MEDICINE

Nerve Disease Inherited

➤ ALS, THE BAFFLING nerve disease that usually begins with weakness in the hands and arms and always kills, comes from heredity, not environment.

Adults from the island of Guam now living in California were surveyed to see if they were hit as often with the disease as their relatives on the home island. The study was made by Jose Torres, National Institutes of Health, Bethesda, Md., Lorenzo L. G. Iriarte, Agana, Guam, and Dr. Leonard T. Kurland, also with the NIH.

The scientists find the prevalence of ALS equally high in both groups, indicating that a change of environment from Guam to California does not prevent the disease in people already predisposed to it.

ALS, or amyotrophic lateral sclerosis, is a degenerate condition of the nerves in which the fatty covering of nerve fibers of brain and spinal cord are broken down. It belongs to a large class of diseases of which multiple sclerosis is best known.

In attempts to discover the cause of this mystery killer, scientists have turned their attention to the people of Guam and the other nearby Mariana Islands because ALS is known to be much more prevalent there than anywhere else in the world.

In Guam, the disease strikes one out of every 100 adults, while in the U. S. only one in 10,000 adults is affected.

The Guamanians in California live in the same type of housing and eat the same food as other Californians of the same income class. Although they receive a few articles of native food from their home island occasionally, these are not believed to be of importance in causing the disease.

Results of the study support the theory that ALS among Guamanians comes from a genetic mechanism rather than one which develops only during residence in the Mariana Islands.

At present there is no known cure for the disease, which is always fatal. Once it begins, it grows progressively worse and usually death results within two to five years.

The research is reported in *California Medicine* (June).

Science News Letter, July 13, 1957

EDUCATION

Teaching With TV

➤ STUDENTS in Hagerstown, Md., are on the verge of a long-awaited era: televised teaching. Closed-circuit television is being supplied to 6,000 students in eight Hagerstown schools. The service will eventually encompass all 48 schools in Washington County, Md., a total of 18,000 students, Max H. Kraus of Jerrold Electronics Corporation told the American Institute of Electrical Engineers meeting in Montreal, Canada.

The opening of the September, 1958, school term will mark the end of a five-year project of molding the television arts into a teaching tool.

John R. Brugger, a member of the Hagerstown Board of Education, said that by September, 1957, the TV system would include the addition of 6,000 square feet of operating space in addition to the 5,000 square feet now in use. It would embrace a total of five live video studios, six operating channels, five of which are for live use, 21 elementary schools and two high schools receiving an aggregate of 27 lessons daily on about 510 television sets, and participation by approximately 12,000 students in direct and supplementary programs.

Mr. Brugger also suggested a low power ultra-high frequency transmitter may be used in the 1957-58 program to telecast educational programs to the whole community at high school or junior college level. In addition, a two-way microwave telecasting system may be set up between the community and a nearby teachers' college, in addition to a mobile unit for special events coverage.

The teach-by-television project hopes to acquire a live color TV studio with 60 color sets, together with more closed-circuit distribution systems for other schools and 400 more sets.

"Television offers tremendous possibilities . . ." said Mr. Brugger. Information is easier to present and explain, students' attention can be concentrated on the educational material, and the instruction is more uniform.

Science News Letter, July 13, 1957

AGRICULTURE

Bees Sip Sirup From Plastic Flowers

See Front Cover

➤ A PLASTIC CLOVER blossom may not smell as sweet as the real thing, but scientists hope that bees can be enticed into sipping sirup from it.

Barren stretches of the Arizona desert are "blooming" this summer with the plastic flowers set in shallow pans of sirup alongside the bee colonies. The flowers are lucite blocks with holes drilled in them, holes just deep enough for the bee to reach down and get the sirup.

Equipment attached to the flower automatically records on graph paper the amount of sirup gathered by the bees. The formula for the sirup can be varied so that scientists can discover the bees' food preferences. Using the plastic flowers in the desert environment makes it possible to study the bees in a relatively controlled situation—few other sources of food are available—without restricting their movements.

Bees are "social" insects and cannot lead a normal life when caged. In such situations the bees are deprived of a queen, must partake of an enforced diet, and are thus restricted in their movements.

The photograph on the cover of this week's SCIENCE NEWS LETTER shows a close-up of the technique used to mark bees for identification. They are marked as they feed on sugar solution from an artificial "flower" so that scientists can determine how much food bees will take to the hive and how many trips they will make from hive to "flower" in any given period.

Bee culture specialists at the U.S. Department of Agriculture's southwestern bee culture laboratory in Tucson hope their plastic flower studies will help solve some agricultural problems. Protecting bees against insecticides, pollinating forage and fruit crops, and the correct location of bee hives for both honey production and pollination are among the more important of these.

Dr. A. W. Woodrow of the USDA's Agricultural Research Service invented the plastic flowers.

Science News Letter, July 13, 1957

VIROLOGY

Bats Tested for Answers To Virus Mysteries

➤ BATS and viruses have a strange compatibility for one another.

Bats inoculated with the virus causing either Venezuelan equine encephalomyelitis or Japanese B encephalitis build up an extremely high concentration of the virus but are not sickened by it, scientists at the Biological Warfare Laboratories, Fort Detrick, Md., have found.

This is highly unusual, they say. The bat is one of the few animals known to build up a high concentration of the virus without becoming diseased.

In their tests, bats are given the smallest possible dose of the virus and kept at room temperature. Over a three-day period, the inoculated bat builds up the high concentration and maintains it for a maximum of 26 days. Then the virus apparently disappears.

How the bat remains immune to the virus is one of the mysteries whose solution could lead to new immunization techniques.

Other questions must be answered, such as:

Do the bats spread encephalitic diseases? Bats and mosquitoes live together, perhaps the bat is the disease reservoir and the mosquito the culprit that carries it from bat to man.

Do the winter-hibernating bats keep the disease in cold storage? In induced hibernation, the virus concentration is lowered and found in the bats for at least 90 days.

Do other viruses react the same way in bats?

Are bats being generally overlooked as valuable laboratory animals?

The bat study is being conducted by Edwin C. Corristan, Louis C. LaMotte Jr. and Dr. Dorothy G. Smith.

Science News Letter, July 13, 1957