

## PSYCHIATRY

**Hypnotism Spots Epileptic Whose Fits Are Neurotic**

► HYPNOTISM can be used to spot the patient who seems to have epilepsy but whose "fits," or seizures as doctors term them, are really due to a psychoneurotic condition and not to true epilepsy.

And, incidentally, it is the intelligent rather than the mentally slow who hypnotize well.

These findings were reported by Lt. Col. Donald B. Peterson, Maj. John W. Sumner and Maj. Gordon A. Jones, psychiatrists and clinical psychologist at Fitzsimons Hospital, to the American Psychiatric Association meeting in Detroit.

Under hypnotism, the Army doctors found, patients whose fits had a neurotic basis could recall every detail of their surroundings during the seizures. Patients with true epilepsy could not. Brain wave studies bore out these findings.

Using hypnotism to sort the true from the pseudo-epileptics speeds diagnosis and the start of proper treatment. As a result, 80% of the patients with pseudo-epilepsy were fit for Army duty after short psychiatric treatment.

Science News Letter, May 13, 1950

## GEOPHYSICS

**Discover New Mountain In Pacific Ocean**

► A NEWLY-DISCOVERED mountain no one will ever see was described to the American Geophysical Union in Washington by Rear Admiral Leo O. Colbert, retiring director of the U.S. Coast and Geodetic Survey.

More than 8,000 feet high, it rises from the bottom of the North Pacific ocean about 800 miles northwest of Seattle. The Survey calls such ocean-bottom mountains "seamounts."

This one was charted by survey depth finders at a place where the floor of the Pacific is 2,100 fathoms (12,600 feet) below the surface. The top of the mountain is approximately 4,000 feet down.

Science News Letter, May 13, 1950

## METEOROLOGY

**Super-Small Sea Salt Starts Rain Falling**

► Newly-discovered rainmakers are tiny unseen bits of sea salt, floating high in the air even where the ocean is far away.

Electron microscope photographs of tiny atmospheric particles around which raindrops form were shown to the American Geophysical Union meeting in Washington by Pennsylvania State College meteorologist C. L. Hosler.

Some of the particles were only one-millionth of a centimeter in diameter.

The work at Penn State has shown there are many more types of such atmospheric nuclei than scientists previously thought. In addition to the tiny crystals of salt, blown hundreds of miles inland from evaporating ocean spray, magnesium chloride particles, and silica dusts so fine they cannot be seen by ordinary microscopes have been identified.

Scientific attention has been brought to bear increasingly in recent years on the condensation mechanisms by which rain is formed. One result was the discovery that rain could sometimes be "made" by seeding clouds with dry ice or crystalline particles.

Work with the electron microscope has shown that the shape of the individual particle has a great deal to do with whether a rain-drop will form around it, Mr. Hosler said.

The Penn State research is not the first along these lines, he said. A German scientist was studying condensation particles during World War II—until a bomb dropped on him.

Science News Letter, May 13, 1950

## VETERINARY MEDICINE

**Elderly Dogs Benefit From Better Anesthetics**

► NEW anesthetics are helping old dogs live longer. They were described at the annual convention of the American Animal Hospital Association in Denver, Colo.

Dr. Dwight A. Smith, professor of veterinary medicine at Iowa State College, said procaine hydrochloride is allowing operations to be performed on aged dogs that were risky or out of the question with anesthetics formerly available.

The medical treatment of aged pets in weak or failing health is called "canine geriatrics."

Science News Letter, May 13, 1950

## BOTANY-PHYSICS

**Plant Gives Signals Much Like Nerve Impulses**

► ELECTRICAL signals remarkably like human nerve impulses have been charted in a Carolina plant that eats insects.

The plant is Venus's-flytrap. Botanists call it carnivorous because it reputedly can digest insects that buzz into its waiting jaws.

Its life-like electrical impulses, called "action potential," are described by Dr. Otto Stuhlman, Jr., and Edgar B. Darden, University of North Carolina physicists, in the journal, SCIENCE (May 5).

They studied the phenomenon in much the way a doctor stimulates an exposed animal or human nerve by tickling it. Electrical connections were made on the leaves of the flytrap. Then a trigger hair inside the jaws was bent with a fine glass hook. Up went the line on the electrical recording instruments.

