

three-quarters pounds each, and are in a good state of preservation.

Edgar B. Howard, of the Academy's museum, identified the specimens as belonging to *Elephas primigenius*, one of three species of genuine elephants that roamed North America during and immediately after the Pleistocene, or glacial period. Although this species was the smallest of the three, it was still huge, the beasts averaging nearly ten feet high at the shoulders, with tremendous curving tusks bigger than those of any living elephant. It was protected against the cold by a thick coat of wool, overhung with long hair.

When this great animal lived in North America, its kindred were hunted by cave men in Europe, who also drew and sculptured their likenesses on the walls of their caverns and on ivory of their own tusks. Whether such hunters existed also on this continent has not yet been definitely determined.

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#### PALEONTOLOGY

### Monkey-Like Animal Found In German Lignite Mine

**T**HE SKELETON of an exceedingly primitive lemur, a lower form of monkey-like animal, has been found in one of the great lignite or brown-coal mines in the valley of the Geisel, by Prof. Johannes Weigelt of the University of Halle. It is quite small, its length without the tail being only about four centimeters (1 3-4 inches), of which one-third is skull. The structure of the animal, especially of its skull, offers support for the theory of Prof. William K. Gregory of the American Museum of Natural History, that all ape-like animals evolved from tree-shrews. Because the mine in which it was found bears the name "Cecilie," Prof. Weigelt has named his new genus *Ceciliolemur dela saucei*.

The skeleton was found in one of two great masses of animal bones, which probably represent deep places in some long-lost stream bed. Into these the bodies of drowned animals sank, and in them water animals like crocodiles, perishing of summer drought, found their last refuges. The deposits are of middle eocene age, dating back approximately fifty million years.

Prof. Weigelt has reported the details of his find to the German scientific journal *Forschungen und Fortschritte*.

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#### PHYSICS

## Super-Atomic Bullets Smash Lithium Atoms for Americans

### California Physicists Confirm Work of British With New Machine That Promises to Blast Atoms of Any Element

**U**SING ATOMIC BULLETS speeding with the energy of over 700,000 electron-volts, Prof. E. O. Lawrence of the University of California and his associates have succeeded in smashing the lithium atom into two alpha particles or ionized atoms of helium gas.

Prof. Lawrence thus confirms work done by British physicists who used lower energy protons as the bombarding projectiles. They found that protons shot at the lithium atoms combined with them and released energy.

A special apparatus that imparts high energies to atomic particles by whirling them in a magnetic field was used by the University of California investigators.

With this machine, designed by Prof. Lawrence and Dr. M. Stanley Livingston, serving as a source of proton bullets or hydrogen atom nuclei endowed with high energies, the physicists bombarded a crystal of lithium fluoride with a stream of some ten billion of these sub-atomic bullets per second.

In the first test proton bullets with energies of 360,000 volt-electrons were used. Then the energy of these tiny projectiles was raised to 510,000 volt-electrons, and finally to 710,000 volt-electrons. In each case the number of lithium atoms disintegrating under the bombardment was obtained by counting the helium ions which shot out of the crystal. The number of disintegrating atoms increased as the energy of the proton bullets was increased.

With the equipment now on hand, Prof. Lawrence and his associates, Dr. Livingston and Milton G. White, believe they are in a position to carry these disintegration experiments to a further point than has yet been possible. The machine now in use is capable of producing protons with energies as high as 1,200,000 volt-electrons. Although this is a higher limit of energy than has ever been officially reported, Prof. Lawrence says that he has a larger machine of the same type which will record a still higher limit of energy. This machine, which contains one of the world's

largest magnets, is now producing hydrogen molecule ions with an energy of 3,600,000 volt-electrons.

The highest energies previously reported were those obtained in the department of terrestrial magnetism of the Carnegie Institute of Washington. The limit was about 1,000,000 volt-electrons, and the number of protons with this energy was very small. In comparison, the University of California machines produce projectiles at the rate of about ten billion per second, and reach energies well over one million volt-electrons.

With such means available it is believed that it will be possible to blast apart any atom in the table of chemical elements. This will in effect open a new field of physics, and far-reaching discoveries may be anticipated in the future.

*Science News Letter, October 22, 1932*

#### PUBLIC HEALTH

### Discarded Batteries Caused Lead Poisoning Outbreak

**D**ISCARDED casings of storage batteries now appear as a new source of lead poisoning. Thirty-six cases of poisoning from this cause were reported to the City Health Department of Baltimore. The casings had been given away by junk dealers of the city to be used as fuel after the lead plates had been salvaged from them. Lead, which is usually deposited in the form of lead sulfate, vaporized into poisonous fumes when the casings were burned.

The victims were all children, with the exception of one woman, mother of one of the children. All the patients were Negroes and, with three or four exceptions, all lived in the same neighborhood. Apparently they had all obtained the battery casings from the same dealer.

The Baltimore Health Department has warned junk dealers that the bat-