

## PUBLIC HEALTH

## System of Group Payment For Medical Care Spreading

**M**ANY steps toward solving the problem of the costs of medical care by a system of group payment have already been taken, it appears from a report of Dr. Esther Lucile Brown of the Russell Sage Foundation. Dr. Brown's report, the fourth in a series of studies in professions, has been released by the Foundation.

"Widespread application of some system of group payment," it is suggested, "might lead to a greatly enlarged demand for service by the middle class, and might also relieve the health professions from the burden of having to render so much service for which they receive little or no remuneration."

Among the beginnings in this direction, Dr. Brown points out that by 1930 over half a million wage earners in the mining and lumber industries of twenty-one states were eligible through the industries themselves to more or less complete medical care on a fixed, periodic payment basis.

Under workmen's compensation laws, some \$80,000,000 is paid out annually for medical services to injured workers, these funds coming almost solely from the employers. The rapid recent spread of group hospitalization plans is a further extension of the group payment principle.

Public expenditures for disease prevention through departments of health, and for hospitalization, particularly of the tuberculous and the mentally ill, have steadily mounted. According to the estimate of the Committee on the Costs of Medical Care, 14 per cent. of the costs of health and medical services in the United States in 1929 were financed by taxation.

*Science News Letter, June 12, 1937*

## PALAEONTOLOGY

## Extinct Shark-Like Animals Demoted to "Missing Link"

**F**OSSIL sea-creatures that scientists have always regarded as sharks were demoted to the lower position of missing links between the true fishes and more primitive forms like lampreys, by Prof. David M. S. Watson of University College, London, in an address before the New York Academy of Sciences.

The extinct shark-like animals are known as acanthodians. The name comes from the Greek word for thorny

or spiny; the acanthodians were rather prickly customers in their day. Each body fin was armed in front with a stout, sharp spine. They appeared first in Devonian times, about 300,000,000 years ago, and lasted about 100,000,000 years, until the Permian.

Acanthodians were always taken to be primitive sharks because of their general body outline and because such remains of their skeletons as were found appeared to be in general shark-like. However, Prof. Watson has found such marked differences in braincase, jaws, gill arches, and other structural elements that in his opinion it is evident "they belong to a grade of structure more primitive than, and in a wide sense antecedent to, that of the true fish."

He therefore considers them to be a special and separate group of vertebrates, lower than the fishes and intermediate between them and the more primitive lamprey group.

*Science News Letter, June 12, 1937*

## GENERAL SCIENCE

## Launch New Study of Science Aids to Learning

**A** COMPREHENSIVE survey of how radio, sound recording and reproduction, motion pictures, photography and other scientific achievements may be applied to promotion of learning is to be conducted by a special committee of the National Research Council.

Dr. Irvin Stewart, now vice-chairman of the Federal Communications Commission, will head the active investigations as director upon the expiration of his term on the FCC June 30. President James B. Conant of Harvard is chairman of the committee consisting of Dean Vannevar Bush of Massachusetts Institute of Technology; President L. D. Coffman of the University of Minnesota; Dr. Frank B. Jewett, president of Bell Telephone Laboratories; Prof. Ben D. Wood of Columbia University; Bethuel M. Webster, New York attorney, and Dr. Ludvig Hektoen, chairman of the National Research Council.

The new committee on scientific aids to learning will establish offices in New York and appoint experts and consultants to aid in its inquiries. The first activity will be in the field of educational broadcasting and will consist of a survey of the work and experience of the National Advisory Council on Radio in Education. Funds from the Carnegie Corporation will support the committee's activities.

*Science News Letter, June 12, 1937*

# IN SCIENCE

## ECOLOGY

## Castilla Rubber Trees Suggested for Florida

**R**UBBER'S importance in war has been popularly recognized ever since Gallieni's army rode to battle in Paris taxicabs, to check the outflanking Germans on the Marne. Germany, with no rubber-growing colonies, desperately makes costly synthetic *Ersätze*. Sovietland plants latex-bearing weeds wholesale on the steppes. Britain mounts the world's most ponderous guns at Singapore, the gateway for most of the world's plantation rubber.

A possible reservoir for emergency supplies of rubber for the United States, on what is now wasteland in southern Florida, is suggested by Dr. O. F. Cook of the U. S. Department of Agriculture, in a communication to *Science*. These lands, Dr. Cook points out, are in need of reforestation, and he asks why should they not be planted to the rubber tree that the ancient tropical American Indian civilization knew, *Castilla*.

*Castilla* was once a more widely distributed rubber tree than the one that now dominates the world's rubber market, the Para rubber tree or *Hevea*. The latter has come to its leading position because its internal anatomy makes it more suitable to the economical harvesting of latex by tapping. *Castilla* would yield its rubber most advantageously if the whole tree were felled and the rubber taken out of its bark by mechanical means.

This of course would be a destructive method of harvesting rubber. But since the projected Florida plantings would be intended only for emergency use, when this destructive but rapid method of harvesting would be more or less justified, it need not be of primary concern.

Another use suggests itself: Para rubber trees take some years to come into bearing, and under some conditions require the partial shelter of "nurse" trees while they are young. Why not, asks Dr. Cook, let *Castilla* trees take over this job, so that when the nurse trees must be removed they will anticipate the *Hevea* yield with a preliminary rubber harvest of their own.

