PSYCHIATRY

Study of Twins Gives Clue To Epileptic Personality

Identical Twins, Only One of Whom Has Disease, Show That Many "Epileptic Traits" are Effects of Injury

A PERSONALITY study of identical twins, only one of whom suffers from epilepsy, throws new light on the hereditary constitution of those subject to this disease. The case of these sisters, young girls strikingly similar in appearance, one of whom has been stunted mentally and in personality by the disease, has just been reported to the American Neurological Association by Dr. Walter Freeman, of George Washington University.

Physically, one of the girls might be the mirror image of the other, except that the epileptic patient is about an inch and a quarter shorter than her sister. They are similar in color of eyes and hair, skin texture, shape of ears and hands, tone of voice, and even in a peculiar and characteristic fluttering of the eyelids and marked readiness to burst into tears with slight provocation.

They have also followed very similar careers, both starting in the same occupation. Both are married—and to the same type of individual.

But the personalities and mental abilities show significant differences. Since they are identical twins with exactly the same hereditary make-up, scientists may be justified in assuming that the healthy sister presents a picture of what the other girl might have been had she not developed epilepsy, Dr. Freeman says. And their similarities in temperament throw light on what are the fundamental constitutional factors—the X-factors—present in the individual who is subject to epilepsy.

Both girls are intensely religious. As children they played at being hermits, and spent hours in a church praying. Both are deeply affected by beauty in art and music. And both are decidedly self-centered and egotistical.

Mental tests show the healthy sister to be ten points ahead of her twin in intelligence quotient; she is alert and capable while the patient is rather dull. The healthy girl has also spent her spare time in study and has qualified for a superior position. The patient is meticulous about following instructions in detail, but is content to spend her spare time in light reading or desultory conversation.

The outstanding feature in the personality of both girls is self-centeredness. This, and the supersensitiveness of both girls, may be underlying characteristics of the epilepsy-prone person, Dr. Freeman concludes. The strong religious tendency might also be characteristic of the epileptic personality, as many scientists have previously held, or it might be a result of the early training of the girls.

Other character traits of the epileptic, such as the dullness of mind, explosiveness of temper, performance by rote of instructions, which have previously been thought a part of the epileptic personality, are really effects either of the original injury to the brain which caused the epilepsy or of the repeated "insults" to the brain from the epileptic attacks, Dr. Freeman believes.

Science News Letter, July 14, 1934

ETHNOLOGY

Old Manuscript On Indian Life Discovered

THE LONG-LOST manuscript of Fr. Jeronimo Boscana, in which he described the native life of California Indians and the strange god they worshipped, has been brought to light and translated for publication by the Smithsonian Institution.

J. P. Harrington of the Smithsonian found and translated the original manuscript, which is perhaps the earliest treatise on manners and customs of California's natives. It dates from 1822, and deals with the Indians of San Juan Capistrano Mission, between Los Angeles and San Diego.

The lives of the Indians were dominated by the teachings of a god named Chinigchinix, who had once lived among them as a prophet. On his death, he was translated to heaven, where he continued to watch his people and to judge and punish them for wrong-doing.

So sacred was the temple of this god that the boys and girls did not even approach it, and the chiefs and elders who entered spoke only in low voices inside. An Indian guilty of crime, however great, could gain immunity from the justice of his fellow men by taking refuge in the temple. By doing so, the guilty one took his case to the high court of the god, and every one believed that the god would punish more effectively than man.

The Indians observed by Fr. Jeronimo had largely disappeared before ethnologists of the modern school of science began making studies of Indian life.

Science News Letter, July 14, 1934

MEDICINE

Hay Fever May be Caused By Body's Defense Forces

A NEW theory of the cause of hay fever and similar allergic disorders was presented to the meeting of the American Medical Association by Dr. Reuben L. Kahn of the University of Michigan. As Dr. Kahn sees it, these diseases are not due to a special sensitiveness of certain persons to the pollens or other offending substances. Instead it is due to overactivity of the defensive forces of these persons' bodies which protect them against invading disease germs.

It may be that in some persons these defensive forces become over-zealous about guarding against foreign invaders of a protein nature. They may fail to distinguish between harmful invaders like the pneumonia germ and innocuous substances like plant pollens and horse dander.

The body tissues respond to invaders by a complicated process, the first step in which is an anchoring of the invader at the point of entry. The second step in the process is an attempt to kill the enemy on the spot; this is a process of inflammation which may be very uncomfortable for the individual being protected.

The sneezing, nose-running and eye-watering of the hay fever sufferer may be such an inflammatory process. The consequent discomfort may be a necessary evil in overcoming a cold or similar infection of nose or throat, but it is an unnecessary evil in the case of hay fever. (*Turn to Next Page*)

The fact that many persons inhale the same plant pollens without ill effect seems to show that in themselves they are not harmful and that the symptoms they sometimes cause result from a mistake by the tissue guardians of the body.

The mistake, Dr. Kahn suggests, is the result of modern living conditions. Enclosed homes and large group contacts in the office, factory, classroom and theater may lead to over-stimulation, particularly of the defensive forces in the nose and throat, by constant bombardment with disease germs.

