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.

*Science News Letter, April 29, 1933*

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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.

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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.

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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 different 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.

*Science News Letter, April 29, 1933*

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 earthquake 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)