

Pasteur treatment is almost 100 per cent. effective in preventing rabies. It can be given at any private or state laboratory or by any physician and should be started as soon as possible after the bite. The disease begins usually within 2 or 3 weeks after the bite.

A dog or other animal suspected of having rabies should not immediately

be destroyed, even if he has bitten someone. He should be kept penned up for at least ten days and watched to determine whether or not he has the disease. The diagnosis is confirmed by microscopic examination of the brain, but this is difficult to do if the dog has been shot and the brain severely injured.

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#### ASTRONOMY

## It's 1500 Degrees Cooler in Sun's "Air" Than On Its Surface

### Intensity of Dark Bands in Absorption Spectrum Gives Clue to Major Temperature Differences

**A**N UNEXPECTEDLY large temperature drop of 1500 degrees Centigrade between the surface of the sun and its overlying atmosphere has been found by Harvard astronomers to add to the mysteries of that complex body.

Perfection of a comparatively new technique of measuring the heat of the sun's gaseous envelope, one that employs delicate spectrum analysis, made possible the discovery. With it, the astronomers have calculated the temperature of the sun's atmosphere to be about 4500 degrees Centigrade.

Previous measurements of the heat at the sun's surface, the starting point of sunlight, have given scientists a figure of 6000 degrees Centigrade, which with the new figure for the temperature of the envelope indicates a falling off of 1500 degrees.

A small temperature drop had been expected but Harvard astronomers were entirely unprepared for the large decrease in heat between the sun surface and its outer atmosphere as shown in the new measurements.

The research was conducted by Prof. Donald H. Menzel, Leo Goldberg, Bemis fellow of the Harvard observatory, and James G. Baker, a graduate student in astronomy.

In the project the astronomers used the black lines found across the ordinary solar spectrum. These lines are formed as the sun's light passes through the solar gas envelope with each atom in this atmosphere absorbing its own characteristic colors from the sunlight. The result consists of periodic dark shadows across the familiar rainbow band.

Inasmuch as the intensities of these shadows or lines depend to a large de-

gree on the relative heat of the light source, they can be used as a "thermometer" or guide to the temperature of the source.

This relatively new type of research was begun at Harvard several years ago when Mr. Goldberg undertook calculations of the theoretical intensities of related lines in the spectra of various elements. Dr. Menzel extended this quantitative theory of line formation and more recently applied the research as a key to solar temperatures.

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#### GEOGRAPHY

## Scientists Will Be Human Drift Bottles

**F**OUR Russian scientists sitting on the Polar ice floe in their tight little hut to keep them warm, will still be sitting there next spring if all goes well. But also they will not be there. That is, they will doubtless be in the same hut, and the hut on the same ice, but the ice will have moved.

In this, "Little Russia" at the North Pole is unlike "Little America" of a few years ago on the edge of the Antarctica. Admiral Byrd's camp, being on solid land, stayed put; the Soviet scientists' camp, being on floe ice, will drift. And in drifting it will have a chance to find an answer to one of the important and obscure questions of oceanography; What sea currents are there in polar waters, whither and how fast do they flow?

No one has any idea of the answer now. Even among leaders of the expedition agreement is lacking. Academician

O. J. Schmidt, leader of all Soviet scientific activities in the Arctic, believes the floe will move toward America. Peter Shirsov, oceanographer, who is staying in the tent at the Pole, thinks it more likely that the movement will be in a circumpolar drift.

The Arctic over-winterers will have a chance to know part of the answer while they are still up there. They have accurate astronomical instruments for taking position shots at sun and stars, and constant radio time-signals, so they will be able to check their position within a few hundred yards at any time. The four men will be like drift bottles in the sea, except that they will know whither they are drifting.

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#### METEOROLOGY

## American Meteorologists To Spend Year in Arctic

**T**HE RUSSIAN scientists who have "colonized" the North Pole are going to have American neighbors. An expedition led by Clifford J. McGregor will spend the coming year at Fort Conger, on the coast of Grant Land, directly opposite North Greenland, making an intensive study of polar weather.

The expedition is privately financed and organized, and will not be participated in officially by the U. S. Weather Bureau. However, the Weather Bureau has loaned a full equipment of scientific instruments: thermometers, barometers, wind-measuring devices, balloons and observing instruments for high-altitude work, and meteorographs to be carried on the expedition's aircraft. Daily data will be transmitted to the Weather Bureau headquarters at Washington, D. C.

The radio equipment carried by the expedition will make conversation with the Soviet polar "colony" easy, if the two parties want to talk to each other.

The base to be occupied by the scientists, Fort Conger, is the same one used by Gen. A. W. Greely in the 1880's, when 80 degrees north latitude was still a world record. Fort Conger lies in 82 degrees north latitude, 66 degrees west longitude. Grant Land constitutes the northernmost section of the large land mass known as Ellsemere Island.

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Clothes moths can live five years without food.

Aztec Indians of Mexico called "measuring worms" by similar name in their own language.