

specific instant before he can be arrested.

Other states, such as Michigan, have no speed limit, the law providing that how well a person drives under certain circumstances, not how fast, is the test of legal driving. The possibilities of inaccuracy due to mechanical failure or tampering would probably prevent its

use as evidence, just as the "lie detector" is barred in murder trials.

The main use of such a device will probably be in studies and surveys of average speeds on highways, curves and at intersections, to provide a much needed statistical background for more sensible speed laws.

Science News Letter, July 27, 1935

MEDICINE

Find New Way to Attack Disease of Muscle Weakness

A NEW attack has been launched in the fight against the strange disease of muscle weakness known as "myasthenia gravis."

This distressing and usually fatal, but fortunately rare, illness comes on gradually. The first symptom is usually general tiredness. This may be followed by trouble in walking or in lifting the arms or in grasping things. In a later stage the facial muscles often become so weak that the jaw cannot be kept shut or the eyes properly open.

Various physicians in London have lately been giving special attention to the search for an adequate remedy for the disease, and not long ago a possible way for checking it with complex chemicals called eserine or prostigmin was reported.

Eserine is believed to act by delaying the abnormally high rate of destruction, in myasthenic patients, of acetylcholine—the chemical "transmitter" which forms the link between a muscle and the nerve-ending which should control it. Another way of achieving the same result would be to stimulate the production or, at any rate, the utilization of the acetylcholine.

This latter method has now been tried by Drs. L. P. E. Laurent and W. W. Walther, who report their results in *The Lancet*. (June 22).

Had Worked With Cats

It was known that similar stimulation could be produced in cats by means of potassium chloride, and the London physicians decided to try this substance for the human sufferers from myasthenia. The temporary results from this treatment were striking. Strengthening of the facial muscles was particularly marked, the appearance of a patient frequently changing remarkably from the wasting look of starvation to relative vitality in less than an hour after administration of the drug.

Six patients have received the potassium chloride daily for a period of two

months, six doses being given daily. The treatment is stated to have proved valuable in conjunction with prostigmin. Several of the patients have found that a dose of potassium chloride, taken before the action of the prostigmin has ended, relieves the trying exhaustion which often followed the earlier treatment.

Many more experiments will have to be made, however, before any finality can be reached in the relief of the illness.

Science News Letter, July 27, 1935

ORNITHOLOGY

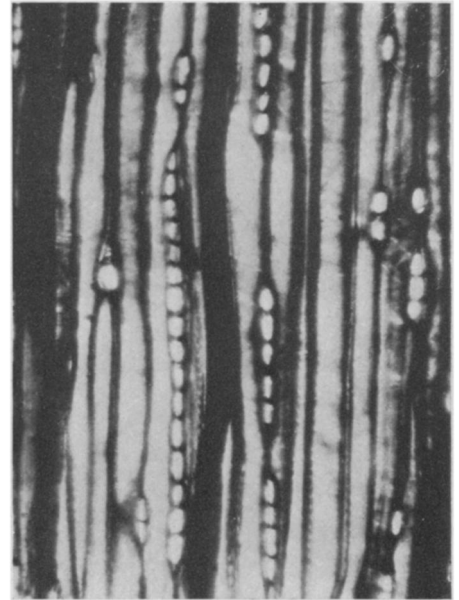
Sound Recording Methods Preserve Bird Calls

THE JOINT expedition of Cornell University and the American Museum of Natural History of New York City, which has just returned from recording the calls of almost extinct species of birds for posterity, had its amusing as well as its difficult experiences.

In the ten miles of film record and sound recording brought back by the expedition's director, Prof. A. A. Allen of Cornell, are the calls of the rare Ivory-billed Woodpecker, the Limpkin, the Sandhill Crane, the Wild Turkey, the Bald Eagle, the Golden Eagle, the Prairie Falcon and the Trumpeter Swan.

In Florida a Carolina Wren insisted on building its nest in the sound truck while the scientists were trying to record its voice. In Colorado a Golden Eagle tried to swallow the microphone which had been lowered 700 feet over a cliff to reach the ledge on which the eagle's nest was built. In Florida, again, a mockingbird recognized the sounds of a rival when one of the films was being tested. It dashed at the window of the room trying to drive the rival away.

In recording the bird records, which eventually may be transferred to phonograph records and distributed through



FOSSIL TREE'S STRUCTURE

How the microscope viewed the wood of the petrified tree shown on the opposite page. A tangential section.

the schools of the nation, the expedition met its technical difficulties.

How, for example, would you record the sound of the rare Water Ouzel, which lives only near water falls? Dr. Allen's party solved the problem by getting the microphone within two inches of the bird's beak so that the sound was much louder than the crash of water in the background. How long it took them to achieve this feat is not revealed.

