

Solar Movies—Continued



A SOLAR TORNADO, like this, surrounding a sunspot, can now be seen with the spectrohelioscope, and the flow of the hydrogen actually watched

shows a tiny bit of the sun at a time. In order to reveal the entire sun in the light from a single element in the chromosphere, Dr. Hale invented, in 1895, the spectroheliograph. In order to get a good spectrum, the light must first be passed through the narrow slit. The image of the sun, as formed by a large telescope, may be several inches in diameter, and so the slit cannot take in more than a very small slice of the sun at a time. But if the slit is as long as the diameter of the solar image, and is moved in the direction at right angles to its length, then the entire sun may be covered.

One moving slit is not sufficient, for when it moves, the spectrum, on the other side of the prisms or grating, also moves, and all that the observer sees is a spectrum, with its various lines, passing across the field of view.

Suppose that you want to examine the sun in the light of the red glow of hydrogen. The first slit is not in the middle of the sun, and you look, through an eyepiece, at the dark red line of hydrogen in the spectrum. Now suppose that you have a second slit, just the width of this line, and you adjust it so that all of the spectrum, except the line itself, is cut off. Then you will see that the line is not dark, but has a faint red light of its own. Now move the slit under the solar image. This will move the red line, so you move the second slit, and make it follow the line. To save trouble, you attach a motor, and the proper gearing to the two slits, so that they both move across the sun at exactly the right speed. Instead of looking at it with (Turn to next page)

White Hair Runs in Family

Genetics

When young Ann complains that her hair is turning gray Aunt Ann may remind her that it runs in the family to get gray early in life. She will be stating a scientific fact, in all probability. Prematurely white hair does seem to run in families. A family in which prematurely white hair occurred in five generations has just been reported by Humphrey J. H. Hare of Emmanuel College, Cambridge, England, in a communication to the American Genetic Association:

"The abnormal persons show no abnormality until they reach the age of seventeen or eighteen," reported Mr. Hare. The hair turns slowly white and by the age of twenty-five has completely lost its color. In every instance the abnormal individual has had one abnormal parent. Mr. Hare explains the case by the assumption that the abnormality behaves as a simple Mendelian dominant. In other words the tendency to have white hair at the age of twenty-five may be inherited like blue eyes or the shape of the nose. Over half the members of the family during five generations had the abnormality.

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Moon Like Volcanic Ash

Astronomy

Whatever the moon consists of, it is some very porous material similar to volcanic ash on the earth, and not at all like any solid rock of which we know.

This was the announcement made by Dr. Paul S. Epstein, of the California Institute of Technology, using data furnished by measurements of the moon's temperature during a recent lunar eclipse by Dr. S. B. Nicholson and Dr. Edison Pettit, of the Mt. Wilson Observatory.

A mathematical expression of the way the moon cooled when it entered the dark shadow of the earth, and so received no heat from the sun, gave the value of 120. Dr. Epstein made similar measurements in the laboratory of the cooling of various materials. Granite gave a value of 16, which meant that it cooled more slowly. Basalt gave 24, and quartz sand 58. Pumice stone, however, gave values of between 100 and 150. As pumice is of volcanic origin, this appears to be new evidence in favor of past volcanic action on the moon, which may have formed the craters.

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NATURE RAMBLINGS

By FRANK THONE

Natural History



Partridgeberry

Of late years florists and street hawkers have been offering decorative trailers of little green leaves, interspersed with pairs of bright red little berries, and these "greens" have become quite popular as table decorations during the winter. It is an ungrateful task to have to keep saying "stop"; but unless the American public goes a little slow on the partridgeberry its children will have to get along with just one less attractive ornamental ground-covering vine in the woods. There is still plenty of this plant left, but there won't be long if the demand keeps on pressing the trade.

It would be a pity to see the partridgeberry vanish. It is such a pretty thing, with its hardy evergreen leaves brightened with whitish veins, its pairs of tiny white flowers in the spring and its twin berries (another name for it is twinberry) in the autumn and winter. It would be better to coax it into growth in parks and on large timbered estates. For it has the great virtue of being able to grow on acid soil under the shade of trees—a situation little to the liking of most low-growing plants of possible use as ground cover.

It is easily satisfied in the matter of climate, too, for its natural range runs from Nova Scotia to Minnesota on the north, and sweeps southward to Florida and Mexico. A second species is found in Japan.

The botanical name of the genus is *Michella*. This is a monument to friendship between an American and a Swedish scientist a couple of centuries ago. For Linnaeus named the plant in honor of his fellow-botanist and correspondent, Dr. John Mitchell, of Virginia.

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