

IN VARIOUS SCIENCE FIELDS

Eurypterids

The old joke about the museum that claimed to have the skull of Oliver Cromwell as an old man, and also his skull as a young boy, is not necessarily a joke when it comes to one-time living beings of a date much more remote than that of Oliver Cromwell.

How this paradox may come to pass will be explained shortly in a report to the American Paleontological Society by Joseph W. Monahan, presenting the results of his detective work on corpses dead a good two hundred million years.

He will describe a number of new species of animals that he has discovered in the Bertie Water Lime formation around Buffalo, New York, and will explain their significance as clues to the solution of certain mysteries of the ancient world.

The Bertie formation, which is widespread in New York state, is peculiar in that only a few kinds of animals have been preserved in it. But of the kinds preserved, a relatively large number of individuals are found. Other formations, crammed with the remains of other types of animals, never preserve the waterlime types, however. This is true especially of the scorpion-like creatures called Eurypterids.

Eurypterids, many of which reached a length of seven feet, are closely related to the oldest fossils known to science, and are related on the other hand to our present-day scorpions, spiders, and horseshoe crabs. Mr. Monahan believes that the large numbers of Eurypterids preserved is due to the fact that these animals probably shed their skins periodically, just as do the present-day spiders. Thus one Eurypterid might be responsible for a score of fossils.

Paleontology
Science News-Letter, January 4, 1930

Racing

Race horses and men follow the same physiological law in track events, and horses follow these laws more closely than men, is the conclusion reached by Prof. A. E. Kennelly, of the Harvard Engineering School, as told in an address before the American Association for the Advancement of Science.

Prof. Kennelly has studied all world records for horses trotting, pacing and running and for men swimming, walking, rowing, running

and skating, and he finds that there are certain definite relations between the time, distance and speed of all events for both man and beast.

One application of what has been learned shows that if a man runs or a horse trots or uses any of the other gaits over two distances, the first twice as long as the second, 118 per cent. more time will be needed to cover the second distance than was required for the first.

Another of the laws shows how long an athlete may be expected to last before becoming exhausted if he increases or decreases his average speed. If his speed is raised one per cent., his running time is reduced nine per cent. Prof. Kennelly said he also found that if the speed of a record event is increased 20 per cent., the record distance corresponding to the new speed is four and three-tenths smaller than the first distance.

These and many other interesting facts learned apply to all the different gaits given above and to a slight extent to bicycling and automobiling. They are valuable both to the scientist and to the athlete and sportsman and point out, especially for the athlete and sportsman, the most vulnerable records, those that should be most easily broken.

The data for this study were secured by Prof. Kennelly from the *World Almanac*. Although he is an electrical engineer, he has made the determination of laws of fatigue of men and horses a hobby for a number of years, having published papers on the subject in 1906 and 1926.

Physiology
Science News-Letter, January 4, 1930

Submarine Peak

A submarine peak, sticking up into the Pacific Ocean 7,000 feet above the surrounding ocean bed, was discovered by the non-magnetic ship "Carnegie" on its cruise from Honolulu to Samoa, which ended fatally with the destruction of the ship and death of its commander, Capt. J. P. Ault, when the ship exploded in Apia harbor. Announcement of the discovery of the peak, to which no name has yet been given, was made by Dr. J. A. Fleming, acting director of the Carnegie Institution's Department of Terrestrial Magnetism, owners of the vessel. The new peak is at 25.6 degrees north latitude and 160.3 west longitude, a position about 300 miles northwest of Hawaii.

On the voyage last autumn from San Francisco to Honolulu a 9,800-foot peak was discovered at 32.4 degrees north and 127.8 degrees west, a few hundred miles off Santa Barbara, Calif. This has been named Hayes Peak, after Dr. Harvey C. Hayes, of the Naval Research Laboratory in Washington, inventor of the sonic depth finder with which these discoveries were made.

Other prominent submarine features discovered by the Carnegie since leaving Washington in May, 1928, are: Merriam Ridge, 9,800 feet high, about 1,000 miles off the coast of Chile, named after Dr. John C. Merriam, president of the Carnegie Institution of Washington; Bauer Deep, 17,700 feet deep, about 1,500 miles off the coast of Peru, named after Dr. Louis A. Bauer, founder and director of the Department of Terrestrial Magnetism; Carnegie Ridge, 5,900 feet high, a few hundred miles off the coast of Ecuador; Fleming Deep, 28,400 feet deep, about 800 miles south of Tokyo, named after Dr. Fleming; and an unnamed ridge 6,600 feet high near Tahiti.

Oceanography
Science News-Letter, January 4, 1930

Cursed Tomb

The strange, forbidding inscription recently discovered on an ancient tomb in Corinth was explained to the Society of Biblical Literature and Exegesis by Prof. George S. Duncan of American University, who discussed the newest contributions which archæology has made to knowledge of the Bible.

The inscription, found by Prof. T. L. Shear on the tombstone of a lady named Makedonia, stated in Greek that "if any opens her grave, the curse of Annas and Caiaphas shall be visited upon him." Annas and Caiaphas were the two high priests before whom Jesus was tried. The curse seems to refer to the fate of these characters, Prof. Duncan said, for in the Apocryphal New Testament it is stated that Annas and Caiaphas were among several others who were arrested. On the way to Rome, Caiaphas died in Crete, but the account states that the earth would not receive his body and he was covered with a cairn of stones. Annas' fate was to be sewed into a fresh bull's hide which, contracting as it dried, squeezed him to death.

Archæology
Science News-Letter, January 4, 1930