

During 70 days an allotment of \$650,000 is to be expended for this purpose. Mapping of 40,000 square miles will proceed as far as possible, with 500 engineers and some 1,500 assistants taking part. The states engaging in the project are Alabama, Arizona, Arkansas, California, Georgia, Louisiana, Mississippi, New Mexico, South Carolina, Texas and the District of Columbia.

The U. S. Geological Survey has charge of the project. Advising and conferring with the Survey are representatives from Governmental agencies which expect to find the maps useful. These include the Bureau of Census, Agricultural Adjustment Administration, Coast and Geodetic Survey, Corps of Engineers of the U. S. Army, and the Army Air Corps. It is believed that many additional uses for the maps will occur, once they become permanent Government records.

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## ENDOCRINOLOGY

## Opposite Sex Effects From Pituitary Hormones

FROM the pituitary gland located at the base of the brain come two hormones which produce opposite effects on the sex glands of mature fowls, it appears from the report of Drs. Oscar Riddle and his associates, Ernest L. Lahr and Dr. Robert W. Bates, of the Carnegie Institution of Washington.

One of these hormones has for some time been known to cause rapid and premature growth in the sex glands of young animals. Dr. Riddle and associates have now found that small amounts of this same hormone cause enlargement of the ovaries of mature hens, also.

Another hormone of the many produced by the pituitary gland, the one which stimulates milk production in mammals, has the reverse effect on the ovaries of mature fowls, causing a marked decrease in their size. The same opposite effect of these two hormones was observed on the sex glands of adult doves, both male and female.

These observations reinforce other evidence previously obtained indicating that not one but two hormones of the anterior pituitary are concerned in regulating the size and activity of the sex glands and that their normal adult size can be increased or decreased by giving the appropriate hormone.

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## BACTERIOLOGY

## More Carotene Found In Bacteria Than in Carrots

### New Method for Estimating Number of Living Bacteria; Acidophilus Milk Keeps Best Without Refrigeration

NEARLY twice as much carotene, the principal yellow pigment that gives carrots their color and from which animals produce vitamin A, is found in certain bacteria or "germs" as in carrots themselves, M. A. Ingraham and C. A. Baumann of the University of Wisconsin reported at the meeting of the Society of American Bacteriologists in Philadelphia.

These bacteria manufacture the carotene in their microscopic bodies. Production of carotene has always been associated with the presence of chlorophyll, green coloring matter of plants. Bacteria are on the borderline between the animal and plant worlds. Consequently it is interesting to observe, the Wisconsin bacteriologists pointed out, that while the bacteria are like animals in having no chlorophyll, they seem like plants in their ability to produce carotene.

Carotene is of importance because from this plant substance animals are able to produce vitamin A. No evidence was found for the presence of this vitamin in any of the bacterial extracts that contained carotene. However, rats

that were sick from lack of vitamin A recovered when fed bacterial cells containing carotene. The response of the rats could be entirely accounted for by the amount of carotene they received, the investigators stated.

#### Living and Dead Separated

A method of estimating the numbers of living and dead bacteria or "germs" growing in a tube or plate of artificial media, was reported by Dr. W. C. Frazier and A. J. Boyer of the U. S. Department of Agriculture.

Scientists have never before been able to make this distinction between living and dead bacteria in a culture, though many attempts at it have been made. If the method lives up to its present promise it is expected to have wide practical application.

When bacteria grow on artificial media, they form colonies. But scientists wishing to transfer some of these bacteria to another medium have at present no way of telling in advance which colony is made up of living bacteria capable of reproducing and carrying on the strain and which colony may be



#### DISCOVERY OF CITY AND SELF

Reconstruction of the Lost City and of men broken by joblessness goes on side by side. The picture shows one of the young CCC workers unearthing an ancient Indian pot. (Story on opposite page.)

largely made up of dead or dying bacteria.

The method consists of treating the bacteria, either as they are growing in cultures or after they have been smeared on slides for microscopic examination, with the sterilized filtrate from a growth of streptococci from milk. This treatment changes the way the dead bacteria react to certain stains and thus gives a means of estimating the numbers of living and dead bacteria in the culture.

Acidophilus milk, which is akin to buttermilk and prescribed for certain

digestive ailments, is better stored at the temperature of an ordinary room rather than in an ice box or refrigerator, it appears from studies reported by Drs. Lenore M. Kopeloff, John L. Etechells and Nicholas Kopeloff, of the Psychiatric Institute and Hospital, New York City.

