

MEDICINE

Results of Sleeplessness

Changes confined to brain. May involve same mechanism as schizophrenia. One night's sleep restores voluntary victim of insomnia to normal.

➤ GOING for five days and nights without sleep can make a healthy young man "see things," laugh and talk crazily, and show other symptoms of the serious mental disease, schizophrenia.

But one night's sleep restores the voluntary victim of sleeplessness, or insomnia, to normal, Dr. David B. Tyler of the Army Chemical Center's Medical Division at Edgewood, Md., Arsenal reported at the American Medical Association's centennial meeting in Atlantic City.

Hundreds of soldiers, marines and conscientious objectors took part in the studies, made to learn how long men in combat could stay awake and remain efficient fighters.

Better understanding of mental disease may come from clues furnished by the study.

"We feel there is a relation between the mechanism in the brain that produces changes as a result of sleeplessness and the mechanism that produces the disturbances in schizophrenia," Dr. Tyler said.

All the changes produced by the five days and nights without sleep were con-

fined to the brain. They showed up after about 36 hours of sleeplessness. Seeing double, hallucinations, irritability, unreasonable laughter and irrelevant conversation, memory deterioration and remarks made as if the men were in a dream state were the signs of mental change.

Brain-wave records also showed the effects of the long time without sleep.

Heart rate, blood pressure, body temperature, visual ability, and capacity to do physical work were not impaired by the prolonged period without sleep. The men actually gained weight, but this was because they were given a fourth meal at midnight.

Reaction time and steadiness were just as good on short tests, but fell off when the tests were prolonged. Bzedrine, familiarly known as "pep pills," prevented the deterioration in performance when it was given after the second day. If given from the start of the five-day sleepless period, it was not effective. Its action came through its ability to help the men stay awake while performing the tasks.

Science News Letter, June 21, 1947

DENTISTRY

Penicillin Reduces Caries

➤ BRUSHING your teeth with a tooth powder containing penicillin may make you less likely to have cavities, or dental caries.

That is the promising report of two doctors who used 252 human guinea pigs to study the use of penicillin as a weapon against tooth decay. In the experiment, 161 boys from a northern Ohio industrial school brushed their teeth for five months with a powder containing penicillin. At the end of the period, the doctors made counts of the number of *acidophilus bacilli* in the boys' mouths. This bacillus forms the acids which cause tooth decay.

Of the boys who had used penicillin in their tooth powder, 65% had a lower bacillus count, while only four percent had an increased count. Among the boys who had not had the penicillin

powder, 43% had fewer bacilli and 20% had a higher count.

Drs. Thomas J. Hill and Albert H. Kniesner of the Western Reserve University School of Dentistry explained that the experiment will continue another year.

"This study does show that penicillin produces a decrease in susceptibility to dental caries," Dr. Hill declared. "We can not say now whether we will be able, at the end of our studies, to recommend the inclusion of penicillin in dentifrices for the prevention of tooth decay.

"We want more positive results, but I believe we will get them," he added.

The doctors explained that every time a boy brushed his teeth with the powder, he took between 500 and 1,000 units of

penicillin into his mouth. This is a very small amount of the drug.

Another experiment with penicillin and tooth decay revealed that rats taking penicillin in drinking water had fewer cavities in their teeth than control animals, which received no penicillin.

The studies are being made under grants from the U. S. Public Health Service and the Cleveland Dental Society.

Science News Letter, June 21, 1947

ZOOLOGY

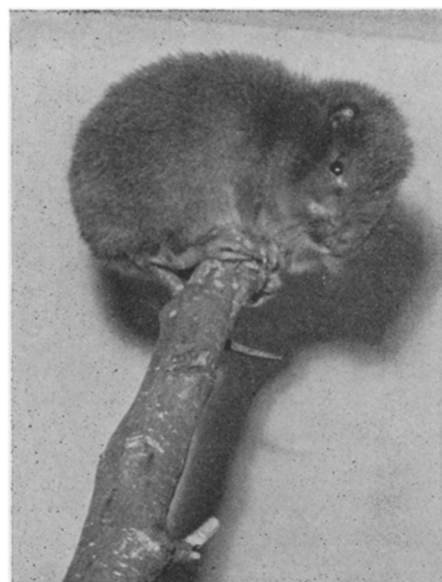
Roman-Nosed Rodents Flown Up from Haiti

➤ A PAIR of Roman-nosed rodents from Haiti have just been added to the population of the Chicago Park District's Zoo in Lincoln Park. Their everyday name is Hutia; to zoologists they are *Capromys*, which translates into English approximately as "goat-mouse."

That goat-mouse reference may be an allusion to their climbing proclivities. Hutias spend a good deal of their time in trees; so in the Lincoln Park Zoo they have been put in the monkey house and given a tree limb to climb around on. They eat almost anything—fruits, leaves, bark, as well as small animals. They have a special liking for lizards.

A pair of Chicago writers, Mr. and Mrs. Oden Meeker, made arrangements for the acquisition when they were touring in Haiti, and the animals were brought to Chicago by plane.

Science News Letter, June 21, 1947



RARE RODENT—From Haiti, this tree-climbing animal was formerly believed extinct.