

# Sooner Scene

By R. BOYD GUNNING

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MUCH is written today about "electronic brains," machines more accurately referred to as electronic digital computers.

The fabulous speed and capacity of such machines suggest techniques which to the average person read like science fiction stories. Nearly 75 giant-size computers are now in use in government and university laboratories, having such strange sounding names as Oracle, Illiac, Maniac, Ordvac and Eniac.

Many people have asked for examples of what the machines can do. Here are a few interesting samples of computer research and application.

This story appeared recently in the *Wall Street Journal*. The farmers of Sherman County, Texas, will soon be in the hog-raising business in a big way because an electric computer figured out they can make more money raising hogs than by growing grain sorghums alone. An agriculture survey service was hired to make a scientific study of farm operations in this area. The aim was to determine how land and capital might best be used to shore up sagging income of these wheat farmers, beset by government planting restrictions.

For six months researchers fed data into a computer on size of farms, capital available, probable returns on various crops, labor, soil, and climate conditions—among others. The solution presented 24 different plans, precisely detailed. All call for more diversified activity and contain the prediction of a more profitable operation.

Another application, a major oil company in Oklahoma feeds geological data into a computer in order to determine a most desirable drilling site. A study is being made by the Federal Reserve Board to see if by computer methods effect of rate changes on the market are accurately predictable. The speed and accuracy of a computer are of great help to a chain of department stores in keeping track of everything it buys and sells, together with all price changes, breakage or loss of articles, inferior quality and so on. An aircraft company can predict the effect of strain on every portion of a new airplane body under all kinds of speed, turns, air conditions, and so on.

According to D. N. Reys, writing in the Electrical Engineering Magazine in August, 1958, digital computers are causing a "revolution" in the analysis of electric power transmission systems. These techniques will result in great savings to the power companies.

These are tremendous mathematical jobs, but the computer can do in hours the same job it once took people years to complete.

Fifteen months ago O.U. took its first modest step into the mechanized numerical analysis field with the acquisition of an IBM 650 computer. A computer laboratory was established in Buchanan Hall under the supervision of Professor William Viavant. Almost immediately the laboratory became an around-the-clock operation. Credit courses are offered in programming for digital computers, and in general principles of data processing with digital com-

In addition, six intensive short courses are given annually aimed at teaching coding techniques to faculty and staff members. In the past 15 months a total of 310 students and faculty members have taken these courses. Sessions on the computer are held for high school students and teachers every second Saturday. More than 100 persons have received training in computer mathematics and programs from this group.

In addition to the instructional program, the IBM 650 computer is being used in more than 40 research projects, representing work by 17 departments on the campus. The computer laboratory, limited in capacity at this time, is stimulating research not only in engineering and the physical sciences, but in business and the social sciences as well.

The computer laboratory has stimulated the entire campus to learn more about the techniques involved, and the IBM 650 has proved to be an excellent teaching device, but there is a real need for a big high-speed computer that has the capacity to handle more complicated problems inherent both to basic and industrial research.

With the endorsement of the Board of Regents and the University Foundation Trustees. President George L. Cross announced a program leading to the acquisition of a high-speed computer for O.U. This program involves financing with private funds, the development and construction of a computer that will be equal in versatility and speed to any of the big research type computers now in use. It will be an improved model of the Atomic Energy Commission computer at Los Alamos, New Mexico, the Maniac II.

The prime-mover in the project has been Professor C. M. Sliepevich, associate dean of engineering in charge of engineering research and faculty recruitment. A group of O.U. engineers has been working on the design and construction of the computer for about one year and their progress is ahead of schedule.

Professor Gerald Tuma is project director.

Tuma is assisted by Professor J. K. Watson, project engineer; J. D. Palmer, assistant project director; William Viavant, director of scientific computations; O. K. Crosser, assistant professor of chemical engineering, and T. H. Puckett, instructor in electrical engineering. Watson has been working in Houston, Texas, on development problems with a similar group of Rice Institute engineers headed by Dr. Martin Graham.

The new computer will be in operation in about a year and a half. It will be of great educational value to the University, but perhaps of even greater value to the industries of the Southwest, since some time will be available on the computer for industrial and government research.

The University could not hope to accomplish its ambitious computer program without generous financial assistance from outside sources. The initial grant of \$50,000 was received from the National Science Foundation, this was followed by \$5,000 from the Oklahoma Frontiers of Science Foundation, \$12,000 from the O.U. Alumni Development Fund, \$20,000 from the University of Oklahoma Research Institute, \$57,000 from the business men of Norman; \$50,000 from an individual friend of the University, and the balance of the \$550,000 project will come from alumni, friends and businesses of this region who have faith in the University and the future of the State of Oklahoma.

## Hal Muldrow Agency

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