

ZOOLOGY

Whale's Eye Added To Museum Collection

THE SECOND whale to strand itself within a few weeks off the New England coast went ashore at Monomoy Point, near Chatham. The whale proved to be a finback, and hundreds came to see the huge mammal.

Curator William H. Tripp of the New Bedford Whaling Museum and Wilbur G. Sherman, an expert in whaling affairs, made the trip to inspect and study the whale and see if part of it could be saved for the Whaling Museum. With the aid of cutting spades, hatchets and knives, they succeeded in getting several valuable specimens. Among them was one eye of the whale.

The eye was encased in a big piece of blubber-like "junk," measuring about 11 by 9 inches. The eye itself is about the size of a medium sized grapefruit. Looking at the eye from the exterior, the orifice of the eye is about three inches long and an inch and a half wide. The skin about the orifice of the eye was quite smooth and oddly enough free from eyelashes such as nearly all mammals possess.

When the junk is separated from the eyeball, the eyeball will be preserved in alcohol and placed in the museum where scientists may study it.

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CHEMISTRY

Dye in Ink Test No Proof Of Age of Writing

CONTRARY to statements made by experts on disputed documents that the blue dye in writing done with an ordinary blue-black ink will be oxidized away in fifteen years, C. E. Waters of the U. S. Bureau of Standards has found undecomposed dye in 78 out of 148 samples of writing older than 15 years.

The oldest sample in which dye was found dated from 1881, while writing as recent as 1918 contained none. It is therefore held impossible to conclude from the presence or absence of dye that one sample of writing is more recent than another.

The composition of inks varies a great deal according to the ideas of the manufacturer, but in general a blue-black ink contains the following substances: ferrous sulphate, tannic acid and gallic acid from nutgalls, a free mineral acid, an antiseptic, and a blue dye. The per-

manent black color of the writing is produced by the oxidation of the iron from the almost colorless ferrous compound to a black ferric compound, and the purpose of the dye is to provide a temporary color.

Ultimately all the organic matter in the ink will be oxidized by the oxygen of the air and it has been believed that fifteen years is amply sufficient for the complete destruction of the dye. In a recent legal controversy involving the age of three letters it was found that there was still dye present, and two hand-writing experts immediately deposed that the letters could not be more than fifteen years old.

The test for dye is a very simple one. A drop of distilled water is placed on the writing and a piece of filter paper pressed against it. At a pinch, ordinary water and the white margin of a newspaper can be used. A blue coloring on the paper indicates the presence of dye.

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ELECTRONICS

"Move Over" Truck Signal Wins Favor In France

TRUCK drivers on French highways will no longer have any excuse for not "moving over" to let other cars pass, if a new signaling device becomes standard equipment. A report to the National Safety Council, Chicago, indicates that the new device is likely to be required in France this year.

To signal the desire to pass, a motorist driving back of a truck flashes his headlights. The light rays strike the truck's signaling device, which is a sturdy and inexpensive "electric eye." The "eye," a photo-electric cell, sets off a warning bell which rings at the front of the truck.

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PATHOLOGY

Snails Get Fever When They Are Sick

EVEN cold-blooded animals like snails get fever when they are sick as a result of parasitic infection, it appears from studies of C. T. Hurst and C. R. Walker of Western State College of Colorado. At the meeting of the Colorado-Wyoming Academy of Science they reported that they observed a definite rise in temperature in snails infected with the trematode worm.

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IN SCIEN

PSYCHIATRY

Fear of Spending Is New Mental Ill

A NEW mental disease of those who have money and refuse to spend it—against whom the NRA "Buy Now" campaign is being directed—is described by Dr. Alvan L. Barach, psychiatrist of New York City in a report to the National Committee for Mental Hygiene.

This new mental ailment, born of the depression and much more prevalent than those with small incomes can realize, is akin to the attitude of ascetic zealots of times gone by who renounced the evils of the flesh and all worldly goods under the fear of punishment and the hope of heaven; but these 1934 self-sacrificers do not have the religious aspirations and fervor, an analysis of such persons has shown Dr. Barach.

Urged by a sense of guilt for some unknown or unanalyzed fault, these men and women attempt to pacify their consciences by "tuning in on suffering" they know others to be feeling, by imposing on themselves deprivations which are altogether unnecessary. The resulting feeling of satisfaction is so great as to drown out all feelings of sympathy and responsibility for those made jobless by the action.

Men do without their cars, women dismiss their maids, both do without clothing, lights, phone calls, and even food. Those whose incomes are reduced 25 per cent. reduce their expenditures 50 per cent. Dr. Barach asked one young woman what she had done with the \$800 she had saved by not making a purchase of clothing she would have made in ordinary times. Had she given it to the poor?

"No, no, I just put it in the bank," was the reply.

She couldn't understand why a neighbor had bought a new car when so many people in "times like these" do not have enough to eat. The fact that the man who bought the car had also given a twelfth of his income to the unemployed did not impress her.

