

of New Orleans, but this patient unfortunately died four months later from another cause. Several successful cases have been reported in Europe since 1894.

Need for the operation is not so frequent now, because present treatment following severe lye burns of the esophagus is far superior to what it was in 1928 or earlier. Doctors now

start passing bougies or buckshot down the esophagus almost as soon as it has been burned, to keep it from being closed by scar tissue. When Miss Dodson had her burn, her family doctor treated her with a mixture of lemon juice and vaseline. The ulcerations of her mouth and throat healed under this treatment but it failed to keep her esophagus open.

Science News Letter, November 22, 1941

PHYSICS

Low Boundary of Stratosphere May Shift Up and Down

Daily Variations in Solar Radiation Thought To Cause Changes in Height Over Tropics Which Travel in Waves

THE floor of the stratosphere (scientists have a name for it: tropopause) may shift up and down from day to day, in response to daily variations in the sun's heat. This in turn may have far-reaching effects on world weather. (See *Review, SNL, this issue*).

Indications that fluctuations in the tropopause are influenced by solar radiation changes have been brought out in

researches of Dr. Henryk Arctowski, noted Polish meteorologist now working at the Smithsonian Institution.

The occurrence of daily fluctuations in the sun's heat was established as a fact long ago, by Dr. Charles G. Abbot, secretary of the Smithsonian Institution. Scope of these variations is frequently as much as one half of one per cent, and occasionally much more than that.

These variations occur in a complex series of cycles.

If the earth were without an atmosphere, like the moon, changes in solar heat would be felt immediately at the earth's surface. But the sun's heat has to pass through a hundred-mile blanket of air to reach the ground, so that its effects are delayed and complex. Winds, clouds and other factors all have far-reaching effects in the distribution of radiations coming to us from the sun.

At some place, however, it is necessary to look for direct effects of solar radiation. According to Dr. Arctowski, the most probable place is the tropopause—the level where temperature decrease with altitude comes to an end.

His researches indicate, the Polish scientist states, that solar radiation variations cause changes in the height of this surface over the tropics, where it normally is about 12 miles high, and that these changes proceed northward and southward in a wave-like motion.

An up-and-down movement of the tropopause, in turn, causes a variation in the height of the highest clouds, and in the movements of air masses. These in turn produce different rainfall effects in various parts of the earth.

Science News Letter, November 22, 1941

NUTRITION

U. S. Troops On Maneuvers To Be "Limeys" in Test

U. S. Army "limeys" will have an experimental bout of limeade drinking, when the First Army's soldiers come to grips with the Second Armored Division in Carolina maneuvers in December.

Quartermaster Corps headquarters explains that American soldiers have become accustomed to pitchers of lemonade with some meals, particularly in warm climates. The Florida market offers few lemons, but has a lime crop. So, it will be limeade on the menu for some troops, and if the boys like it, there may be more of it, when and where available.

British sailors long ago won the nickname "limey" when citrus fruits were discovered to be a scurvy cure on shipboard. Incidentally, food historians explain that lemons were often called limes then, and the original limeys were lemon-eaters. Modern nutritionists say that fresh lime juice is apt to be slightly less rich in vitamin C than lemon juice, although in some cases it may be as high.

Science News Letter, November 22, 1941



LIMES FOR U. S. SOLDIERS