

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.

Science News Letter, December 30, 1933

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.

Science News Letter, December 30, 1933

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.)