

HYDROGRAPHY

Bottle Race Shows Speed Of Lake Michigan Currents

A BOTTLE traveling ten miles a day in the water was the winner of a long-distance swim for bottles staged in Lake Michigan last summer by the U. S. Bureau of Fisheries. During the summer the steamer Fulmar, operated by the Fisheries Bureau, released 283 bottles in the lake, in an endeavor to determine the various surface tendencies of that important body of water. To make the investigation a success, it was necessary to depend upon the courtesy of the various bottle-finders in complying with a note inside asking that the bottle be returned to the Bureau's office at Ann Arbor with information as to the date and place where found.

The winner of the bottle race, released at St. Joseph, Michigan, was found 20 days later at Sleeping Bear Point in Leelanau County, 200 miles away.

The information thus being gathered concerning the currents of Lake Michigan will be of value to commercial fishermen along the lake as well as to navigation.

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ARCHAEOLOGY

Cats Were Wild in Ancient Southwest

See Front Cover

IN ANCIENT America it was bad luck to meet a cat on a dark night. All the cats that the Indians knew were wildcats. Dogs were tamed, and learned to follow Indian hunters and Indian children around, but cats walked by themselves very wild and lone.

The Indian pottery bowl on the cover is from the collection in the American Museum of Natural History. The bowl is adorned by a fine big cat such as Pueblo Indians knew. Kitty's teeth are set for a me-yowl or a bite. Her eye has the alert look of a Hallowe'en cat, all witching and eerie. The long, up-curving tail is a danger signal, a fitting accompaniment to kitty's alert expression. Judging by that tail, this cat was a puma or an ocelot, not a bob-cat.

The cat inside the bowl was painted by some unknown Indian woman of the Mimbres Valley, New Mexico, hundreds of years ago. In most Pueblo tribes, the women were good at shaping clay into dishes and tall containers. In many tribes it was customary to decorate the outer or inner surfaces of pottery with

attractive designs. Our cover-picture cat is not merely a lively portrait, but is artistically posed to make a pleasing design in the bowl.

The hole in the center of the bowl—and the cat—was not made by any irate Indian, expecting to stop some neighbor cat's yowling by the sympathetic magic of plugging a painted feline. The hole was knocked in the bowl in order to "kill" it at the burial of a Mimbres Indian. It was a custom among some Pueblo tribes to lay a painted bowl over the head in a burial, and a hole was made in it so that the spirit of the bowl might escape.

The Mimbres Indians are one of the Pueblo tribes that vanished, mysteriously, before white men came into the Southwest. So nobody knows how the Mimbres Indians would have explained the wanderings of the spirits. But perhaps on frosty autumn nights the spirit of this painted cat went roaming the Mimbres Valley, hundreds of years ago.

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ORNITHOLOGY

Birds Make Debut in Talking Motion Pictures

BIRDS broke into the talkies when Arthur R. Brand, of Cornell University, presented before the meeting of the American Ornithologists' Union a film, "illustrated" with sound, of a number of singing birds which he had successfully stalked with motion picture camera and sound recorder. This was a climax of a great display of bird movies, showing a total of nearly six miles of film before the largest gathering of American and Canadian ornithologists that has ever been assembled in one place.

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PSYCHOLOGY

Violin Music Arouses Fear and Rage in Wolves

THE AGE-OLD belief that the music of a violin would drive the wolves away was borne out recently at the London Zoological Gardens.

Wild wolves from Europe and Asia shook and trembled and put their tails between their legs at the sound of an invisible violin played behind their cages. When at last the violinist stepped in view of their cages still making music, fear turned to anger and the wolves lunged at their bars.

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IN SCIENCE

ENGINEERING

Michael Pupin Receives Engineers' Highest Award

THE HIGHEST honor of the American engineering profession, the John Fritz Gold Medal, has been awarded for 1932 to Dr. Michael I. Pupin of Columbia University for his achievements as "scientist, engineer, author, and inventor of the tuning of oscillating circuits and the loading of telephone circuits by inductance coils," it is announced by the Medal Board of Award.

Dr. Pupin, who was born in Serbia in 1858 and came to this country as a poor immigrant boy, has won for himself a place as one of the country's most famous scientists and inventors. The story of his life has become widely known as the result of the publication of an autobiography, "From Immigrant to Inventor." Dr. Pupin's placing of inductance coils at intervals along a telephone line greatly extended the range of long distance telephony.

The John Fritz Medal is awarded by four of the largest national societies of engineers.

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PHYSIOLOGY

Fluorine Proved Cause Of Dogs' Mottled Teeth

DOGS with mottled teeth, an endemic condition of the enamel produced by the presence of fluorine in drinking water, have been achieved experimentally by Dr. Margaret Cammack Smith of the Home Economics Department at the University of Arizona.

Six months ago, Dr. Smith completed her experiments with the drinking water at St. David, Arizona, and determined that fluorine in the drinking water at that place was responsible for the existence of mottled teeth.

At first the mottled condition was only produced experimentally in white rats, but now for the first time this condition has been given to the larger animals. The mottled condition has been produced after a six months' feeding experiment.

