

worm, active on both Atlantic and Pacific seaboard.

The huge apple crop was made the objective of a mass attack of apple leafhoppers, all the way from New England south to Virginia and west to Illinois and Kentucky. These insects, in addition to specking the fruit, were a very decided nuisance to the pickers. Two troublesome invaders of shade trees were the birch skeletonizer and the boxelder bug. The latter is reported as very prevalent in both eastern seaboard and far western states.

Among the grain insects, the chinch bug is reported as going into hibernation in distinctly alarming numbers, in the east central states. Corn earworm persisted extremely late in the northern

grain area. It not only damaged late sweet corn but also ate the mature field corn and did very considerable damage by entering greenhouses, where the larvae attacked practically all forcing plants.

One grain pest, however, was at least partially circumvented. In the eastern states, there was an unusually heavy emergence of the Hessian fly in September. In most places, this was too early to infest wheat sown after the fly-free date. The insects, having no thick-growing grain fields to which they could resort, turned to the scanty scatterings of volunteer wheat, and infested the stalks heavily.

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MEDICINE

Disease-Bearing Mosquitoes Able to Ride on Airplanes

PLANES from the tropics will probably carry on their sides, along with the fire extinguishers, spray guns for killing insects. This innovation is to be expected as a result of studies of mosquito transportation by airplanes, announced by the U. S. Public Health Service.

Because a certain type of mosquito carries the virus of yellow fever, which still occurs in parts of South America, the Public Health Service investigated the possibility of these insects getting a free plane ride into the United States and bringing the disease with them.

Certain types of airplanes do carry mosquitoes, Dr. T. H. D. Griffiths and J. J. Griffiths of the U. S. Public Health Service found. These investigators put stained mosquitoes on planes leaving San Juan, Porto Rico, and recovered a certain number when the plane reached Miami, 1,250 miles away, that same day.

"With conditions at airports such as would permit of many mosquitoes getting aboard, it might be expected that approximately one-fifth of the original number would be transported for a long distance—at least 1,250 miles—in one day with repeated landing and opening of doors, hatches and windows, and refueling, unloading and loading taking place," they reported.

Under normal average conditions about airports, heavy infestation of air-

planes would not be likely, but even one infected or infective mosquito of the yellow fever type might be the means of starting an epidemic.

However, considering the small number carried by aircraft and the facility with which planes may be freed from mosquitoes, they concluded that while the danger exists, airplanes can be efficiently treated so as to destroy mosquitoes and thus to avoid retardation of air traffic progress.

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ARCHAEOLOGY

Stone Age Men Made Tools of Rock Crystal

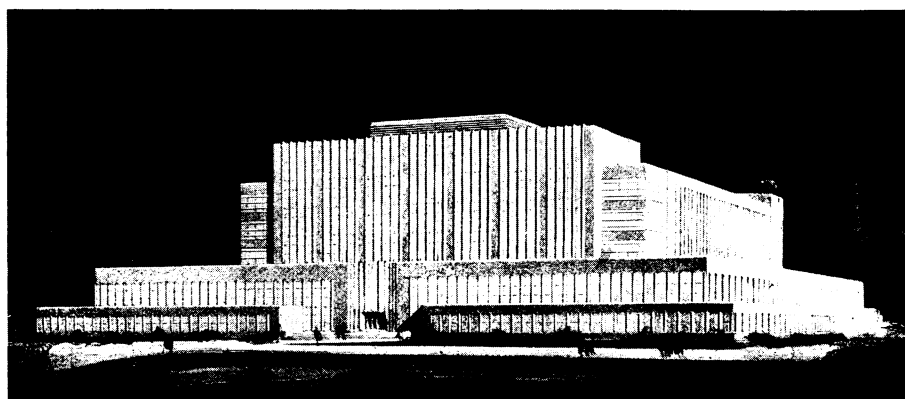
ROCK CRYSTAL, now used as a semi-precious stone, took the place of high-grade steel with the men of the Old Stone Age. They did not make many of their tools and weapons of it, but they apparently valued it and used it when they could.

At the meeting of the National Academy of Sciences at New Haven, Conn., Prof. George Grant MacCurdy of the Peabody Museum, Yale University, told of seven rock-crystal tools all found at the same level in one cave in France, by the expedition of the American School of Prehistoric Research. The tools were of the type known as Mousterian, used by Neanderthal man at one stage of his development.

The rock-crystal tools found by Prof. MacCurdy's associates are among the oldest of their kind, for Neanderthal man was the earliest race to make implements from this material. Though there are older Stone Age tools in plenty, their makers, whoever they were, were not masters of the art of working the hard and obdurate rock crystal, and contented themselves with flint and other "plain" stones.

