

Anniversaries of Science

January 19, 1910.—The Southern Health Conference was organized at Atlanta, Georgia, to fight hookworm disease.

The symptoms of hookworm infection were vaguely outlined in the Egyptian papyri, and for centuries the disease was variously known as Egyptian or tropical chlorosis, miner's or bricklayer's anemia, and St. Gothard tunnel disease In 1900, Captain Bailey K. Ashford, U. S. Army, discovered the great prevalence of the disease in Porto Rico, and it was soon found to be very common among the rural population of the Southern States by Charles Wardell Stiles

Stiles . . . has since devoted himself, as professor of zoology in the U. S. Public Health and Marine-Hospital Service, to the task of exterminating the disease in the South, in connection with the Rockefeller Commission established for this purpose in 1909 . . . In three years (1910-1912), no less than 393,566 persons have been treated for hookworm at these open-air clinics in the Southern States.

—Garrison: *History of Medicine*.

January 20, 1907.—Death of Mendeleeff, who first showed the periodicity of properties of the elements when arranged in the ascending order of their atomic weights.

The soundness of a theory is best exemplified by the use to which it can be put. Does it explain anomalies? Does it guide along future paths of investigation? The Periodic Law has more than fulfilled these requirements. As a beacon it stands out as prominently in the history of chemistry as does Dalton's Atomic Theory, which is at the very foundation of our science today. Some of the most startling discoveries of our time, such as the rare gases of the atmosphere and the radioactive elements are directly attributable to the Periodic Law.

—Harrow: *Eminent Chemists of Our Time*.

January 22, 1560/61.—Birth of Francis Bacon.

Bacon, because of his official position and immense philosophical and literary ability, was able to draw universal attention to the methods of science and especially to the method of investigation of induction, so that his indirect service to science was great. Bacon's true place in science was, however, well understood by his contemporaries, for one of the greatest, Harvey, discoverer of the circulation of the blood, remarks that, "the Lord Chancellor writes of science like—a Lord Chancellor."

—Sedgwick and Tyler: *A Short History of Science*.

January 23, 1911.—Oceanographic Institute, built by Prince of Monaco was opened at Paris.

Notable voyages of scientific discovery were made by the late Prince Albert I of Monaco. He was a scientist even more than a prince, and not only devoted great sums to building and equipping special ships for ocean investigations, but went to sea himself and took a vigorous part in the actual investigating.

—Abbott: *How Deep is the Ocean* in Smithsonian Reports, 1922.

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ZOOLOGY

Evolution of Whales

How whales have changed from land animals to the denizens of the deep they now are is one of the problems of science which Remington Kellogg, associate biologist of the U. S. Bureau of Biological Survey, is unravelling by studying the fossil remains of the great sea beasts' hearing organs.

At the annual exhibit of the Carnegie Institution of Washington, Mr. Kellogg displayed a complete collection of these fossilized "ears" from the time of the early Eocene down to the present.

The ancestors of the present day whales heard with ear drums just as humans and others animals do, but as the force of circumstances, that geologists do not yet understand, compelled them to take to the sea for a living their different organs underwent various modifications. The family of sea mammals that are known as whalebone whales eventually lost their external ears and the external auditory tube became completely closed to preserve the eardrum from rupturing under the pressure that prevails at great depths in the sea. They have acquired in addition an elastic cartilage arrangement around the blow holes on the top of the head that closes tighter the farther they go down.

As a result the whalebone whales now actually hear through their noses and the eardrum has become useless. They have developed in its place a bony structure coiled up like a conch shell known as the bulla. The ear bones are the hardest bones in the body of the whale and for this reason have survived in fossilized form where the other bones have disappeared entirely. In some prehistoric species, says Mr. Kellogg, it is the only bone there is available for study. For this reason science has an unusually complete record of the gradual stages by which the whalebone whales acquired their present kind of organ of hearing.

The actual process by which these coiled conch shell bones receive sound waves is a problem that puzzles both physicists and biologists. The fact that whales are usually shrewd in detecting danger that can only be conveyed by sound, is considered, however, as a demonstration of its efficiency as an organ of hearing.

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Over three-fourths of the dogs in this country are mongrels.

BIOLOGY

Electricity Fathers Worms

The first stages of growth of the eggs of a common sea worm, *Nereis*, have been produced in the laboratory, with no other father than an electric wire, by Dr. Ware Cattell of Memorial Hospital. The work was done at the marine biological laboratory at Woods Hole, Mass., during the summers of 1925 and 1926, but has just been reported.

Dr. Cattell placed egg-bearing female worms in dishes of sea water, and turned an electric current on them with specially designed apparatus. The shock caused them to discharge their eggs, which were subsequently found to be acting as though they had been fertilized in the normal manner with the male elements. A part of these electrically activated eggs carried on growth as far as the earlier stages of larval life.

During the past few years, unfertilized eggs of many species of animals have been caused to develop, sometimes to advanced stages, by chemical treatment, heating, pricking with needles, and a number of other stimuli; but the present experiment is the first in which an electric shock has performed the function of parenthood.

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GEOGRAPHY

Center of North America

Devil's Lake, famous scenic region in North Dakota, has now attained a new distinction: it marks the center of the North American Continent. The Map Information Office of the U. S. Board of Surveys and Maps has just finished a new determination of the geographic center of North America, as accurate as can be obtained from the most recent maps. This estimate places the spot at 48 degrees 10 minutes north latitude and 100 degrees 10 minutes west longitude. This is a few miles to the west of Devil's Lake, but the lake is the nearest prominent feature on the map, and so becomes a natural center monument.

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ASTRONOMY

Errors Corrected

Two typographical errors appeared in the SCIENCE NEWS-LETTER, January 1, XI, 10, in the article, "Coming Astronomical Year." In line 9 of the first column, "the bright north star" should read "the bright star north." In line 10 of the third column, "east" should read "west."

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