using such a machine is to find out what the original is about."