in private practise are being listed. A register of architects, engineers, draftsmen, surveyors and specialists will be prepared.

The American Mathematical Society is asking its members to notify its war preparedness committee, of which Dr. Marston Morse of Princeton is chairman, whether they have military connections or feel that they can contribute to military or naval science in a mathematical way.

The new National Defense Research Committee may in the near future undertake a census of scientists, but at present their work is being begun through contact with about 50 major universities and industrial laboratories to which research problems could be assigned.

Science News Letter, July 6, 1940

PALEONTOLOGY

Find Bones and Footprints Of Spotted Yellow Beast

A BROWNISH-YELLOW beast, with black spots, centuries ago leaped down a yawning cavern on a forested hillside in Tennessee—and because of that, a theory of science today is demonstrated.

Two boys, Clarence Hicks and Jack Kyker of Sweetwater, Tenn., in exploring far back in Craighead Caverns, discovered bones and later footprints which were identified by the American Museum of Natural History, New York, as those of an extinct race of jaguars which once roamed North America. Dr. G. G. Simpson, associate curator, went to the caverns to see the footprints and additional bones discovered. He made a cast of the footprints.

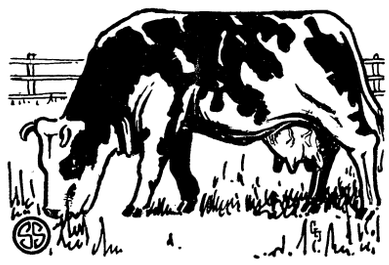
"The animal was closely related to the largest jaguars now found in South America," Dr. Simpson said. "The discovery is interesting, scientifically, because it proves a theory that the jaguars wandered down to South America, became extinct in North America and survived in South America. On this trip to the caverns I got more bones of the same species, including a piece of skull bone, with a big upper fang still embedded in the socket.

"I have worked quite a little in South America and have always been interested in proving where these animals came from; they wandered back and forth. This cave is one of the most fascinating places I have been in; it proves an important scientific theory."

Science News Letter, July 6, 1940

AGRICULTURE

NATURE RAMBLINGS by Frank Thone



Survival of the Unfit

VERY few of our domesticated animals and plants would survive permanently if turned loose to shift for themselves. Usually the very qualities for which we prize and breed them would be fatal handicaps under conditions of natural competition.

Perhaps the most extreme and obvious case is that of seedless fruits. Fruits, in the wild, exist primarily for the sake of the seeds they contain. Naturalists generally agree that the attractive pulp and juice serve to bribe birds and other animals into acting as unconscious disseminators and propagators. Yet man eliminates the seeds wherever he can, keeping the unnatural trees and shrubs and vines alive by cuttings and grafts.

Something akin to this is done by man with plants which he grows primarily for their seeds, especially the grains. Cultivated corn and wheat are unable to survive for more than a season when chance sows their seeds, as often happens. This is due to the quality of hanging onto the seeds, that has been carefully bred into corn ears and wheat heads. Thus the seeds cannot become naturally scattered and prepared for another season's growth. Desirable for "gathering into barns," this non-shattering quality is the direct opposite of what is needed for natural survival.

We do the same things with our domestic animals. The long-legged, stringy, tough, well-horned wild cattle, that can hold their own against wolves and other enemies, have been changed by centuries of breeding into blocky-bodied, soft-fleshed, short-horned or hornless animals with very little fight in them.

It is the same way with pigs and sheep. The original wild strains were long-legged, lean-bodied, wily and pugnacious rough-necks, with very little fat on them. They would hardly know their degenerate descendants of modern pastures and pens, and would doubtless despise them if they could see them.

When we breed a plant or an animal for ornament rather than for use we do even greater distortion upon the natural stock. Who would guess, for instance, that the ancestor of a Pomeranian or a Pekinese was either a wolf or the blood-brother of a wolf?

Science News Letter, July 6, 1940

ENGINEERING

Curves Replace Tedious Computations in Design

A SET of mathematical curves replaces weeks of laborious mathematical computations to allow aviation engineers to tell whether an airplane will "flutter" itself to destruction, W. B. Bergen and Lee Arnold, of the Glenn L. Martin Company of Baltimore told the Institute of Aeronautical Sciences meeting at the California Institute of Technology.

Development of a graphical solution of flutter instability in airplanes is expected to result in safer airplanes and more rapid design. Flutter is a vibration that builds up with increasing force until a wing, aileron or tail flies off and the airplane is lost. Many otherwise unexplained crashes have been traced to flutter.

Three years ago Martin engineers developed a vibration-detecting device that gave warning of dangerous conditions building up in an airplane during flight. The new work just reported will greatly simplify the computation of the critical conditions that warn when dangerous flutter is imminent.

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Butterflies generally have slender bodies, whereas the larger moths are stout.