The micro-organism which sours the milk and which is considered valuable in treatment of digestive disorders, survives much better when the milk is stored in the room than when stored in the ice box, the investigators found.

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## ETHNOLOGY

## Humans, Not Animals, Main Actors in Negro Folk-Lore

**W**IDESPREAD interest in Uncle Remus' stories about Br'er Fox and Br'er Rabbit has given animal personalities more prominence than they deserve in Negro folk-lore, Dr. Melville Herskovits of Northwestern University told the American Folk-Lore Society meeting at Columbus, Ohio.

Animal tales are essentially an educational device among Negro people, he has found, from his studies of Dahomean folk-tales from West Africa and tales from Dutch Guiana. Collections of stories obtained by Dr. Herskovits in these countries reveal more stories about human beings than about animals. Some of the most important cycles in African folk-lore deal with human characters.

The Cinderella type of story is often found, he reported. Stories about orphans, told with the moral that a child who has lost its mother must not be mistreated, are widely spread through African folk-lore.

Extensively told, too, are historical tales dealing with the adventures, often supernatural, of important persons in the history of a given people.

"The animal tales, essentially educational, are told to children," Dr. Herskovits explained. "Children also repeat them in story-telling contests that delight the young people in Africa and the West Indies. Whether or not such story-telling evenings, where each child demonstrates how many tales he knows, occur in the United States is not known.

"Older people in West Africa and Dutch Guiana, at least, do not tell stories of this kind. Among them, story-

telling has the purpose of keeping alive the mythology and history of the people, or to amuse the dead at funeral wakes.

"It would seem therefore that a re-evaluation of the incidence and significance of tales other than animal stories in collections of Negro folk-lore already made should be undertaken. New collections of tales among Negroes of the United States may well reveal many more stories of non-animal types than have been published."

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## NAVIGATION

## Polarized Light Aids Observations At Sea

**S**EXTANTS and binoculars used by the Navy and on ships at sea can be improved for observations under certain light conditions by attaching to them polarizing prisms, Dr. E. O. Hulburt of the Naval Research Laboratory, told the American Physical Society.

Such a device admits light that vibrates in only one direction. It has long been known, Dr. Hulburt said, that the light of the sea and of the sky is a mixture of plane polarized and unpolarized light. He found that a polarizing prism properly oriented would darken the sea relative to the sky, reduce the brilliance of the sun path and render the horizon more distinct. In bright weather it increased the visibility of objects against the sea background. This is expected to make observations at sea more accurate.

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## BIOLOGY

## Poisonous Plant Explains Mysterious Bee Disease

**L**OCO WEED, prime trouble-maker to Western horses and cattle, is poisonous to much smaller animals as well, according to a report presented before entomologists at the meeting of the American Association for the Advancement of Science in Boston. G. H. Vansell and W. G. Watkins, of the U. S. Bureau of Entomology working at Davis, Calif., told how they have found dead and dying bees in and near the flowers of the spotted loco, one of the more abundant and poisonous species of the weed in certain parts of Nevada.

Before the death of the bees was traced to this poisonous plant, it was blamed on a new and mysterious disease, which discouraged many of the Nevada bee-keepers and caused others to move their apiaries out of the region.

Loco poisoning of bees, Messrs. Vansell and Watkins found, is most common after the first cutting of the alfalfa crop and before the second growth of this principal honey plant produced a new crop of flowers, especially if sweet clover is scarce and the loco weed plentiful. Sometimes weather conditions cause a scarcity in the loco weed, after which the bees do not die off so rapidly.

Not all the bee-keepers' troubles can be traced to the loco, however, the two investigators warned. Bee-keeping, like any other branch of agriculture, is governed by a whole complex of factors, and it is not safe to assign any given effect to one single cause.

*Science News Letter, December 30, 1933*

## ▼ IS OUR CLIMATE BECOMING MILDER? ▲

**R** an address by

**J. B. Kincer**

**A** Chief, Division of Climate and Crop Weather of the U. S. Weather Bureau

**D** Wednesday, January 3, at 4:30 p. m., Eastern Standard Time, over Stations of the Columbia Broadcasting System. Each week a prominent scientist speaks over the Columbia System under the auspices of Science Service.

