

other, Professor H. C. Lord, of the Emerson McMillan Observatory, Columbus, Ohio, and the writer began a series of investigations with a view to determining where it should have fallen. We secured reports from some twenty-five or thirty observers scattered over the states mentioned above; none of them, however, were expressed very definitely in terms of angular measurements, excepting those of Professor Lord and myself, and we evidently had not noted the altitude and azimuth of the meteor at exactly the same point of its descent. Satisfied, however, that if any pieces came to the earth, they must have fallen somewhere between Lexington and a point in Elliott County, Ky., where an observer saw the meteor to the west of him, I was induced to hunt down a rumor that it had fallen in Bath County, and was rewarded by finding that it had indeed come to earth in the extreme southern portion of that county, and had been picked up by the man who saw it strike the ground. The exact point struck was a stone in the road in front of the home of Mr. Buford Staten, five miles due south of Salt Lick, Ky.

The stone (for it is an aerolite) is roughly $8\frac{1}{2} \times 6 \times 4$ inches, has a volume of 1,642 c.c., and now weighs, with some pieces chipped off for analysis, 5,725 grms., or about 12 lbs. 10½ oz. It exhibits the usual black crust or varnish, the pittings, the grayish interior, and shows on analysis the disseminated nickeliferous metallic iron.

It is interesting to note that, though the approximate place of this aerolite's fall was not determined by calculations based upon observations giving the azimuths of the point where it appeared to burst as seen from different stations—the meteorite itself having been brought in before our investigations had reached the calculating stage—yet had it not been seen to strike the earth, it is not improbable that it would soon have been found as a result of special search. A projection of the lines of observation in accordance with the azimuths of the Columbus and Lexington determinations (S. 15 degrees W., and N. 81 degrees E.) cross in the southern portion of Bath County, Ky.

Note.—Since writing the above the meteorite has been purchased by Mr. Henry Ward for the Ward-Coonley Collection of Meteorites now on deposit in the American Museum of Natural History, New York city.

ARTHUR M. MILLER.

STATE COLLEGE OF KENTUCKY.

AN APPLICATION OF THE LAW OF PRIORITY.

THE first serious attempt to make regulations for the nomenclature of zoology was by a committee of the British Association for the Advancement of Science in 1842. Since then these rules have been both changed and added to, and may still be modified by the action of future zoological congresses. Nomenclature can never be stable so long as the rules are subject to modification. Why then not apply the law of priority to these rules, and declare that the 1842 rules of the British Association must stand, since they have the priority. Of course there were earlier attempts, just as there were binomials before Linnæus and Darwinism before Darwin, but all acknowledge that the 1842 action was the first serious work on zoological nomenclature. Therefore, following the law of priority, they should not be changed. Additions, of course, should be allowed, and these should also follow the law of priority. This would forever prevent change. The scheme of having a zoological congress to meet at intervals, for the discussion and decision of questions, permits of change; and no one can tell how slight or how great these changes may be in the future. Stability can only be obtained by deciding that something already accomplished can not be changed.

NATHAN BANKS.

CURRENT NOTES ON PHYSIOGRAPHY.

GLACIAL CHANNELS IN WESTERN NEW YORK.

FAIRCHILD's recent work on the 'Pleistocene Geology of Western New York' ('N. Y. State Museum, 20th Rep. State Geol.,' 1900 (1902), 103-139, plates and maps) includes the most complete statement yet made regarding those remarkable channels worn by rivers that followed temporary courses along the depression enclosed by the spurs of the Allegheny plateau on the south and the face of the retreating

ice sheet on the north. The channels are shown to vary with the character of the rock in which they are cut. The stronger limestones were most worn down where they were cut through to weaker shales, and channels of this kind often have a shallow up-stream floor, separated by a cliff—the site of an ancient waterfall—from a deep gorge with steep walls. Channels cut in shales are often deep all along their length, but their walls are weathered to moderate slopes and their beds are thereby narrowed. Many channels have no northern bank, for the ice that restrained their river on the north has melted away. Some of this kind are to be seen from the N. Y. Central Railroad near Oneida, where the track lies on the ancient river bed. Several small lakes are described as occupying ‘plunge-basins’ excavated beneath cataracts.

THE SCENERY OF ENGLAND.

‘The Scenery of Switzerland,’ by Sir John Lubbock, is now followed by ‘The Scenery of England’ by the same author under his newer title of Lord Avebury (Macmillan, 1902, xxvi + 534 pp., 197 figs. and pl.). The book opens with 85 pages on geology and 30 on general configuration. It then takes up such topics as coast, mountains and hills, rivers and lakes, giving to each a general consideration as well as an account of local examples, and closing with two chapters on law and names as related to topography. Many of the illustrations are half-tone plates, most of which are excellent; one of the incised meanders of the Wye is notably fine. The author disarms the critic in the preface; and indeed it is rather ungrateful to find any fault with a book that must prove useful in many ways; yet there is ground for regret that the plan of treatment adopted was not at once more thorough and more systematic. The treatment of coasts and of rivers, for example, does not do justice to the position of these important subjects in modern physiography. Truly, the items are treated in a rational and explanatory manner, but the arrangement of the items is not such as to impress the reader with their natural relations; the incised meanders of the Wye, for instance, are referred to in the section

which describes normal meanders; alluvial fans of mountain torrents are described in connection with the third stage of river development in which the river, ‘finally * * * reaches a stage when the inclination becomes so small,’ etc. Sea cliffs are described in some detail, but the reader will not learn the relation between the ragged outline and the beachless base of young cliffs, or between the smoother outline and continuous beach of mature cliffs. The attention of geographers and philologists should be called to the new word, ‘anywhere’ (p. 52), of value intermediate between somewhere and everywhere.

