

SCIENCE

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FRIDAY, DECEMBER 28, 1900.

PROGRESS IN FORESTRY UNDER STATE CONTROL.*

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IN the steps that are now being taken by the State of Michigan looking towards the establishment of a permanent forest policy the recent experience of other States cannot fail to be instructive. In the development of a great public movement in which so much is untried and unforeseen, mistakes are certain to occur, but the chance of their occurrence may be lessened by taking account of the history of similar movements elsewhere. Accordingly, the forestry laws of several States have been reviewed by the writer, and an attempt has also been made, from a comparison of these and a consideration of conditions there existing, to gather such hints as may be available in our own State. It has been thought best to limit this study to the five States, New York, New Jersey, Pennsylvania, Wisconsin and Minnesota, both because they approach Michigan more closely than others in physical conditions and because by far the greatest progress in the development of a forest policy has been made in those States.

The conditions in New England and the Southern Atlantic States are so far different from our own as to be valuable chiefly in a general way rather than in the solution of special problems; the great agricultural

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

* A review of forestry legislation and conditions in the Central and Northern States, prepared for the Michigan Forestry Commission.

over the intruded mass labeled 'lava,' seemingly with the intention of indicating that the intrusion did not reach the surface. We know, however, from the writings of Major Dutton that the volcanic necks in the Mt. Taylor region, the one selected, are the plugs hardened in the throats of normal craters.

An exception might be taken to the use of the word *crater* in reference to the great depression in the summit of Mount Mazama, but such a distinction I believe, was not made by Dutton and Diller, to whom we owe nearly all our information concerning the region in question.

In the interest of the large number of teachers and students who will consult the topographic folios of the U. S. Geological Survey, I venture to suggest that the descriptions accompanying the maps should be written by persons who are familiar with the regions represented and have a critical knowledge of their geology. These texts, although of necessity brief, should not be stultified compilations, but Nature herself speaking through a master interpreter.

ISRAEL C. RUSSELL.

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BOOKS RECEIVED.

Animal Life. DAVID STARR JORDAN and VERNON L. KELLOGG. New York. D. Appleton & Co. 1900. Pp. ix+329.

William Herschel and his Work. JAMES SIME. New York. Charles Scribner's Sons. 1900. Pp. vii+265. \$1.25.

The Teaching of Mathematics in the Higher Schools of Prussia. J. W. A. YOUNG. Longmans, Green & Co. New York, London and Bombay. 1900. Pp. xiv+141.

Lehrbuch der vergleichenden Anatomie der Wirbellosen Thiere. ARNOLD LANG. Second revised edition. First part, *Mollusca*. KARL HESCHELER, Jena. Gustav Fisher, 1900. Pp. viii+509.

SCIENTIFIC JOURNALS AND ARTICLES.

The Journal of School Geography, edited by Richard E. Dodge, of Teachers College, Columbia University, enters upon its fifth volume in January. The editorial staff will be strengthened by the addition of Mr. Mark S.

W. Jefferson, of the High School, Brockton, Mass., who will devote his attention to Secondary School Geography, and of Miss Ellen C. Semple, of Louisville, Kentucky, who will, as before, contribute articles and notes in reference to Anthropeo-geography.

The Plant World for November opens with an illustrated article on 'An Ornamental Species of *Bideus*' by G. N. Collins. It is a little irregular to learn that the now popular *Cosmos* flower was brought from Mexico twenty years ago and cast aside as a worthless weed. F. M. Burglehaus tells of 'Drying Botanical Dryers in Wet Weather' and Charles Newton Gould describes the 'Jack Oaks in Oklahoma' which are practically useless for anything save firewood. Charles A. White discusses 'The Varietal Fruit Characters of Plants' and 'English and American Weeds [are] Compared' by Byron D. Halsted with the result that in 100 species from each region less than one quarter of them are common to both lists. In the Supplement devoted to 'The Families of Flowering Plants,' Charles Louis Pollard treats of the orders Fagales, Urticales and Proteales.

No. 38, vol. 8, of the *Bulletin of the New York State Museum* is devoted to a 'Key to the Land Mammals of Northeastern North America' by Gerrit S. Miller, Jr., intended to furnish a ready means of identification with the least possible technical requirements. Keys are furnished to the various orders, families, genera, species and even subspecies of the mammals inhabiting the region noted, while references are given to the first publication of each name, the first use of the binomial or trinomial combination and to some recent work in which the animal is described in detail. Recently extirpated animals, such as the bison and walrus, are included and there is a short introduction defining the areas of the life zones of the region under consideration, and before the 'Key' proper is a check list of the 105 species treated. The work is not only useful for the amateur, but of great value to the working zoologist, as Mr. Miller is among our leading authorities on mammals and has devoted particular attention to those of New York State and the adjoining territory.