

There are also native American weeds, doubtless indigenous to the region, such as *Asclepias Cornuti*, *Antennaria margaritacea* and *A. plantaginifolia*, and in enriched soils *Phytolacca decandra*, which have apparently become strongly aggressive under changed conditions. These are some of the instances which may show that predominance is not in consequence of change of country and introduction to new soil.

In many cases it is easy to explain why a plant, once introduced, should take a strong and persistent hold and spread rapidly. In others we discern nothing in the plant itself which should give it advantage. *Lespedeza striata* is a small and insignificant annual, with no obvious provision for dissemination. It is a native of China and Japan. In some unexplained way it reached Alabama and Georgia and was first noticed about thirty-five years ago; it has spread rapidly since, especially over old fields and along road-sides, and it is now very abundant up to Virginia and Tennessee, throughout the middle and upper districts, reaching even to the summits of the mountains of moderate elevation. In the absence of better food it is greedily eaten by cattle and sheep. The voiding by them of undigested seeds must be the means of dissemination; but one cannot well understand why it should spread so widely and rapidly, and take such complete possession of the ground. It is one of the few weeds which are accounted a blessing.

Lespedeza, the "weed which is accounted a blessing," has persisted and spread since Gray's time, and has recently been recognized as an important food plant for cattle in the South. Through the work of research botanists this drought- and flood-resistant forage crop is now becoming available to farmers, who are clamoring for its seed.

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The gem stone alexandrite, named for Alexander II, was prized by Russians because its changing colors—green in daylight, red in artificial light—were the national colors.

There are 150 million acres of National Forest land in this country and 17 million acres of forest land owned or managed by states, counties, and municipalities.

Spectral analysis makes it possible to identify constituents of materials, even detecting copper, silver, and other metals in quantities as small as one-millionth of one per cent.

PHYSIOLOGY

Sympathin, New Hormone and Stimulant, Found To Be Twins

ONE OF THE newest hormones, sympathin by name, is twins, it appears from the report of Prof. Walter B. Cannon, Harvard Medical School, to the National Academy of Sciences. Prof. Cannon explained before the Academy that he has just found there are really two sympathins, I and E.

Sympathin, discovered by Prof. Cannon and associates two years ago, is a hormone produced by smooth muscle. This is the kind of muscle, found in the blood vessels, digestive tract and elsewhere, that contracts involuntarily.

Sympathin is very much like epinephrine, more familiarly known as adrenalin, or adrenin, which is produced by the important adrenal glands. Both substances, for example, quicken the heart beat, cause a rise in blood pressure, and, in the cat, cause increased flow of saliva.

But sympathin is not the same as epinephrine, Prof. Cannon's latest studies show. Furthermore, the sympathin twins are produced at differ-

ent times by the smooth muscle and have opposite effects on the body.

Sympathin E is produced when smooth muscle is made to contract, and has an exciting, stimulating effect on muscle elsewhere, quickens the heart beat, for instance. Sympathin I is produced when smooth muscle is made to relax and has only an inhibiting, relaxing effect on muscle in other parts of the body.

In a recent discussion, Prof. Cannon said that the discovery of the sympathin twins suggested that epinephrine might be modified chemically so as to use it in a discriminative way. For example, epinephrine or adrenin E, if made, could be used to stimulate the heart, raise blood pressure, etc., without checking or stopping the digestive process. Adrenin I could be used to relax spasms of the gastro-intestinal tract, for example, without raising the blood pressure or increasing the blood sugar. This would increase the usefulness of an already valuable medical aid.

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SEISMOLOGY

Death-Dealing Quake Was Not A Major Disturbance

THE RECENT California earthquake (March 10) was not a major shock and its energy was far less than that of the Nevada shock of November 20 to 21 last year, Harry O. Wood and C. F. Richter, seismologists of the Pasadena Seismological Laboratory, have concluded as the result of a preliminary but detailed study of the earthquake.

In magnitude and intensity of local shaking, the March 10 shock probably did not exceed and may even have been less than the Santa Barbara earthquake of June 29, 1925. The greater extent of property damage and loss of life, about 120 persons, in the recent shock is attributable, the seismologists conclude, to the more thickly settled character of the strongly shaken area.

