

## PSYCHIATRY

# 10-Minute Brain Operation

**Sharp, slender instrument is driven through bony part of eye socket and then swung in arc. Succeeds with third of schizophrenics.**

► A SAFE, simple, 10-minute operation that is restoring mentally sick people to health and sanity was announced by Dr. Walter Freeman of Washington at the meeting of the American Psychiatric Association.

Combined with electro-shock treatment, it succeeds in one-third of the schizophrenia patients and one-half of those suffering involuntional mental disorders. These last are patients suffering depressions and other abnormal mental states due to severe emotional disturbance at or just after mid-life.

In the operation Dr. Freeman drives a sharp, slender instrument through the bony part of the eye socket into the front of the brain. The instrument is then swung through an arc of 30 degrees and withdrawn. The same operation is performed on both sides.

The patient is first given two electro-shock convulsions at one- or two-minute intervals. Then, while he is still unconscious, the operation is swiftly performed. No anesthetic is needed. And since the eye socket area is normally germ-free, and the tears flow freely after electro-shock, no sterilizing of the area with antiseptics is needed.

Within an hour after the operation some patients are able to get out of bed, talk, swallow liquids and perform simple activities. In favorable cases, patients have returned to their former jobs or occupations within two weeks and have continued to maintain themselves satisfactorily.

One patient was observed chuckling to herself several times during the afternoon after the operation. When asked why she was laughing, she answered:

"All those foolish ideas I had. How did I get them anyway?"

The operation does not succeed in all cases and some who were apparently helped by it have since relapsed. It was originally devised by an Italian surgeon, A. M. Fiamberti, in 1937. Early reports were not reassuring and then the war came and Dr. Freeman could get no further word about it. He decided to investigate it himself early in 1946. Since then he has performed the operation on 100 patients.

Its chief advantage over two other relatively new operations for relief of insanity is the fact that it is a minor operation which can be performed by psychiatrists in mental hospitals. The other two operations are: 1. Prefrontal lobotomy, in which a hole must be drilled through the skull and then brain connections severed. Dr. Freeman introduced this operation into the United States about 10 years ago. 2. Topectomy, a "formidable" operation in which certain parts of the frontal lobes of the brain are removed. This operation was announced in March of this year by Columbia-Greystone Associates.

The operation reported at the meeting is called transorbital lobotomy. Transorbital means through the orbit, or eye socket. Lobotomy means cutting into a lobe of the brain. The object of

both lobotomy operations is to cut the connections between the part of the brain Dr. Freeman calls the "dynamo" of the mental sickness and other parts of the brain.

The operation through the eye socket should succeed, Dr. Freeman said, in patients who have been sick less than one year and in the hospital less than six months. A few may recover after longer illness. In illnesses longer than one year's duration, transorbital lobotomy should be looked on as a test, not a last resort. If it brings improvement but the improvement does not last, the standard lobotomy operation should be performed.

The shape of the patient's head has some bearing on the success of the operation. A high, broad forehead, particularly with rather deep-set eyes, is the one in which the operation is most likely to succeed. This is because in such a shaped head a larger volume of the frontal lobe of the brain is within reach of the instrument. Failures have resulted in patients otherwise satisfactory whose foreheads were of the narrow, sloping character.

*Science News Letter, May 29, 1948*

## AERONAUTICS

# Super Wind Tunnel

**For testing guided missiles and aircraft, it has air forced through it at speeds near 3,000 miles per hour, four times speed of sound.**

► A SUPER-SUPERSONIC wind tunnel for testing guided missiles and aircraft has been dedicated at Aberdeen Proving Ground, Md. It has a perfectly-controlled flexible throat that permits quick changes in the supersonic flow of air through it.

Air is forced through the tunnel to create speeds approaching 3,000 miles per hour, four times the speed of sound at sea level.

Most wind tunnels have fixed throats, sections smaller than the main tunnel, that are responsible for stepping up the speed of the air. These can be changed in some tunnels only by removal and replacement.

The flexible throat wind tunnel has the advantage that its speed may be very quickly and easily changed from one supersonic velocity to another.

With this it is possible to cover a range of speeds from Mach number one

to Mach number four.

The change in the size of the opening in the throat is made by a series of jacks electrically operated whose movements can be kept perfectly aligned and controlled to an exceedingly small fraction of an inch. These jacks press on the chrome-plated flexible upper and lower sides of the throat.

This flexible throat affair, dedicated at the Army Ordnance Ballistic Research Laboratories, is not the only wind tunnel at this research center. There is particularly a fixed throat tunnel which, it is claimed, was the nation's first large-scale supersonic tunnel. A free-flight aerodynamics range has all sorts of instruments for the study of models in flight at supersonic velocities. The results are quickly computed on an electronic super-calculator, one type being the Eniac, which stands for electronic numerical integrator and computer.

*Science News Letter, May 29, 1948*