

Latest Electronic Brain Calculates; Plays Chess

While housewives gloat over the miracles that science has brought them in the way of automatic washing machines and robot electric stoves, mathematicians scoff at these Model-T's, and point with pride to their newest electronic brain, housed in a great hall in the International Business Machines building in New York.

There, under the aegis of Columbia University, the IBM Corporation built in late 1947 this giant brain, capable of lightning calculation, possessed of a phenomenal memory, and even able to play a pretty fair game of chess. The brain—an immense vaultful of tubes, relays, and other sapient electronic equipment—can think an estimated sixty thousand times as fast as an average scientist, solving problems as rapidly as electrons are able to race through its jungle of wires.

Specifications for the brain, known as a Selective Sequence Electronic Calculator, were largely supplied by Dr. W. J. Eckert, professor of Celestial Mechanics here, and director of the Watson Laboratories at 612 West 116th Street, which is affiliated with Columbia. Dr. Eckert, whose present duties include the complete mapping of the pure science problems to be handled by the machine, recently computed, with two colleagues, the accurate orbits of Jupiter, Saturn, Uranus, Neptune, and Pluto. This new calculation fixes precisely the positions of these planets until

the year 2060.

Although its main use is for rapid calculation with large numbers, the selective sequence calculator can also perform a number of parlor tricks. Dr. Eckert claims that his calculator can play an infallible game of chess, experimenting with every possible move, recording the consequences of each, and deciding on the correct one. Presumably the machine could even calculate Pi until it wore out; but all such stunts are highly impractical because of the prohibitive cost of running the machine.

The IBM calculator has a built-in mechanism for checking its answers periodically, and, if any mistake appears, it will come to a stop, turning on a signal light. Most often the failing is a minor one that can be corrected by replacing a tube or untangling a tape. But because major repairs must occasionally be made, the wiring of the calculator is removable in small sections, which can be individually checked.

Fanciful fiction writers see in this brain the key to a future robot intelligence which will think like the human mind. This is mere conjecture; for the present mechanical minds are of the order of servants, which can only elaborate the thoughts of their masters, and can only accept directions.