

NEUROLOGY

Wipe Out Cancer's Pain

Electrical jolt from wires in brain of cancer patient brings relief from excruciating pain, experiment with one patient shows. Effect lasts about a week.

► THE HORRIBLE pain which is a result of cancer in its last stages before death has been wiped out in one patient with small electric currents sent through the deep regions of the brain.

Tiny electric wires, directed three inches into the brain through small holes in the skull, carried the currents to the region below the cerebral cortex, which is where our learning and planning activities take place. One small jolt of the current, two milliamperes, instantly cleared away the pain.

A movie of the process was shown to science writers on a tour of cancer research centers by Dr. Robert G. Heath, professor of psychiatry and neurology at Tulane University, New Orleans. Two hours before the movie was shot, the patient, suffering from incurable cancer of the uterine cervix, had been given a large dose of morphine. Yet her features were drawn and suffering with pain. The instant the current was applied she felt relief.

"I feel wonderful," she said. "I feel like getting up and cleaning up the whole hospital."

The effect of the first small jolt lasted about two weeks. Since then, about two months ago, she has had the treatment about every four days to one week. Down to only 75 pounds in weight, unable to move from her bed before the treatment was begun, now she is up to 81 pounds, is walking around the hospital ward and hopes to be allowed out of the hospital to go to a movie soon.

Dr. Heath emphasized that this was entirely different from another method used on the brain of intractable pain sufferers. The other method, called a prefrontal lobotomy, cuts away from the rest of the brain that part which can look into the future. Since much of what we call pain is actually anticipation of the next twinge, after this operation the pain still exists, but the patient no longer cares about it. However, he no longer cares very much about anything else, either.

On the other hand, Dr. Heath's patient has had no part of her brain damaged or cut off from operation. What he is trying to do, he explained, is to find a connection between the emotion of pain and what kind of chemical changes go on in the body when we feel that emotion. With his electric current, he has stimulated the deep regions of the brain. Chemically, he has achieved a reaction much similar to that with which the body responds to fear. In his patient the output of the hormones from the adrenal cortex was considerably increased after application of the electric jolts. The activity of one part of the brain,

as measured electrically, was also changed, the change lasting as long as the pain stayed away.

When asked whether the treatment had affected the patient's cancer in any way, Dr. Heath said: "I don't know."

Science News Letter, May 9, 1953

METEOROLOGY

Tornado Birth Caught By Radar Movie Camera

► FOR THE first time, the birth and growth of a Midwestern tornado has been recorded by a radar movie camera.

The movies, taken of the TV-like screen of the radar tracking the storm, were shown to the American Meteorological Society Meeting in Washington. Two striking things were seen in the movie by Glenn E. Stout, senior meteorologist for the Illinois Water Survey which took the movies. First, he said, the tornado, which developed out

of a thunderstorm, started in the rear edge of the storm, rather than the leading edge. Second, just before the tornado developed, the trailing edge of the thunderstorm was sharp and clear, indicating that turbulence existed there.

The tornado developed approximately ten miles north of the radar station at Champaign-Urbana, Ill., on April 9. The radar operator noticed that the thunderstorm developed a sort of tail which then curled into a cyclonic whirlpool.

They found that what they were tracking and photographing was actually a tornado when news flashes told of destruction exactly in the path over which they tracked the curling tail.

Now the movies will be studied in efforts to learn more about the formation of tornadoes and to find some clues for predicting their probable occurrence.

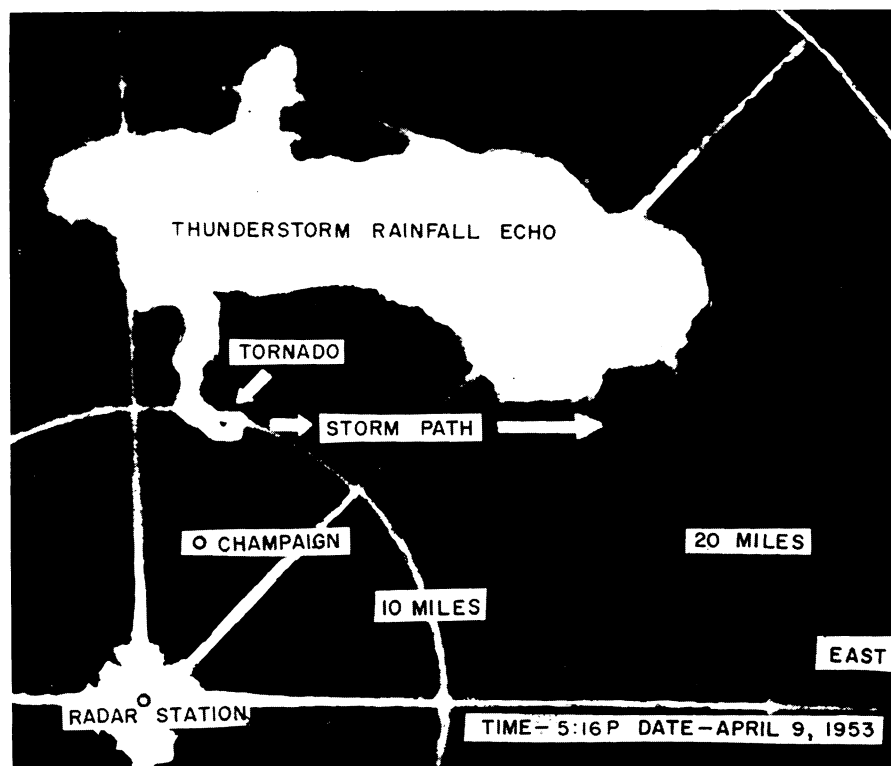
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OPHTHALMOLOGY

