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# SCIENCE NEWS BULLETIN

No. 4 EDITED BY WATSON DAVIS

April 23, 1921.

Release Wednesday morning, April 27

## ELEPHANT, MOST ADAPTIVE ANIMAL, ORIGINATED IN EGYPT

(By Science Service)

Washington, April 26. - The elephant, who, next to man is the most adaptive animal that nature has produced, had its cradle in the Land of the Nile, declared Dr. Henry Fairfield Osborn, head of the American Musuem of Natural History of New York in an address before the National Academy of Sciences here this afternoon.

The earliest ancestors of the elephant family known at present to science are found as fossil skeletons in an ancient river bed in Egypt, about one hundred miles south of Cairo. In 1900 Professor Osborn predicted that the ancestors of the elephants might be found in northern Africa and in 1907 they were first actually discovered by British geologists attached to the Geological Survey of Egypt. It now appears that the remains then found are those of an ancestor of one of the two main groups into which the elephant family is divided by the naturalists -- the group of the Mastodons. "The other group is that of the true elephants and the two groups are quite distinct in family history. The chief mark of difference relied upon by experts to distinguish the two groups is the form of the teeth, though there are many other differences in form and habit between the various branches of the two great groups."

The earliest ancestors of the true elephant group are still unknown. Professor Osborn suggests that their original home may have been in the regions of central and northern Asia still unexplored by the paleontologist. Like the families of the horses, the rhinoceroses and of man himself, the elephant family can be traced back to the period called the Eocene; a period rather recent as geologic ages go but still many millions of years ago. In this period the group of the mastodons and the group of the true elephants split off from the common ancestor which we suppose them to have had and from each other. Then began also the divisions of the mastodon group and of the elephant group into the different sub-groups which have been discovered as fossils or as surviving animals. Professor Osborn traces nine main branches; five of the mastodon stock and four of the stock of the true elephants.

Two at least of these sub-groups of mastodons were already in existance at the time of the earliest known mastodon fossils, those from the Egyptian locality noted. Recent studies by the Japanese paleontologist Matsumoto of material brought back from Egypt by Professor Osborn have disclosed another early mastodon type, distinct from that reported by the Egyptian geologists and which proves to have been ancestor of a second line of mastodons. This second family migrated into and across Asia and into North America by way of Behring Straits. They gave rise to the long-jawed mastodons which have been found in forest form in Florida, Texas and elsewhere in the United States.

The new 100-inch telescope of the Mount Wilson observatory has added several hundred million stars to those previously known.

The deepest boring in the world is a well drilled in search of gas or oil near Fairmont, W.Va., to a depth of 7,579 feet.

The time signals sent out by telegraph from the Naval Observatory are seldom in error by as much as two-tenths of a second, while the average error is less than five-hundredths of a second.

In photographing stars through the telescope, exposures of four or five hours are common, while in photographing a nebula the exposure sometimes extends to ten hours or more.

The inventor of the marine chronometer, John Harrison, received a reward of £20,000 from the British Government for his invention.

Some of the best hour-glasses contain powdered egg-shell in place of sand.

It would take more than two billion earths placed side by side to form a continuous spherical shell around the sun at a distance equal to the earth's distance.

The solar energy received by an area of 250 acres of tropical desert in the middle of a summer day amounts to about a million horse-power; more than enough to supply all the heat and power used by a great city.

How high did Major Schroeder rise in his aeroplane when he broke the world's altitude record Feb. 27, 1920? Various altitudes, differing by thousands of feet, have been published. The one finally accepted by the International Aeronautical Federation was 33,113 feet.

One of Robert Louis Stevenson's earliest publications was a scientific paper contributed to the Proceedings of the Royal Society of Edinburgh. It deals with the effects of forests on climate.

There are toads in India that eagerly swallow bits of red-hot charcoal with no apparent discomfort.

Gas is now sold in England by the "therm" instead of by the cubic foot. A therm is a unit of heating value, equivalent to 100,000 British thermal units. As the gas used in London has a heating value of about 550 B.T.U. per cubic foot, 1,000 cubic feet of this gas is equivalent to 5½ therms.

Prof. E. W. Brown worked for 30 years on his "Tables of the Motion of the Moon," published in 1920.

Lake Baikal, in Siberia, the deepest fresh-water lake in the world, contains several species of fish not found anywhere else. Some of these species are very ancient, and are supposed to be survivors of a geological age when the region in which the lake is situated enjoyed a semitropical climate. One of the strangest fishes of the lake called the golomynka, is almost one mass of fat, and was formerly caught in immense numbers for the production of train oil, but is now scarce.

In the island of Palawan, one of the Philippines, a long subterranean river has been explored by the Coast and Geodetic Survey. It is navigable for a small boat for a distance of about 2½ miles from its mouth.

FROST RESISTING FRUIT
TREE SCIENTIST'S GOAL

(By Science Service)

Washington, April . - The first steps in the development of frost resistant fruit trees may have been taken when Dr. A. D. Hopkins here noticed that whole branches of certain fruit trees were totally uninjured by frost during the recent heavy killing frost while the leaves and flowers of all other parts of the tree were killed.

