

mother who also had a complete double birth canal, and the birth of a living baby from an ovarian pregnancy were among unusual obstetrical events.

The 1943 and 1944 Nobel prizes in medicine were awarded to four men: Dr. Henrik Dam and Dr. Edward A. Doisy shared the 1943 prize for the discovery and synthesis of vitamin K; Dr. Joseph Erlanger and Dr. Herbert S. Gasser received the 1944 award for their fundamental research on nerves.

Grants totalling \$1,100,000 were given by Bernard M. Baruch for teaching and research in physical medicine.

The gold medal of the American Academy of Orthopedic Surgeons was awarded to Col. John L. Gallagher for his development of compression dressings for burns, wounds and frostbite.

Establishment of the Passano Foundation to aid medical research and education, was announced.

Discovery that certain hormones and synthetic chemicals may become weapons for fighting tumors of the uterus which develop in women during the child-bearing period won the second \$2,000 Charles L. Mayer Award for Dr. Alexander Lipschutz of Chile.

#### PSYCHOLOGY AND PSYCHIATRY

### Five to 14 Quanta Can Stimulate Retina of Eye

► THE SMALLEST amount of light capable of stimulating the retina of the human eye was found to be between five and 14 quanta, representing an energy expenditure of between two and six ten-billionths of an erg, and often a single quantum is adequate for the effective excitation of a single retinal nerve-cell.

A portable night-vision testing instrument was developed for the Navy which uses a luminous dial, made of radioactive material sandwiched between two disks of glass, against which a test letter is seen in faint silhouette.

Under certain conditions the exact center of the fovea of your eye is partially color-blind, affecting ability to distinguish blue from green, or orange from purple in small objects or those seen at a distance, experiments showed.

Reaction time to a change in intensity of the stimulus was developed as a new psycho-physical method; it was applied successfully to measuring sensation of light.

New types of ear defenders made of synthetic rubber which reduce battle noise without preventing the hearing of commands were made available in the Navy; they protect fighters against painful noise and lessen the chance of deafness; used experimentally in noisy war factories they cut down absenteeism.

Data were found indicating that from one-sixth to one-quarter of feeblemindedness results from incompatibility reactions between a mother lacking the Rh blood factor and her unborn child who has it.

Which region of the body sends most information to the brain's cortex was found to be related to how the animal habitually obtains its food.

Restraint of physical activity, which causes tic-like head shakes in hens, bears

and other animals, was also found to lead to over-activity and temper tantrums of children.

A battery of 20 psychological tests developed for the selection of aviation cadet candidates was reported to be useful in predicting which would later be successful in combat and which most likely to be missing in action.

Opinion surveys reached a new high in accuracy, predicting the popular vote in the presidential election with an error of only one per cent.

Personal liking for a candidate was discovered to follow rather than precede the decision to vote for him, and change of vote, when it occurs, is due more to the influence of friends than to campaign speeches.

Study of cats made "neurotic" by inner conflict between hunger and fear in experiments to investigate reasons for use of morphine by humans showed that the more recently-learned abnormal behavior patterns disappeared first and reappeared last as effects of the drug wore off.

A case of total color blindness with red seen as black was traced, through hypnotism, to hysteria in the man's childhood; sensitivity to red rays of the spectrum was restored.

By immediate diagnosis of mental casualties and treatment in the front lines, up to 80% of the service men receiving mental or emotional wounds were returned to duty.

A psychiatrist was appointed on the staff of each Army division as an aid in salvaging for combat or other active military duty those who would otherwise crack up mentally under the strains of warfare.

A re-education program set up in three replacement training centers enabled the Army to take out of hospitals a group of soldiers suffering mental or nervous breakdowns and return most of them to full-time jobs.

"Battle reaction" type of war neurosis was successfully treated in merchant seamen with ergotamine tartrate, a drug acting on the autonomic nervous system.

Experience with government employees indicated that in some cases when workers appear to be neurotic, their symptoms may be due instead to inability to meet the demands of the job; better placement may relieve the condition.

Pencil-and-paper tests proved better than practical performance tests for picking radar technicians, airplane mechanics or radio repairmen for army.

Close resemblance was found between non-twin brothers and sisters and evidence indicated that this is due more to heredity than environment.

A combination of hypnosis and psychoanalysis was reported to be a successful treatment for psychopathic criminals where ordinary psychoanalysis would fail due to lack of cooperation on the part of the criminal.

"Three-day schizophrenia," a mental illness like schizophrenia but of brief duration, was reported as developing in combat, but due more to background personality than type of duty.

"Grief reaction" depression following tragic bereavement was treated successfully by electric shock.

A survey of men rejected or discharged by the Army for neuropsychiatric reasons showed that 80% needed psychiatric treat-

ment or advice, but only 5% got it.

A non-profit institution, the Worcester Foundation for Experimental Biology, was established to study problems of industrial fatigue and mental illness, and search for more knowledge of the nervous system and the hormones.

Col. William C. Menninger, chief of the psychiatric division of the Army's Surgeon General's Office, received from the National Committee for Mental Hygiene the new \$1,000 Lasker award for his outstanding contribution to the mental health of service men and women.

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#### ASTRONOMY

### Fire-Ball Fragments Near Parkersburg, Illinois

► FRAGMENTS of the fire-ball of Aug. 18, which was seen by hundreds of people in Indiana, Illinois and Ohio, can probably be found in the vicinity of Parkersburg in Richland County, Ill., reports Dr. Charles P. Olivier, director of the Flower Observatory and president of the American Meteor Society.

This is about 15 to 20 miles north of the point where it was originally estimated that the fire-ball ended. In all, about 250 reports were sent to Dr. Olivier by readers of newspapers serviced by Science Service, and it was from these that the path of the meteor was plotted.

The fire-ball, described by some as being bright as the sun, or with a disk as large as the full moon, was at first mistaken by many to be a burning airplane. Robot bombs were in the minds of others upon seeing it.

At first the object was silver-white, then it grew yellow and finally became red as it neared its end. The head of the meteor was oval-shaped, with hot, colored gases, some 10 to 15 times as long as the head's diameter, trailing along with it. The smoke train was not visible at great distances, being only about as intense as sky-writing.

Special "explosions" occurred at two places along its path. The first consisted of the separation of the head into two or three pieces which continued straight on their course. The second point was probably that of general disintegration, the fragments continuing nevertheless some 40 miles.

"I rarely remember handling a case in which, when averaged in, the data so corroborated themselves in the sense that each part of the solution somewhat checked the other parts," stated Dr. Olivier, who coordinated and gave meaning to the miscellaneous information sent to him.

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