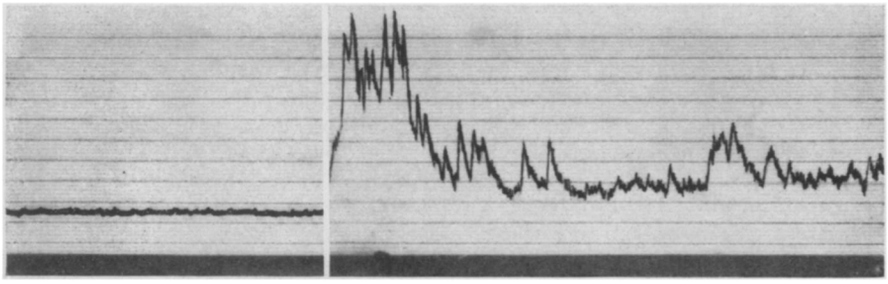

HERE IS A DREAM OF CONEY ISLAND

*This photograph taken of the electrical current in a sleeper's arm shows you the picture of a dream. At the left is a record made while the individual was just sleeping and snoring restfully. The right section shows how the waves magnified when the sleeper dreamed he was at the amusement resort Coney Island.*

PSYCHOLOGY

# Photographic Record Made Of a Sleeper's Dream

## Psychologist "Taps the Wires" of Human Thought, Picking Up Electric Impulses From Deaf-Mute's Arm

DID YOU ever see a dream walking? Members of the New York Academy of Sciences did recently. At least they saw the photographic tracing it made as it passed through the sleeper's mind.

A photograph, with jagged peaks something like the charts of business increase and depression familiar on the newspaper financial pages, is the first scientific record of what goes on in the mind of a person asleep. It was shown by Dr. Louis W. Max, psychologist of New York University. The peaks revealed to the observing scientist what was going on in the sleeper's brain when he dreamed of Coney Island.

Not occult, not "spirit" pictures, the dream tracings were made with a practical hook-up of familiar electric apparatus, string galvanometer and amplifier. With this device attached to the arms of deaf-mute sleepers, Dr. Max is able to see when a dream begins and how long it lasts, just as the physician with his electrical apparatus is able to watch the tremors and palpitations of the living heart.

Dreams last longer than has been supposed. Instead of being all over in a brief fraction of a minute,—almost instantaneously—one dream was observed to last for 2¾ minutes. When he awoke the sleeper said he had had a long, hazy dream. He could not remember any outstanding incident.

Dreams are remembered much better when they are interrupted. For this reason, Dr. Max seldom allowed the sleeper to dream it out. He would wake him while the dancing light of the apparatus still showed mental activity was taking place.

Out of 33 persons so awakened, 30 told of dreams broken off when they were roused.

As a check, Dr. Max waked 62 persons while the record showed no activity. Only 9 of the 62 had been dreaming, and most of these had dreamed of seeing something.

Since the hands and arms of deaf-mute persons are used for both conversation and writing, it is natural that the electrodes attached to their arms would pick up electric impulses accompanying most thoughts and dreaming, Dr. Max explained. Dreams of the type of visions, however, may leave their traces elsewhere in the body. Further experiments may show such action currents in the eye-balls, he prophesied.

These electrical traces of thought are like the brain-waves observed by Drs. H. H. Jasper and Leonard Carmichael, of Brown University and Bradley Hospital, Providence, R. I., and reported last January. (*SNL, Jan.* 19)

They are electric impulses picked up, turned into light and amplified so that they can be seen on a screen or photographed. It has long been known that such electric currents accompany activity of the nerves, but it is only recently that they have been put to use to find out about the hidden workings of the brain in thought. And it is only within the last few months that scientists in this country have picked them up directly from the brain.

These brain-wave pictures do not tell the whole story, Dr. Max said, because thinking is not confined to the brain. His new photographs show that during dreaming and waking thought electric impulses occur and can be pictured not only in the brain but also in certain outlying muscles of the body.

The brain should be thought of as a telephone switchboard. In taking these pictures the scientist has turned detective and "tapped" the wires near the receiver end.

Do speaking persons have electric currents in their throats and tongues as the deaf-mute person does in his fingers and arms? Dr. Max is trying to find out. The difficulty is to get anyone to go to sleep while his tongue is hooked into the amplifier circuit. So far he has found only four who could sleep under these difficult circumstances. None of them dreamed. But even in dreamless sleep, a current of six microvolts was picked up. This compared with an average of only one microvolt from the arm.

*Science News Letter, May 25, 1935*

MEDICINE

## Black Widow Spider Not So Black as She's Painted

NOT as black or deadly as she has been painted is the latest medical verdict on the "black widow" spider. This partial clearing of the lady spider's reputation is made by Drs. J. M. Frawley and H. M. Ginsburg, of Fresno, Calif. (*Journal of the American Medical Association,* May 18).

The shiny arachnid has come to be feared as something of a nation-wide menace since fatalities from its bite have been reported in increasing numbers.

Fifty-two cases of black widow spider bite have been treated without a fatality in the Fresno General Hospital, these doctors report. The right hospital treatment will save the life of the person the black widow bites, they believe. No treatment or the wrong treatment may result in death.

Here are some details of the treatment they recommend: They put the patient to bed and apply iodine to the site of the bite. They require him to drink large quantities of water and of nonalcoholic fluids. They give him a hypodermic to al-