PSYCHIATRY

Glands and Emotions Seen As Factors in Epileptic Attacks

Study of Two Rare Cases of Diabetes in Epileptics Points to Role of Pituitary in Causing Seizures

A GLANDULAR basis for fits or convulsions such as those occurring in epilepsy and possibility of treating the disease by gland extracts in the future were suggested at the meeting of the American Psychiatric Association. Emotional upsets were also blamed for causing epileptic attacks and good results from psychiatric treatment in such cases and from dietetic treatment of other cases were reported.

The role the glands, particularly the pituitary gland, may play in epilepsy was discussed by Dr. Albert W. Pigott of the New Jersey State Village for Epileptics. Dr. Pigott reported two cases of diabetes occurring in epileptics, a rare occurrence. In records of over eighteen thousand epileptics Dr. Pigott found only thirteen cases of diabetes.

The two conditions are in a way contradictory and Dr. Pigott pointed out that the fundamental mechanisms in the two diseases are antagonistic. Epilepsy, it seems, may be thought of as anti-diabetes. Diabetes is characterized by too much sugar in the blood and diminution of water in the body. In epilepsy there is an accumulation of fluid in the body. During convulsions, furthermore, epileptic patients have less sugar in their blood than in the period between convulsions, Dr. Pigott found. This fits in with the fact that convulsions are a feature of insulin shock, which occurs when a diabetic patient gets more insulin than his body requires to burn the amount of sugar and starch that has been eaten.

Pituitary Plays Part

The pituitary gland is now known to produce a hormone that can bring on the diabetic state of too much sugar in the blood and it also plays an important part in regulating the body's use of water. Dr. Pigott suggested that a decrease in the diabetes-producing hormone of the pituitary may play a role in some cases of convulsions due to deficiency of sugar in the blood. He recalled that Dr. Harvey Cushing, of Yale University, was able to prevent convulsions in some epileptics by giving them pituitary gland substances.

In one of the cases of diabetes complicating epilepsy described by Dr. Pigott, the average number of convulsions was reduced from twelve or thirteen a month to four or five after diabetes had developed.

"It is probable that with a fuller understanding of the endocrines and their interrelationship the problem will be more thoroughly understood," he concluded.

Science News Letter, May 25, 1935

PHYSICS

Physicist Makes Spinning Top Walk Down Stairs

STUDENTS—and not a few of the faculty, too—at West Virginia University are being puzzled these days by the demonstration of Prof. Robert C. Colwell of the Physics Department of a top that walks down stairs.

Prof. Colwell has supplied Science Service with a photograph of the novel demonstration which is shown on this page. Says Prof. Colwell:

"In his book on Gyrostatics and Rotational Motion, Prof. Andrew Gray explains how a top can be made to move along two parallel horizontal wires when they are rocked so as to change the point of support from one wire to the other. A few years ago, I discovered that a spinning top will automatically walk down two parallel wires arranged as an inclined plane.

"While working with high speed motors, it occurred to me that a rapidly spinning top would have a very slow precession and could be made to walk down two wires bent so as to form a succession of steps.

Height of Riser Important

"My assistant, Mr. Fullmer, who built the top found that the length of the steps and the height of the risers must be very accurately proportioned to the type of top used. The steps should not form a sharp corner with the risers, but must be curved at each junction.

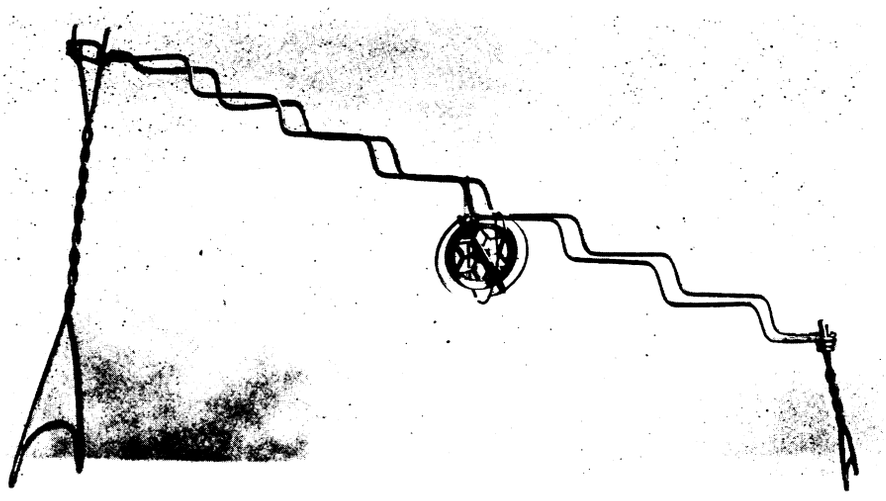
"The top is spun at four to five thousand r.p.m. and held with one hook in the middle of the highest step while the hook on the opposite side is pressed against the second highest riser. The top, when released, will walk down the steps."

