IBM'S WATSON (right) AND FRIENDS:† For a mathematical wizard . . .
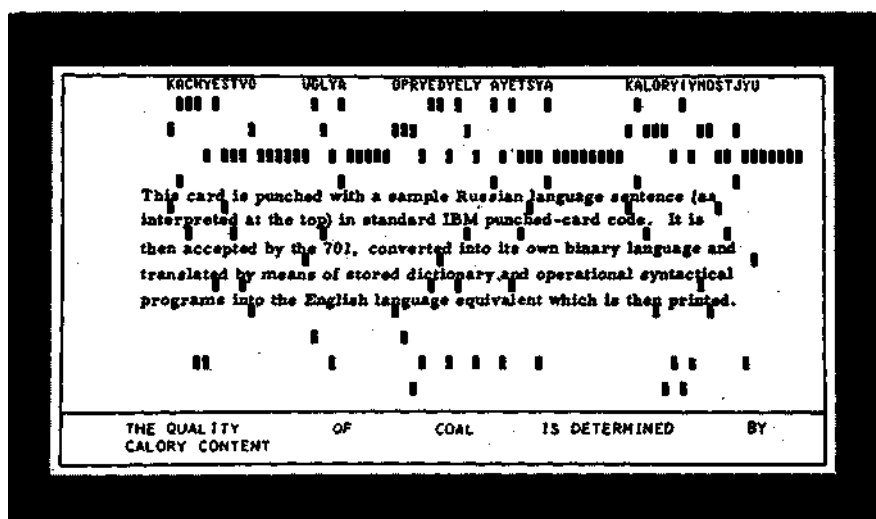
Polyglot Brainchild

On a crisp New York morning recently, an International Business Machines operator settled herself before the keyboard of a hulking machine, flexed her fingers once or twice, and rattled off: "Mi pyeryedayem mislyi posryedstvom ryechyi." In a twinkling the machine's automatic printer chattered back: "We transmit thoughts by means of speech"—and for the first time an electronic "brain" had successfully translated Russian into English.

To prove that it was no accident, the "brain" proceeded to make short work of: "Vyelyichyina ugla opryedyelyayetsya otnoshyenyiyem dlyini dugi k radyiusu,"* and more than 60 subsequent Soviet jawbreakers.

Significance of the event to scientific research cannot be overestimated. So far as the "brain" is concerned, any one of a number of languages could have been substituted for Russian. Eventually, it should be possible to translate reams of current foreign research literature in little more time than it takes to punch holes in IBM cards.

* "Magnitudeof angle is determined by the relation of length of arc toradius"
† Cuthbert Hurd (left), director of IBM's applied science division; Georgetown's Dostert.

A joint effort of IBM and Georgetown University's Institute of Languages and Linguistics, the convincing demonstration in IBM's midtown New York headquarters capped more than a decade of independent research by a scattered handful of men.

In a way, it was a personal triumph for IBM's big 701-called the most versatile calculator in existence. Interrupted in its regular 16-hour-a-day schedule of solving nuclear equations, calculating rocket trajectories, etc, the mathematical wizard hummed through the linguistic chore in quick time. Before the approving eyes of . IBM chairman Thomas Watson and a flock of spectators, it spelled out its cryptic monologue at the tongue-twisting rate of two and a half lines per second.

According to the company, what the precocious 701 actually did, in executing the Russian-English translation, was to create within itself a working model of a "brain" specially designed to handle logic.

Asserted happy Georgetown scholar Leon Dostert, who conceived the rewarding electronic translation idea: "Those in charge of this experiment now consider that . . . electronic language translation is feasible." Said a proud IBM publicity man: "The 'brain' . . . has produced its own brainchild."