

skies, which have been described by Arctic explorers. In the Arctic there is always a fringe around the ice masses where the winter's snow is all melted during the summer. In the Antarctic this is not the case, as the snow line extends quite to the sea level. The discussion of the various forms of ice masses and the formation and appearance of icebergs is most interesting. Glacialists will find much to interest them in this book and also many explanations with which they will not agree. For instance, the author thinks that the alimentation of the Arctic ice occurs largely at its borders and is due to the snow being driven off the ice cap by the wind and piling up, around the edges, forming a convex surface, like a sand dune; it is hard to reconcile this with retreating glaciation. Also, the figure on page 139 would hardly have been inserted if the author had carefully considered the lines of flow of glacier ice.

The book is profusely illustrated and the illustrations elucidate the text; every one of them is referred to and they make the descriptions very vivid without the use of too many words. The reproduction, on the same scale, of plans of a number of glaciers, in plate 11, and Fig. 134, is very instructive. The numerous references at the end of every chapter will be very acceptable to those who desire to consult the original articles.

HARRY FIELDING REID

Fortschritte der Mineralogie, Kristallographie und Petrographie, herausgegeben im Auftrag der Deutschen Mineralogischen Gesellschaft, von DR. G. LINCK, Jena. Gustav Fischer, Jena, 1911. Pp. 290.

The German Mineralogical Society has undertaken to publish annually a report of progress in various fields of investigation related to mineralogy. This interesting first volume gives promise of a successful series. Dr. Linck is editor in virtue of his office as secretary of the society; the authors of the papers are specialists in their various fields and the presentation is intended to be popular. The varied subject matter shows how wide is the field to be covered. There are

twelve reports as follows. H. Baumhauer (Freiburg) treats of the Law of Complication and the Development of Crystal Faces in Complex Zones, accepting and elaborating Goldschmidt's work (17 pp.); O. Mügge (Göttingen), On the Twin Structures of Crystals (30 pp.), and F. Becke (Vienna), On the Formation of Twin Crystals (18 pp.), discuss very fully modern points of view as to definition and development of twinning; A. Ritzel (Jena) treats of the recent literature on Velocity of Crystal Growth and Solution (13 pp.). Under the heading Mineralogy, R. Marc (Jena) summarizes the literature on the Phase Rule and its Application to Mineralogical Questions (30 pp.); R. Brauns (Bonn) deals with the Causes of the Color of Faintly Colored Minerals and the Effect of Radium Rays upon the Color (12 pp.); A. Bergeat (Königsberg), reviewing the Genetic Interpretation of the North- and Middle Swedish Iron-ore Deposits in Recent Literature (18 pp.), shows the modern tendency towards regarding them as of magmatic origin; A. Schwantke (Marburg) gives a descriptive list of new minerals which have been described since 1898, arranged alphabetically without references to literature (20 pp.). Under the heading Petrography, F. Rinne (Leipzig), on Saltpetrography and Metallography in the Service of the Study of Eruptive Rocks (37 pp.), shows the bearing of such physico-chemical investigations as those of van't Hoff on the Stassfurt salt deposits upon the interpretation of processes of crystallization in igneous magmas; F. Becke (Vienna), in *Advances in the Province of Metamorphism* (36 pp.), reviews 87 papers which have dealt with this subject in the past three years. Under Meteorites, F. Berwerth (Vienna), *Advances in the Knowledge of Meteorites since 1900* (28 pp.), gives a complete bibliography of 394 entries, covering what has appeared on meteorites since the publication of Wülfing's book, together with critical reviews of many papers. Lastly H. E. Boeke (Halle) gives a brief account of the work of van't Hoff, especially as it bears upon mineralogy and geology.

The book is sent free to members of the society and is also on sale through dealers.

C. PALACHE

Nature Sketches in Temperate America. By JOSEPH LANE HANCOCK. Chicago: A. C. McClurg & Co. 1911. Pp. xvii + 451, 12 col. pls., 215 figs.

The preface of this attractive book says that it is a "popular exposition of the facts gleaned from nature" which often presents the subject "from the artistic or æsthetic point of view. This method does not sacrifice truth, which is the religion of science, but mitigates it, bringing about a wider reading circle. . . . More consideration is given to insects than to other groups of animals" and "the relation of animals and plants to their natural surroundings has been kept constantly in mind." The bearing of the subject matter on the theory of evolution is also considered in some detail.

Chapter 1 is devoted to "Evolution and Natural Selection." It gives a brief but complete discussion of the most generally accepted ideas concerning evolution and heredity with a few notes concerning their bearing on the subjects under consideration. Chapter 2 takes up "Adaptations in Plants and Animals, with Examples" and presents some interesting cases of particular adaptations—such as: how the milkweed profits by the visits of its insect guests; bird flowers; and the seasonal procession of flowers, insects and birds. Chapter 3 begins with a brief discussion of the theories of protective resemblance; the tree toad is next described, and the writer then takes up the walking-stick and various other insects and insect larvæ that are protected by their form, color or behavior. Chapter 4 is devoted to mimicry, and after discussing Bates's, Müller's and other theories, describes the monarch and viceroy butterflies, a bumble-bee and a robber-fly, and flower-frequenting flies. Chapter 5 takes up Wallace's theory of warning colors and then passes to a consideration of several bright colored lepidoptera and lepidopterous larvæ. Under the title "Animal Behavior, with Examples,"

Chapter 6 is opened with a brief statement of the author's ideas on instinct and intelligence and a table showing the distribution of sense organs in insects; then follow brief descriptions of the habits of many insects, spiders and birds. Chapter 7 is devoted to "General Observations and Sketches Afield." It considers: the formulation of problems, origin by adaptation in nature, ponds, brooks, meadows, the bumble-bees' night camp, etc. The title of Chapter 8 is "Ecology—Interpretation of Environment as Exemplified in the Orthoptera." In it are discussed the sources of life after glaciation, habitats of plants and animals, zoogeography, nature's reclamation of sterile ground, and various things concerning a number of Orthoptera. The last chapter consists of two parts: (1) a "classified list of habits of various species of Orthoptera based on their egg-laying sites, to show their relation to plant formations in general" (which follows the classifications used by some plant ecologists) and (2) "definitions of common environmental complexes, grouped under formations," in which seventy-six terms (including ocean, sea, lake, pond, pool, stagnant water, snow, alkali, sterile and man's houses) are defined.

The book contains many interesting descriptions of the habits of animals. Among the best of these the parts of chapters on the habits of the walking-stick, the castle-building spider, the golden Spheg as the grasshopper's enemy and the habits of the green meadow grasshopper, may be mentioned. An excellent picture is presented of the life of the animals discussed. The colored plates are excellent, and the same is true of many of the photographic plate illustrations, but some of the latter are so dark that they fail to show the points they are intended to demonstrate.

Hancock presents the theories of natural selection, mimicry and warning coloration in a rather dogmatic fashion and follows them with examples which have not always been indubitably proven to have been brought about in the way he intimates. A reader unfamiliar with the field might easily believe that these dogmas had never been disputed,