Do You Know?

New York state has over 4,000,000 acres in *farm woodlands.*

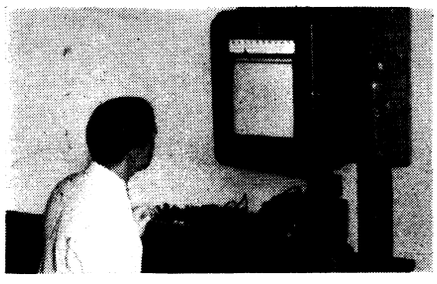
Game species of *migratory waterfowl* in North America have increased nearly 400% in the past nine years.

About 90% of all *salmon* caught by United States fishermen is taken in Alaska.

Fruit production in the United States may be at least 20% greater this year than in 1943, according to national estimates.

While *natural gas and petroleum* are found together and much of the gas supply is obtained from wells yielding both, the greater part is from wells which contain gas only.

The *bonehead dinosaur,* known to scientists only in relatively recent years, had a dome of solid bone with bumps and knobs; more properly it is the troodont dinosaur, technically *Pachycephalosaurus.*



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and pressure. An extremely hard, board-like material results which is quiet different from the paper itself. This material, named papreg by the U. S. Forest Products Laboratory, which has done much research on lignin, is being used for electrical insulating panels. It can be sawed, turned and drilled just like hard wood. It is durable enough to form skids for planes landing on ice and snow.

The grain of the individual sheets of laminating paper may be made to run in the same direction. Or the grains may be crossed, in the same manner that grains of plywood veneers are crossed, thus creating desired strengths in various directions.

Another lamianted product in which lignin has an important role consists of sheets of partially hydrolyzed wood, to which some phenolic resin has been added. These sheets may be run out something like paper and compressed together into panels. They are, in a sense, a sort of synthetic plywood which may come to have wide uses as a cheap structural material.

By controlling the proportions of lignin and cellulose under special treatment, products entirely different from wood may be made which meet needs that wood, in its natural state, cannot fill.

If you would like to have samples of the dry lignin powder, plastic made from lignin and a little cellulose, and a sample showing how the individual sheets are laminated into a solid, hard board, you can secure the Lignin Unit of THINGS of science, a kit prepared by Science Service, by sending 50 cents to SCIENCE NEWS LETTER, 1719 N Street, N. W., Washington 6, D. C., and asking for THINGS unit No. 47.

Science News Letter, November 4, 1944

ELECTRONICS

3-Dimension Electron View

Pictures revealing the shape of ultra-microscopic crystals of magnesium and other metals demonstrated; pin point looks like a vast mountain range.

➤ THREE-DIMENSIONAL pictures of views through an electron miscroscope, revealing the shape of ultra-microscopic crystals of which magnesium and other metals are composed, were demonstrated publicly for the first time at the 29th annual meeting of the Optical Society of America. The point of a common pin can be made to appear as vast and rough as a mountain range when photographed through an electron miscroscope, and enlarged to 100,000 diameters on a three-dimensional Polaroid vectograph. In these three-dimensional pictures, it is now possible to study and measure the shape and space characteristics of minute structures that are extremely difficult to see in ordinary photographs.

The demonstration of techniques in applied electron microscopy was made by Robert D. Heidenreich of the Dow Chemical Company, Midland, Mich., where the electron microscope has been used in the investigation of corrosion phenomena in magnesium alloys.

"The combination of the electron microscope and the Polaroid vectograph process offers metallurgists a peep hole into the microcosmos," Mr. Heidenreich declared. "We can now examine the shape of micro-structures just as one can examine the formation of rock in a quarry. The increasing store of knowledge of new characteristics of metals will doubtless be utilized in the development of new alloys that perform even better than those we have today."

Science News Letter, November 4, 1944

INVENTION

Vehicle Inside Own Tread For Use in Marshes

➤ A VEHICLE that runs inside its own tread is the unique invention on which O. F. Arthur of Belle Vernon, Pa., has received patent 2,361,165. Tanks and tractors ordinarily ride between their treads, rising above them. In Mr. Arthur's invention a very wide, mat-like tread, wider than the whole track of the truck or other vehicle, loops completely overhead, with suitable guides to keep it from going astray. This type of vehicle is expected to be useful especially in very marshy country.

Science News Letter, November 4, 1944

Zacaton root, *Pirelemia crinitum,* is raised and used in Guatemala for making brooms and brushes, sold largely in Cuba and Argentina.