

TECHNOLOGY

Computer Analyzes Palms

► **CHARACTERISTICS** observed in human palm prints and analyzed with the aid of an electronic computer may lead to a new method for detecting the presence of certain inheritable conditions, a Tulane University scientist reported in Endicott, N.Y.

Dr. H. Warner Kloepfer of the University's School of Medicine, New Orleans, La., said that certain features were recorded with much greater frequency in the palm prints of persons with these conditions than in the palm prints of persons picked at random.

He spoke at a symposium on the use of computers in medical and biological research, sponsored by the International Business Machines Corporation. His report was prepared jointly with an associate, Dr. Harold Cummins.

Dr. Kloepfer stressed that the study of palm prints is closely related to the study of fingerprints. Only the very fine, almost indistinguishable lines on the skin surface are recorded.

Prominent palm creases such as those employed in palm-reading are not analyzed, he stressed.

The work of Drs. Kloepfer and Cummins is based on some 2,000 palm prints made in Germany just before World War II. When research in Germany halted at the start of the war, an associate of Dr. Cummins brought the prints to America.

When the scientists classified the prints, they found between seven and 65 variables in a feature area. There are ten such feature

areas in a single palm. With the aid of an electronic computer, the scientists further studied the vast number of interrelationships between the variables in different feature areas.

By comparing the frequency with which characteristics in the left hand appeared in the right hand, they determined the extent to which certain of the characteristics are inheritable.

The scientific technique for this work is called the "twin method technique." It involves a procedure by which identical twins, derived from a single set of genes, are compared to decide to what extent traits are inheritable.

The analogy was carried over to the palm prints.

Dr. Kloepfer said the studies encompassed these conditions or diseases: two rare eye diseases that can lead to blindness, certain congenital heart diseases and a common type of mental retardation.

• Science News Letter, 80:271 October 21, 1961

TECHNOLOGY

Electronic Computers Are Not "Think" Machines

► **PERSONS WHO REFER** to electronic data computers as "think" machines show lack of thought, Dr. Harold Wooster, chief of the information sciences division, Air Force Office of Scientific Research, said in San Francisco.

The present-day computer is no more a

"think" machine than a pencil and a piece of paper, a book, or a set of log tables, he told the Air Force's 8th Symposium on Science and Engineering.

These are totally dependent on a man to put them to a specific, predetermined use. While computers can do very fast arithmetic, store data and even process it, they perform these functions only after being instructed by man in great detail on just what to do, Dr. Wooster said.

Machines are rational and operate on a basis of formal deductive logic in which A inevitably implies B, and B implies C. They lack reason and cannot do what man endowed with reason can do, namely, screen sense from non-sense and make decisions from inadequate or even incorrect data.

It is, therefore, "unthinkable" that they can ever outstrip and enslave man by their intellectual power, as some admirers of the electronic mechanisms have predicted, the information specialist said.

But if computers are not enslaving mankind, they are overwhelming us with more information "than we know what to do with," Dr. Wooster said. "We must find out how this information is to be handled so that the needed information is available, is sufficient in detail and content without being excessive."

Dr. Wooster does not believe the solution necessarily lies in building computers modeled after the human brain and nerve system. "After all, we do not build better and faster airplanes by putting feathers on the wings," he said.

The solution may lie in devising ways to use machines independent of any particular physical system. However, the study of biological information-handling processes is not to be ruled out in developing an information system that will operate with utmost efficiency.

The Air Force is currently engaged in long-range research aimed at an information system that will eliminate unessential data.

• Science News Letter, 80:271 October 21, 1961

TECHNOLOGY

Miniature Computer Is Size of Bread Loaf

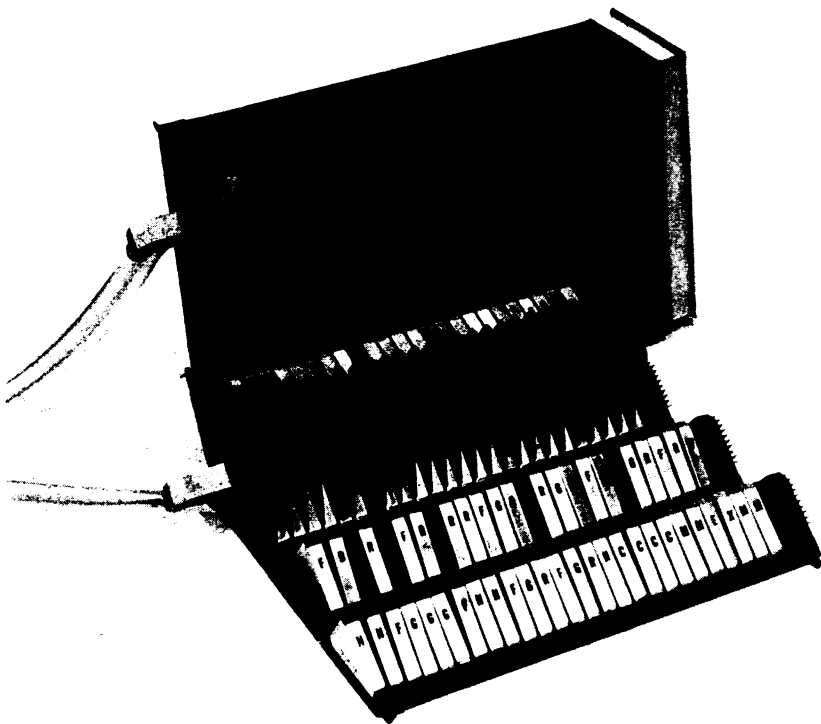
► **THE FIRST** fully miniaturized electronic computer to be shown actually operating has been demonstrated. It is the size of a loaf of bread.

The baby computer, developed at the Burroughs Corporation's Laboratories, Paoli, Pa., can solve single-purpose problems at speeds of a room size computer.

Company spokesmen said a working model was built to show that existing electronic components can be used in shrinking a commercial computer from room size to the size of a desk, and that military electronic equipment can be compressed to a convenient size for aircraft, spacecraft and missiles.

The computer has 5,500 components in a space measuring 3 by 6 by 11 inches, weighs 12 pounds, and can perform 33,000 mathematical calculations per second.

• Science News Letter, 80:271 October 21, 1961



MINIATURE COMPUTER DOES WORK OF ROOM-SIZED MODEL