Early California Mammals

That fossils of very early mammals have been found in California, extending the knowledge scientists have gained of the appearance and development of life on this planet, was reported to the



HOME FOR RESEARCH

A multitude of scientific researches on the many different kinds of wood will be housed in this unique building. Contained there also will be a permanent exhibition of the beauty of hardwoods used in interior finishing. The building is the new U. S. Forests Products Laboratory at Madison, Wis., drawn by the architect as it will appear when completed next summer. Although this headquarters of research is being erected for utilitarian purposes, it is planned to install wall panels and finish flooring of different woods in different rooms to display effectively the beauty and usefulness of many American forest species.

CHEMISTRY

Nobel Chemistry Award To German Industrial Leaders



DR. FRIEDRICH C. R. BERGIUS
To whom, with Dr. Carl Bosch, the 1931 Nobel Prize in chemistry was awarded.

THE Swedish Academy of Science has announced the award of the 1931 Nobel Prize in Chemistry to Dr. Friedrich C. R. Bergius and Dr. Carl Bosch of Heidelberg, for their outstanding achievements in industrial synthetic chemistry.

The German winners of the prize in chemistry are two of the world's foremost practitioners of the magic of industrial science. Dr. Bergius has for many years performed marvels in the transformation of coal, changing it into motor fuel, lubricating oils, methanol (formerly known as "wood" alcohol) and other substances. He had developed a scientific theory on the things that must have happened to the plants of long ago to turn them into coal; and his latest feat has been to indicate the possibility of making sugar out of wood on an industrial scale for the manufacture of alcohol. A firm for the commercial exploitation of this process is already in existence.

Dr. Bosch, sharer of the prize, and head of the huge German chemical manufacturing firm, the I. G. Farbenindustrie, has specialized in the building up of cheap nitrogen into more valuable

products, as his associate has worked on the building up of cheap carbon. Dr. Bosch's great achievement has been the perfection of a practical method for catching nitrogen from the air so that it can be combined with hydrogen to make ammonia by the Haber process. This in turn is used in the manufacture of fertilizers. Thanks to this process, blockaded Germany literally lived on air to a considerable extent during the war, and even captured from the atmosphere an indispensable ingredient for smokeless powder, TNT and other explosives.

Dr. Bergius was born in 1884 near Breslau, and studied at the Universities of Breslau, Leipzig and Berlin and the Technical University of Karlsruhe. Dr. Bosch was born in 1874 in Cologne, and studied at Cologne, Charlottenburg and Leipzig.

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CHILD STUDY

Movies of Great Service In Study of Children

THE VALUE of motion pictures in the systematic study of development in young children was explained to the meeting of the National Academy of Sciences by Dr. Arnold Gesell, director of the Yale Clinic of Child Development.

For five years research members of the staff of the clinic have been gathering motion picture records of infants in the first year of life. Normal infants were used as the stars of the pictures, and the same child was photographed repeatedly at four-week intervals from the tender age of four weeks until it was a year and four weeks old. The scenes were all set in a specially designed crib, and the continuity was arranged to bring out changes in posture, methods of locomotion, skill in manipulation and other phases of development.

A special reel was shown by Dr. Gesell in which two films were projected simultaneously, one of an infant about six months old, the other showing the selfsame child four weeks later doing exactly the same things.

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meeting by Prof. Chester Stock of the California Institute of Technology.

The bones belong either to the time known as late eocene or to the early oligocene, far back toward the beginning of the Age of Mammals. Included among the fossils are remains of an opossum-like animal no larger than a mouse, a three-toed rhinoceros that was almost as slender-limbed as a horse, a creodont, which was a beast of prey neither dog nor cat, but having features of both, and some great ungainly nose-horned titanotheres. Nothing like any of these strange creatures is still living on the earth.

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PHYSIOLOGY

Sex Differences in Oxygen Need for Tissues Discovered

ONE MORE difference between the sexes has just been found by science. This is a difference in the oxygen demands of the tissues, and was reported to the meeting of the National Academy of Sciences by Dr. Oscar Riddle of the Carnegie Institution of Washington.

In investigations on ring doves and pigeons, Dr. Riddle found that hemoglobin and red blood cells exist in different quantities in the blood of the two sexes, the males having a larger quantity of these oxygen carriers of the blood. The quantities of these cells also vary with changes in seasons, as does the basal heat production of these ani-

mals. The changes in quantity of hemoglobin and red blood cells correspond closely with the seasonal changes in heat production.

"The oxygen carriers of the blood fluctuate with the oxygen demands of the tissues, and their sex difference reflects unequal oxygen demands of male and female tissues," Dr. Riddle concluded.

These oxygen carriers therefore seem to reflect primary sex difference and to contribute further evidence to the theory that energy changes in the female go on more slowly and in more acid medium than in the male.

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