

## ASTRONOMY

**World's Largest Meteorite Discovered in Africa**

**T**HE WORLD'S largest meteorite yet discovered is reported found by a Johannesburg land surveyor in the Tanganyika region of Africa.

This record import from space consists of a mass of iron and nickel weighing some 70 to 80 tons and measuring nearly fourteen feet long. Its discoverer, W. H. Nott, staked a mining claim in order to obtain legal title to his discovery. The meteorite was found in open country about half way between Lake Nyasa and Lake Tanganyika.

The newly discovered meteorite, which undoubtedly fell to earth many years ago, will probably exceed in size the meteorite that was found in the northeastern part of Southwest Africa in 1928. This mass was then considered to be the largest actually discovered.

Both the new discovery and the 1928 meteorite are dwarfed by the immense meteorites that are believed to have caused the Meteor Crater of Arizona and the great earth scar in Yenissei province, Siberia. Neither of these has been recovered, but the Siberian fall was heard on June 30, 1908.

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## NATIONAL PARKS

**Isle Royale National Park Approved by Congress**

**I**SLE ROYALE, a new national park in the East, lying right alongside the northern boundary of the United States where it passes through Lake Superior, was approved by the last Congress during the last few hours of its existence.

This island, the largest in Lake Superior, lies about 150 miles northeast of Duluth.

Isle Royale comprises about 205 square miles, of which some twelve square miles are taken up by 24 little lakes—lakes within a lake. To this there will probably be added a few more square miles in small adjacent islands.

The surface of the big island is extremely rough and picturesque. Great, irregular heaps of rock are covered with a mantle of moss and ancient trees. Fortunately for the proposed park, its ruggedness and remoteness have prevented the activities of lumbermen. The only damage ever suffered by the forests was from a naturally-caused fire many years ago, traces of which can still be found.

Nowhere else in the United States are so many moose to be found as here on this island. There are about two thousand of them. There are also about four hundred woodland caribou, which are the only specimens of this animal within the United States proper.

On Isle Royale also are some of the most interesting and most mysterious archaeological remains on this continent. There are old copper workings of unknown date, where Indians, or possibly the earliest white comers, mined copper nuggets.

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## NATIONAL PARKS

**Canyon De Chelly Now National Monument**

See Front Cover

**A**FAMOUS canyon of the West, with ancient Indian ruins under the shelter of its thousand-foot red walls, has been given the status of a National Monument, by an act of Congress recently signed by the President.

This is the Canyon de Chelly in Arizona, with its tributaries, Canyon del Muerte and Monument Canyon. Although Canyon de Chelly is among the most noted of western canyons, relatively few people have seen it as yet, for the roads that lead to it are not good and there are only very limited accommodations. At present the principal object is to get the region under the protection of the National Park Service, which has administrative and police facilities for preventing vandals from looting the historically valuable ruins.

Before Congress could act on the proposal to make a National Monument of the area, consent had to be gained from the Navajo Indians, for it lies within their reservation. However, they make no use of the canyon itself, and only graze their livestock on the surrounding land, so that after due negotiations they were quite willing to agree to the change in status.

The area contains 131 square miles. The red sandstone walls of the canyons rise sheer above the river, to heights of 700 to 1,000 feet. In some cases the walls are absolutely perpendicular or even overhanging. They are much sculptured and brilliantly colored. In protected localities there are many cliff dwellings of unknown antiquity, reaching back to a period earlier than that recorded for any other southwestern ruins.

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**IN SCIENCE**

## OCEANOGRAPHY

**Expedition To Study Natural Ocean Laboratory**

**A** YALE expedition, equipped to study the chemistry and physics of sea water more than a mile deep, is on the way to the Bahamas. Fitted with a special winch for reeling out 7,000 feet of airplane wire, carrying instruments to record conditions at that great depth, scientists on board the schooner "Abenaki" will concentrate their attention on a unique situation presented by two parallel deep troughs underlying the otherwise shallow seas around these islands off the coast of Florida.

The two narrow deeps which the expedition will study are known as Tongue of the Ocean and Exuma Sound. These submarine valleys run parallel to each other throughout most of their lengths, but open into the ocean depths at opposite ends very far apart. Biological collections dredged up by previous expeditions have been so unlike that it is believed the physical and chemical factors determining the conditions of life in the depths must be quite different. It is to get exact data on these conditions that the expedition has been organized.

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## ARCHAEOLOGY

**Unearth City of Dead On Aegean Island**

**D**IGGING on the island of Lemnos in the Aegean Sea, the Italian Archaeological Institute has unearthed a necropolis which appears to be of considerable importance archaeologically.

The burials in this city of the dead are of a non-Greek race. The language, judging from the inscriptions, was surprisingly similar to the Etruscan. And most of the urns, weapons, objects of gold, and ceramic articles are so similar to Etruscan art that the possibility has been suggested that this people belonged to the race which later emigrated to Italian Etruria. Prof. A. Della Seta has been in charge of the excavations.

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# E FIELDS

## PLANT PHYSIOLOGY

### Manganese Not Needed By Green Plants

**M**ANGANESE, strengthener of steels, lately believed to be equally important as a vivifier of green plants, may not be as universally necessary for vegetable life as has sometimes been assumed. Experiments performed at Iowa State College by Dr. Norman Ashwell Clark and Claude L. Fly apparently lend support to the doubters of the importance of manganese in the life of green plants.

