

MEDICINE

Stabilized Death Rate From Cancer Predicted

OPTIMISM and determination were the guiding spirits which pervaded the cancer symposium held in Washington under the auspices of the National Institute of Health.

Not even the statement by Dr. J. W. Schereschewsky of the U. S. Public Health Service, that cancer has undeniably increased, dampened the hopeful, fighting spirit of these men.

"The conclusion was reached that in the 21-year period from 1900 to 1920, about two-thirds of the increase observed in the cancer death-rate of persons 40 years and over was due to an actual increase in the mortality from the disease," he said.

"We may venture to hope that the cancer death-rate will not continue to grow indefinitely," he continued. All physical, chemical and biological processes tend to a state of equilibrium. Even without the discovery of preventive measures, the cancer death-rate will sooner or later become stabilized, he ventured to predict.

Science News Letter, January 11, 1931

PALEONTOLOGY

Discoverer Challenges Dinosaur Egg Speculation

PROTESTING against speculations about the presumed dinosaur egg fragments discovered by him last summer near Red Lodge, Montana, Dr. Glenn L. Jepsen, of Princeton University, reports to the scientific journal, *Science*, additional details of his explorations.

"Some newspaper reports have incubated the small fragments of shell so assiduously in the desire for 'bigger and better' eggs that the resultant hatch reveals a number of amazing and monstrous hybrids," Dr. Jepsen declares.

"A foreign publication reports that the eggs found were eight feet long. In America an editorial discloses the delight of collectors in finding a whole nest of complete eggs after a gruelling search, and draws a moral therefrom. Another correspondent intimates that, since the Montana shell scraps are nearly black, the parent dinosaurs were black.

"The reappearance of the postulation that dinosaurs had extinction forced upon them by the egg eating habit of some of the contemporary mammals is

one of the examples of atavism among the recent brood of mystic reports."

Dr. Jepsen's report tells how he and E. J. Moles, Jr., a senior geology student at Princeton, found several pieces of fossil eggshell, none over an inch in length, on the surface of a shale deposit which they were exploring with the hope of determining its relation to other geological formations. That these fragments are part of a dinosaur egg cannot be absolutely proved at the present time.

Science News Letter, January 17, 1931

ICHTHYOLOGY

Millions of Mussels Concentrated In Tiny Vials

THE much-battered old Latin phrase, "multum in parvo," which in plain English means "much in little," is most literally realized in two small vials recently accessioned by the U. S. National Museum

One vial, in about three-quarters of a cubic inch of space, contains 1,265,920 animals. The other, in about half a cubic inch, contains 568,600 animals.

The animals, to be sure, are rather small. They are the extremely young infants of two species of Mississippi river mussels, very little past the egg stage, and are technically known as "glochidia." They are so small that if you want to look at them you have to use a microscope.

Pearl shirt buttons are made from glochidia.

Science News Letter, January 17, 1931

ECONOMICS

Hard for Mathematics to Keep Up With Depression

MATHEMATICAL theory, as well as business men and investors, finds it difficult to keep up with the speedy movements of prices and supply and demand when economic conditions come to a crisis.

Dr. G. C. Evans, of Rice Institute, Houston, Tex., in an address before Statisticians and Mathematicians meeting with the American Association for the Advancement of Science in Cleveland, explained that the tendency of prices to continue to rise and fall once they have started is explained by simple economic theory, but in a crash like that which the stock market has been through the accepted fundamental assumptions no longer hold.

Science News Letter, January 17, 1931

IN SCIENCE

NATIONAL PARKS

Bryce Canyon National Park More Than Doubled in Size

MORE than doubling the area of one of the newest national parks, Bryce Canyon, in Utah, President Hoover has by proclamation added lands increasing its area from 14,480 to 30,560 acres. The newly-acquired lands were transferred from the Powell National Forest, upon the joint recommendation of the Secretary of the Interior and the Secretary of Agriculture.

The added territory includes several superbly colored canyons, as well as one elevated point which permits an uninterrupted sweep of vision around almost a complete circle, providing distant outlooks upon mountain ranges in five different states.

Science News Letter, January 17, 1931

ASTRONOMY-RADIO

1931 Radio Forecast Made By Dr. Stetson

RADIO forecast for 1931: Slightly inferior radio reception during the early part of the year with marked improvement during the latter half.

This was announced to the American Association for the Advancement of Science in Cleveland by Dr. Harlan T. Stetson, director of Perkins Observatory, Delaware, Ohio, as a result of his studies of the connection between sunspots and radio reception.

The more spotted the sun, the less easily can you bring in loud and clear that distant radio station. For over five years Dr. Stetson has been measuring the variation of radio reception in relation to the sunspots.

For several years his radio predictions have been fulfilled. A year ago he fore-saw the remarkable increase in radio reception that last summer brought. The common idea is that radio reception is worse during the summer, but that was not the case last summer. With increasing sunspots during the past three months, radio signal strength has suffered a notable decrease.