Science News Letter, May 13, 1950

**IN SCIENCE**

## PSYCHIATRY

**Muscular Type Has Better Odds for Mental Recovery**

► THE big-boned, muscular type of person has a much better chance of getting over serious mental disease, if he develops it, than those with low muscular development.

This is one finding from the first systematic attempt to relate the outlook for recovery from mental illness with body type or build. The study was reported by Drs. Nathan S. Kline and Ashton M. Tenny of the Veterans Administration Hospital at Lyons, N.J., to the meeting in Detroit of the American Psychiatric Association.

The study was made on over 1,000 patients in the order in which they were admitted to the hospital. One group of doctors rated the patients, from photographs, according to body type. Another group of doctors made the psychiatric diagnosis. The two findings were then correlated.

The big-boned, muscular type, the study also showed, was more likely to be paranoid, with delusions of grandeur and of persecution. This form of mental disease develops slowly.

The patients with thin, fragile body types were more likely to develop hebephrenic schizophrenia, which comes on in the early teens and is marked by rapid deterioration, hallucinations, senseless laughter and silly mannerisms.

When the findings from the study have been further analyzed, the scientists reported, they may give clues to the nature of the response to electroshock and insulin shock treatments, to problems of chronic alcoholism, to the nature of psychiatric symptoms and may possibly show a relation to brain wave findings.

Science News Letter, May 13, 1950

## MEDICINE

**Brain Waves Help Detect True Deafness**

► USE of brain wave records to distinguish true organic deafness from "hysterical" deafness due to a psychoneurotic disorder was reported by Dr. Henriette Lowenberg Wayne of the Bronx, N.Y., Veterans Hospital.

The brain wave records are taken while the patient sleeps. If he has the "hysterical" kind of deafness, the brain reacts to sounds, as shown on the brain wave record. If he has true organic deafness, there is no brain reaction to sound.

Science News Letter, May 13, 1950

# E FIELDS

## MEDICINE

### Infra-Red Freeze-Drying Yields More ACTH

► **TRIPLE** the present amount of ACTH for arthritis and other patients will soon be produced, F. W. Specht, president of Armour and Company, predicted in Chicago.

The increase in production, now 30 times that of one year ago, and a recent 50% price cut in the Armour product depend in part on a new freeze-drying apparatus which uses infra-red rays as a heat source.

The new method not only speeds drying 10 times but also reduces loss of potency that resulted with the previous drying method. The method was developed by Ralph F. Colton of the Dry Freeze Corporation on the basis of ideas originally evolved during the war in research on drying blood plasma. Dr. Sidney O. Levinson and Dr. Franz Oppenheimer, physicists of Michael Reese Research Foundation, are credited with the original ideas for plasma drying now adapted to ACTH production.

Science News Letter, May 13, 1950

## GEOPHYSICS

### Rain of Meteors May Explain Carolina Craters

► **AFTER** 17 years, geologists are still arguing the mysterious case of the Carolina "bays." They are just as stumped as airline passengers who see the miles of shallow, crater-like depressions in the coastal plain of North and South Carolina.

A spectacular shower of meteorites bombarding the continent in prehistoric times is the best theory offered so far, Dr. William Schriever of the University of Oklahoma told the annual meeting of the American Geophysical Union in Washington. It probably happened while the Carolinas were still under the Atlantic Ocean, he said.

Dr. Schriever denounced as "untenable" the theory of a complex chain of events, started by great, bubbling prehistoric artesian springs, which Columbia University's late, top-ranking geologist, Prof. Douglas Johnson, outlined in an authoritative book in 1942.

Using Prof. Johnson's own 29 requirements for an adequate theory, Dr. Schriever said the idea of meteorites, first advanced by himself in 1933, is still the "least unsatisfactory."

The missiles from space could have struck the coastal plain while it was still under the shallow sea, he said. Centuries of waves would have filled the craters with sediment. Then, when the plain rose above water, the loose fill in the craters could have settled

like earth in an improperly-made grave.