TERMINOLOGY OF MORAINES.

AN elaborate historical monograph, ‘Geschichte der Moränenkunde,’ by Böhm of Vienna (*Abhandl. Geogr. Gesellsch. Wien*, III., 1901, No. 4, 334 pp., 4 pl.) forms an easy means of reference to the writings of various authors on a problem that is equally shared between geologists and geographers. The earliest writers quoted are Münster (1544) and Stumpff (1548). Their successors count up to about 400, and the number of citations is 650; Agassiz, Chamberlin, Heim, Penck and Saussure are the most frequently referred to. This detailed review extends to 217 pages. Then follows a 25-page discussion of the results reached by the Glacier Conference of August, 1899, of which the author was not a member and from whose decision he dissents. The classification and terminology of moraines, as preferred by the author, are next presented in a chapter of 23 pages, closing with a table of 23 kinds of moraines named in six languages. It is notable that drumlin is the only name which holds unchanged in all countries; but moraine itself varies slightly from Italy (*morena*) to Norway (*moræne*). In this respect drumlin and moraine are imitated by atoll and monadnock. Those interested in the development of physiographic terminology may perhaps gain a useful hint from these accepted though unintentional contributions towards a universal scientific language; none of the four words are of classic origin; all come from local names of forms that have come to be used as types.

NEW NORWEGIAN MAPS.

SOME of the newer sheets of the Norwegian topographical map, 1:100,000, contain excellent illustrations of cirques, which believers in glacial erosion would ascribe to ice work. In the Reppefjelde the cirque floors stand below sea level, so that the shore line enters several curiously rounded bays, suggesting that large blocks had been bitten out of the upland. In another example the cirques have encroached so far on an upland that only a skeleton of it remains. Still other sheets exhibit the 'arm-chair' relation of cirques to the large valley upon which they open, this being a special case of the hanging valley problem. Broad trough-like valleys, with divides on their floors and lateral valleys opening on their walls, are repeatedly illustrated. These various forms are of particular interest when compared with those occurring in a well-dissected, non-glaciated mountain district, such as the old Appalachians of North Carolina, whose forms are well shown on the U. S. Geological Survey topographical sheets around Mt. Mitchell.

W. M. DAVIS.

BOTANICAL NOTES.

MORE BOOKS ON TREES.

NOTHING could show more certainly the rapidly growing interest in trees and their place in the world than the increase in the number of books on this subject. It is but a short time since two books on some phases of forestry were noticed in *SCIENCE*, and now it is a pleasure to call attention to three more which have appeared within a few weeks. The first is 'The Woodsman's Handbook,' prepared by Professor Graves, of the Yale Forest School, and published as Bulletin 36 of the United States Bureau of Forestry. It is a small book containing 148 pages, each 10 by 16 cm. in size, and so bound and trimmed as to be easily carried in an ordinary pocket. In it the author has attempted to bring together such information in regard to the field work of the forester as he will find necessary to have at hand for use at any moment. It is for the forester what an engineer's 'fieldbook' is to the working engineer. The scope of the

little handbook may be seen from the general headings in the table of contents. Here we find 'Units of Log Measure,' 'Measurements of Sawed Lumber,' 'Measurements of Standing Trees,' 'Methods of Estimating Standing Timber,' 'Forest Working Plans,' 'Special Instruments Useful to a Woodman.' Under the first head no less than forty-five log rules are listed and described or commented upon. The author has made a most useful book, and the Bureau of Forestry is to be commended for giving it prompt publication, and especially for bringing it out in this handy form.

The next book is a 'Handbook of the Trees of New England,' by Lorin L. Dame and Henry Brooks, and published by Ginn & Company. It is a book of 196 pages, 10 by 18 cm., and bound with narrow margins for easy carrying in one's pocket. Eighty-seven species of trees are described and figured, and a few more are noticed but not illustrated. The figures are well done and must prove very helpful. The descriptions are full, and as they follow the same order in all cases, they will be useful not only to the forester, but to many a young botanist as well. Under each species the sequence of description is as follows: 'Habitat and range,' 'habit,' 'bark,' 'winter buds and leaves,' 'inflorescence,' 'fruit,' 'horticultural value,' 'explanation of the plate.' It is to be regretted that the authors followed the older nomenclature so largely, but this is not a sufficiently grave defect to seriously mar its usefulness. We wish that other parts of the country had as good books as this on their native trees.

In the 'Economics of Forestry' (Crowell & Company), by Professor Fernow, of the New York College of Forestry, we have another technical book designed for the use of forestry students. It is a work of 520 pages, 12 by 19 cm., and is bound in the usual style for the library shelf. The titles of the twelve chapters will give an idea of the scope of the work, as follows: 'The Relation of the State to Natural Resources,' 'The Forest as a Resource,' 'The Forest as a Condition,' 'Forest and Forestry Defined,' 'Factors of Forest Production and Business Aspects,' 'Natural His-