

This "death-seeming sleep" of hibernation appears to be simply a means of conserving energy, of bridging over a period of food scarcity at a time when food would be most needed if body temperature were to be maintained at its usual level. For a great deal of fuel is needed in winter, as all of us non-hibernating animals are aware, just to keep ourselves warm, not to mention getting our usual work done. But if we could bank our bodily fires, letting them burn low as the bears and chipmunks do, we could live for weeks on our fat that would ordinarily be exhausted in days and leave us starving. Thus the round belly of a bear and the round bulb of a lily are closely parallel in their function, except that the bear uses his reserve supply of food during the winter itself, and the flower waits until spring to eat up its store.

Science News Letter, April 8, 1933

DENTISTRY—PHYSICS

Metals in Teeth May Generate Electricity

WHEN TEETH are repaired or replaced with different kinds of metals, electricity may be generated in the mouth just as in the cell of an electric battery. Cases in which this electricity caused pain and sores in the mouth were reported to the American Medical Association by Dr. Everett S. Lain, professor of dermatology and radiology at the University of Oklahoma School of Medicine.

Human saliva is a good electrolyte, Dr. Lain has found from repeated experiments. Thus every mouth in which there are plates, bridges, crowns or fillings of dissimilar metals becomes a complete galvanic battery.

If all the crowns, amalgam fillings and other dental material in a mouth are made of the same metal, or of metals nearly alike in what the physicists call electromotive force, there is no trouble. Gold and silver and copper, for instance, are not so different in this respect, so that when their ions are dissociated by the saliva, hardly any current is generated.

But the difference between gold and certain other common dental metals, such as aluminum and zinc, or the recently suggested chromium, is quite large. When two such dissimilar metals are used in the same mouth, they may act as the two opposite poles of an electric battery. The current generated is sufficient to cause serious trouble.

Dentists have for many years recognized the possibility of electric shocks and nerve soreness resulting when dissimilar metal dentures happen to come in contact, Dr. Lain pointed out in his report. To avoid such occurrences, they have made a practice of grinding short one of the metallic contacts.

Dr. Lain examined more than 300 mouths which contained dissimilar metallic dentures. Nearly three-fourths of them showed some signs of the electric current action.

Science News Letter, April 8, 1933

METEOROLOGY

Mt. Washington Colder Than the Antarctic

See Front Cover

By DR. CHARLES F. BROOKS, Director of Blue Hill Observatory, Harvard University.

IT WAS COLD in Boston on a recent March day. The temperature was about 10 degrees Fahrenheit and the wind some 20 miles an hour. Autos froze up and people suffered in the biting wind. The "cooling power" of the wind was 72 on a scale having its zero for a condition of calm at a temperature of 98.6 degrees Fahrenheit, and a value of 10 at the "comfortable"

temperature of 68, with a slight breeze. So 72 is a high cooling power.

What was the lowest temperature experienced by the Byrd Expedition at Little America? It was 72 degrees below zero, but the weather was calm, so the cooling power was only 57, or even less than Boston's that cold Saturday. But Little America suffered from blizzards, in the worst of which the temperature fell to 58 degrees below zero with a 43 mile an hour wind. That was cold! The cooling power was 190.

Now consider Mt. Washington at its worst, or rather we should say it was probably not at its worst. The same Saturday morning at 8 a. m. a west-northwest wind at 25 below zero was whistling over the summit at 98 miles an hour! And it had been up to 145 miles an hour, according to the anemometer, which, however, may have registered 10 miles too high. Allowing for the lower air density and therefore lesser cooling power of a wind of a certain velocity on the mountain top, we find that the cooling power was 193, or as bad as Little America's coldest blizzard!

Rigor of winter at the summit of Mt. Washington is graphically pictured on the cover of this week's SCIENCE NEWS LETTER. As early as October 15 of last year, when this picture was taken by Harold Orne of Melrose Highlands, Mass., ice and snow had wrought curious shapes upon the rocks, the houses and cog-railroad trestle of the mountain top. The picture shows observers examining instruments mounted on the end of the trestle.

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Announcing the SPRING BOOK NUMBER of

Science News Letter, April 22, 1933

NEW BOOKS will be the theme of Science News Letter for April 22, just two weeks hence. By means of quotations, reviews, lists and advertisements, this magazine will inform you of what is new and best among science publications. You will enjoy it and want to keep it. Watch for Science News Letter Spring Book Number.