



Snow-on-the-Mountain

THE thinning autumn pasturelands of the West and the farther Midwest still show brave displays of taller plants that hold out against the frost and likewise are able to repel hungry livestock. Conspicuous by virtue of the sharp white stripes with which its foliage is adorned is that interesting euphorbia species known colloquially as snow-on-the-mountain. It is an attractive herb that gets to be as much as three or four feet high, and is favored to some extent as a cultivated plant in the East.

It is like its other relatives of the euphorbia genus in its predilection for gaudy leaves. The most familiar euphorbia to most of us is the poinsettia of the Christmas floral displays, whose flaming head is not really a flower but a collar of leaves surrounding a group of inconspicuous little flowers. Only our snow-on-the-mountain carries the decorated-leaf motif all the way down its stem.

It shows its kinship again by its milky juice. Most euphorbias bleed white when they are cut. A most important example is the Para rubber tree, whose latex really runs into big money.

When a succulent plant is left standing alone in a well-grazed pasture it is a pretty good sign that for some reason the cattle don't like its taste. Snow-on-the-mountain, again like most euphorbias, is very bitter, and would probably poison stock if they ate it. Another related plant, the common castor-bean, contains the deadliest vegetable poison known; and certain tropical euphorbia vines yield arrow poisons used by primitive tribes.

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SEISMOLOGY

Explosive Used to Produce Earth Tremors Artificially

YOSEMITE National Park was the scene recently of several earthquakes, the first artificial tremors of their kind produced for purely scientific purposes. They were engendered not by the slipping of rock layers along a fault line, as in real earthquakes, but by the explosion of charges of explosive.

The experiment was launched jointly by the Carnegie Institution of Washington, D. C., and the California Institute of Technology, Pasadena, Calif., under the direction of Dr. John P. Buwalda, chairman of the geology and paleontology division. Dr. Beno Gutenberg, professor of geophysics and seismology at the Institute, and Henry Salvatori and assistants of Dallas, Texas.

Two methods of producing tremors were used. A tunnel, more than 2,300 feet long, was dug by the National Park Service into the cliff east of Bridal Veil Falls. In this tunnel, several hundred feet underground, several hundred pounds of dynamite were exploded twice daily. Vibrations set up by the explosives were registered on instruments, many miles distant from the source of the disturbance.

Smaller charges were exploded on the surface and the vibrations set up in the solid granite recorded with instruments placed some thousands of feet away.

Dr. Buwalda reported that the "Yosemite Valley is a deep, narrow and ver-

tical-walled chasm, and when vibrations were caused on one side, the surface waves which usually confuse the readings of seismograms were eliminated because they were reflected back when they struck the vertical cliffs on the side of the valley from which they radiated. A network of telephone lines made it possible to send precise time signals from the point of explosion to the recording point."

Three problems were studied. The first was to determine the velocities of earthquake waves in the several different kinds of granite. This was done by determining the exact thousandths of a second required for the vibrations to travel a measured distance through the granite.

The second problem was to determine the effect of a vertical-walled canyon or valley on earthquake waves when they travel approximately at right angles or across the valley. Each explosion, Dr. Buwalda said, set up three kinds of tremors and it was important to know which reached the other side of the canyon and which was eliminated by being reflected back by the canyon wall.

The third problem was to record the echo in the rock wave by reflection from the bottom of the granite itself.

The explosions were so slight that tourists in the park did not feel the tremors created.

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Orchids That Look Like Girls, Doves and Swans

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But if you get to wandering through the spring woods there will be no end to the pictures that the flowers will show you. Where Jack-in-the-pulpit grows, not far away you will be sure to find clumps of Dutchman's breeches. And here the resemblance has no need for the easy faith of children to make it good; the grownuppest person in the world will admit without argument that it is washday in fairyland's Amsterdam.

And how many of us stop to think that the violin, the most nearly human thing that was ever carved out of responsive wood, got its name from the violin? The violin's elder sister, the alto

member of the family, is known as the viola; and *Viola* the violet has been in Italy, the home of the greatest violin-makers, ever since the days of Romulus and Remus.

There is another flower that gives children great delight whenever they get a chance to see it.

This flower is the little elephant, once known botanically as *Elephantella*. Its slender spire stands up a foot or so high, crowded with little pink elephant's heads sticking out toward all points of the compass, like decorations on a temple in the Javanese jungles.

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