3-D Movies Find Eye Trouble Never Suspected

► SOME PEOPLE who go to see three-dimensional movies are going to find they have eye trouble they have never suspected. The trouble will not be caused by the motion pictures but detected by them.

"Movies of the type in which either polaroid or colored glasses are worn become



TORNADO ON RADAR—Pictured here is the first radar picture ever taken of a developing midwestern tornado. The projecting tail curled to form the tornado.

three-dimensional only if the two eyes work well together," Dr. Franklin M. Foote of the National Society for the Prevention of Blindness, New York, told SCIENCE SERVICE.

"If there is significant heterophoria (tendency to squint or for one eye to turn out or in) or if there is some loss of vision in one eye, there may be no three-dimensional effect. Therefore this kind of movie will help in the detection of these kinds of unsuspected eye conditions.

"Persons who get no three-dimension effect should obtain a thorough professional eye examination," he advised.

This probably does not apply to the large screen three-dimensional movies like "Cine-rama" because their effect is based on a person's previous experience and the life-like appearance of the image.

Dr. Foote does not think that any of these movies will harm the eyes, though as with other visual tasks, fatigue will occur after long viewing.

Hollywood cameramen, directors and film technicians have been applauded for their work in developing three-dimension movies because of the aid these will be in detecting unsuspected eye troubles. This applause came from R. A. Sherman of the Bausch and Lomb Optical Co., Rochester, N. Y., who spoke at the meeting of the Society of Motion Picture and Television Engineers.

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PSYCHOLOGY

Parents Need Assurance

► MANY PARENTS these days are confused and "uneasily self-conscious" about bringing up their children. They need some reassurance from the child psychiatrists, psychologists and educators who have upset them, says Dr. Leo Kanner, director of the children's psychiatric service at the Johns Hopkins Hospital, Baltimore.

Parents have been taught over the past couple of generations that the "Mother knows best" and "Spare the rod and spoil the child" attitude in child rearing may be harmful to the child. They have got away from letting the clock and the scales and schedules rule them and their babies. But many of them are now floundering, waiting for some new pronouncement or set of rules for raising children. Dr. Kanner says there has been produced a generation of parents who wail: "It is all our fault but what can we do?"

Mother may not "know best" just because she is mother, but she and father, too, must be helped to feel more self-reliant and self-confident about handling their children, Dr. Kanner points out. It should help them to read and think about and remember the following from Dr. Kanner's report to the U. S. Children's Bureau publication, "The Child":

"We have learned the simple truth that any child has a good chance for satisfactory mental health, regardless of physical

METEOROLOGY

Better Visibility Forecasts

► MORE AND safer bad-weather landings at crowded airports are foreseen from studies being made at Washington National Airport reported to the American Meteorological Society meeting in Washington.

Better forecasts for up to about ten minutes when visibility is bad are now being made on a trial basis using two new instruments, a ceilometer and a transmissometer, Wayne F. Staats of the U. S. Weather Bureau told the meteorologists.

The bottom of a cloud ceiling is not smooth and flat, but rough and jagged, sometimes changing as much as 300 feet in 24 seconds. Goal of the year-long studies, started last January and sponsored by the Air Navigation Development Board, is to tell the pilot just where and when he will be able to break through the overcast to see the airport and landing runway.

The ceilometer was described to the meteorologists by its inventor, Ruben H. Guenther of the Weather Bureau. Developed jointly with L. W. Foskett, also of the Weather Bureau, the ceilometer is a "light-radar." It sends a pulsed beam of light upward, then catches the reflections from the bottom of the cloud. Heights of

the cloud base are indicated every 24 seconds on a cathode ray tube.

A remote television pickup camera was also tried in an effort to lick the problem of extreme changes in cloud base height, Louis P. Harrison of the Weather Bureau reported. Calibration difficulties must be solved before TV can be used successfully for determining airport visibility during bad weather periods.

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AGRICULTURE

DDT Accumulations Could Harm Plants

► ACCUMULATION OF DDT in farm soils may retard plant growth, warns Dr. Joseph M. Ginsburg, entomologist with the New Jersey Agricultural Experiment Station, New Brunswick.

In fields of sandy soil where an average of 50 pounds of DDT per acre had been sprayed over five years time, Dr. Ginsburg found from six to 12 pounds of DDT per acre in the top one foot of soil. Concentrations of 12 pounds of DDT per acre could be near the danger point for many plants.

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