

ASTRONOMY

Stars Supra-National

Dr. Harlow Shapley, in retiring presidential A.A.A.S. address, says scientists can lead world in cooperation across national boundaries to peace and progress.

► SCIENTIFIC cooperation across national boundaries can be used to lead the world into an era of peace and human progress, Dr. Harlow Shapley, director of the Harvard College Observatory, declared in his address as retiring president of the American Association for the Advancement of Science which opened that organization's centennial meeting at Washington (Sept. 13).

Supra-nationalism is "simple and effective" for scientists, Dr. Shapley said, calling upon scientists to show how mankind can survive the present crisis.

An international observatory, a joint enterprise of Eire, the United States and North Ireland, will begin photographing the stars from South Africa a year from now. This will be "symbolic of the willingness and desire to cooperate across religious and political boundaries when led by the stars."

A new wide-angled Baker-Schmidt telescope of great power will be mounted at the Harvard station in the Orange Free State, South Africa, by agreement between Dunsink Observatory of the Eire Government, the Armagh Observatory of the Arch-Bishopric of North Ireland and Harvard.

Science must go to the heavens for information that can not be obtained in earthly laboratories, Dr. Shapley said.

"We can now build and split atoms in our laboratories," Dr. Shapley said, "but there is nothing we can do with the galaxies, those gigantic wheel-shaped star systems, strewn by the millions throughout the recently

discovered outer spaces. Nor can we do anything with the smaller sidereal systems, the beautiful globular clusters, except to study them and learn of their enormous populations of giant stars, measure their times, energies, positions, and motions, guess at their origins and destinies, and bring back to the philosophies and religions the raw materials useful for the reorientation of man and his works in the new world of knowledge and intellectual opportunity.

"These great spiral galaxies are probably similar in form to the one in which we are located. Others are irregular, like the nearby clouds of Magellan, to which we at the Harvard Observatory have paid much attention for the past 50 years. Still other galaxies are spheroidal and symmetrical, looking much like super-giant globular clusters, which indeed they may be."

A month ago about 40 astronomers from a dozen countries, who were particularly interested in the problems of galaxies, met in Zurich, Switzerland, to talk over the problems demanding further study, Dr. Shapley reported.

"There was no jockeying for national prestige, no manipulating of small observatories, no struts about manifest destinies and national aspirations," he said. "It was an assembly of those representing a unified world curiosity, a unified desire to understand the universe, a united front in a special battle against our common enemy, ignorance."

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PHYSIOLOGY

Measure Muscle Injury

By using cathode ray tubes and amplifiers, a new technique has been devised which will enable doctors to predict whether muscles will recover from paralysis.

► DOCTORS can now predict which muscles affected by polio will return to normal function, the American Congress on Physical Medicine was told in a meeting in Washington.

The new method combines the use of cathode ray tubes in television sets and amplifiers which record the electrical impulses of the muscles. A picture can thus be made of the electric currents in human muscles in the form of ink-drawn lines on a running tape, as visible electrical im-

pulses on a screen, or even as audible sounds over a loud speaker, as the doctor may prefer. This apparatus is known as an electromyograph.

Its first application to clinical work was described by Dr. O. Leonard Huddleston of the University of Southern California School of Medicine; Margaret Clare, research associate, and Dr. Alex Harell, both of Washington University School of Medicine, St. Louis; and Dr. Leonard J. Yamshon of Columbia University.

Many other uses are foreseen for the new method. Because it will enable doctors to determine more precisely the injury to nerves and muscles, they can judge whether a paralysis is caused by nerve injury, muscular disease, or whether it is a result of hysteria.

Besides aiding in disease diagnosis, it can also help in the recovery of patients. Dr. Huddleston pointed out that it is useful in training patients to use their muscles after illnesses. By enabling the patient to see or hear what is happening, he can concentrate on contracting the right muscles during training.

Dr. Huddleston predicted, "The electromyograph will become as important in studying the diseases of the muscles of the body as the electrocardiograph has been in studying the diseases of the heart."

It is also expected to be important in giving legal evidence in actions involving insurance and liability claims.

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PSYCHOLOGY

Reading Courses To Speed "Paper Work" of Air Force

► THOUSANDS of Air Force officers will in the future be able to read their way down through their mountains of "paper work" with much greater speed and ease.

The reading of officers in the Air University, Maxwell Air Force Base, Montgomery, Ala., was speeded up by special training from an average of 250 words a minute to approximately 600 words a minute. Dr. Fred Couey, of the Air University, told the meeting of the American Psychological Association in Boston that comprehension remained at the same level.

At first the officers were permitted to volunteer for the reading-speeding training. Thirty were trained in this preliminary program. Later it was required and 115 officers were given the advantage of the increased reading speed. The training was just as effective when it was a "must" as when the men volunteered.

In the coming year, it is planned to put 5,000 officers through the training program.

The training is not time-consuming. The men work only three hours a week. Half of each hourly period is spent at an instrument that exposes slides containing numbers for fractions of a second. The time of "glance" permitted to read the number is cut down from 1/25 second to only 1/100 second. The size of the number, meantime, is increased from five places to nine places.

The other half of the class is more entertaining. Reading material is selected from the most interesting of current fiction.

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