



Ptarmigan

THE PTARMIGAN, a fine American bird which few of us ever get a chance to see, because he lives either too far north or too high up, is now shifting garments. All summer long he was mottled rock gray, now he is becoming snowy white. Both guises are protective camouflage, and both are highly effective.

Properly, the ptarmigan is an arctic bird; it is on the great wastes of the empty North that he thrives best. But like many other forms of arctic plant and animal life, he can come south by sticking to the mountain tops, and thus we find him within the United States proper, holding to the pinnacles of our loftiest western mountains, high above timberline, where few other creatures as large as himself can exist. He stays winter the year round, too, even when winter drives such hardy creatures as mountain sheep down into the valleys. How the ptarmigan manages to pick up a living then is a riddle, but he seems to survive; for when hardy climbers scramble back to the peaks next spring, there he is, and his mate and babies, picking a good living out of the snow and from the dwarf juniper bushes.

The ptarmigan is a confirmed dependent on the refrigerator. He picks over the snowfields for frozen insects and for those peculiar wiggling creatures called "snow worms," and it is stated by alpine naturalists that the mother ptarmigan takes her family to snow patches even in the summer when mealtime comes.

Science News Letter, October 25, 1930

There are more than 8,000 varieties of dahlia on the market.

Almost 100 mills in the South are manufacturing paper from the southern pine.

Bunsen and the Geysers

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If we now consider the period which immediately precedes an eruption, we shall find that only a very slight impulse is necessary to bring a large portion of the column of water, suddenly into a state of ebullition, and, as we shall soon see, even to produce an eruption. Every cause that tends to raise this column of water only a few meters, must necessarily be attended by this result. If, for instance, we assume this elevation to be equal to 2m, the column of fluid pressing on the point *a* will be shortened by the height *ab*. The temperature *a* of the stratum of water lying under a pressure diminished by *ab* is now about *bc*, or 1° higher than the corresponding boiling-point of the water. This excess of 1° is immediately expended in the formation of vapour, generating in the present case, as may be proved by an easy calculation, a stratum of vapour nearly equally high with the stratum of water 1m in height. By this diminution in the superincumbent water a new and deeper portion of the column of water is raised above the boiling-point; a new formation of vapour then takes place, which again occasions a shortening in the pressing liquid strata, and so on, until the boiling has descended from the middle to near the bottom of the funnel of the geyser, provided always that no other circumstances have more speedily put an end to this process.

It appears from these considerations that the column of water in the funnel of the geyser extending to a certain distance below the middle, is suddenly brought into a state of ebullition, and further, as may be shown by an easy method of computation, that the mechanical force developed by this suddenly established process of vaporization is more than sufficient to raise the huge mass of the waters of the geyser to that astounding elevation which imparts so grand and imposing a character to these beautiful phenomena of eruption. . . . We can easily understand the reason that this enormous force should not be expended in one single jet of eruption, when we remember that the jets of water erupted in the air are continually falling back into the tube of the geyser, and interrupting, at different moments, the force of the upheaving column of vapour, which is condensed in the cooled water as it falls, until the temperature of the latter again reaches

the boiling-point, and has consequently regained the power of being again propelled upwards. At the same time the water may be seen flowing from the basin back into the funnel, between the different separate ascents of the water. Occasionally, the water even appears as if it were forcibly drawn back.

The condensation in question, with the consequent restoration of heat to the water of the geyser, explains, at the same time, the fact of the great eruptions continuing frequently for a period of more than five minutes.

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Queen Elizabeth advised this prescription for a cold: Take a quart of new milk, put into it 2 spoonfulls of honey, 4 ounces of linseed, and as it boyles put in pieces of scarlett or redd cloth and laye one peece on your stomach and one opposite to that on the backe, and soe goe to bedd: sweat and you shalbe well.

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