Science News Letter, May 25, 1935

PSYCHIATRY

Negro Preacher's Audience Develops Mental Disease

CARRIED away by the wild excitement of the religious meetings of "Father Divine," sixteen of the "angels" of his strange cult have been taken to Bellevue Psychiatric Hospital, New York City, suffering from all sorts of mental diseases. The cases were described to members of the American Psychiatric Association by Drs. Lauretta Bender and Zuleika Yarrell of Bellevue. (*Turn Page*)



TOP WALKING DOWN STAIRS

"Father Divine" is a Negro preacher who has obtained an enormous following during the past three or four years in New York City. His followers are chiefly Negroes, but a few white people are also numbered among his flock.

The followers believe that Father Divine is God. At the meetings, the fervor of the audience is worked up to the point of ecstasy.

Most of those taken to Bellevue Hospital were persons subject to moods of extreme excitement followed by periods of deep depression, but in the whole group practically every type of mental disease was found, the physicians stated. In each case the individual was affected by the teachings of Father Divine.

Apparently any form of mental disease may be precipitated by taking part in these religious meetings.

Science News Letter, May 25, 1935

ARCHAEOLOGY

Palace of Bible Stories Believed Located In Egypt

THE PALACES of Pharaoh in Egypt where the Bible stories of Joseph and Moses were staged are believed located at last.

Announcing its study of decorated tiles from an Egyptian palace at el Kantir, the Metropolitan Museum of Art, states "in all probability el Kantir is the city Raamses of the tradition of the oppression."

"In fact," says H. E. Winlock, director of the museum, "there is ample reason to believe that these tiles come from the walls of the very palaces which—traditionally at least—were the scenes of the stories in the latter part of Genesis and the first chapters of Exodus."

Several lines of evidence point to this site as Raamses, mentioned in the Bible passage: "And they built for Pharaoh treasure cities, Pythom and Raamses . . . . And the Egyptians made the children of Israel to serve with rigor: and they made their lives bitter with hard bondage, in mortar, and in brick."

Occupied For 200 Years

Bricks and tiles from the palaces of el Kantir bear names of Egyptian kings—Sethy I, Ramesses II, Mer-en-Ptah and others of the fourteenth to the twelfth centuries B.C. who reigned during the period generally ascribed to the Bible Egyptian record. The palaces were thus occupied throughout two centuries, during which time, Mr. Winlock says, there is excellent reason to believe they were the northern residence of Egyptian kings.

Mr. Winlock further explains that el Kantir is geographically placed to fit with the Bible account. It is just beyond the confines of the "land of Goshen" where Joseph settled his brethren to have them near him while he dwelt at court. The Israelites were still dwelling in Goshen when a Pharaoh who "knew not Joseph" set them to labor for him under hard taskmasters. It may have been palaces at el Kantir which the Israelites were building when the famous command went forth to give the workers no straw for brickmaking.

Pharaohs who figured in the Bible narratives of Egypt and the dates of the events have never been conclusively identified.

Scenery From Historic Stage

Regarding historic details in the Bible account of Joseph and Moses, Mr. Winlock says:

"The accuracy of that tradition is not here in question. What is of interest to us is that its originators knew of the palaces of el Kantir and chose them as the stage for the story of Joseph and the story of Moses and that from this stage we have retrieved a few bits of colorful scenery."

The tiles, which provided the first clue to the location of the palaces, came to the Museum's attention as early as 1921, when antiquity dealers offered them in Egypt, vaguely describing their place of origin. The Cairo Museum found the place, and excavated there. Among the hundreds of fragments of decorated tile, unearthed or bought by museums from time to time, the names of the kings who lived in the period have finally been rediscovered.

Science News Letter, May 25, 1935

Georgia has made the pine its official state tree, and the brown thrasher its state bird.

PLANT PHYSIOLOGY

Plants Become Poisonous By Absorbing Selenium

PLANTS are chemically tricked into becoming poisonous to livestock in some parts of the West because a toxic element in the soil, selenium, is chemically a very near relative to the beneficial and necessary element sulphur. So close is their kinship that the absorbing mechanism of the plants cannot tell them apart, and so takes in the bad with the good. The remedy for this situation is to add so much sulphur to the seleniferous soils that the undiscriminating plants will get a great deal more of if than they do of the selenium.

This, in brief summary, is the plant-physiological picture arrived at by Dr. Annie M. Hurd Karrer, of the U. S. Department of Agriculture.

The problem of "selenized" plants is one of the most serious which scientists of the Department have been called upon to solve in recent years. Some time ago, reports began to come in of livestock afflicted with a crippling and finally fatal disease, resulting from eating grain grown in certain parts of the northern Great Plains. The trouble was finally traced to grains grown on soils of one particular geologic type, often low in sulphur but unusually high in the less familiar element selenium.

Laboratory and field plot experiments at the Department of Agriculture securely fastened the blame on the selenium. Then it was found that the poisonous effects on the plants, and through them on animals, could be almost completely counteracted by adding sulphur compounds to the soil. The amounts of selenium taken up by the plants diminished in proportion to the amounts of sulphur added, and this led to the theory that the two "taste alike" to plants, and are absorbed in accordance with their relative availability in the soil.

When the selenium-poisoning problem first presented itself it caused a good deal of concern, for the afflicted areas were in the midst of a region where commercial grain is produced in some quantity. The practical importance of the problem has been diminished at least for the present, by the effects of grasshoppers and drought on the agriculture of the region. However, if there is an agricultural come-back in that part of the country, the information that has been obtained should help in meeting problems that may arise.

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