

treetops shade out all undergrowth good for browse. The forest floor in one of these closed stands of evergreen trees is a desert, really much emptier of lesser plant life than most of the world's arid regions.

Yet during the dominance of these artificial spruce forests the deer have continued to increase. The only answer to the riddle, Mr. Leopold states, is artificial feeding. The German gentry and nobility, who must have their sport, have kept the deer "on relief" for decades—a proceeding which no practical for-

ester or conservationist approves at all.

The situation is beginning to remedy itself, however. Second and third crops of spruce did not justify the optimistic expectations of the original "spruce-boosters," and German foresters are turning increasingly toward mixed plantings, including important hardwood trees, so that in time the new German "Dauerwald," or permanent forest, will more closely resemble the famous forest primeval, the "Urwald," which so greatly awed Romans venturing beyond the Rhine.

Science News Letter, June 20, 1936

SEISMOLOGY

Used Plane to Hunt Quake Located by Seismograph

EARTHQUAKE-hunting in an airplane, with the "scent" of the geologic game supplied by telegraph from distant points, was the unique experience reported by Dr. Ernest A. Hodgson of the Dominion Observatory, Ottawa, at the meeting of the Seismological Society of America in Washington, D. C.

The quake was the big shake-up of last Nov. 1, which centered near Timiskaming, in the wilderness region of Ontario Province, and was felt all over eastern North America. As soon as he felt the tremors in Ottawa, Dr. Hodgson knew that it was "his" earthquake—that, as the nearest seismologist, it was up to him to find where the disturbance occurred and have a look at the ground.

Data from seven widely separated observatories, supplied telegraphically by Science Service, enabled him to calculate the location of the epicenter; though

certain technical difficulties enforced a month of the hardest kind of figuring before the troublesome quake could be pinned down exactly on the map. Even then, it turned out to be decidedly in the "wrong place," for the indicated spot lay in the midst of a terrific tangle of uninhabited dense forest, interspersed with hundreds of lakes. It was a place impossible to reach, except by boat or airplane.

Dr. Hodgson borrowed a Canadian government plane and flew to the calculated spot. Sure enough, there were geological evidences of a brand-new earth movement.

Dr. Hodgson also related how he received the earthquake's own report, "by ear," even before the ground shook in Ottawa. He was in bed but not yet asleep, shortly after midnight, when he heard the "earthquake sound," coming from a direction that later proved to be the right one. A few seconds later he could feel the earth shake.

Although the Timiskaming earthquake is commonly said to have occurred on Nov. 1, it isn't really ended yet, Dr. Hodgson said. Frequent aftershocks are felt, at least locally in the Timiskaming neighborhood, and they continue to register on his instruments in Ottawa. The telegraph operator in Timiskaming has become a volunteer seismologist; whenever he feels a tremor, he immediately wires the Dominion Observatory.

Science News Letter, June 20, 1936

Lilacs are not native American plants; they came to this country from Europe and Asia.

PHYSIOLOGY-PHOTOGRAPHY

Tiny Movie Camera Films Vocal Cords in Action

A MOTION picture camera so small and compact that it can be pushed into the larynx, to take films of the vocal cords in action, has been invented by two Viennese scientists, Dr. Kamillo Wiethe, a physician, and Dr. Franz Gerhard Back, an engineer. It is expected to be useful in at least three ways: to study the mechanics of the voice, particularly in famous singers; to investigate the physiology of the production of the various vowel sounds; and as an aid in the diagnosis of throat diseases, particularly those with a nervous involvement.

The new camera is an addition to an already existing series of miniature photographic apparatus designed for obtaining pictures of various internal cavities. One camera, for taking pictures of the inside of the stomach in the diagnosis of gastric ulcer, cancer and other ailments, is swallowed by the patient. It carries its own tiny light bulb with it. Once the exposure is made, the surgeon pulls the camera up again and develops his film.

Science News Letter, June 20, 1936

PHOTOGRAPHY

Lightning Portrait Repays Patience of Photographer

See Front Cover

LIGHTNING is one subject that the photographer can never persuade to pose for him. To catch a view such as that on the front cover of this week's SCIENCE NEWS LETTER, he must direct his camera toward a likely portion of the sky, open the shutter and then hope for the best.

The elements were particularly obliging for the camera of Arthur L. Cooper, who took this shot late on a summer evening at Eagle River, Wisconsin.

Science News Letter, June 20, 1936

THE IDENTITY THEORY

By Blamey Stevens

Dear Student:

Are you a *yes* man? Or do you use your own intelligence? Don't be misled by the generation that had no choice but to follow the fantastic relativity and photon theories until they got beyond the Osler age, when new fundamentals cannot be absorbed. Read up both sides of the case and make your *own* choice, not the one you are told to make.

8vo. 248 pages, cloth bound. Price \$2.00 post paid. Sixteen page summary free on application

Published by Sherratt & Hughes, Manchester, England. Also on order from the author at 438 W. 116th St. New York City

RADIO

June 30, 2:15 p.m., E.S.T.

BIGGER AND BETTER BERRIES—Dr. Frederick V. Coville of the U. S. Bureau of Plant Industry.

July 7, 2:15 p.m., E.S.T.

SAFETY FIRST IN SUMMER EATING—Miss Melva Bakkie of the American Red Cross.

(No program on June 23.)

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.