

More Meningitis

A PROGRESSIVE increase in the number of cases of meningococcus meningitis has taken place in this country during the last five years, Dr. R. C. Williams of the U. S. Public Health Service told the joint meeting of the Annual Conference of State and Territorial Health Officers with the U. S. Public Health Service and the Annual Conference of State and Provincial Health Authorities of North America.

"It is true that the actual number of cases is not large when compared with the total population," Dr. Williams said. "It is significant, however, that each year there has been an increase over the preceding year and that this rise has continued for five years."

No comparable increase has been reported from Europe. The total number of cases reported throughout the United States for the past five years is as follows: 1925, 1,859 cases; 1926, 2,226 cases; 1927, 3,204 cases; 1928, 5,781 cases; 1929, 9,660 cases. During the first 22 weeks of 1930, forty-seven states reported 5,400 cases.

The control of this disease is extremely difficult. Studies conducted in various parts of the country have failed to produce any new methods of importance. The most important preventive and control methods now known are: Prompt recognition of cases of the disease; prompt reporting to the health authorities; avoidance of overcrowding; maintenance of high standards of bodily vigor; sterilization of dishes and eating utensils; optimum of fresh air and sunshine for carriers and convalescents.

Medicine

Science News-Letter, June 28, 1930

Scythians in Siberia

THE Scythians, whose wild troops of horsemen hung like a cloud on the northern edges of the maps of antiquity, in what is now southern Russia, once had their home far to the eastward, in the Altai region of Siberia. There these nomads maintained a relatively high culture, knowing the arts of massive log building, decorative wood carving and the working of metals.

Light on this ancient civilization, which flourished in interior Asia from the sixth to the fourth centuries B. C., has been shed by a recent exploration by Prof. S. I. Rudenko of Leningrad. His chief find was an ancient tomb, built of heavy logs, in which an old-

time chieftain had been buried. It was a double structure, one room constituting the tomb proper and the other a large burial chamber for the chief's horses, which had apparently been slain to carry their master into the next world.

The front chamber had been looted. It still contained the empty coffin, part of a carpet which had covered the walls, and a number of household objects. The thieves, whoever they were, had then attempted to cut through the wall to the second chamber, but had broken their tool and left the pieces lying there. Thus the horse-burial was left untouched.

There were in all ten carcasses of horses, preserved in the permanently frozen soil. Their bridles and saddles, prototypes of present-day models, are of remarkably artistic workmanship. They are trimmed with numerous carved wooden figures covered with gold, representing human beings, carnivorous animals, deer, rams and birds. Two of the horses were equipped with head masks representing antlered deer, made of skin and felt, covered with gold and richly ornamented.

Prof. Rudenko believes, on the basis of the saddle types and of the method of burial, that the replacement of the northern reindeer by the horse as the beast of burden of this people was of comparatively recent date.

The carcasses of the horses will be brought to Leningrad frozen for study by geneticists and zoologists.

Oceanography

Science News-Letter, June 28, 1930

Rare Stork

THE U. S. Zoological Park at Washington has just added to its collection of rare birds one of the rarest species in captivity, the saddle-billed stork of equatorial Africa. This is a handsome bird with black and white plumage, not quite as large as the common European stork. He gets his name from a peculiar patch of white leathery skin, shaped like an English saddle, at the upper end of his beak.

Ornithology

Science News-Letter, June 28, 1930

Cancer Diagnosis

PHYSICIANS can diagnose cancer better than they could 15 years ago. Such is the result of a test held as part of the three-day conference of pathologists at the surgical pathological laboratories and the Garvan experimental laboratory of the Johns Hopkins Hospital and Univer-

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sity under the direction of Dr. Joseph Colt Bloodgood.

The physicians did not agree on a single borderline case in their diagnoses of the sections of tumors. Neither did the physicians who examined similar and in some cases the same sections 15 years ago. This shows the great need for a stain which will differentiate the cancer cell from other cells, so that it will not be possible to miss it in examining sections from suspected tumors.

The majority of the pathologists in 1930 apparently made the correct diagnosis while the majority in 1915 did not. This shows the improvement in physicians' ability to diagnose this disease from microscopic sections. At this conference all the doctors agreed on every definite case of cancer, and all agreed on every definite benign tumor. The disagreement was entirely on the borderline cases. This means great security to the patient facing an operation for possible cancer. If he really has cancer and there is a good pathologist in the operating room to make a rapid examination of a section of the tumor, the patient will not get incomplete treatment for his cancer.

Occasionally the tumor may be diagnosed cancer when it is not cancer, and the patient will get the operation for cancer when he did not need it. This is the safest mistake that can be made, and need not be feared. The dangerous thing is the incomplete operation when cancer really is present. Even the safe mistake, the operation for cancer when cancer is not present, can be prevented if a differential stain for cancer can be developed.

Medicine

Science News-Letter, June 28, 1930

Ocean Pastures

JUST as the bulk of pasturage in a meadow on land is usually supplied by a relatively small number of plant species growing in great abundance, so also the microscopic plants that form the "oceanic pasture" and supply the basic food for fish exist in countless billions of individuals but in only a few species.

Reporting on ten years of research on diatoms and dinoflagellates at the Scripps Institution of Oceanography in La Jolla, Calif., W. E. Allen states that less than twenty species of dia-

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toms, included in five genera, have been prominent in the catches he has examined, although the total number of species involved is considerably more than a hundred.

