

PUBLIC HEALTH

Paralysis Decrease Makes Situation More Hopeful

OFFICIALS of the U. S. Public Health Service in Washington are now hopeful that the threatened epidemic of infantile paralysis will be averted. Reports for the week ending October 11 total only 553 cases, a drop of 94 since the week before. It seems that the peak has been reached in the present outbreak and that no more marked increases will occur.

Only a few States reported increases. The high figures for the week of October 11 were as follows: Ohio, 56; Kansas, 57; Massachusetts, 53; California, 57; Illinois, 27; Missouri, 27; South Dakota, 24; New York, 51, and Maine, 16. Of these, Kansas and California represented decreases over the previous week's reports.

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ENGINEERING

Steam Accumulators Boost Power in Berlin

(See Front Cover)

SIX HUNDRED tons of steam stored under 190 pounds per square inch pressure in huge steel cylinders help Berliners ride the trams to and from work and burn lights in the early morning.

These cylinders are the new steam accumulators at the Charlottenburg power station which are attracting world wide attention because they may be the best means of supplying peak load power. There are 16, each 65 feet high and 14 feet in diameter. This is the first large installation of steam accumulators in the world.

At night and during the afternoon and late morning steam from the boilers is turned into the accumulators until they contain enough to run a 97,000 horsepower turbine for an hour. Then, when the power demand is heavy and exceeds the installed boiler capacity, this surplus steam is released through the turbines. The storage makes the installation of additional boilers unnecessary and makes possible the use of equipment a greater part of the time.

How to meet peak load efficiently and at lowest cost is one of the greatest problems of power production, *Engineering*, the English technical maga-

zine, points out. This demand occurs no more than 300 or 400 hours a year and lasts only a very few hours at each occurrence. Yet generating apparatus which remains idle the rest of the time must be kept ready to meet it.

A reservoir like the one recently built in the United States on the Rocky river of Connecticut is sometimes used to make otherwise idle generating apparatus store up peak load power. Water is pumped into the reservoir during times of light load and allowed to run out turning turbines when the load is heavy.

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PSYCHOLOGY

Vaudeville Gag Amuses Six-Month Old Baby

REPETITION of an action not funny in itself is a favorite device of the vaudeville comedian. It will bring laughs in the most sophisticated audience. And experiments in the psychological laboratory have disclosed that the same "gag" will get a laugh from the infant only six months old.

A study of the first causes of laughter in infants was reported to the meeting of the British Association for the Advancement of Science by Dr. C. W. Valentine, professor of education at the University of Birmingham.

The first cause of laughter observed by Dr. Valentine was delight at getting food. This was noticed when the infant was only 39 days old. At the age of ten weeks, babies will laugh when they hear others laugh, or when they are tickled. Soon after that they will laugh sometimes at the sight of a bright object.

Surprise will cause laughter at 18 weeks. Other early causes of laughter are unusual happenings in connection with what is familiar, like the sight of the mother in a cocked hat or hearing the father speak in a falsetto voice; and success at some difficult feat like standing alone.

Mere repetition will cause laughter at about six months.

"The comic effect of mere repetition remains long in operation," said Dr. Valentine. "A comedian says 'Now we shan't be long,' and no one takes any notice. He says it again and people smile; again, and there is a roar of laughter. It is the six-month-old baby reaction."

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IN SCIEN

SURGERY

Walking Lessons Necessary In Cure For Broken Legs

A MIMEOGRAPHED list of directions for 10 exercises designed to teach walking is part of the treatment for broken bones of the leg as described by Dr. John S. Coulter of Chicago at the conference on traumatic surgery held at the meeting of the American College of Surgeons in Philadelphia last week.

When both bones of the leg are broken, there is a long period of inaction which impairs the power of muscle co-ordination, Dr. Coulter explained. After the leg has been in a cast for three weeks or so, the patient needs to be taught how to walk again, and should be given exercises before being allowed to put his full weight on the injured leg. The walking lessons need entail no extra expense to the patient, and he can teach himself with the aid of the mimeographed instruction sheet, Dr. Coulter said. In this type of case, physical therapy is not only a valuable aid but an essential one. Dr. Coulter also told surgeons how heat, light, water, massage and exercise should be used to help in restoring function of the leg.

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ZOOLOGY

Gorilla's Foot is More Like Man's Than Other Apes

THE GORILLA has a foot more like man's than have any of the other primates, Dr. William L. Straus, Jr., of the Johns Hopkins University, has just reported as a result of extensive studies on the foot of a gorilla.

Both the muscles and the bones of the gorilla's foot are more like those found in men than are the chimpanzee's feet. Dr. Straus attributed this greater similarity to the gorilla's way of living. Chimpanzees and the other great apes live much more in trees, but the gorilla, because he is so large, lives chiefly on the ground as man does. Consequently he uses his feet more like man than do the other primates, and the bones and muscles have developed accordingly.