Then, too, it was no easy task to record the "dance" of the bird known as the Lesser Prairie Chicken, but patience finally yielded the sound, caused by the pattering of the bird's feet on the ground with extraneous sounds muffled as background noise.

Freak weather followed the expedition's entire journey. There was frost in Florida, dust-storms in Oklahoma, cloud-bursts in Colorado, July snow storms in Montana, and to cap it all, when Prof. Allen was safely home in Ithaca, along came the recent New York flood, which swept around his home and carried off his outdoor runs and captive birds.

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A crossed-eye, if not given competent medical attention, may decrease in seeing power through non-use, while the good eye is overworked.

Cornell scientists are studying the production of onions, in the hope that New York State may grow mild varieties such as those from Italy and Bermuda.

CHEMISTRY

Italy's Chemists Gave Her Weapons for War in 1934

Permits Issued for 118 New Chemical Plants; Problems of Dyes, Fuels, Medicines, Were Studied

THAT Italy's mind was occupied with the possibility of future war in 1934 is indicated, according to well-informed observers, by the great strides her chemical industry took that year. When Mussolini finally decides to put on the gloves with Abyssinia, his country will find nothing neglected in the way of laboratory preparation. Synthetic gasoline is only one of the weapons his chemists have given his army.

A report just issued by the Chemical Division of the Bureau of Foreign and Domestic Commerce details this chemical progress. It shows that Italy has joined the race to prepare more quickly and efficiently in the laboratory what Nature does out-doors. Nor have Italian chemists been concerned chiefly with such melodramatic contributions as the supposed chemical which will be sprayed upon the ground where Ethiopians march and thus burn their bare feet.

Italy in 1934, the report states, issued

permits for the erection of 118 new chemical plants during 1934, bringing the total number to 874 at the end of the year, with an aggregate capitalization of 2,426,500,000 lire. Her foreign trade in chemicals followed the course taken by her general trade. She imported heavily and allowed her exports to drop.

During the year the Montecatini Chemical Company, Italy's largest, constructed two huge research laboratories, on a scale hitherto unknown in that nation. The company reported that important advances were made in the production of synthetic dyes and medicines, methanol, formaldehyde, synthetic resins, artificial cryolite and synthetic camphor.

The company claimed to have produced a satisfactory synthetic gasoline from domestic lignite—a big boon to petroleum-lacking Italy—and an important new explosive derived from methanol and nitric acid. It is also reported to have solved the problem of producing a

domestic cellulose suitable for nitration and the rayon industry—a big help to timberless Italy. And as far as cellulose for the manufacture of paper is concerned, Mussolini's chemists have found it in rice and wheat straw.

Other chemists attacked the problem of gasoline from another angle. They have not found a new way of preparing it. They have eliminated its use. They have met the possibility of a future national emergency by studying the production of sugar-beet alcohol for motor fuel.

On another front of the laboratory race to outdo Nature, scientists reported new progress in the separation of gases from natural steam geysers. In addition to getting carbon dioxide, they obtained valuable quantities of hydrogen, nitrogen, methane and helium—all highly strategic weapons for the war chemist.

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PSYCHIATRY

Mental Disorder Is Viewed As Disease Of Old Age

MENTAL disorder is primarily a disease of old age. It may be considered a result of the general lowering of vitality and the wearing out process which causes certain physical diseases of old age.

This new view of mental disease results from statistical research by Dr. Neil A. Dayton of the Massachusetts Department of Mental Diseases. Study of more than 61,000 admissions to New York and Massachusetts mental hospitals over several years shows that most of the cases of mental disease occur in older persons.

"In ages over 70 the admission rates are four times as high as those of middle age," Dr. Dayton stated.

"Mental disease," says Dr. Dayton, "is now placed squarely in line with failing physical processes. Mental disorder is quite removed from those diseases which are supposed to be due to the many strains imposed by our present civilization. In the younger and middle ages, when the stresses of life are most pronounced, the population does not present large proportions of mental disease.

"However, the older ages, accompanied by lesser degrees of business and social activities but with increased physical impairment and lower vitality, show admission rates for mental diseases which are the highest of all.

"Mental disease should not be accepted entirely as an abstract disorder of the



LOG 60,000,000 YEARS OLD

A log of petrified wood, dating back to somewhere around the time when the great coal beds were still tangled swamps, has been turned up in the Ozarks—a rare find for that region. Studies by Prof. J. E. Cribbs of Drury College disclosed some portions still uncrushed, showing microscopic details of structure quite clearly. It is regarded as probably a new species of fossil tree. The photograph is by Wm. J. Gibbs.