



MEASURING MUSCLE POTENTIAL—Electronic techniques are being used to determine muscles' proficiency in work and play by Dr. Lee Gregg at Carnegie Institute of Technology, Pittsburgh, Pa. His electronic device measures muscle potentials, the tiny voltages generated in moving, in five body locations. The voltages represent muscle tensions, which indicate proficiency and strength of motivation. Dr. Gregg is shown in the background, separated from Brad Bunnell by a transparent steel-net shield.

GENERAL SCIENCE

Plan National Computer

► GOVERNMENT PLANS to support a giant electronic "brain" and two large telescopes, one radio and one optical, were revealed in House appropriations subcommittee hearings.

The National Science Foundation, charged with overall responsibility for basic scientific research by the Government, asked Congress for nearly \$5,000,000 to build the three large facilities, needed for research in mathematics and astronomy.

Also requested was \$1,100,000 to construct three nuclear reactors at universities, to be matched by equal funds from the institutions. The atomic piles would be used for non-secret research and to help train scientists in reactor techniques.

"One of the most important" items in the budget, totaling \$49,500,000 for the fiscal year beginning June 30, 1956, Foundation director Dr. Alan T. Waterman told the subcommittee, is the \$3,500,000 requested for building a 140-foot radio telescope to probe the secrets of the universe.

Radio waves received from planets, stars and other celestial objects provide a new "window" through which scientists can study the universe. Because radio wavelengths cover a considerably wider band

than visible ones, radio astronomers can record much information hidden to the optical astronomer.

To provide facilities for optical astronomers who at present do not have access to large telescopes, the National Science Foundation asked Congress for \$600,000. Recent development of devices known as image converters, which offer a tenfold increase in the amount of light received by a telescope, make the need for up-to-date equipment imperative.

Dr. Waterman pointed out that only one of the seven largest telescopes in the United States, the 120-inch instrument soon to be put into operation at Lick Observatory, has been designed since 1940.

The Foundation requested \$800,000 for the computer facility, which would house one large and two smaller electronic "brains." These are needed both for research and for training "the large number of personnel who will be increasingly in demand in universities, industry and Government."

The need for a high school program to train young scientists was stressed by Dr. Waterman at the hearings.

Science News Letter, March 3, 1956

PHYSICS

Midwest to Have Two Accelerators

► THE MIDWESTERN UNIVERSITIES Research Association has been authorized by the Atomic Energy Commission to design and develop an ultra-high-energy particle accelerator of advanced design.

The AEC also authorized Argonne National Laboratory at Lemont, Ill., operated by the University of Chicago, to design a high-energy accelerator.

The Midwestern Universities Research Association has the following universities as associated members: Chicago, Illinois, Indiana, Iowa, Iowa State College, Michigan, Michigan State, Minnesota, Northwestern, Notre Dame, Ohio State, Purdue, Washington (St. Louis, Mo.), and Wisconsin.

The five-man planning committee for the project includes Frederick Hovde of Purdue University, chairman, and Virgil Hancher of the University of Iowa, Dr. Alfred W. Peterson of the University of Wisconsin, Herbert O. Farber of the University of Illinois, and Dr. John H. Williams of the University of Minnesota.

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PSYCHOLOGY

Admission of Fear Might Be Clue to Future Action

► YOUR OWN FEELINGS about how afraid you are of a situation can be a good clue to how you will react in the real situation.

Tests with airborne trainees learning to jump from a mock tower, made by Richard D. Walk of Cornell University, Ithaca, N. Y., show that a self-rating of fear often is an accurate prediction of things to come.

Trainees who admitted high fear during the jumping training, for instance, did not do as well in the course as those who said they were less afraid.

Trainees who admitted high fear tended to be those who said they were worried about injury in Airborne training or in combat, and admitted less confidence in their ability to perform adequately in combat or parachute jumping.

Those trainees who eventually passed the airborne course, Mr. Walk reports, had rated themselves less afraid than those who failed the course.

Of those who did pass, the ones who achieved correct jump technique early in training had shown lower fear ratings than those who did not learn the correct technique until late in the training.

Mr. Walk says the finding that admission of fear was related to previous confidence about stressful situations leads to a suggestion that questions specific to stress might help to weed out those persons who will be susceptible to stress in a given situation.

The study is reported in the *Journal of Abnormal and Social Psychology* (March).

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