

PSYCHIATRY

# Slow Motion Pictures Permit Close Study of Epilepsy Fits

## Psychiatrists Learn That Choked Anger Can Raise Blood Pressure; Child Killers Think Death Reversible

**A** MOVING picture attack on a ten billion dollar disease was presented at the meeting of the American Psychiatric Association in San Francisco by Dr. S. Bernard Wortis of New York University's Bellevue Medical College and Drs. Carney Landis and Hans Strauss of Columbia University, New York City.

The disease, which runs up the ten billion dollar bill, is epilepsy, the falling sickness that afflicted St. Paul and Julius Caesar and continues to afflict mankind in untold numbers. There are 500,000 epileptics in institutions in the United States today, each of them costing the state about \$20,000. There are uncounted other sufferers who are cared for in their own homes.

On the screen the New York psychiatrists showed a patient jerking and writhing and shaking in a seizure of convulsions induced by metrazol, one of the drugs being used to treat the mental disorder of schizophrenia.

The picture was taken with a high speed camera so that the doctors could watch the convulsion in slow motion and observe each detail of it. This metrazol-induced convulsion in the schizophrenic patient they found corresponded closely in some of its phases to the major seizure or fit of epilepsy.

In spite of the antiquity and widespread prevalence of epilepsy, Dr. Wortis explained, doctors know very little of the mechanism of the convulsion itself. The high speed motion picture

camera gives them for the first time a chance to find out just what happens during the convulsion.

Horrible as the convulsion is to the layman's eye, it is all over in about a minute. On the screen this horrible minute is drawn out to whatever length the doctors wish, so they can see which muscles contract, which relax, the order in which contractions and relaxations take place, and similar details.

Since they know which nerves govern the muscular activity they are watching, and where these nerves start in the brain, they hope to be able to locate the part of the brain that is affected in epilepsy, and then, perhaps, to work out more exact methods of treatment.

### Anger Boosts Blood Pressure

If you get mad at the boss and tell him so, you will probably lose your job, but if you stay mad at him for years without boiling over at him, you are probably damaging your arteries and building up a dangerously high blood pressure.

Hostility suppressed for years like a boiling volcano which never erupts is the fundamental cause of the malignant high blood pressure for which no physical cause has ever been found, Drs. Franz Alexander and Leon J. Saul of the Institute for Psychoanalysis in Chicago reported.

The cases of two men and two women who all had this same consciously suppressed hostility and rage were cited to

show how this could cause high blood pressure.

The hostility toward the boss, which all four patients felt, was not due to the boss himself but in every case to rage at having been forced by a dominating mother to lead dutiful, conventional lives which they hated. For these are not the red-faced, choleric, tempery persons whom you suspect at first glance of having high blood pressure. The four patients and others like them are gentle, generous to subordinates, conscientious, model citizens.

Measurements taken at psychoanalytic sessions showed that the blood pressure rose when the patient was found by psychiatric analysis to be at a pitch of rebellion and dropped to normal when the patient had a temporary spell of inner calm.

In this the psychiatrists see hope of preventing dangerously high blood pressure by giving psychiatric treatment early while the rises are fluctuating and not very great. In time these fluctuations, they believe, damage the arteries, narrowing the bore so that the heart must work at constantly greater pressure to drive the blood through.

Not all patients with suppressed rage at being dominated develop high blood pressure, Drs. Saul and Alexander said. Some may accept the domination and submit to it. Others may shun situations where they must be submissive, like the man who did free lance work because, as he said, he could not stand being bossed.

### TAKING OFF

*The Mayo Composite Aircraft is an English means of launching heavily loaded seaplanes for transoceanic service. The super-power required for take-off is provided by the lower component. At the left they are shown just before separating. Once in the air the upper portion can fly alone (center) and the lower portion returns to the base (right).*



### Queer Brain Waves

People who have "queer ideas" show it in their brain wave patterns as well as other more obvious ways. The queer or abnormal brain wave patterns found in persons who have "queer ideas" and others who have phobias, or who show signs of paranoia or other mental disturbances, were described by Drs. Fredric A. Gibbs and William G. Lennox and Mrs. Erna L. Gibbs of Boston.

