

growth in the Ohio valley again possible, the cultivation of corn, and the particular Indian culture-type dependent on it, would have to return to the prairies.

There is some support for Prof. Sears' suggestion in the distribution of the great mounds and other culture remains of the prehistoric Indian people now known as the Hopewell type, from the Ohio site first explored for their remains. First known at this, its easternmost extension, Hopewell culture has been traced in northern Illinois and eastern Iowa.

CHEMISTRY

## Experiment With Chemical For Dissipation of Fog

**W**HEN Massachusetts Institute of Technology scientists sprayed fog away experimentally by means of a chemical shower, it was the latest of many experiments aimed at conquering fog.

The problem of fog dissipation has become more important with the increasing use of airplanes. Flying is impossible or dangerous when fog covers landing fields. But even before air transportation became important, scientists were fighting fog.

As yet Henry G. Houghton, Jr., who conducted the M. I. T. fog spraying tests at Round Hill, Mass., has not told the compositions of the chemical solution sprayed as a curtain of tiny drops to drive the fog away from a limited volume of space.

The trick of the spray is to condense the water vapor making up the fog and make it fall to the ground as fine rain. Such a scheme will be effective for a very limited area.

The system may prove to be useful at a busy airport, to which the airplane pilot could be guided by radio beacons.

Electrical precipitation, which has proved effective in treating industrial dusts, smokes and fumes, was tried on fog in England and California many years ago. American and British air forces have tried sprinkling various water-attracting dusts in the air, and electrified sand has also been used. The U. S. Navy at Philadelphia built elaborate machines for spraying electrified water drops into foggy air to cause the

If subsequent work of American archaeologists demonstrates that the western extension of this ancient Indian civilization was not contemporaneous with the eastern, but either preceded or followed it—or both preceded and followed it—it will at least establish the fact of an advance and a recession in a culture-tide. Then it will be up to the paleoclimatologists and the paleobotanists to seek evidence for or against correlated advance and recession in the climate, and in the vegetation types dependent on it.

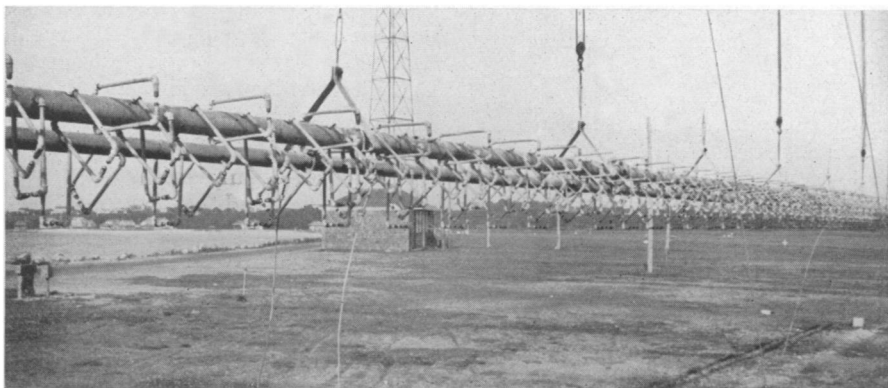
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fog particles to come together and fall. And at Lyon in France and Pittsburgh, Pa., oil was placed on rivers in the hope of checking evaporation and preventing the formation of troublesome fogs.

Some of these attempts were partially successful on a small scale but as yet no fog dissipating process has been practical. Attempted rain production is often a variation of fog dissipating processes.

Radio landing beacons combined with airways radio beacons, as developed by the U. S. National Bureau of Standards, are the most successful means of combatting fog, not by removing it, but by allowing the pilot to find his way through it to successful blind landings.

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### TO DRIVE AWAY FOG

*Apparatus being tested at the Massachusetts Institute of Technology to determine its possibilities as a dissipator of fog. The pipes and nozzles composing the system are shown here before they were elevated to their working height of 30 feet above the ground. The chemical sprayed by this device will condense and precipitate the water vapor, clearing fog from the airport on which it is installed, it is hoped.*

MEDICINE

## Swine May Be Reservoir For Fatal Pseudorabies

**S**WINE may be the reservoir for pseudorabies, an acute, highly fatal disease of cattle, cats and dogs, Dr. Richard E. Shope has found from investigations made at the Rockefeller Institute for Medical Research.

The disease of cattle is caused by a virus. It can be given to rats, rabbits, guinea pigs and other animals by injecting the virus into the animal, but how it spreads naturally has been something of a mystery.

Following the discovery of a European investigator, S. Von Ratz, that pseudorabies occurs naturally in wild swine, Dr. Shope began studying the disease in relation to domestic swine, he explained in his report to the current issue of *Science*.

Injecting the virus under the skin of these animals or swabbing it inside their noses produces the disease. But, unlike cattle, swine have a very mild form of pseudorabies and do not die of it. Dr. Shope suggests, therefore, that the disease is naturally transferred from one animal to another via the nasal route. The swine have the disease in such a mild form that the farmer may not recognize it or even may not know that any of his swine are sick.

Yet from this reservoir in the swine the disease may be transferred to the cattle. In Dr. Shope's opinion this explains the sporadic and highly fatal cases of pseudorabies that occur among cattle in the swine-raising states of the Middle West.

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