Atmosphere Loses "Roof"

THE "ROOF" of the atmosphere, where the stratosphere begins, is lost completely when the long, desperately cold night of the Antarctic winter settles down, Arnold Court of the U. S. Weather Bureau told the meeting. This winter disappearance of the tropopause, as the lower boundary of the stratosphere is known, has never been reported from the Arctic, despite very many measurements taken in Arctic regions. None of the Arctic stations, however, is as close to the North Pole as Little America is to the South.

The tropopause is defined as the level at which temperature ceases to decrease with greater altitude. Normal summertime height in the Antarctic is about nine kilometers (5.6 miles), with a temperature of —50 degrees Centigrade (58 degrees below zero Fahrenheit). Above that level the temperature in the stratosphere rises again, reaching a steady point at about —40 degrees Fahrenheit.

Under Antarctic winter conditions, however, the temperature keeps right on dropping as the radiosonde balloons explore higher and higher, detecting no tropopause at all. Lowest temperature recorded was —80 degrees Centigrade, or 112 degrees below zero Fahrenheit.

Science News Letter, November 29, 1941

MEDICINE

Common Unrecognized Disease May Be Cause of Lung Ills

Causes Tiny Limestone Formations in the Lungs and Is More Prevalent in Areas Near Appalachian Plateau

A COMMON but not yet recognized disease has been shown by U. S. Public Health Service scientists to be the cause of tiny limestone formations in the lungs previously thought due to tuberculosis.

Because physicians have taken these tiny spots shown up on X-ray plates to be due to tuberculosis lesions that have been cured, the new findings will probably cause a change in medical diagnosing of many cases.

Curiously, the disease is highest in areas where there are extensive limestone and chert formations, that is, in areas adjacent to the Appalachian Plateau.

These observations, made by other scientists, aroused the Public Health Service to make an independent study. It selected Ross County, Ohio, an area adjacent to the Plateau, where lung calcification is common, but tuberculosis fatalities not above ordinary. Rural families were selected in order to rule out as far as possible contacts with tuberculosis outside the household.

More than 200 persons in 44 farm households were X-rayed and tuberculin tested. Of 253 persons effectively X-rayed, 125 showed the limestone formation in the lungs — but none had significant tuberculous lesions.

Of 235 who were tuberculin tested, 194 were negative. Fifty-six persons with negative tuberculin tests show lung calcification. The studies were made by Dr. B. J. Olson, passed assistant surgeon, Dr. W. H. Wright, chief of the division of zoology, and M. O. Nolan, associate zoologist, all of the Public Health Service.

The existence of an unrecognized disease of very common occurrence is suggested by these investigators. It appears to produce the lung lesions closely resembling the X-ray picture of primary tuberculosis. They believe, therefore, that the finding of lung calcification particularly in tuberculin-negative persons should not be assumed to be evidence of tuberculosis infection.

With tuberculosis apparently ruled out, the Public Health Service scientists next considered the ascaris as a possible cause of the lung calcifications. Ascaris is a tiny, parasitic worm, which in the larval stage may damage the human lung. Careful study, however, failed to prove or disprove that ascaris was guilty.

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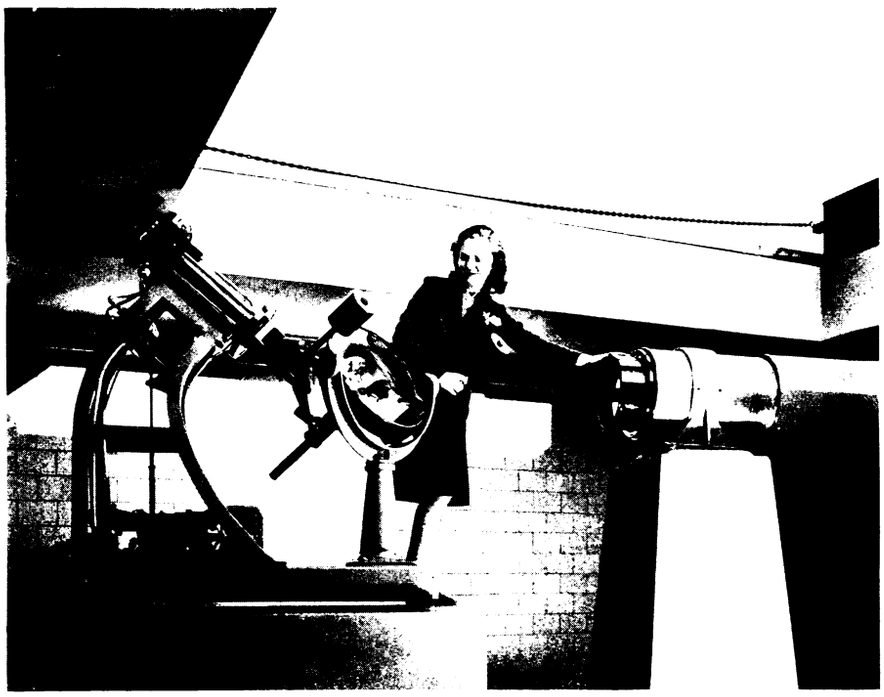

TELESCOPE FOR PITTSBURGH PEOPLE

It is this mirror which locates and follows the stars being viewed with the new siderostat telescope. The reflection is carried to another room where it is viewed.

ASTRONOMY

People's Observatory Dedicated in Pittsburgh

THE PEOPLE of Pittsburgh now have a telescope all their own. The new $30,000 People's Observatory of the Buhl Planetarium will be used by the public and not by professional astronomers. Its siderostat telescope is the second such instrument in America.

The observatory itself is half outdoors, where the telescope is, and half indoors, where the star-gazers do their looking in