

The experiments and inferences from them are numerous and suggestive. It may be that strict morphologists lay too much stress upon heredity and try to explain too many phenomena as due to recapitulation. It would seem to the reviewer that Professor Goebel has underestimated the importance of heredity as much as most morphologists exaggerate it.

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SCIENTIFIC JOURNALS AND ARTICLES

The American Journal of Science contains the following articles: "Some New Measurements with the Gas Thermometer," by A. L. Day and J. K. Clement; "Range of the α -rays," by W. Duane; "Alteration of Augite-ilmenite Groups in the Cumberland, R. I., Gabbro (Hessose)," by C. H. Warren; "Studies in the Cyperaceæ. XXVI. Remarks on the structure and affinities of some of Dewey's *Carices*," by T. Holm; "Applications of the Lorentz-FitzGerald Hypothesis to Dynamical and Gravitational Problems," by H. A. Bumstead.

SPECIAL ARTICLES

ELECTRIC DISTURBANCES AND PERILS ON MOUNTAIN TOPS

IN view of the scientific interest that has been aroused by the sudden death of mountaineers on the widely separated peaks of San Gorgonio and Whitney during apparently the same electric storm in June, 1904,¹ the follow-

¹ The distance between these peaks, which lie on opposite sides of the Mojave Desert, southern California, is approximately 180 miles and the difference in elevation is 5,015 feet, the higher peak, Mount Whitney (altitude 14,515 feet), being the highest mountain in the United States, excluding Alaska.

The death on San Gorgonio, said to be the first case of the kind in San Bernardino County, occurred July 24, 1904, that on Mount Whitney two days later, July 26. Referring to these fatalities, Professor Alexander G. McAdie, quoted in the *Monthly Weather Review*, September, 1904, page 420, says:

The accidents have a scientific interest in that there are but few records of deaths by lightning in this state. But it should be noted that com-

ing recent experience of Captain R. M. Brambila, U. S. Infantry, and the writer will be welcomed as furnishing some hint of the power and magnitude of such electric disturbances.

This experience was endured by the party during the regular visit to the automatic weather observatory maintained by the Nevada Agricultural Experiment Station on Mount Rose (altitude 10,800 feet), the dominating peak north of Lake Tahoe (on the California-Nevada state line), and approximately 200 miles north of Mount Whitney.

The storm, which was mainly electric in nature, displayed itself first on the evening of Friday, October 19, 1907, in a heavy cloud mass lying close along the crest of the Carson Range north of Mount Rose, but in no wise involving Mount Rose itself. The flashes of lightning were frequent and heavy. Little thunder, if any, however, was heard. On the morning of the twentieth, when the actual ascent of Mount Rose began, clouds gathered from the direction of Lake Tahoe about the summit, and enveloped it somewhat persistently during the day. The wind did not exceed ten miles per hour, and the temperature remained above freezing.

From the summit itself the cañons below could be seen filled with masses of vapor. As night darkened a moderate storm of hail and snow with rain began to fall. The pack horse, which had been stabled on a terrace just below the observatory, was covered from tail to ears to protect him from the pelting missiles.

paratively few people have been exposed to storms at high elevations. Mr. Byrd Surby was killed on the summit of Mount Whitney, within 50 feet of the monument. It was snowing at the time of the accident. It is probably not well known that the variations in the electric potential of the air during a snowstorm are almost as rapid and as great as those prevailing during a thunderstorm. In this present case I am inclined to think that the electrical disturbance was not localized, but simply incidental to a disturbed field which extended well over the high Sierra, Inyo, Panamint and Telescope ranges; also the San Bernardino Range, and probably the mountains of Arizona. This condition lasted perhaps a fortnight.