Raye R. Platt, illustrated by aerial photographs taken by Lieutenant George R. Johnson." It is true that Johnson's photographs made the book possible, but without Platt's descriptive text and explanatory notes the publication would have failed entirely as a monograph on the geography of Peru. The fact that Platt is a member of the staff of the American Geographical Society is probably the cause of this submerging of authorship credit. However, the photographs are so excellent in quality and tone and the air view-points have been selected with such good judgment that Johnson can not be given too much credit for his efforts.

The forty pages of text are called an "Introduction" but really form a brief but comprehensive monograph on the Peruvian landscape. The complete—even voluminous—titles of the photographs which follow supplement the text in an admirable way and carry the reader first along the coast and through the coastal valleys and ranges, next through the high pampas, then over the old volcanoes of the western Andes, and finally over the eastern valleys and lowlands.

The half-tone work is excellent, and apparently little has been lost in reproduction of the photographs, a pleasing and somewhat unusual result of efforts of this kind.

Almost any of the photographs taken at random offer fascinating subjects for study; for example, the five photographs of the Colca River Canyon and Valley reproduced in Figs. 23 to 28 show the character of the high surrounding mountains, steep canyons and deeply eroded valleys, with a minuteness of detail that at each glance reveals new and interesting features which compel the reader to study first one and then another repeatedly. The photograph of the Paramonga sugar plantation reproduced in Fig. 69 gives a more comprehensive view of this large and modern agricultural development than would be possible by any other means. The sand dunes back of Ancon, shown in Fig. 77, as well as other photographs of sand hills and dunes, present material for study of prevailing winds and show how the sand has encroached on the town and limited the usefulness of an excellent seaport.

The large number of photographs of headlands, bays and seaports give the reader an excellent conception of the coast line of Peru—probably a better one than a sea traveler can get even by cruising close inshore. These views are made all the more interesting by Platt's descriptive titles, based on his intimate knowledge of the geography and economic conditions of the country.

The mountain photographs are remarkable. The views of El Misti in Figs. 21 and 122 could possibly be duplicated from ground stations, but those of the crater of this old volcano, shown in Figs. 123, 124 and 125, could not be secured except from the air. The views of the lava fields at the base of this mountain, shown in Figs. 126 and 127, exhibit a wealth of detail that would delight a topographer engaged in mapping the region, for all he would need to secure in the field would be of a few elevations and positions and he could draw the details later in his office better than he could in the field. In this case, the two photographs overlap, but the page arrangement is unfortunate and should be reversed to show the proper sequence.

The mosaic of the Chillon Valley shown in Fig. 3 is an excellent example of the art of mosaic making. The assemblage of photographs is well matched and well toned, so that it is difficult to find the cut lines. Moreover the illustration has apparently lost none of the detail of the original, which is somewhat unusual in copying mosaics. The other mosaic of the pueblo of Pisco, shown in Fig. 110, is not so well reproduced, and suggests a considerable amount of retouching by the artist, and some enlargement in copying. However, the details are clear and the pattern of the streets and buildings in the old town is exceedingly interesting.

Another and very much older example of "town planning" is illustrated in Figs. 11 and 12, which show the pre-Incaic "palaces" of Chan-Chan. These two photographs overlap, and again the arrangement is faulty and the two photographs should have been interchanged, so that the reader could see them in panoramic form.

The reviewer's only warrant for discussing the book is to encourage the effort, to ask for more, and to recommend its reading by all who are interested in geographic study.

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A NEW BOOK ON BEETLES

IN 1883 Drs. John L. LeConte and George H. Horn, the two most eminent coleopterists this country ever had or probably ever will have, issued, as No. 507 of the Smithsonian Miscellaneous Collections, their "Classification of the Coleoptera of North America." Based upon their practical knowledge of the anatomy of typical members of the order Coleoptera and the correct function of the various organs of the body of a beetle, gained through long years of intensive study, and their familiarity with the literature then extant of the most noted of European coleopterists, LeConte and Horn brought together in one volume a veritable storehouse of knowledge regarding the structure, relationship and classification of the beetles at that time known to science of the entire

North American Continent. For years it served as the stimulus and basis for all work on the taxonomy of the families and genera of the Coleoptera of this country.