To learn whether great iron-stone meteorites are actually buried there, and before a completely satisfactory theory can be presented, subsurface investigations must be made, Dr. Schriever said. Such tests will be helped not at all by the fact that most of Carolina's mystery holes are now lakes or tangled, soggy swamps.

Science News Letter, May 13, 1950

## PSYCHIATRY

### Normal Persons Better Liars than Neurotics

► **NORMAL** persons are better liars than neurotics, Dr. Frederick C. Redlich of Yale University School of Medicine told members of the American Psychiatric Association meeting in Detroit.

The normal persons also have greater ability to resist questioning when under the influence of hypnotic drugs, sometimes called truth serums.

The findings are from an experimental investigation in which 10 persons were asked to tell an interviewer about incidents which made them feel ashamed or guilty. They were then asked to tell a "cover story" about the same incidents to another interviewer.

The interviewer then tried to "puncture" the "cover story" while the person who told it was under the influence of a hypnotic drug, sodium amylal. Of the 10 persons, four were able to stick to the cover story while under the drug.

Working with Dr. Redlich on this investigation were Dr. Leonard J. Ravitz and a legal authority, George Dession.

Science News Letter, May 13, 1950

## DENTISTRY

### Penicillin Tooth Powder Helps Anti-Caries Fight

► **A PENICILLIN** tooth powder, not yet on the market, may help in the fight against tooth decay.

After a two-year trial, a group of 235 elementary school children in Walpole, Mass., had an average of 54% less tooth decay than a similar group of 117 children who did not use the penicillin powder. The results are reported by Dr. H. A. Zander of Tufts College Dental School in the *JOURNAL OF THE AMERICAN DENTAL ASSOCIATION* (May) in Chicago.

The Journal's editor warns against efforts to get this powder on the market too soon for the following reasons:

1. More tests of the product's safety are needed.

2. Results may not be as good when used by the general public in the "ordinary haphazard" method of brushing the teeth. The good results were obtained in children whose toothbrushing was carefully supervised.

Science News Letter, May 13, 1950

## MEDICINE

### TB Most Important Germ-Caused Disease

► **"TUBERCULOSIS** is today the most important disease of the human race to be caused by a 'germ,'" Dr. H. Corwin Hinshaw of Stanford University School of Medicine, San Francisco, declared in a radio program.

The death rate from this disease is fortunately decreasing, but there is an actual increase in the number of known cases and "most heartbreaking is the fact that so many victims are young people in their teens, twenties and thirties," he stated.

"The average patient dying of tuberculosis dies 30 years before his time," Dr. Hinshaw said.

Dr. Hinshaw spoke as guest of Watson Davis, director of Science Service, on adventures of Science radio program presented over the Columbia Broadcasting System.

Mr. Davis' other guests on the program were Dr. Kirby S. Howlett, Jr., assistant superintendent of Laurel Heights Sanatorium, Shelton, Conn., and Dr. Nicholas D'Esopo, chief of the medical service, Veterans Administration Hospital, Sunmount, N.Y.

Science News Letter, May 13, 1950

## MEDICINE

### New Test May Aid Stomach Cancer Fight

► **A SIMPLE** test that may help in the fight against stomach cancer was announced by Drs. Harry L. Segal, Leon L. Miller, John J. Morton, Henry Y. Young and Mrs. Leaf Drake of the University of Rochester School of Medicine at the meeting in Atlantic City, N.J., of the American Gastroenterological Association.

The test is a chemical test for stomach acidity. About 65% of patients with stomach cancer have no acid in their stomachs and a large percentage of patients with no acid tend to get cancer. Pernicious anemia patients have a similar lack.

Because of its simplicity, the new test might be used to screen whole populations, picking out the acid-less ones for further careful X-ray studies to detect stomach cancer in time for cure. Lack of symptoms until the disease is far advanced is one big reason why stomach cancer is a leading cause of cancer deaths.

With the new test, the patient does not have to swallow a stomach tube, which is the present method for checking on stomach acidity. All he swallows is about half a teaspoon of an "indicator compound," a cation chemical containing a quinine derivative. Tests of the urine, collected hourly for two or three hours after taking the chemical, tell whether or not the patient has acid in his stomach.

Science News Letter, May 13, 1950