Science News Letter, July 14, 1934

METEOROLOGY

Nation-Wide Flights To Secure Weather Information

CLIMBING to altitudes of over three miles, Army, Navy, and commercial pilots for the U. S. Weather Bureau will now carry instruments aloft with them each day from twenty different airports, on vertical hops to record conditions in the higher air and give weather experts increased data on which to base their forecasts.

For the past two or three years commercial pilots have been making daily jaunts above the clouds to take observations for the weather man, but up until the beginning of July, mass analyses for the upper air have not been conducted on a large scale.

Each observation pilot has attached to the wing of his plane a meteorograph, an instrument which automatically records humidity, temperature, and pressure. These are the three R's in the science of predicting the waves, eddies, and cross currents of that turbulent sea, the atmosphere. In addition, the pilot notes the altitudes of the top and bottom of cloud banks, the positions and altitudes of rainstorms which pelt down into dry strata of air and never reach the ground, and local disturbances such as thunderstorms or dust clouds. Pilot balloons sent up from the ground and watched through precise telescopic instruments furnish a method of finding accurately the direction and speed of different layers of air as the small gas-filled spheres rise through them.

The use of airplanes furnishes a striking contrast to the methods of thirty years ago; the principle, however, is the same. In the days when flying was still a matter of conjecture as to its possibility, large box kites were used. These were about eight feet long and rose to altitudes of 10,000 to 18,000 feet, carrying instruments with them. They were primitive from the viewpoint of scientific precision, and dangerous when they broke loose and trailed their piano-wire kite strings along the ground.

Of the many services, regional and national, which the U. S. Weather Bureau accomplishes, Dr. C. C. Clark, Acting Chief, considers that the use of extensive airplane observations at high altitudes will be most important to commercial and military air travel. Pilots will know more definitely what lies ahead when they hop off; they will know whether they can climb to a desired altitude without encountering a snow squall or head wind, or whether danger lies before them.

Science News Letter, July 14, 1934

POLITICAL SCIENCE

Wilson Called Best Recent President; Roosevelt Fourth

THE FOURTH best of the ten most recent presidents of the United States —that is where students of political history at Stanford University rate President Franklin D. Roosevelt.

The students' ratings, just announced by Leonard W. Ferguson of the psychology department of Stanford University, list the presidents in order of effectiveness as follows:

Woodrow Wilson, Theodore Roosevelt, Grover Cleveland, Franklin D. Roosevelt, Herbert Hoover, William McKinley, Calvin Coolidge, Benjamin Harrison, William Howard Taft, and Warren G. Harding.

President Wilson was rated three times as efficient as Harding.

The students' verdict, given at the end of a quarter term of United States history study, shows a slight change from their opinions of the same presidents before study of their administrations. At the beginning, they rated the presidents in this order: Theodore Roosevelt, Wilson, Cleveland, F. D. Roosevelt, Hoover, Coolidge, McKinley, Taft, Harrison, Harding.

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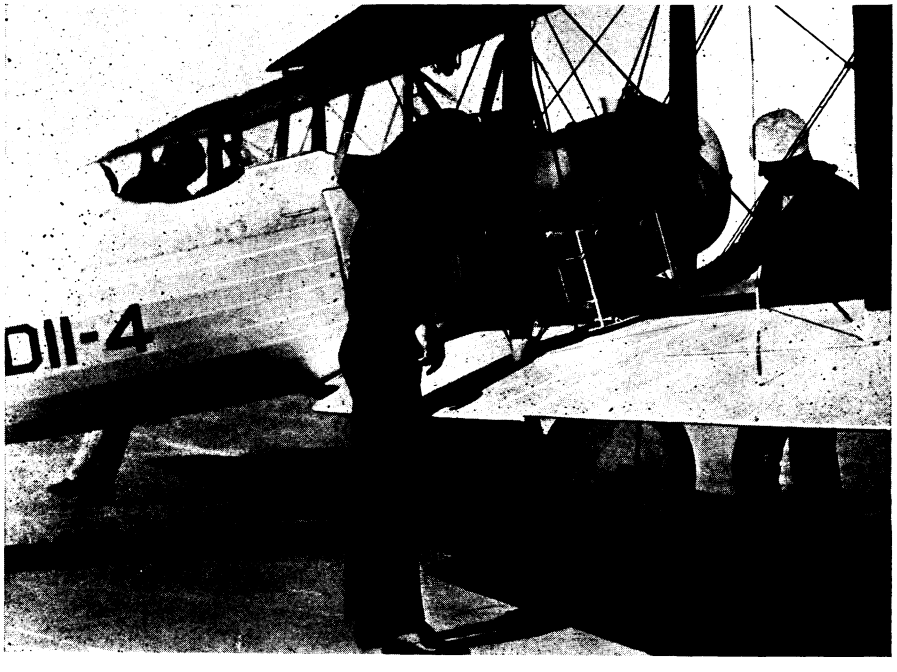

RESEARCH IN THE SKY

Meteorographs, like the one strapped to the wing of this airplane will now be carried aloft daily by twenty pilots throughout the country to give the U. S. Weather Bureau increased data for weather forecasts. This instrument, which records temperature, pressure and humidity, is lashed to the plane with garter-like straps which are elastic and prevent vibration.