*Science News Letter, June 12, 1937*

# E FIELDS

## ARCHAEOLOGY

### Big Prehistoric Hoard Of Indian Corn Found

ONE of the greatest hoards of prehistoric Indian corn ever found in the Mississippi Valley is reported by Robert McCormick Adams, excavating an old Indian settlement at Wickliffe, Ky.

Several thousand grains of the corn, charred by fire, were found under the floor of an Indian building near the fireplace, the archaeologist reported. Fire, which wrecked the whole structure, may explain why the Indian store of food was never eaten.

Skeletal remains of Indians who lived at the prehistoric settlement are also coming to light in the excavations, Mr. Adams said.

*Science News Letter, June 12, 1937*

## ECOLOGY

### South African Sheep Bush Thrives on Arizona Desert

KARROO or sheep bush, one of the principal forage plants for sheep in the South African desert plateau areas in times of severe drought, is now being propagated by the nurserymen of the U. S. Soil Conservation Service for seed increase, since this plant has demonstrated extreme drought resistant possibilities and adaptability to the American desert.

Sheep bush has covered the desert plateaus of South Africa for centuries. Gradually it became evident that this shrubby perennial was a most dependable forage plant. Becoming so dormant during the dry season that it appears to have died, it comes to life with almost miraculous quickness with the beginning of rains.

The original introduction of the karroo or sheep bush into the United States was made more than 35 years ago by Dr. David G. Fairchild, for many years head of the division of foreign plant introduction of the Bureau of Plant Industry. First plantings were made from a packet of native African karroo seeds in the plant-introduction gardens at Chico, Calif. After that, for many years,

little attention was given to the plantings.

Then came the recent drought emergency, and a small amount of seed was furnished the Soil Conservation Service for experimental planting under Southwestern arid conditions. So the sheep bush, along with some 30 or 40 other species of widely varying growth habits, was planted in the Arizona desert.

After a year or two all of the species thus planted had disappeared, with the single exception of the sheep bush. This is taken as a thoroughly convincing experimental result from the point of view of the Soil Conservation Service.

*Science News Letter, June 12, 1937*

## PHYSIOLOGY

### Faulty Nutrition May Cause Popping Eyes in Goiter

FAULTY nutrition may be the cause of the popping or bulging eyes characteristic of the type of goiter known as Graves' Disease, Dr. David Marine of Montefiore Hospital, New York, told members of the International College of Surgeons meeting in that city.

This eye symptom in goiter has long been a medical mystery, Dr. Marine explained. In the past 10 years it has become more pronounced as a symptom following removal of most of the thyroid gland to remedy Graves' Disease. The reason for the bulging eyes, following operation, Dr. Marine believes, is the removal of the protective action of the thyroid gland. Feeding dried thyroid to guinea pigs and rabbits prevents and often cures the eye condition.

Although the condition is evidently due to lack of thyroid gland secretion, the eyes do not bulge in cretins, patients suffering from severe thyroid insufficiency.

"Obviously many other factors than that dependent on thyroid insufficiency are involved," Dr. Marine stated.

In rabbits, males are much more susceptible to the condition than females. The same is also true in the post-operative eye condition in humans, that is, men are more apt to develop bulging eyes after thyroid removal than women in the ratio of 3 to 2. From this Dr. Marine concludes that "the same basic disturbance in nutrition is involved in both man and rabbit."

This disturbance involves deficient thyroid secretion, hyperactivity of the anterior pituitary, some sex gland insufficiency and an abnormal calcium and phosphorus metabolism.

*Science News Letter, June 12, 1937*

## MEDICINE

### Students Warned Against Pep Pills at Examinations

WARNING to students facing final examinations not to use so-called pep pills (benzedrine sulfate tablets) was issued by the American Medical Association.

The pills do relieve fatigue and stimulate the mind temporarily, but cases of collapse, fainting and insomnia (sleeplessness) following their use have been reported to student health physicians. Using these tablets to replace sleep and study is about as efficient as whipping a tired horse, the editor of the *Journal of the American Medical Association* suggests. (June 5)

Benzedrine sulfate seems to be a useful medicine when taken under a physician's direction. It is too new to warrant any prediction, however, as to possible permanent harm that may result from its continued misuse.

*Science News Letter, June 12, 1937*

## ENGINEERING

### 50,000,000-Year-Old Sabertooth Not a Tiger

SABERTOOTH tigers, that yowled bloodthirstily in Western woods a million years ago, did not invent the sabertooth idea. The same long, curved, murderous weapons projected from the jaws of an entirely different kind of animal fifty million years ago, long before the cat family began to develop.

So cat-like was this early sabertooth animal that only an examination of the internal tooth structure proved it to be a counterfeit cat. Prof. William Berryman Scott, noted paleontologist, has given it a scientific name from the Greek, which means just that: "apat," meaning false or counterfeit, and "aelurus," meaning cat, combine into *Apataelurus*.

The creature, which lived in early Eocene time, belonged to the mammal group known as creodonts, a primitive, quite generalized carnivorous type. One line of descent of these creodonts "independently acquired the characteristics of the true sabertooth tiger," Dr. Scott stated.

The fossil on which Dr. Scott's identification was based was found in Utah by J. Leroy Kay of the Carnegie Museum, Pittsburgh. In recognition of this, Dr. Scott gave it the specific name *kayi*, so that it is *Apataelurus kayi*.

*Science News Letter, June 12, 1937*