The brain wave patterns consist of rhythmic wavy or spiked lines traced on paper. They constitute a record of the electrical impulses that accompany brain cell activity. These patterns are so characteristic of a person that the Boston scientists consider them as individualistic as a person's handwriting. On this point they stated:

"That we are dealing with a fundamental constitutional mechanism which reflects the essential working of the individual brain is suggested by the following facts. Each individual has his own pattern of electrical activity which, like his handwriting, can be distinguished from that of other individuals and which under standard conditions maintains its individuality from day to day. Furthermore, normal persons who are related have records which bear a resemblance to one another, and the records of normal identical twins are closely similar."

Brain wave patterns will, it is hoped, help solve some problems of mental disease, just as similar patterns of electrical impulses from the heart, called electrocardiograms, are helping doctors learn more about heart diseases. Dr. and Mrs. Gibbs and Dr. Lennox reported that brain wave patterns in the widespread mental ailment, schizophrenia, are similar to those in patients with epilepsy. This is considered significant in view of the current theory that epilepsy and schizophrenia are antagonistic conditions.

### Three Types Distinguished

The three main types of epilepsy, the Boston investigators reported, grand mal, petit mal, and psychomotor epilepsy, are each accompanied by a distinct pattern of brain waves having abnormal rhythm. The brain wave record of patients having psychomotor epilepsy is similar to that of patients suffering from schizophrenia and closely similar to those seen in the majority of children with psychopathic personalities, schizophrenia and certain abnormal behavior like epilepsy.

### Temporary Death

When a small child kills someone he does not expect his victim to remain dead. He only intends to keep the victim from doing something the child would like to do and has not been permitted to do.

This new idea of the psychology of child killers and a differentiation between child and adolescent killers was presented by Drs. Lauretta Bender and Frank J. Curran of New York City.

Small children, these psychiatrists found from a careful study of a group of children under 16 who had been held for homicide, have no real understanding of death and are surprised to find that it is not "reversible." Because of this the psychiatrists concluded that for all practical purposes the conception of accidental death in such cases is justified.

The hardest task for the child killer is to believe in and accept the immutability of the death of his victim. Such children need a long period of intensive treatment, not for the mechanisms that led to the homicide but for the violent emotional reaction which results from it when they discover that death is not reversible.

The mechanisms in child killers are entirely different, the psychiatrists found, from those in adolescents who kill. These older children tend to follow the mechanisms seen in adult aggressive criminals.

Persons who commit sex crimes suf-

fer from disorders of the endocrine glands, Dr. Clifford A. Wright of Los Angeles declared.

Such crimes were the offenses for which more than one-tenth of all individuals sent to state prison in California in 1935 were committed.

In almost every one of 251 cases of sexual irregularity which Dr. Wright studied an excess or deficiency of sex hormones showed that the normal balance between the various endocrine glands had been upset. Besides the sex glands, these glands include the thyroid, the pituitary, the adrenals and the parathyroid glands. Each of these influences all the others and if any one of them is diseased or disordered, the others may be thrown out of balance.

Abnormal condition of the sex glands and of some of these other glands which also influence sex activity could, Dr. Wright said, cause deviations such as homosexuality and exhibitionism.

A new approach to the problems of sex crimes is necessary, Dr. Wright believes, if there is to be a reduction in their number. He suggested the biologic approach as offering the best hope of results. This does not mean, however, that treatment of sex offenders with sex gland preparations will completely solve the problem. Such preparations, he pointed out, are at best only substitutive remedies and are not to be continued over long periods. Associated conditions must also be treated for lasting results.

*Science News Letter, June 18, 1938*



### NEW PLATINUM SOURCE?

The rugged, ice-carved, wind-swept La Plata Mountains of Colorado, rising to two and a half miles above sea level, may be a source of platinum, government geologists believe, as a result of the discovery of the heavy white metal in copper ores in this region. This landscape, photographed by Edwin B. Eckel, of the U. S. Geological Survey, during the survey that found the platinum ore, is typical of the region.