

PSYCHIATRY

Find Stress Failure Point

Mental illness resulting in schizophrenia has been traced to the failure of the adrenal glands to respond to a pituitary gland hormone.

► THE point in the body-mind mechanism that fails under stress, resulting in the serious mental sickness, schizophrenia, has been located. The mechanism goes wrong where the outer parts of one set of glands fail to respond to stimulation by a hormone from another gland. The stimulating hormone comes from the pituitary gland in the head. It is called ACTH, scientific shorthand for adrenocorticotrophin. The glands that should respond are the adrenal glands which lie one just above each kidney.

This location of the stress response failure in schizophrenia was discovered by Drs. Hudson Hoagland and Gregory Pincus, of the Worcester, Mass., Foundation for Experimental Biology in studies reported to the American Psychiatric Association in Montreal.

The gland-to-gland stress failure point was located by giving injections of the pituitary hormone ACTH, to schizophrenic patients, to normal persons and to patients with less serious mental illness of the kind scientifically termed psychoneurosis. The schizophrenics did not respond to the

ACTH until given three and four times the amount that normal and psychoneurotic persons responded to.

The response of the adrenal gland cortex to the ACTH from the pituitary was measured in a number of ways. Most reliable, the Worcester scientists reported, was the amount of potassium excreted. Potassium is familiar to the layman in potash. But this chemical element is found in the body and is of great importance in the excitability of nerve and in the generation and propagation of nerve action currents.

AERONAUTICS

Wright Brothers' Studies

► EXACT copies of the wind tunnel instruments devised and used by the Wright Brothers in their wind tunnel studies in 1901 are now available for inspection in the Wilbur and Orville Wright Laboratory

building at Oberlin College, Oberlin, O. The originals, long lost but relatively recently found, were bequeathed by Orville Wright to the Franklin Institute in Philadelphia. The replicas were made from them.

Patterns of nerve messages, the scientists pointed out, constitute the physical basis for thought and conduct. And the potassium which plays such an important role in this nerve action is regulated by the outer part, or cortex, of the adrenal glands.

"It is possible," the scientists stated, "that faulty potassium metabolism (utilization) in the face of repeated stresses of daily life may be an important cumulative factor in the development of psychosis (mental disease)."

It may be, they suggested, that gland deficiencies of this sort, which may perhaps be determined by heredity, make some persons more vulnerable to the stress of living than others. Such persons never become mentally sick if their lives present few problems. But under more severe environmental and personalized stresses their glandular defects may result in faulty functioning of the brain with consequent mental disease.

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WRIGHT WIND TUNNEL INSTRUMENT—Here the late Orville Wright is shown with one of the simple but effective wind tunnel instruments devised by the Wright Brothers. Their original instruments have been bequeathed to the Franklin Institute in Philadelphia.

The title of the Wright Brothers as the fathers of aviation means more than merely devising and flying a plane. It comes also for their scientific work on which their successful plane was designed. It is well known that the giant and speedy airplanes of today have their origin in the Wright plane. Less known, however, is the fact that the complicated wind tunnels of today, used to obtain flying secrets and the best plane designs, have their origin in a simple wind tunnel and instruments devised by the same men.

These instruments made it possible for the Wright Brothers to select suitable flying surfaces for their machines and to accumulate all the necessary data to predict subsequent performance, scientists at the presentation of the replicas to Oberlin College were told by Max P. Baker, aeronautical engineer of General Motors Corporation. The modern student of aerodynamics and engineering can well afford to study the direct simplicity and inherent accuracy of these exact replicas of the original instruments which made the first airplane flight possible, he said.

The first instrument is a pressure testing machine. "It is our belief," Wilbur Wright was quoted as saying in 1902, "that the method and construction employed entirely avoid errors from the following sources: variation in wind velocity, variations in temperature and density of the atmosphere, travel of center of pressure,

and variation in angle of incidence owing to movements of the mounting arms."

The instrument itself was mounted in a long square tube or trough having a glass cover. "After we began to make our record measurements," Wilbur stated, "we allowed no large object in the room to be moved and no one except the observer was allowed to come near the apparatus, and he occupied exactly the same position beside the trough at each observation. We had found by previous experience that these precautions were necessary, as very little is required

to deflect a current a tenth of a degree, which is enough to very seriously affect the results."

A lift instrument has swinging arms which support a cross beam carrying resistance plates which always ride at some cross angle to the wind and thus create an extra resistant finger. This instrument was also used at first to measure drag, but was found not well adapted to the purpose. This led the famous brothers to build another instrument for measuring drag.

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PSYCHOLOGY

Portrayal of Foreigners

► IF Hollywood portrayals of foreign characters and life are to become realistic it will only be after the film industry is convinced that the public wants such life-like representations.

This is the judgment of Dr. Siegfried Kracauer, social psychologist, who reports in *PUBLIC OPINION QUARTERLY* (Spring) a study of films made for UNESCO as part of their project for studying international tensions.

Countries where the public desire for international understanding is already overwhelmingly strong have produced a new type of semi-documentary film, deliberately international, which presents characters from different countries as mirrors of reality, Dr. Kracauer says. Such films are the Swiss pictures *Marie Louise* and *The Last Chance* and two Rossellini films from Italy, *Open City* and *Paisan*.

Whether these films mark the beginning of a trend depends upon mass education, Dr. Kracauer believes.

"Unless organizations such as UNESCO can stir up a mass desire for international understanding, prospects for the cooperation of film producers are slim," he predicts.

Portrayals by Hollywood of the English have been realistic, Dr. Kracauer says. But

he attributes that to the fact that Americans look upon the English as part of the same family. A real attempt has been made by film producers to present an accurate picture. Many films have been taken from English novels or plays. Major parts have been given to English actors and scenes have been shot in England.

By contrast, American films about Russia make little attempt to capture reality, and this is attributed by Dr. Kracauer to the lack of common traditions in the two countries, lack of intermingling of the nationals, and the feeling by Americans that the Russians are very foreign.

Films about Russia are studio-made, and because of the scarcity of Russian actors in this country, the part of Russian characters is assigned to Hollywood stars or to German actors.

"Reliance on outside portrayals in imitation settings thwarts rather than facilitates an objective rendering of other peoples," Dr. Kracauer comments.

Films about a foreign country are avoided by Hollywood during a period when American attitude toward that country is a subject of heated controversy. Such a period of silence on Germany came during the pre-war years when American

public opinion was split into isolationist-interventionist camps. It came to an end in 1939 with the release of *Confessions of a Nazi Spy*, realistic rendering of Nazi activities in the U. S., which overtly stigmatized Hitler Germany.

We have recently passed through a similar period of silence on Russia in the film world. Release of *The Iron Curtain* in May, 1948, may, like the *Confessions of a Nazi Spy*, mark the end of a period of controversial stage in American public opinion, this time toward Russia.

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