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CE FIELDS

SEISMOLOGY

California Quake Really in Nevada

CALIFORNIA'S newest earthquake, which occurred on Tuesday night, Jan. 30, did not really belong to California at all but to the neighboring state of Nevada.

Its epicenter, as calculated by seismologists of the U. S. Coast and Geodetic Survey on the basis of data collected by Science Service, is given a location near the Walker Lake region, about 25 miles southwest of the town of Mina, and some fifty or sixty miles southwest of the epicenter of the great shock of Dec. 21, 1932, one of the most violent recorded in the United States. Another earthquake occurred in the same region on June 25, 1933, so that the Walker Lake country must be accounted a "live" seismic area.

As worked out by the Coast and Geodetic Survey, the epicenter was located in latitude 38.2 degrees north, longitude 118.6 degrees west; time of origin was 3:16.3 a. m., eastern standard time.

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ZOOLOGY

Artists Under C.W.A. Paint Snakes' Homes

VISITORS to the reptile house in the National Zoological Park, Washington, are finding unexpected specimens in the glass-fronted dens ordinarily inhabited by snakes or lizards. Real live artists, in paint-stained smocks, are busily painting on the back and side walls realistic scenic backgrounds proper to the parts of the world from which the reptiles have come. Thus, the dens inhabited by Gila monsters and rattlesnakes from the Southwest are being decorated with backgrounds of giant cacti and yuccas, while tropical snakes will henceforth live surrounded by painted banana leaves or the tree-trunks of a rubber plantation.

This is not for the benefit of the reptiles. Dr. William M. Mann, director of the Park, explained. It is for the

visitors. "I want everybody who comes into the reptile house, no matter what part of the world he hails from, to see at least one picture that will make him homesick," he added.

Artists have also been engaged to do some large mural paintings on the walls of the bird house. The central idea of this decoration will be a series of large pictorial maps, each with several species of beautiful unusual birds "spotted in" on its own proper habitat.

The C.W.A. is also enabling the National Zoological Park to make many desired changes and improvements, providing work for some 200 artisans and laborers. An artificial "alp" is being constructed over a steel framework, for the Rocky Mountain sheep, and substantial houses of stones are replacing old wooden shelters for hoofed animals.

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PHYSIOLOGY

Spices Found To Stimulate Digestion

SPICES and condiments in moderate amounts really help digestion by stimulating part of the digestive apparatus to greater activity. Scientific evidence of this has been reported by Drs. E. v. Kokas and G. v. Luchány at the Stefan Tisza Institute of the University, Debrecen, Hungary.

The research of the Hungarian investigators, it is claimed, shows that spices in dilute solutions, as they are found in rather spicy meals, actually increase the activity of the villi. These are microscopic protuberances of the mucous membrane of part of the digestive tract and have an important influence on the speed and completeness of food absorption. Increasing their activity favors the passage of foodstuffs from the digestive tract into the body fluids.

Cloves and garlic in solutions of one to one thousand triple the intensity of movement of the villi, it is claimed. Pepper, red pepper, caraway and cinnamon act in the same way but have less intense effect. Onions have the weakest effect on the villi.

Evidence of the stimulating activity was obtained indirectly by microscopic examination of the activity of the mucous membrane and directly by observing that sugar solutions injected into the digestive tract are absorbed better when mixed with small quantities of these spices.

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PHYSICS

Theory Upholds Birth of Electrons From Radiation

THE IDEA that a bundle of radiation, such as a cosmic or gamma ray quantum, collides with an atomic kernel or nucleus, and gives birth to a positive electron or positron, receives support from calculations made by Drs. W. Heitler and F. Sauter, working at the University of Bristol and the Technische Hochschule at Berlin-Charlottenburg.

There has been considerable discussion as to just what happens when powerful radiation smashes into matter and particles fly out. Some physicists have interpreted these experiments as the conversion of energy into matter, while others suggest a blasting of the atom's center, releasing particles already there.

The widely acclaimed electron theory of Prof. P. A. M. Dirac, the British physicist and Nobel prize winner of 1933, and his formulation of the wave equation so as to explain experimental findings about the hydrogen atom, can be used to explain what happens if a fast electron, passing through matter, emits a quantum of radiation with energy comparable to its own, and the reverse happening, if a quantum of radiation colliding with an atomic nucleus gives birth to a positive electron.

The production of a pair of electrons by cosmic radiation in the presence of an atomic nucleus has been reported as the result of experiments at Cavendish Laboratory, Cambridge, England, by Prof. P. M. S. Blackett and G. Occhialini, although Dr. Carl D. Anderson, of California Institute of Technology, Pasadena, Calif., discoverer of the positive electron, takes the view that the electrons produced by cosmic rays smashing into matter are probably not created out of radiation but are merely fragments of the atom's heart that has been disrupted.

Drs. Heitler and Sauter have calculated from the Dirac equation what is to be expected when radiation turns into electrons and the result agrees well with the experimental results. For the opposite process, similar calculations show that the theory seems to disagree with experiment. But the physicists explain that the Dirac wave equation may not apply to the very small radius of the electron and when the radiation has a wavelength that is smaller than this radius.

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