

## MEDICINE

# "Stiff-Man" State

Medical mystery of cause and cure of curious disease, nicknamed "stiff-man" syndrome, puzzles doctors at Mayo Clinic. First patient seen in 1924.

► A MEDICAL MYSTERY is puzzling doctors at the Mayo Clinic, Rochester, Minn.

"Stiff-man" syndrome is the nickname they give the strange condition. Syndrome means a set of symptoms all occurring together. "Progressive fluctuating muscular rigidity and spasm" is the formal name they give it.

Muscle stiffness, or rigidity or tightness, and muscle spasms, sometimes painful, are the symptoms. The stiffness makes walking difficult and in some cases impossible. A sudden jar, movement or fright brings on the spasms. Describing the spasms, one patient said "pain as if something pulling muscles from bones" and another said "legs stiffen out like hiccups, throwing me to the ground."

The muscles of the abdomen are firm, hard or board-like. The overall rigidity draws the head into the shoulder girdle, and makes the spine curve or draws it into a hump or gives it the appearance of a poker spine. This rigidity and drawing make the gait stiff and laborious and, when the patient falls because of spasm of leg muscles, makes him fall "like a wooden man" or a "wax dummy."

The first patient seen at the Mayo Clinic with this condition was a 49-year-old Iowa farmer. He came to the Clinic in the summer of 1924. Since then, the doctors have seen 13 more patients with the same mysterious malady, 10 men and four women. The average age at the start of the symptoms was 41.5 years. Seven of the patients are still living. Four have died.

No common cause for the condition could be found from critical review of the records of each case. Laboratory tests and other examinations failed to reveal any cause. Results of most of the tests were within normal limits.

"No treatment that we attempted proved to be of material help," Drs. Frederick P. Moersch and Henry W. Woltman state in reporting the cases.

Among treatments used were bromides, barbiturates, alcohol, ether, a curare preparation, chlorpromazine, a form of cortisone and injections into the muscles of magnesium sulfate. One patient was given a ten-day course of tetanus antitoxin with no change in symptoms. Baths and active or passive exercise gave only limited relief.

Chronic tetanus, or lockjaw, was considered, but the spasms of the stiff-man syndrome did not affect the jaw, developed less abruptly, were less violent and relaxation took longer and was more gradual.

Because the intensity of symptoms fluctuates and because four patients had re-

ducing substances in the urine, the doctors think a metabolic, or body chemical, basis for the malady should be considered.

Reporting the 14 cases in the *Proceedings of the Staff Meetings of the Mayo Clinic* (July 25), the two doctors state, "Thus our story ceases for the present. The threads are there but, in spite of their being woven into a fairly constant pattern, the completed design awaits added study."

Science News Letter, August 25, 1956

## AERONAUTICS

## Research Center Planned for Nevada

► AN OUTDOOR RESEARCH CENTER for testing the latest aeronautical advancements is being planned in Nevada by the Curtiss-Wright Corporation.

Purchase of the land for the project was disclosed by Roy T. Hurley, president and board chairman of the Curtiss-Wright Corporation, during a tour of a similarly remote project at Quehanna, Pa. The Nevada land takes in about four times as much territory as the 80-square-mile Quehanna center.

Like the Quehanna development, the Nevada project will involve testing equipment that cannot be tested in densely populated areas. It has many of the same advantages as the Quehanna site.

Scientists are free to try experiments they would not attempt in places where noise, odors and carbon dust might offend residents.

Seclusion is the chief safeguard in both research areas. The Quehanna project is located in the heart of a dense state forest about 150 miles northeast of Pittsburgh. The trees in the wilderness area provide an effective sound barrier. Noise will be rendered inconsequential at the Nevada center by the project's extremely isolated location.

Outlining the significance of the two developments, Mr. Hurley predicted a considerable increase in outdoor research areas among other industries.

"Many firms will have to use outdoor areas for testing whether they like to or not," Mr. Hurley said. He explained that large-scale testing of loud or gas-yielding equipment is cheaper and more practical in remote areas than in populated regions.

A jet test cell in or near a city costs about \$1,500,000. A test cell in a remote location can be built for \$300,000 to \$400,000. The difference is due primarily to the need for sound-proofing measures in populated areas.

Science News Letter, August 25, 1956

## ● RADIO

Saturday, September 1, 1956, 1:45-2:00 p.m. EDT "Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station. Asher S. Braunfeld, head of the Quarries Section, Israel Ministry of Development, will discuss "Minerals in Israel."

## PUBLIC HEALTH

## Salt and Soda Seen Good for Burn Shock

► DRINKING LARGE AMOUNTS of salt and soda solution is effective emergency treatment of shock due to burns, Dr. Kehl Markley, U. S. Public Health Service, reports in the *Journal of the American Medical Association* (Aug. 11.)

Dr. Markley's report is based on three and a half years of studying the treatment in three cooperating hospitals in Lima, Peru. Associated with Dr. Markley were these Peruvian physicians: Drs. Manuel Bocanegra, Augusto Bazan, Roberto Temple, Miguel Chiappori, Guillermo Morales and Alberto Carrion.

Among 110 children and 83 adults, all severely burned, no significant difference in deaths was found between those given salt and soda solution to drink and those given conventional anti-shock treatment of blood, plasma or plasma extenders injected into the veins.

The salt and soda treatment was shown effective in laboratory animals in earlier studies by Dr. Sanford Rosenthal and associates of the Public Health Service.

The Lima study was done to evaluate the treatment in humans because of its possible usefulness in case of mass catastrophes.

Science News Letter, August 25, 1956

## PHYSIOLOGY

## Screen Tranquilizers by Brain Self-Stimulation

► THE DISCOVERY that a rat will press a switch to get an enjoyable electric stimulus through its brain could be used to screen drugs for tranquilizing action, Drs. J. Olds, K. F. Killam and P. Bach-y-Rita of the University of California at Los Angeles School of Medicine suggest.

When given chlorpromazine and reserpine, two of the earliest tranquilizing drugs, the rat pressed the switch at a different rate than when given a sleep-inducing barbiturate drug.

Where the electrodes were placed in the rat's brain to carry the stimulating current also affected the animal's response to the drug, so further studies with the technique should also give information on which sites in the brain are acted on by the tranquilizing drugs.

Findings with the method are reported in *Science* (Aug. 10).

Science News Letter, August 25, 1956