



**AIR FLOW SPEED**—The tiny uneven streaks of mercury in the middle of the glass panel indicate speed of the air passing through a wind tunnel at the Arnold Engineering Development Center, Tullahoma, Tenn.

## GENERAL SCIENCE

## For Top Science Success

Psychologist finds in study of 20 of the country's top research scientists a minimum I.Q. of 130. Effort put into the job is "out of this world."

► YOU DO not have to be very intelligent, relatively speaking, to be the kind of scientist who wins Nobel prizes. But you must have extremely compelling reasons for becoming a research scientist in the first place and the effort you must put into the job "is out of this world."

These are the conclusions of Dr. Anne Roe, an industrial research psychologist of New York who has made an intensive study of 20 of the top research scientists of the nation. She reported on her findings to the Federation of American Societies for Experimental Biology meeting in Chicago.

Dr. Roe found a minimum I.Q. of 130 among her top scientists. The highest scorer was so high that he actually was unmeasurable, but she guesses that it was about 210. Average for the whole population is 100.

Dr. Roe also has tested a sampling of research scientists of all kinds. Right now she is working on the personality patterns of experimental biologists as a part of a survey of the state of physiological science in this nation. The survey will be used by

the National Science Foundation to guide the basic scientific policy of the nation.

Dr. Roe said that most scientists are not very interested in personal relationships. They are unaggressive, but quite stubborn. Instead of letting their emotions rule them, they rely heavily on rational controls of their actions.

Many scientists, she found, have personality problems and, in fact, have gone into research as a sort of escape from those problems. However, this kind of escape does not really work, she said. Eventually the personality problem interferes with the research, or the research complicates the personality problem.

Dr. Roe asked for a change in the presentation of science at the primary and secondary school levels. Even the greatest of the scientists she studied, she said, did not find out they could be scientists until they were well along through college.

Such things as the Science Talent Search, the National Science Fair and the Science Clubs of America were designed to attack this very problem.

Science News Letter, April 25, 1953

## PHYSICS

## Body's Heat Spots Snooper in Frozen Fog

► BODY HEAT alone will reveal a man at 100 feet to a sensitive new detection instrument developed at the University of California to help the armed forces survive and fight in the Arctic.

The instrument was developed as a part of a study being made for the Snow, Ice and Permafrost Research Establishment (SIPRE) of the U. S. Army Corps of Engineers.

The detector came out of an investigation of an Arctic phenomenon called the "white out," which is a sort of frozen fog or cloud of ice crystals suspended in the air.

A man walking into such a fog disappears after he has gone only a few feet. When two men are walking together, they may lose sight of each other. An enemy could walk up undetected to a military installation in a "white out." The new radiation instrument to detect a human by his body heat is a beginning of efforts to locate men lost in a "white out."

A directly opposite phenomenon is also being studied in the project. Under certain Arctic conditions a man can be detected at a distance of several miles even though he may be dressed in the best available white clothing.

The broad study involves the absorption and reflection of heat energy in the Arctic. The study seeks information to help provide better clothing, equipment and shelters. The research team includes R. V. Dunkle, J. T. Gier, A. J. Test and J. T. Bevans.

Science News Letter, April 25, 1953

## ELECTRONICS

## Check-Writing "Brain" Can Spot Legal Loopholes

► YOUR PAY-CHECK some day may be written by an electronic "brain."

The big digital computers may also figure out fast traffic routes through congested cities. They may plan highways, prepare handbook data, and figure up your electric and telephone bills.

They may even spot loopholes for you in long, legal documents.

These jobs were termed possible for large-scale "brains" by Allen Keller, General Electric Company turbine engineer. He told the American Society of Mechanical Engineers meeting in Detroit that the computers can be used to extend engineering skills, particularly in routine engineering problems involving little but arithmetic and curve-reading.

Punched-card machines already are being used in General Electric laboratories to figure out critical speeds of turbine shafts, for evaluating stresses and for making theoretical fluid flow studies. They even have been used to schedule drawing-office output.

Science News Letter, April 25, 1953