There is an analogy also between the times of abundance and scarcity in land and ocean pastures. Grass and clover will be scanty or totally unavailable during winter and drought periods, and similarly the microscopic plants of the water have their periods of low abundance. Mr. Allen states that these usually occur in May, August and December, but they may come at other times as well.

The minute plant life is not found in greatest abundance at the surface of the water, where there is most sunlight, but at depths of sixty feet or more. Certain species occur only below that level, and others only above.

The offshore distribution of the sea pasturage confirms the long-standing impression that sea life is in the long run dependent on the land, for as yet no large catches of the organisms have been obtained as far as 100 miles from shore.

Oceanography

Science News-Letter, June 28, 1930

Ancient Kings

NEWLY discovered line of kings who ruled in Syria and had close dealings with Egypt back in the thirteenth century B. C. must be added to the world's ancient history records as a result of excavations by the Institut de France at Minet-el-Beida, in northern Syria.

The expedition, attracted by the belief that an ancient port and trading center must have stood at this site on the eastern shore of the Mediterranean, began digging not far from shore, and discovered many funeral vases and figures of deities, and at last a stone sepulchre. Four skeletons, stripped of their funeral adornments, lay scattered in the tomb. Robbers who knew how to remove a keystone of the vault had plundered the place in ancient times.

Objects rejected by the robbers, however, show that this was a regal burial place. Egyptian jars of alabaster, beads of gold and of stones, glass paste goblets, terra cotta vases painted in the Mycenaean or Cyprian style, and an ivory casket decorated with a goddess reminiscent of Cretan

deities, all indicate the dignity of the tomb owners.

Prof. F. A. Schaeffer, leader of the archaeological mission, concluded that undoubtedly the tombs contain the bodies of an unknown princely dynasty of northern Syria.

Search for the palace and town associated with the cemetery resulted in the discovery of stone foundations of the palace nearby, and a library of terra cotta tablets covered with cuneiform writings. Some of the tablets bear a script heretofore unknown, Prof. Schaeffer reported. As there are only twenty-six characters in this script, it appears that alphabetic writing was known.

Archæology

Science News-Letter, June 28, 1930

Pacific Science Congress

CANADA is planning to welcome the scientists concerned with problems of the area surrounding the Pacific Ocean who will come to Victoria and Vancouver, B. C., in 1932 for the Fifth Pacific Science Congress, the first to be held on the eastern side of the Pacific.

Dr. H. M. Tory, president of the National Research Council of Canada, heads the committee now making plans for the international meeting. Previous congresses have been held in Hawaii, Australia, Japan, and Java. One of the objects that brings the scientists of various countries together is: "To strengthen the bonds of peace among the Pacific peoples by promoting a feeling of brotherhood among the scientists of all the Pacific countries."

General Science

Science News-Letter, June 28, 1930

Slowed by Heat

THE photoelectric cell, "magic lamp" that makes possible talking movies and television, is slowed up by infrared light of wavelength longer than can be seen, Dr. A. R. Olpin, of the Bell Telephone Laboratories, told the American Physical Society.

The active part of the cell is a layer of metallic sodium or potassium. When visible light falls on this layer, electrons are emitted, and give rise to the photoelectric current, which varies in strength with the intensity of illumination. Dr. Olpin explained that when a cell is operating by excitation with visible light, the current may be reduced to half when infrared light falls on the cell.

Physics

Science News-Letter, June 28, 1930

Planet Pluto

DEFINITE proof that Pluto, the planetary object recently discovered by Lowell Observatory astronomers, is really a planet revolving beyond the orbit of Neptune has been obtained by astronomers at the Mt. Wilson Observatory, Pasadena, Calif.

"This orbit indicates definitely that the object belongs to the solar system, and is a small trans-Neptunian planet, rather than a comet," said Dr. Shapley. "The new orbit satisfactorily represents all known observations of the planet."

Because of the slow motion of the planet, all the observations made of it since discovery have not been sufficient to permit an accurate calculation of its orbit. Discovery of several photographic plates taken in 1919 on which the planet was recorded have given the Mt. Wilson astronomers the material for a much more precise determination of the planet's path.

Dr. Seth B. Nicholson and N. U. Mayall calculated the orbit and found that Pluto revolves around the sun once in a year equal to 251.8 of ours. The eccentricity of its orbit is .25, which means that it is an ellipse not very far from circular. A preliminary orbit calculated by the Lowell astronomers indicated that it was an extremely elongated ellipse while still other astronomers believed that it was still longer and that the planet would take many thousands of years to make a circuit of the sun.

An independent calculation of the orbit was made at the Students' Observatory of the University of California, by E. C. Bower and F. L. Whipple, under the direction of Prof. A. O. Leuschner. This orbit agrees closely with the Mt. Wilson computation.

The Berkeley orbit is as follows: Perihelion passage (time of closest approach to sun): Feb. 27, 1989. Period: 249.17 years. Eccentricity: .254. Semimajor axis: 39.60. Perihelion angle: 113° 8'. Node: 109° 22'. Inclination: 17° 9'. Perihelion distance: 29.55 times distance from earth to sun.

This indicates that the planet is approaching the sun and will get brighter until 1989. Then it will be 27,400,000,000 miles from the sun, about the same distance as that of Neptune, until recently the farthest known planet.

Astronomy

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