In order to simplify their procedure, Dr. Clark and Mr. Fly used a floating water plant known as *Lemna*. They grew this in culture solutions both with and without manganese, and found that it would thrive in the total absence of that element. In concentrations of more than one part per million, manganese even exerted a poisonous effect.

The experiments are reported in full in *Plant Physiology*.

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## BIOLOGY

### Research Council Makes Fellowship Appointments

**F**ELLOWSHIP appointments in the biological sciences for the academic year 1931-32 have been announced by the National Research Council, Washington. Seventeen new appointments have been made, and twelve students who held fellowships during 1930-31 have had them renewed.

The new appointees who will study in universities and research institutions in America are:

G. W. Adriance, Bryan, Texas; S. H. Bartley, Lawrence, Kans.; L. C. Craig, Carlisle, Iowa; S. T. Dexter, Ashland, Wis.; C. H. Graham, Worcester, Mass.; S. R. H. Hall, Moorefield, W. Va.; E. W. Hopkins, Randolph, Wis.; Burt P. Johnson, Madison, Wis.; S. L. Leonard, Arlington, N. J.; M. H. Lohman, Ann Arbor, Mich.; B. F. Skinner, Cambridge, Mass.; F. K. Sparrow, Jr., Washington, D. C.; R. G. Stone, Co-

lumbia, Mo., and F. P. Zscheile, Jr., Staunton, Va.

H. H. Jasper, Iowa City, Iowa; V. C. Twitty, Indianapolis, Ind.; and W. C. Young, Chicago, Ill., will study abroad.

Reappointments have been granted to the following fellows:

O. D. Anderson, Anderson, S. C.; L. W. Gellermann, Seattle, Wash.; E. H. Hinman, Ithaca, N. Y.; A. B. Keys, Berkeley, Calif.; R. K. Meyer, Madison, Wis.; E. R. Orent, Brooklyn, N. Y.; Daniel Raffel, Baltimore, Md.; H. M. Raup, Cambridge, Mass.; Gene Weltfish, New York, N. Y.; Samuel Yochelson, Buffalo, N. Y.; George Kreezer, New York, N. Y., and T. L. Steiger, Lincoln, Neb.

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## GEOLOGY

### Students Are Told How Coal Was Formed

**T**HE STORY of coal has been presented to geological students at Yale University in a course of six lectures, by Dr. David White of the U. S. Geological Survey.

Dr. White is an advocate of the theory that coal was formed in place, by the steady fall of leaves and other plant detritus from long-standing forests in the vast, ill-drained swamps of the Pennsylvania geological period and other coal ages. The prevailing theory formerly was that coal was formed from plant remains washed into great shallow lakes. But by research in many mines Dr. White was able to show the widespread occurrence of the roots of the coal age trees, embedded in the clay strata underlying the coal.

Dr. White believes also that the laminated or sheet-like structure shown by almost all coals indicates a probable seasonal deposition. It is now well recognized that coal could have been, and probably was, formed in a temperate rather than a tropical climate. Whether the seasons were summer and winter, or merely recurring wet and dry periods does not matter much.

The occurrence of "mineral charcoal" on top of coal laminae does not necessarily indicate, in Dr. White's opinion, that the coal swamps were burned over at intervals. He thinks it more likely that these more highly carbonized layers in the coal were caused by the simple drying out of the swamps during the drier seasons of the year.

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## PLANT PHYSIOLOGY

### Lack of Potassium Makes Sugar Cane Sick

**J**UST AS men or animals will sicken if they do not get enough salt, so do plants become ill and stunted if they are starved of one or another of the mineral nutrients they need. Experiments performed at the University of Chicago by Dr. Constance Hartt of St. Lawrence University, of Canton, N. Y., show that sugar cane must have its modicum of potassium in order to remain healthy.

Deprived altogether of potassium, the cane plants suffered from decreased growth, dieback and deficient development of their all-important green coloring matter.

With a little potassium they showed a little growth; with more, better growth; there was a definite correlation between the amount of the mineral supplied and the amount of plant material produced. The only plant part that grew faster on a short potassium ration was the root system, and this growth was only in length, as though in search for the missing element; there was no increase in weight even in the roots.

There were internal abnormalities also in the cane plants on a potassium-starvation diet, expressing themselves both in unusual structural elements and in off-key physiological behavior.

For normal development the plants did not make excessive demands. All they needed, so far as the potassium ration went, was 39 parts of it in ten million parts of the solution supplied to their roots.

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## ORNITHOLOGY

### Bird's Nest Found In Skin of Hare

**A** GERMAN hunter reports a find that almost matches the Biblical story of Sampson discovering a colony of bees in the carcass of a lion. In the dried-up remains of a hare wedged in the branches of a fir tree he found the nest of a bird containing a full complement of eggs. The hare had probably been picked up dead by an earlier hunter, hung up in the tree and then forgotten.

What should have prompted the bird to select this utterly unusual and somewhat gruesome nesting site is a puzzle to naturalists.

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