Since this noted work appeared two generations have come and mostly gone. Many coleopterists of note, as E. A. Schwarz, Frederic Blanchard, Thos. L. Casey, H. C. Fall, F. E. Blaisdell, E. C. Van Dyke, Chas. Schaeffer, Chas. W. Leng, W. D. Pierce and a score of others, have prepared monographs of many families, subfamilies or tribes in which they have founded hundreds of genera and described thousands of new species. However, until now, no one has attempted to bring together in one volume, covering the entire country, a work showing the relationship of these new subfamilies and genera and giving keys which would enable the student to determine and make the proper generic placement of his specimens taken afield.

Such a work, long needed, has just appeared in the form of a clothbound quarto volume of 360 pages entitled "A Manual of the Genera of Beetles of America North of Mexico." It was prepared by Dr. J. Chester Bradley, professor of entomology and curator of invertebrate zoology in Cornell University, and is published by Daw, Illston and Company, of Ithaca, New York. In his preface Dr. Bradley states that he "has been compelled to undertake the work for the use of his students in their laboratory work, as they stood in need of a manual that will correspond with present ideas on the classification of the order."

This manual is, as the subtitle informs us, a compilation of "Keys for the Determination of the Families, Subfamilies, Tribes and Genera of Coleoptera with a systematic list of the Genera and Higher Groups." As Dr. Bradley states, his work as compiler "has been to select, rearrange, abbreviate, combine and translate keys from all the most recent sources scattered throughout the world's literature on insects."

His work has apparently been well done, and the original source of each key has, for the most part, been given. The manual is essentially a book of keys, but there are brief characterizations of each of the 111 families of Coleoptera recognized as belonging to the fauna of North America; with a note referring to the principal habitats of its members. In most cases two or more clear-cut characters are used in separating closely allied genera. In but few instances are there indefinite characters of little or no value but which are often used in keys. Examples of these are: "body small in size" and "body very much larger in size." In such cases the approximate length, as (1.–2.3 mm) or (6–9 mm), should have been added in parentheses. No authority or date of founding is given for any of the genera nor are any synonyms (except those of a few of the families and subfamilies) mentioned. For these Dr. Bradley's Manual will have to be used in connection with Leng's "Catalogue of the Coleoptera of America North of Mexico" and the supplement thereto, whose sequence and nomenclature it closely follows. With these two books the average student, with a little practice, should be able to readily identify and arrange as far as the genera his specimens of beetles. For the naming of the species, especially the majority of those from west of the Mississippi River, he will still have to search through many monographs and periodicals until some one or more coleopterists can devote the time and patience necessary to bring forth a "Manual of the *Species* of Coleoptera of America North of Mexico." Let us hope that this will soon be done and that it will be as complete and comprehensive as Dr. Bradley's "Manual of Genera."

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A COOLING UNIT FOR LOW-TEMPERATURE THERMOSTATS

DIFFICULTY in maintaining temperatures between 0° and that of the room may be overcome by using a SO_2 compression circuit.[1] Such a scheme will control the temperature of an ordinary bath to within ± 0.01° C. for days without requiring any attention. However, in experiments where it is possible to give attention occasionally to the operation of the thermostat, the following cooling unit which will give a constancy of temperature regulation to within ± 0.01° C. can be substituted. Its cost of construction is about $1, as compared with about $250 required for assembling a cooling unit made up with a commercial SO_2 compressor.

The details of construction appear in Fig. 1. The spout of a copper funnel is closed by a rubber stopper or by a piece of copper. A hopper made of heavy linoleum (smooth surface *inside*) or of some other non-conducting material is attached to the top of the funnel. The hopper is filled with pieces of cracked ice about the size of a walnut and is snugly closed by a felt pad. To insure efficient operation water from the melting ice must be quickly removed by a syphon working in conjunction with a constant level

[1] W. J. Crozier, and T. J. B. Stier, 1927, *J. Gen. Physiol.*, X, 503.