

Prominences, the red flames of hydrogen, which shoot out from the sun and are seen at the time of total eclipses of the sun, and at other times with the proper instruments, are related to the spots. When a spot is on the edge, the prominence is seen above it, but Prof. Slocum does not believe that the large spot is related to the prominences observed by the Swarthmore College expedition to Sumatra during the eclipse on January 14. There was, however, a smaller group of spots in 20 degrees south latitude at the edge of the sun on January 14, and these may have caused some of the eclipse prominences.

"The last sun spot maximum occurred in July, 1917," said Prof. Slocum, "so if the period is the normal eleven years, the next should occur in 1928. Recent sun spot activity, however, indicates that there will be either an earlier maximum or one of greater intensity than usual."

OLD CHINESE DRUG IS NEW MEDICAL FIND

An ancient Chinese remedy, esteemed in the east for 5,000 years, promises to become a powerful new tool in the hands of modern doctors. When introduced into laboratories of the University of Wisconsin by Dr. K. K. Chen, the drug stood stiff tests as a treatment for asthma and colds in the head, and also as a local anesthetic.

The drug which is being studied by Dr. Chen is known as ephedrine and is the active principle of a lowly herb.

"The plant has long been used by the Chinese as a treatment for asthma," said Dr. Chen in an interview. "It is characterized by the sweating which follows its use."

Used in asthma, ephedrine forces the muscles to relax around the air passages in the lungs. The effective area of the lungs is thereby increased and breathing becomes easier. Its use in a head cold is to close the ducts of the secreting glands, thus relieving the condition known as a running nose.

Because tests indicate that it is more powerful and more perfect, ephedrine is expected to supplant adrenalin, which is obtained from the adrenal glands of animals and put to a variety of clinical purposes.

"The most important property of the purified drug is its ability to raise the blood pressure over long periods. In this respect it is superior to adrenalin, which causes only a temporary rise," said Dr. Chen.

The increase in blood pressure which takes place is due in part to the constriction of the minute blood vessels, and to this power is due the efficacy as a local anesthetic. Ephedrine temporarily shrinks the walls of the capillaries - the tiny vessels joining the arteries with the veins. The blood supply is restricted and the area treated becomes insensitive to pain.

With adrenalin, constriction of the blood vessels is followed by dilation, that is, a fall in blood pressure; but ephedrine, the new drug, causes only prolonged constriction without the ensuing opposite effect.

Other uses for which ephedrine may replace adrenalin, it is anticipated, are to arrest bleeding in hemorrhage in difficult cases, and to maintain the circulation following excessive loss of blood.

The chemical formula for ephedrine and its pharmacological effects on lower animals have been known for decades, but its wide clinical scope was not shown until Dr. Chen tried the drug on animals and studied it clinically. This was done first at Pekin, and now at the University of Wisconsin under the direction of Dr. A. S. Loevenhart and Dr. W. J. Meek.

RUSSIA TO HAVE LARGEST REFRACTING TELESCOPE

Not much longer will the United States have the honor of having the largest refracting telescope in the world within its borders, for the new telescope of the Russian Central Observatory that will have a lens 41 inches in diameter. This will be an inch larger than the 40 inch telescope of the Yerkes Observatory of the University of Chicago, the supremacy of which has been undisputed for the last 30 years. However, the United States will still have the largest telescope, for the 100 inch reflector of the Mt. Wilson Observatory, using a concave mirror to form the image instead of a lens, is still unsurpassed in size.

In a statement to Science Service, Dr. A. Ivanoff, director of the observatory, stated, "The order for this telescope was made in 1912 by the Russian Government to the firm of Grubb, in Dublin, but the circumstances of the war and the following events in Russia delayed its execution. In 1922 the Soviet Government renewed the order. According to the original plan, the instrument was to have a photographic lens 32 inches in diameter, with a focal length of 35 feet.

"The mechanical parts were finished by the Grubb firm before its liquidation but the attempts to get the necessary glass discs for the lens met with considerable difficulty. The Parsons firm at Newcastle, however, finally succeeded in preparing the glass for a lens 41 inches in diameter, so the original plan was changed. It was decided to build a photographic telescope with the lens this size, but with the original focal length of 35 feet, and so the instrument was completed by Parsons. It has been set up in England, for testing but it will be taken to Simeis, on the southern coast of Crimea, 60 kilometers east of Sevastopol, where the observatory and dome have already been completed. At Simeis is a branch of the Pulkovo Observatory, and it is noted for its excellent atmospheric conditions. At the present time the installation of a reflecting telescope of 40 inches diameter is almost completed."

As the 41 inch telescope will have a photographic lens it will not be adapted for visual observations, as is the 40 inch of the Yerkes Observatory. In this respect it will be similar to the 30 inch refractor of the Allegheny Observatory at Pittsburgh. At the Potsdam observatory in Germany is a photographic telescope with a lens 32 inches in diameter, and attached to it is a visual telescope of 20 inches aperture. A visual telescope can be used to take photographs by the use of a yellow filter which cuts out the blue light that such a lens does not focus sharply. But this lengthens the exposure, necessary, and a specially designed photographic lens has many advantages. Because its focal length is so