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E FIELDS

CHEMISTRY

Unusual Kind of Vinegar Made from Coffee Berry

RED VINEGAR that looks like clear Rhine-wine, smells like pear oil, and tastes like old whiskey, comes from the pulp of the coffee-berry. About forty per cent. of the berry is bright red pulp, nine per cent. of that sugar and eight per cent. tannins, F. W. Reise, chemist, says. Unripe mash made from the pulp contains acid, while over-ripe mash develops methanol from pectin. By-products have had little utilization. Coffee is the twin-seed of a cherry-like berry that grows on a bush.

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PHYSIOLOGY

Life-Saving Cortin Relieves Nervous Diseases

CORTIN, life-saving extract of the cortex of the adrenal glands, has been found to have an effect on the nervous system, Prof. Frank A. Hartman and Dr. Gilbert Beck of the University of Buffalo reported to the Central Neuro-Psychiatric Association meeting at Buffalo.

Dr. Hartman is one of a number of investigators who recently prepared this glandular hormone. It has prolonged life in patients suffering from once fatal Addison's disease and in animals that have suffered damage to or loss of the adrenal glands. In these cases the extract supplied the vital hormone which was lost when the glands became damaged or diseased.

An entirely new aspect of the function of cortin has been opened by Dr. Hartman's latest investigations.

"In studying the influence of cortin in Addison's disease we have noted rather striking effects in certain of the nervous manifestations," he reported. "This stimulated us to investigate the effect of this substance on definite neurological diseases."

"In some diseases where there is muscular wasting certain symptoms are improved. Insomnia may be replaced by restful sleep; depression by a sense of well-being. Subjective sensations

such as aches and pains diminish or disappear; fatigue is reduced. Cortin, however, is in no sense a cure for these conditions but seems merely to afford temporary relief," Dr. Hartman emphasized.

Cortin seems to be important for the proper function of the nervous system, for Dr. Hartman found that the nervous system is quickly fatigued in animals which lack this substance.

The reflexes of a normal animal will continue to work for several hours before fatigue stops them. The reflexes of an animal that has had its adrenal glands entirely removed are fatigued in a few minutes upon continued use. This would account for the ready fatigue which occurs in adrenal insufficiency, Dr. Hartman suggested.

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PUBLIC HEALTH

TB and Pneumonia Wreak Most Havoc Among Indians

IF THE DEATH rate from tuberculosis and pneumonia can be materially lowered among Indians, the most serious checks to increase of the aboriginal population will have been removed," Dr. Forrest Clements of the department of anthropology of the University of Oklahoma concludes on the basis of a study of mortality figures for the Mohave and Chemehuevi Indians at the Colorado River Indian Agency as compared with the U. S. Census Bureau statistics for whites, negroes, and Indians. A full report of his study appears in the current issue of *Human Biology*.

Despite a birth rate very much higher than that for the whites, the future of the Indian population is greatly endangered by these two diseases, Dr. Clements points out. For an extremely large proportion of the Indians die during childhood and early youth. Only slightly more than half the Indian girls, 53 per cent., live to reach the age of 20; only 38 per cent. live to be 40 years old.

"It is obvious that each Indian woman who survives through her reproductive period will have to produce more children on the average than will white or negro women, in order to maintain the population," Dr. Clements says.

The popular opinion that the Indian attains great longevity is termed by Dr. Clements a myth. "Actually both negroes and whites, especially the latter, are longer lived," he says.

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PSYCHOLOGY

Unspanked Children Not Necessarily Delinquent

SPARING the rod does not always spoil the child, and, conversely, a great amount of corporal punishment will not keep some children from straying into delinquency and crime, it appears from an investigation conducted by Dr. Mabel F. Martin, a psychologist of West Springfield, Mass.

Two contrasting groups were selected by Dr. Martin for study to determine the effects of punishment on the conscientiousness of the individual. One was a group of delinquent boys committed by the courts to the State Home at Jamesburg, N. J., among whom "tender consciences and sensitive honor were notably lacking." The other group was of girls at Mt. Holyoke College who were "chiefly concerned about work to be accomplished, responsibilities to be discharged, and obligations to be met," Dr. Martin says.

In no case did lack of punishment in earlier childhood appear as a contributing cause of the delinquency of the boys, Dr. Martin found. Often it was the fear of punishment that had driven the boy into vagrancy and eventually into jail.

In the case of the conscientious college girls, on the other hand, punishment in childhood does not appear to have played an important role. Nearly half fail to mention it at all in an account of their childhood; a few specify that they were never punished; and an equal number say that they were seldom punished, Dr. Martin said.

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ANTHROPOLOGY

Classics of Anthropology To Be Published in Czech

THE CLASSICAL documents of anthropology, from Aristotle down to modern times, are to be published in monograph form in the Czech language, by a new organization in Prague. Such a work has never before been undertaken in any language. The first publication, bringing together all the scattered scientific writings of Aristotle on the subject of man as such, has already appeared, and it is expected that others will follow in rapid succession.

Dr. Ales Hrdlicka, anthropologist of the U. S. National Museum, is one of the founders of the new organization.

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