



**PRESIDENT-ELECT** — Dr. Paul E. Klopsteg, associate director of the National Science Foundation, Washington, has been named president-elect of the American Association for the Advancement of Science at its meeting in Indianapolis, Ind. A physicist, Dr. Klopsteg is known as a science teaching expert.

#### MEDICINE

### Histamine Lessens Radiation Damage

➤ HISTAMINE, the powerful blood vessel dilator, may actually be protecting the body from radiation death, rather than increasing the damage done by radiation, as has been thought.

This discovery is reported by Dr. H. A. S. van den Brenk, Cancer Institute Board, Victoria, Australia, in *Nature* (Dec. 28, 1957).

Rats in which the amount of histamine in some tissues had been reduced to less than 10% of its normal value showed a much higher death rate than control animals when both received heavy doses of whole body radiation.

Seven days after irradiation all the histamine-depleted animals had died, while 60% of the control rats were still alive, the researcher reported.

A similar protective effect from histamine was noted when the radiation was given to only a small area on the skin. Histamine-depleted animals developed radiation changes in the skin significantly earlier than controls, the skin rash was more intense and the final tissue damage was considerably increased.

These results indicate that radiation death and damage cannot be satisfactorily explained on the basis of histamine release, as has been thought.

In fact, they suggest just the opposite, that lack of available histamine results in a lessened protection for the animal to irradiation damage, Dr. van den Brenk concludes.

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#### EDUCATION

## Propose Scholarship Test

A national plan for expanding science education would provide some 10,000 college scholarships on the basis of need and the results of a psychological test.

➤ NOT EVERY high school student will have to take a psychological test under the Eisenhower plan for expanding science education. But there will be great pressure upon bright boys and girls to qualify for some 10,000 college scholarships worth approximately \$3,000 (\$750 a year) provided that father does not have the money to send his child to college.

There will be a gigantic testing program, administered by states that wish to do so and will put up 50% matching money. There will be a bolstering of the career guidance services advising students.

There probably will not be uniform tests nation-wide. In some states students will win scholarships that they could not get in other states where the educational level is higher. The tests will be more to determine general intelligence than scientific and technological ability, for while there will be preference specified for those well-grounded in mathematics and science the students interested in other fields will not be eliminated.

The tests will probably be given to students in the junior year of high school or earlier, although the scholarships would be awarded only to seniors ready for college.

It will cost about \$2.50 to give each test and a half-dozen private testing organizations will be eager to help the various states do the testing job.

The new Federal-state scholarship program would have little influence and will not interfere with the pioneering National Science Talent Search for the Westinghouse Scholarships, conducted by SCIENCE SERVICE, now in its 17th year. Due to the high prestige of this selection procedure and the fact that scholarships are not contingent upon need, there will still be keen competition for these honors, even if the plan is implemented by Congress. The National Merit Scholarship and other such programs should continue unabated as a supplement to the proposed new plan.

The proposed 1,000 Federal graduate fellowships for prospective college teachers should bolster the instructional staffs of colleges for the flood of students caused by the scholarship program. Matching funds will allow states to reinforce their science and mathematics teachers.

The funds (\$64,500,000) to be allocated to the National Science Foundation are expected to augment the present program to improve quality of research, training and teaching in the sciences.

Viewed as an emergency program, the program would cost about \$1,800,000,000 over the next four years with considerable additional matching expenditures by the states.

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#### PUBLIC SAFETY

## Fallout Danger in North

➤ PERSONS living in the northern tier of states in the United States and in other temperate latitudes of the Northern Hemisphere are exposed to greater amounts of fallout of radioactive strontium-90 than those living nearer the equator.

Lester Machta, U. S. Weather Bureau specialist in fallout distribution, reported that much of the deadly debris from H-bomb tests in the Pacific "still, literally, hangs over our heads."

The strontium-90 is stored in the stratosphere, which starts at about 40,000 feet above the earth's surface, he told the American Association for the Advancement of Science meeting in Indianapolis, Ind.

There are three classes of fallout, Mr. Machta reported.

Local, or close-in, falls to the ground within the first 24 hours of atomic or hydrogen bomb explosions. Intermediate, or tropospheric, fallout is deposited largely within the first 60 days, mainly with rain or snow.

The third is delayed, or stratospheric, and takes many years to sift earthward.

This fallout is composed of very fine particles injected into the stratosphere at the time of the explosion.

Air in the stratosphere mixes very slowly. Motions there can be traced in three ways, Mr. Machta said, by humidity changes, ozone concentrations and radiation balance.

The meteorological picture of the stratosphere calls for a seasonal variation in the poleward motion because the greatest heat loss occurs during the polar winter. Stratospheric air sinks downward only in the temperate or polar regions.

The bulk of long-lived fallout materials such as strontium-90 in the temperate latitudes appears to come from the stratosphere. More deposits in the spring than in the fall.

Although predicting long-term fallout patterns is not very accurate, Mr. Machta said, this problem is "dwarfed" by the uncertainties concerning the biological effects of strontium-90. This radioactive chemical is taken up by the body just like calcium and is deposited in bones.

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