steam-heated comfort. The telescope tells its own story because a special sound system brings a running description of the view of the heavens.

Unlike the conventional telescope, the viewing end of the siderostat stays still while the 18-inch mirror locates and follows the stars being viewed. The idea of the siderostat telescope was first proposed some 80 years ago by the French scientist, Leon Foucault.

Dr. Harlow Shapley, director of the Harvard College Observatory, delivered the dedicatory address.

Science News Letter, November 29, 1941

DENTISTRY—NUTRITION

Tooth Decay and Pyorrhea Linked to Lack of B Vitamins

Dental Decay Found To Develop in Dogs Lacking Filtrate Factor of B Complex That Is Still Not Understood

TOOTH DECAY, one of the commonest of dental diseases, may be due to a deficiency of some of the vitamins in the B group, it appears from laboratory experiments reported by Dr. Hermann Becks, professor of dental medicine at the Hooper Foundation for Medical Research, University of California, and Dr. Agnes Fay Morgan, professor of home economics at the University.

Dogs on a diet lacking one of the B vitamins developed tooth decay, normally absent in dogs, Dr. Becks found. The B vitamin lacking was the filtrate factor. Its function is still unexplained.

When the dogs' diet was deficient in nicotinic acid, the animals developed pyorrhea and severe bleeding of the gums. A third, or control group, on a balanced diet, developed no decay or pyorrhea.

Dr. Becks makes no attempt to fit his findings to human tooth decay since he worked only with dogs.

"On the other hand," he points out, "clinical experience has already produced excellent results with certain vitamin B fractions in the treatment of Vincent's disease, an infection of the mucous membrane, and other inflammatory diseases of the mouth. Ulcer formations of the tongue and inside the cheek have been successfully treated by the administration of nicotinic acid."

Dr. Becks said that the experiments provide a most encouraging link between carbohydrates and dental decay.

The body converts carbohydrates into sugars. It is well known that vitamin B is necessary for the correct assimilation of sugars. However, a large percentage of the foods of the modern diet have the vitamin B removed in processing.

This leaves the body, including the teeth, without protection against the harmful effects of sugars which do not contain vitamin B.

Dr. Becks and other research dentists have shown that there is a direct relationship between tooth decay and a bacillus, called Lactobacillus acidophilus. The number of bacilli found in the mouth has been found to be in direct proportion to the amount of sugars and carbohydrates consumed, that is, sugars and carbohydrates which have the vitamin B removed in processing.

Dental decay, like the common cold, is one of the unsolved problems. The American Dental Association has provided a fellowship for dental research at the National Institute of Health, research arm of the U. S. Public Health Service, to help solve this problem.

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ARCHAEOLOGY

Timber Cut A.D. 217 Gives Oldest Building Date

TIMBER that Utah Indians felled with stone axes back in A.D. 217 provides a new date for America's ancient history—the oldest building construction date in the Southwest yet undetermined by science.

Antiquity of the historic piece of building wood is reported by W. S. Stallings, Jr., of the Laboratory of Anthropology, Santa Fe, after comparing the sequence of annual growth rings in the timber with the famous tree-ring calendar that scientists have evolved to date Indian ruins in this part of America. (*Tree Ring Bulletin,* July).

The timber was part of a pinyon pine that grew more than a century and, from center to outer bark, has tree rings representing the years A.D. 91 to 216. Indians of the Basketmaker Two period of ancient America used this pinyon piece in roofing a storage pit in du Pont Cave, where a group of them lived near what is now Kanab, Utah.

Exploring this old Indian settlement 21 years ago, for the Museum of the American Indian in New York, archaeologist Jesse L. Nusbaum hid away some pieces of the building wood, thinking they might be scientifically valuable some day. His foresightedness was rewarded when scientists reported success in matching and overlapping patterns of annual growth rings of trees to form a chronology for dating Indian ruins of the area through many centuries.

When opportunity offered, Mr. Nusbaum returned to the cave and dug out of his squirrel-like cache the five pieces of Indian timber he had hidden. Just one—the piece of pinyon pine—has provided tree-rings that can be read well enough to show when the Indian builders lived in the cave and constructed, or repaired, their store pits for food.

Science News Letter, November 29, 1941

MEDICINE

New Weapon Against Germs Obtained from Mold

A NEW substance capable of stopping the growth of a wide variety of disease germs, including those of typhoid fever, dysentery and cholera, has been obtained from a mold, probably belonging to the genus *Aspergillus,* Dr. G. A. Glister, of the University of Oxford, reports. (*Nature,* Oct. 18).

In test tube experiments the new substance was effective in a dilution of about 1: 200,000. It has a wider range of antibacterial activity than penicillin, germ-killing substance from another species of mold recently isolated by Dr. A. Fleming, of St. Mary's Hospital, London, and already shown to have value as a remedy for germ-caused diseases.

Use of the newest mold chemical in treating patients is not mentioned in the report, but the test-tube experiments indicate that it may be a weapon against not only the germs successfully attacked by penicillin but also against those of the gram-negative group which include the germs of Shiga dysentery, typhoid and paratyphoid fevers, and cholera.

Whether the substance is related to the germ-killer found in the mold, Aspergillus flavus, by an American scientist, Dr. E. C. White, of the Johns Hopkins Hospital, is not yet known.

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