

himself and which were originally based almost entirely upon scale structure, certain others of his genera suffer from the application of this class of characters. The main objection to the palpal characters is their difficulty to the student, and, if possible, for convenient use tables for the separation of species should be based upon characters which can be studied without mutilating the specimens. This plea Mr. Theobald makes for the retention of his scale characters, since they can be made out with any compound microscope, and even with a high-power hand lens. Mr. Theobald deserves great credit for the work which he has done with scale characters, but there can be no doubt that the rational classification depends to a greater extent for its generic characters upon such distinctions as have been pointed out by Neveu-Lemaire. It will be rather difficult to draw the line, for example, between the 'narrow curved scales' and the 'broad curved scales' found upon the heads of certain mosquitoes, since there are curved scales which it would be difficult to distinguish as narrow or broad. There is a gradation, in other words, which makes it difficult in some cases to accept them as generic characters.

Mr. Theobald has done a great and lasting service to the medical profession and to the students of biology in producing this elaborate monograph, and deserves the thanks of all classes. The authorities of the British Museum should also be included in this vote of thanks, since they have published the results of his labor in very beautiful form.

L. O. HOWARD.

*International Catalogue of Scientific Literature.* G, Mineralogy including Petrology and Crystallography. First Annual Issue. Published for the International Council by the Royal Society of London. Vol. XI., 1903 (January). Pp. xiii + 208.

The general character and scope of this international catalogue have already been sketched in this magazine (Vol. XVI., 1902, p. 861). This volume embracing mineralogy, petrology and crystallography is of the same high quality that has characterized the earlier

appearing volumes on other subjects. The scheme of classification of the subject catalogue is as follows, the numbers given being the so-called registration numbers by which each section is designated: 0000 to 0070, general, including philosophy, history and biography, periodicals, text-books, addresses, institutions and nomenclature; 10 to 19, general mineralogy, including chemistry, mode of occurrence, economic mineralogy and artificial minerals, etc.; 30 to 32, determinative mineralogy; 40, new mineral names; 50, descriptive mineralogy with alphabetical list of mineral names; 60, geographical distribution; 70 to 73, meteorites; 80 to 87, petrology, including igneous, sedimentary and metamorphic rocks, unclassified rocks and chemical analysis of rocks; 100 to 750, crystallography, including geometrical and mathematical crystallography (105 to 150), crystal structure and growth (200 to 240), physical and optical crystallography (300 to 440), chemical crystallography (500 to 540) and determinative crystallography (600 to 750).

This scheme and a topographic classification of localities is printed in four languages. The catalogue proper is introduced by an authors' catalogue containing 1,072 entries, comprising 53 pages. The remaining 120 pages contain the subject catalogue as above outlined. The catalogue fills a want much felt by all workers in science, and while alterations in the scheme, especially in the subject classification, may suggest themselves later as advisable, there can be only praise for the work accomplished. The fact that larger funds and more complete equipment of the several bureaus will in the future make it possible to keep the catalogue more nearly concurrent with the period whose work it records insures a still greater usefulness for the work.

CHARLES PALACHE.

#### SCIENTIFIC JOURNALS AND ARTICLES.

*The Popular Science Monthly* for February has for frontispiece a portrait of Professor W. G. Farlow, president of the American Association for the Advancement of Science, while the first article is the address of the late president, Ira Remsen, on 'Scientific Investigation