RADIOGENETICS

Abnormal Offspring?

Scientist challenges the statement that harmful hereditary changes will result from peacetime exposure to radiation.

➤ A SCIENTIFIC debate, the last word of which cannot be spoken for generations, perhaps for centuries, has been started in the relatively new field of radio-genetics. In the journal, SCIENCE (March 25), Dr. Robley D. Evans of the Massachusetts Institute of Technology challenges recent declarations that human beings are now in danger of acquiring harmful hereditary changes from peacetime exposures to atomic radiations and some kinds of X-rays, made by Dr. H. J. Muller, Nobel prizeman at Indiana University. Such changes can become evident only after several human generations.

Dr. Evans has made elaborate statistical analyses of the likelihood of human reproductive cells being unfavorably altered by such radiations, taking into account such factors as degree of exposure and time during which the cells are sensitive to the radiations. He concludes that:

"From the appropriate mathematical theory, and the experimental data now available, it seems safe enough to conclude that no detectable increase in hereditary abnormalities is likely to result, even after many generations, if a small fraction of the population receives daily radiation doses up to one-tenth roentgen per day."

Queried at Bloomington, Ind., Dr. Muller stated that he had examined Dr. Evans' manuscript before its publication, and had criticized some of its assumptions and its conclusions in considerable detail. Some of the data, based on atom-bomb explosions, have not yet been declassified, so cannot be discussed until a probably much later date. And in the meantime, at least three or four human generations must pass before the possible radiation effects become visible in great-grandchildren of persons recently exposed.

Science News Letter, April 16, 1949

MEDICINE

Test Airsickness Remedy

➤ AIRSICK? Pop a pill in your mouth half an hour before taking off and the chances are about 71 to 100 you won't be. The pill contains Dramamine, new anti-hayfever drug which has turned out to be a remedy and preventive of motion sickness.

A 71.3% no airsickness rate was achieved by Dramamine in tests with volunteers stationed at Randolph Air Force Base, Randolph Field, Tex. The tests are reported by Drs. Benjamin A. Strickland, Jr., and George L. Hahn, USAF School of Aviation Medicine, in the journal, SCIENCE, (April 8).

Dramamine's effect in preventing and relieving carsickness and seasickness was first discovered and reported by Drs. Leslie N. Gay and Paul E. Carliner of the Johns Hopkins Hospital Allergy Clinic. (*See SNL,* Feb. 26, p. 132.) They were trying it for treatment of hayfever and hives, for which it was developed. Unexpectedly, one of their patients who had suffered from carsickness all her life was completely relieved of this when taking Dramamine. Its success in seasickness was found through a study the Hopkins scientists made on a U. S. Army transport during a rough crossing of the north Atlantic last winter.

The Air Force tests were made with 18 men on flights at 5,000 feet altitude in which the pilots maneuvered the planes to simulate flights through "gentle and moderately turbulent air." More exhaustive studies under actual turbulent conditions should be made, the Randolph Field group believes, and further research on this and other drugs for preventing and relieving airsickness is now going on.

Science News Letter, April 16, 1949

ZOOLOGY

Inbreeding May Explain Elephants' Fast Evolution

➤ THE paradox of elephant evolution—how animals with the slowest breeding rate have yet had the swiftest history of the rise and decline of new species—may be explained by their close inbreeding habits, suggests Chapman Pincher, a London zoologist.

Elephants are known to live in small herds, each dominated by a single male, with father-and-daughter mating a common practice, Mr. Pincher points out in the journal, NATURE, (April 2). This would give maximum chances for the perpetuation of a new mutation, or sudden evolutionary change, even if this was of the type that required matching with another similar gene in order to survive into the next generation.

In the relatively short geologic time during which the elephant stock has existed on earth, Mr. Pincher states, there have been 300 different elephant species, of which only two now survive.

A similarly rapid evolutionary history marked by close inbreeding, he further points out, is shown by the deer and horse groups, and possibly by the pre-human ancestors of man.

Science News Letter, April 16, 1949

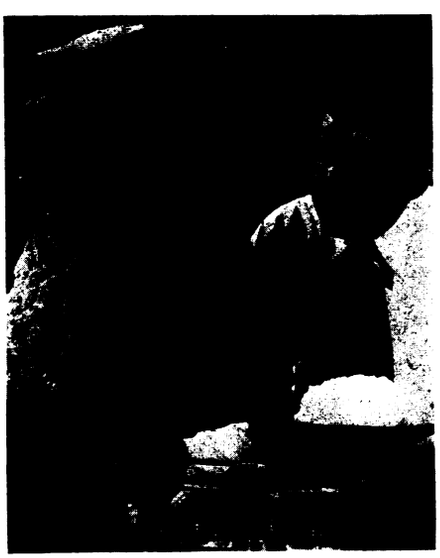
CHEMISTRY

Lightweight Plastic Foam Is Good Insulating Agent

➤ A NEW insulating material, a solid plastic foam with its volume increased 100 times by a baking process, was revealed by Westinghouse Electric Corporation. It is said to be the world's lightest solid.

The foam is made by heating a molasses-like synthetic resin at about 350 degrees Fahrenheit until it expands to 100 times its original volume and solidifies, Robert F. Sterling, Westinghouse chemist and inventor, states. Thousands of gas bubbles entrapped in the foam account for the volume and lightness.

A phenolic resin is used in the new material. The solidified foam is reddish brown in color and has a sponge-like appearance. When the liquid resin is mixed with a powder and heated for about 15 minutes, it traps oxygen as it expands. These oxygen bubbles soon become bub-



***NEW PLASTIC INSULATOR—** The plastic foam balances pie meringue on these scales because, despite the great difference in volume, they both weigh the same amount —five ounces. Making the weight comparison is Robert Sterling, Westinghouse chemist who developed the insulating material.*