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E FIELDS

BACTERIOLOGY

Tubercle Bacillus Killed By Part of Itself

NEW progress in the inquiry into the chemical nature of the bacilli of tuberculosis, was reported to the American Association for the Advancement of Science in Cleveland, by Prof. R. J. Anderson, of Yale University, one of the scientists co-operating in a joint offensive on the tubercle bacillus by the National Tuberculosis Association. Millions of germs have been analysed and in the fatty portions have been found many unusual compounds, including a sugar that kills those infected and is harmless to those who are well.

Now experiments by some of Dr. Anderson's fellow workers indicate that one portion of the fat from the germ actually is antagonistic to the germ itself and acts as a true antigen. This may prove to be of practical use eventually in the control of tuberculosis.

An acid new to chemistry that is the cause of the formation of the tubercular tissues has been isolated from the fat of the tubercle bacillus by Dr. Anderson and named phthioic acid. Thus a chemical causing the symptoms of tuberculosis has been found.

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ARCHAEOLOGY

Lion, Gaming Pieces Among Palestine Ruins

A STONE lion, crude to look at but rarely interesting because it belonged to those arch-enemies of the Children of Israel, the Canaanites, is one of the season's prizes of excavations at Tell Beit Mirsim, in Palestine, reported by Prof. W. F. Albright, of the Johns Hopkins University.

The mound known today as Tell Beit Mirsim is considered to have been the Biblical town of Kirjath-Sepher, a Canaanite stronghold taken by Caleb's army when he was attempting to establish the Israelites in the Promised Land, about the thirteenth century B. C.

The site is being excavated from year to year by the Xenia-Pittsburgh Theo-

logical Seminary and the American Schools of Oriental Research, with Prof. Albright as one of the directors of excavation.

Prof. Albright explains that the stone lion of the Canaanites was presumably one of a pair of these beasts which guarded the entrance to a shrine. A foot or so away from the lion was found a stone table of offerings, with three carved lions' heads projecting from the rim. These two objects were obviously from a nearby sanctuary of a Canaanite deity. Prof. Albright suggests that they must have been thrown out when the Canaanite city was destroyed, perhaps tossed away by the Israelites as trappings of the false gods that Jehovah abominated.

The ruins of a palace which stood at Kirjath-Sepher centuries before the Israelites came into Palestine were also excavated by the expedition. In the palace ruins a set of gaming pieces was found, showing that a kind of backgammon was played in Palestine in the seventeenth century B. C. A set of pyramid and cone-shaped counters and the ivory dice were all complete.

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DISCOVERY

Canadian Claim To Islands Is Recognized

CANADIAN title to the Arctic islands discovered by Commander Otto Sverdrup, leader of the Norwegian Polar Expedition in the years 1898-1902, and named for him, has been formally recognized by the government of Norway.

There are four islands in the group, which are located west of Ellesmere Island in an area the center of which is about 11 degrees or approximately 700 miles from the North Pole. In 1900 Commander Sverdrup took possession of the islands in the name of his sovereign, but no further act of occupation took place. Canada, however, had long claimed sovereignty over the entire area north of the mainland.

Canada has also acquired, by purchase, valuable original maps, notes, diaries, and other documents relative to the explorations and discoveries of Commander Sverdrup. At the last session of Parliament the Dominion Government made provision to cover a grant of \$67,000 to Commander Sverdrup in recognition of his work in the Canadian North and to purchase his records.

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ICHTHYOLOGY

Goldfish in Groups Learn More Quickly

THE old feeble pun, that asks what fish learn in their schools, looks as though it will have to be called in and repainted. It appears that fish really do learn in schools.

At the meeting of the American Society of Zoologists in Cleveland, Dr. Carl Welty of Parsons College told of experiments he conducted at the University of Chicago on goldfish. He wanted to find out how quickly they would learn their way about in a maze which he put into their tank, to get at food at the other end. He put them into the maze singly, in pairs, and in groups of four and eight.

On the average, the larger groups found their way through more quickly than did the singles or the groups of two. Collective wisdom seemed to be better than solitary sagacity.

When "educated" fish, that have learned their way through the maze, are added to groups of newcomers, these composite groups under experienced leadership find their way about more quickly than do control groups of similar size without an "old-timer" in their midst.

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ASTRONOMY

Another Early Pluto Picture Found in Germany

THOUGH Pluto, the trans-Neptunian planet, was not actually discovered until January, 1930, when astronomers at the Lowell Observatory, in Arizona, picked it up in the course of a search for such a body, it was photographed as early as January 23, 1914, a few days more than 16 years earlier. This photograph is, so far as known, the first record of Pluto.

The 1914 plate was taken through a telescope at the Königstuhl Observatory, at Heidelberg, and the plate was found by Dr. Max Wolf, director of the observatory, who was searching for such an early photograph.

Until now, the earliest known photograph of Pluto was one taken in 1915 at the Lowell Observatory itself. It is likely that Professor Lowell actually handled this plate, and saw the image of Pluto on it, but among thousands of star images, it could not then be identified.

Science News Letter, January 17, 1931