"The intensity of the main earth-

quake probably nowhere exceeded VIII on the modified Mercalli scale of 1931," the seismologists report. An earthquake of intensity VIII causes slight damage in specially designed structures, partial collapse of substantial buildings and great damage in poorly constructed buildings. Chimneys, monuments, columns and walls fall, heavy furniture is overturned, and even persons driving motor cars are disturbed.

"Apparently stronger shaking at certain points where considerable destruction occurred was very probably due to the water-soaked alluvial character of the ground," the report states. "Damage was most extensive at Long Beach, which happened to be the largest center of population near the origin. At all points, spectacular (Turn to Page 269)

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damage is confined almost wholly to bad or improperly designed construction.

Careful study of records of seven seismographs operated in California by the Pasadena Laboratory show that the origin of the earthquake was probably on one of a system of faults which run parallel with the coast in the vicinity lying between the towns of Huntington Beach and Newport Beach. The depth of the origin appears to have been less than usual, probably about six miles.

The occurrence of a small shock on the day before the main earthquake at 1:13 a. m. on March 9 which was sharply felt and caused some alarm at Huntington Beach is reported. The seismologists believe that its origin was near that of the large earthquake. It was evidently a preliminary tremor.

Nearly continuous seismic motion was recorded on sensitive earthquake instruments for many hours after the main shock. None of these was at all comparable in intensity with the main shock, the largest immediate aftershock being that at 10:59 p. m. March 10 with an amplitude less than four hundredths that of the main shock.

In the region just inland from the epicenter, the seismologists found some fissures in soft ground, sand-craterlets, and disturbances to ground water."

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PSYCHOLOGY

New-Born Babies Not Blind Like Kittens

HUMAN BABIES do not come into the world blind like young kittens. Infants' eyes, instead of greeting their new-found surroundings with the blind, innocent stare which has previously been attributed to them, are actually able to see objects and to follow their movement. This was disclosed to the meeting of the Southern Society for Philosophy and Psychology by Dr. W. C. Beasley, of Johns Hopkins University.

No one knows as yet just how his mother's face looks to the newborn, but evidence that he actually can see it has been found by Dr. Beasley even in infants only three brief hours old. Great differences were found in the visual ability of different individuals, and race differences were also detected.

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ANTHROPOLOGY

Modern Man May Be Old As Oldest of "Low-Brows"

MODERN MAN, *Homo sapiens*, may have been in existence in East Africa at the time when Piltdown man was living in England and Peking man in China. This is the conclusion to be drawn from the findings of a conference of the Royal Anthropological Institute which has recently met at Cambridge to examine fresh evidence from Kenya obtained by Dr. L. H. B. Leakey's archaeological expedition to East Africa. The reports of committees appointed by the conference to examine the geological, palaeontological, anatomical and archaeological evidence appear in full in *Nature*.

Until recently the oldest known example of modern man was thought to be Crô-Magnon Man, who lived in Europe in late palaeolithic or Old Stone Age times. Then last year Prof. Elliot Smith pronounced the skull found in London in 1925 and known as "the Lady of Lloyds'" to be the oldest known example of modern man, and dated it back to the beginning of the middle palaeolithic times, perhaps as much as 75,000 years ago.

Now Dr. Leakey has brought back from the fossil-beds of the northeastern shores of Victoria Nyanza fragments of three skulls, a part of a lower jawbone, crude stone implements belonging to two types of stone industry, and fossil animal bones associated with them, which he contends afford evidence for the existence of modern man at the

very beginning of palaeolithic times and even before.

The verdict of the conference on these materials is that the stone industries, which correspond to the pre-Chellean and Chellean industries of the lower palaeolithic in Europe, and the fragments of the human skulls and jawbone were undoubtedly associated with the remains of extinct animals—two kinds of elephant, a deinotherium, mastodon, and others—which date them back to early and middle pleistocene, or Ice Age times, while the human remains show no characters inconsistent with their inclusion in the type of modern man.

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GARDENS OF TREES

by

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