These uninjured limbs have been marked with copper tags by Dr. Hopkins in order to see if in future springs when freezes occur the same branches will show the same hardiness. If they do, as Dr. Hopkins believes they will, cuttings will be grown from the hardy branches of the Ginko, Mulberry and apple trees, and the development of the frost-resisting fruit tree, which would be of great value in fruit raising, will be partially accomplished.

ONLY HALF EARTH'S
SURFACE EXPLORED

(By Science Service)

Washington, April .- There is a portion of the earth's surface, an area twice as large as the United States, that man knows nothing about, according to Dr. G. W. Littlehales, oceanographer in the Hydrographic Office of the U.S. Navy, who has just talked to the American Geophysical Union here. Up in the North Pacific Ocean, there are many square miles of ocean bottom to which no mariner's or scientist's sounding line has ever reached.

"Even in our much traveled oceans there are immense patches of the sea floor, larger in some cases than the island continent of Australia, that are totally unexplored," declares Dr. Littlehales. "In fact, the shape of over one-half of the earth's surface in not known."

Extensive sounding work is needed to tell and map the configurations of the ocean basins so that the geologist who is puzzling out the way in which the earth is formed can have more definite data with which to work. Not only much more work must be done, but the sounding must be taken at closer intervals so that some of the slim mountain peaks that arise from the bed of the ocean will be discovered.

Just how close together these soundings must be in order not to miss large important submarine mountains has been figured out by Dr. Littlehales. He has found that by taking account of the weight of water and the weight of the peak itself, his computations of the size of the peaks that can exist give the same results as the actual measurements of the known under-ocean mountains.

WORLD RESEARCH COUNCIL
TO MEET IN ROME

(By Science Service)

Washington, April .- One of the most remarkable results of the war was the organization in each country under Government auspices of the institutions engaged in scientific research, and this has been followed by the international combination of these national research councils. The first annual meeting of the International Research Council will be held in Rome next year. The Executive Committee of the International Research Council is to meet at Paris on May 3 to make the necessary preparations for the Rome congress. This Executive Committee consists of one representative from each of the five countries, Paris, England, Belgium, Italy and the United States. The American representative on the Committee is Dr. Augustus Trowbridge, Professor of Physics, Princeton University, and Chairman of Division of Physical Sciences, National Research Council, Washington, D. C.

CROSS - CONTINENTAL TRIP
TO LEARN INDIAN HISTORY

(By Science Service)

Washington, April .- To learn from the lips of an old and dying bed-ridden Indian squaw, one of the two survivors of the Mewkuk tribe of Yosemite Valley, California, unrecorded details of early Indian life, history and customs, Dr. C. Hart Merriam, anthropologist of this city, is about to speed across the continent.

Laboring against time, which is fast carrying away those old Indians of the Valley who are the living connection between the modern American and the thousands of red men who roamed supreme in that region, Dr. Merriam is learning and recording bits of tribal tradition that will piece out the few facts of Indian history in California.

Back in 1890, Dr. Merriam who is now devoting every minute of his time to completing his task, began to unearth the history, legends and dialects of the 300 different tribes of that region. Every year since then he has spent considerable time talking with the survivors of the tribes that will soon disappear from the face of the earth.

From the time that the Spainard came to Dr. Merriam's first trip to them, the history of the Yosemite Indians has been one of oppression. Under the guise of religion, the Indians were brought into the power of the white man in the Missions, and those tribes that resisted were conquered. For 75 years this oppression diminished the number of Indians. According to the Mission records themselves, 30,000 Indians who lived in the Missions were killed during this time.

Then in the days of '49, the California gold rush came and the red man did not fare much better. Those Indians who got in the way were killed, Dr. Merriam who made friends with them in 1890 was one of the first white men to treat them as human beings.

Even now some of his red friends of that day remember him, and it is because they do that they are telling him of their life and histories. Dr. Merriam has been known to go 400 miles on horse back and foot to see an old chieftain who is likely to carry tribal secrets to his grave.

THE SEA AS THE CRADLE OF LIFE
By the Prince of Monaco

(Science Service Correspondance from Paris)

His Serene Highness, Albert I, Prince of Monaco, who receives the Agassiz gold medal from the National Academy of Sciences at Washington on April 25 for his researches in oceanography, explained the reason why he had devoted fifty years to a study of the sea in his latest public address in Paris:

A daily contact with the innumerable throng of marine beings brings the oceanographer to profound reflections concerning the origin of that dense and supple life which swarms in all the ocean levels where so many species are confined and so many individuals commingle or scatter in the medium from which they derive their means of existence. He feels that the power of life in the sea is greater than upon the land, for it prevails through all the thickness of the waters from the surface to the depths while on the surface of the earth it occupies only a single plane. This is a little thing, a thin covering, compared with the thousands of metres which constitute the habitable mass of the ocean upon three-fifths of the globe.

The sea was the cradle of life upon our earth, for water became lowered to a supportable temperature long before the incandescent mineral masses which constitute today the earth's crust. What food could the first germs disbursed about the world which we now people have found upon these solidified minerals? But the water which kept in solution or suspension matter in all its forms is the best medium where organisms may grow and transform themselves. In fact, the most ancient fossil organism known today is the fresh water alga.

