

ELECTRONICS

New Symbols for Numbers

► A NEW set of symbols for numbers instead of the familiar 1, 2, 3, etc. has been proposed by a British scientist. His idea is to speed up the "reading" and "writing" of new high-speed electronic computing machines.

W. G. Bickley of Imperial College, London, offers a series of straight-line semaphore numerals. The new computers which can solve a mathematical problem in a fraction of a second that might require hours or days for a human computer to do must perform all the "three R's," Mr. Bickley explains in a letter to the editor of the journal, *Nature*. (May 8).

These robot mathematicians might be able to read a problem and write the answer faster with a simple, new set of numerals which humans could also use easily.

In the suggested system, 5 becomes a

straight vertical line, resembling the common figure 1. The symbol for one is shaped like the point of an arrow facing to the right, the sign which the mathematician uses to indicate "greater than." The figure 9 is the reverse of this. Other single-stroke or angled-line symbols are given for each of the other numbers, while zero would be a dot in the middle of the line. The new figures resemble straight lines drawn to indicate the position of the semaphore flags used by a signalman.

Mr. Bickley explains that high speed electronic "brains" seem to be faster at doing the arithmetic of a problem than they are at their input—putting the problem into the machine—and output—getting the answer out. The new code of figures might be easier for the "low-grade intelligence of the robot to recognize," he points out.

Science News Letter, June 12, 1948

GENERAL SCIENCE

Urge No Secret Work Plan

► A SCIENTIST urged that no secret research should be done under the proposed new National Science Foundation.

Dr. Hugh C. Wolfe, physicist at the City College of New York, told the House Committee on Interstate and Foreign Commerce that the Foundation should encourage free exchange of information by not undertaking projects coming under military security classification.

"The extension of security to new areas of science, particularly basic science, is a source of serious concern to nearly all scientists," Dr. Wolfe cautioned in a statement which he presented as a spokesman for the Federation of American Scientists.

He proposed that legislation establishing the Foundation be amended to provide that the new agency "not . . . give continuing support to research requiring security classification." When work under the Foundation required such a status, it would be transferred to another group under this proposal.

A bill to establish the Foundation is now in the House Committee after having passed the Senate. Last year, President Truman vetoed a measure calling for the Foundation.

The Foundation which would give

peacetime, civilian support to basic research in science was supported by testimony of Prof. J. A. Reyniers, bacteriologist at the University of Notre Dame. He told the committee about his own work of rearing germ-free animals and warned that any delay in basic research multiplies future problems.

Dr. Lawrence R. Hafstad, executive secretary of the Research and Development Board, advised against limiting the Foundation to only basic research. In some cases, he explained, it might be wise for the Foundation to enter the field of development as well.

Other witnesses before the committee included Secretary of Commerce Sawyer, making his first appearance before the Commerce Committee since his appointment to the cabinet, and other representatives of business, education and science.

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PHYSIOLOGY

Incubator Eggs Need Extra Oxygen at High Altitudes

► MORE successful hatching of chicks and turkey poults on high-altitude ranches can be achieved by piping oxygen into the incubators, it has been

discovered at the University of Wyoming.

A baffling problem of poultry-raisers in the mountain states always has been the relatively low percentage of eggs that turn out healthy baby fowl. University poultry researchers found that at 7,000 feet elevation not enough oxygen got through the eggshells to keep the developing embryos alive; the poor unhatched chicks literally smothered to death. Supplementary oxygen was the answer.

Oxygen must be supplied throughout the entire incubation period, it was learned. If it is supplied for a time and then discontinued, results are worse than if it is not given at all.

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