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CE FIELDS

PSYCHOLOGY

Mechanical Ability of Girls Equals That of Boys

THE ABILITY of children to succeed in vocational and trade school courses is independent of their ability in the more scholastic subjects. Children lacking in intelligence may be superior in mechanical ability. And, despite tradition, girls equal boys in this aptitude.

These are among the interesting facts indicated by tests recently devised at the University of Minnesota under the direction of Professors Donald G. Paterson and Richard M. Elliott. The tests were used to measure mechanical ability in a group of junior high school pupils.

It has been proposed that the tests be used to aid immigrants coming to the United States to find the work for which they are best fitted.

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REFRIGERATION

Engineer Shows Foods Hardest to Freeze

SOME FOODS freeze more readily than others, housewives with mechanical refrigerators have learned when they put the eggs or the apples too near the icing unit and returned a few hours later to find them as hard as rocks.

Engineers who design refrigerators and who quick-freeze foods to the solid state to be shipped and sold in small packages have also learned just how much easier it is to freeze one food than another. They have found the amount of heat that must be taken from a food in order to freeze it. A list of common foods and this value of heat, called the latent heat of fusion, is contained in a report made by A. H. Cooper to the American Society of Refrigerating Engineers.

Water is hardest to freeze, it being necessary to take 143.4 British Thermal Units of heat from a pound of water at 32 degrees Fahrenheit to change to ice at the same temperature. Ranging down from 135 to 107 B. T. U.'s are lettuce, strawberries, onions, milk, ap-

ples, green beans, Irish potatoes, grapes, eggs, beef and sweet potatoes.

For all practical purposes, Mr. Cooper states, the latent heat of the food can be found by multiplying the percentage of water in the food by 143.4, the latent heat of fusion of the water in the food. Thus less heat has to be taken from foods that contain little water, and it is easier to freeze them than to freeze foods containing much water. In this group are pork, cheese, bacon and butter.

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PALEONTOLOGY

Millions of Years Added To Extinct Animals' Age

THE FAMILY trees of two queer but extinct animals of the ancient eras of the earth were extended deeper into the past by the Central Asiatic Expedition under the leadership of Roy Chapman Andrews, which has just returned to Peiping after five months intensive scientific exploration of the Gobi desert, a special cable to Science Service states.

No trace of primitive man, one of the hopes of the expedition, was unearthed, but the scientists brought back a large and important collection of fossils representing about seventy-five different species of animals, several new to science.

Skeletons of the coryphodon, a creature unlike any now living on earth, were found in strata of the earth of the Oligocene period, which extends the period of evolution of this animal several millions of years into the past. The coryphodon was somewhat like a rhinoceros, but not a relative. It had feet built on the pattern of an elephant, however, with five toes. The bones of this vegetarian animal are far older than any coryphodon fossils found in America.

Skulls and jaws of another group of extinct animals, called calicotheres, much more primitive than the types found in Europe and America, are also contained in the collections. These creatures had teeth like the moose and elk of today, lived on a vegetable diet, had long forelegs, and five toes with compressed hoofs that had the appearance of claws and may have been used to tear food or enemies.

Among the new genera found were several titanotheres, extinct cousins of the rhinoceros, and new kinds of true rhinoceroses, deer, antelopes and rodents.

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GEOPHYSICS

Country's Biggest Glacier Makes Record Recession

THE GREATEST recession ever recorded for the Nisqually Glacier, in Mount Rainier Park, Washington, occurred during the past year when it retreated 118 feet. Records of the rate of recession of the Nisqually Glacier have been kept for 73 years. Last year it moved only 52 feet. The previous record recession was 106 feet, in 1921.

Each of the 28 glaciers making up Mount Rainier's great single-peak glacier system is known to be retreating each year, due to the heat of the sun and to lack of sufficient snowfall to replenish the melted ice. The Nisqually, however, is the only one that has been measured annually and records kept. Two other glaciers, the Emmons and Carbon, were measured this year and records of these will be kept in the future.

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ANIMAL HUSBANDRY

Quarantine Not Necessary For Blackleg Outbreak

THE OUTBREAK of blackleg disease reported among cattle in West Virginia will not require any quarantine of the locality, the U. S. Bureau of Animal Industry has stated. No official notice of the outbreak has been received at the Bureau. Officials stated that it occurs from time to time in various sections of the country, and that it can be controlled by the use of an immunizing vaccine.

Blackleg affects young cattle most. After three years, they are generally immune to the disease. Beef cattle are chiefly affected, and the disease does not attack other farm animals except sheep and goats. The disease gets its name from the discoloration of the muscle of the affected part after the skin has been removed.

Several satisfactory vaccines have been developed which will make animals immune to the disease. If young animals between four months and two or three years of age are treated annually with this vaccine, there is little danger of infection. A curative serum is also made for animals showing symptoms, but the disease progresses very rapidly and usually the animals die before fresh serum can be procured. The germ causing the disease is called a sporeformer.

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