As for that which survived between the epoch when this extremely simple alga appeared, the only living thing upon our globe, and the later times which saw the forms of life multiply, our mind has still to be limited to conjecture. But certain connections of which a series of centuries infinitely long have allowed us the trace, and certain phenomena concerning the development of the embryonic life of beings have opened in this field views that are gradually confirmed. The cooling process of the glove permitted at the beginning and in the most suitable elements the appearance of an organized being. Later the progress of vital forces towards the apogee of their power gave birth to the branch of superior animals. In the midst of this general movement of nature, where may we find the origin of the form which became man and where can we follow it until it became truly human? Such a problem is too high for us to expect to solve with the means that we today possess. And is it not already a great thing to have placed our species in the first rank of the organized world? To have constituted through the effort of centuries a brain not only capable of carrying us through the struggles for life but of conceiving the thoughts which have made our civilization and which have enabled us to discover in the most distant past of our earth events so insignificant as the birth of an alga?

# A SKETCH OF MADAM CURIE
BY
PAUL APPELL, PRESIDENT OF
THE ACADEMY OF PARIS.

(This graphic account of the early struggles of the famous French woman has been secured by Science Service from M. Appell, who is the President of the Academy of Paris, member of the Institute and Professor of Mathematics at the Sorbonne.)

Madam Curie is, as is well known, of Polish birth, and enthusiastically attached to her native land. She is profoundly gratified with the result of the world war, which with the intervention of the United States has, she feels, saved civilization and freed oppressed peoples.

It was in 1895 that Madam Curie was married. She was authorized to work in collaboration with her husband in the School of physics and chemistry where Madame Curie was the director of the work. Monsieur and Madame Curie had very limited means for their work, and indeed at that time one may say they had no suitable laboratory entirely at their disposal. They could, as the requirements of the service permitted, utilize the school laboratory where Pierre Curie directed experiments. But in this student laboratory there was no spot which they could call their own. Later on they obtained permission to use a room on the ground floor of the school building occupied as a store room and machine shop. It was in this place they began their research work in radio-activity.

Monsieur and Madame Curie not being able to pursue their chemical experiments in this place, arranged for these in a sort of abandoned warehouse opposite their atelier. In this hangar with its asphalt floor, its broken and patched glass roof, hot in summer, heated by a cast iron stove in winter, they performed their wonderful work. The equipment consisted of some old and worn deal tables upon which Madame Curie prepared the material for the production of radium. She was laboratory chief assistant and handy-boy at the same time. In addition to her intellectual labor it was frequently necessary for her to perform severe manual toil. On many an afternoon she stirred in a great cauldron, with a heavy iron rod the molten mass of the radio-active products reaching home at evening exhausted with fatigue but delighted to see that her labors had led to a luminous product of concentration.

From the year 1900 Pierre Curie was assigned a course of lectures in the Faculty of Science of Paris. In 1904 after the award of the Nobel prize to Monsieur and Madame Curie for their discovery of radium, a chair was created for him in the Faculty. In 1905 he was made a member of the Institute. On April 19, 1906 he was killed by being run over by a heavy vehicle at the end of Rue Dauphine, Paris.

At the close of the year 1906 Madame Curie was appointed a professor in the scientific department of the University of Paris. She continued her splendid work in a tiny laboratory-far too small-established in Rue Cuvier. Later, upon the University acquiring the land between Saint-Jacques and Ulm streets, a new street named for Pierre Curie was laid out through the length of this property, and a laboratory specially designed for the use of Madame Curie was started in coordination with the Pasteur Institute. The present arrangement is this: on one side is the special

laboratory for Madame Curie's research work. On the other side is a wing belonging to the Pasteur Institute where researches are carried on in the application of radium and its emanation in treatment of diseases, particularly those of a cancerous nature. Between these two buildings is a small structure containing the precious substance.

It is not necessary to recall here the magnificent work and the notable discoveries made by Madame Curie in this laboratory. I will limit myself to a word respecting the great good done by Madame Curie in the military hospitals at the front. To her was due the organization of a systematic radiographic service. At first she went about from hospital to hospital at the front in an automobile containing a small but complete radiographic laboratory, stopping at each point only the necessary time for treatment of the most urgent cases. To obtain the current for running the dynamo she used the motor of her automobile. In this way many human lives were saved.

At present Madame Curie is devoting herself entirely to her work: to her scientific researches, to teaching and to the organization of a radiotherapeutic service that she is conducting in collaboration with Dr. Regault. of the Pasteur Institute. This service,is, we trust, to be further developed, thanks to the generous endowment by Dr. Henrie de Rothschild.

Let me take the liberty in closing of venturing the hope that the United States to which we are already so deeply indebted may become interested in the development of the Radium Institute and come to the aid of its scientific research which forms the basis of scientific progress as well as its practical application. Already the generosity of the United States is evidenced by the splendid gift of a gram of radium to Madame Currie by a group of American women, a gift which Madame Curie goes to the United States to receive in person.