It may be accepted as a fact that, unless dredging is supplemented by preventive measures, slides will continue to fill the Canal prism at intervals for an indefinite period, that traffic through the Canal will be interrupted for weeks and months at a time and that the expense of removing the slide material will add millions to the investment. As a commercial undertaking the Canal will be a flat failure unless continuous traffic through the waterway can be guaranteed; if extensive delays due to slides occur every fall when the effect of the summer deluge is felt, schedules, rates and contracts will be disturbed so frequently that fifty per cent. of the Canal's usefulness will be gone, even if the closed season lasts for only a few weeks at a time.

Aside from its commercial aspect, the Panama Canal was designed to be one of the country's most important defensive works. A continuation of the slides at frequent intervals will render the ditch worthless as a defense measure. . . .

Half a canal is worse than no canal. Muffled exclamations of admiration will not stop the slides. Unless the slides are stopped, definitely and permanently, the Canal is a failure as a commercial undertaking and a defense measure. Dredging the débris will not stop the slides.[1]

Neither Dr. Branner, the writer, nor any other patriotic citizen would intentionally circulate false reports in regard to existing conditions in the Panama Canal region nor venture to make predictions that might unduly alarm the public, but, on the other hand, nothing is gained by fostering a false sense of security.

In England, Germany and Russia reports of the failure of the canal are said to have been freely circulated. These reports have emanated from geologists and engineers and seem to have led many of the people in those countries to believe that the Panama Canal would eventually be abandoned and the Nicaragua route substituted. These reports either exaggerate the importance of the slides or underestimate the will of the people of this country. If the earthquake menace, to which Dr. Branner calls attention in his article in *Sunset,* does not materialize, the Panama Canal will unquestionably be completed and made to serve its intended purpose, even though it require years of time and the expenditure of additional millions of dollars to accomplish. The American people would not willingly abandon a project that has so stirred the pride and stimulated the patriotism of the entire country as has the Panama Canal, even though the length of time for its completion and its cost far exceed the early calculations.

[1] Editorial in *Sunset, the Pacific Monthly,* June, 1916, p. 35.

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December 12, 1916

SCIENTIFIC BOOKS

Field Geology. By Frederick H. Lahee, Assistant Professor of Geology in the Massachusetts Institute of Technology. McGraw Hill Book Co., 1916.

The title of this book suggests two possible ways in which it may be used; as a preparation for field work, and a hand-book in the field. It is for the latter use, as a reference book in the field, that it will be found to be especially valuable.

The plan of the author is an unusual and, in the reviewer's opinion, a very desirable one. "Where possible the treatment has been empirical rather than genetic." Two examples will illustrate this method of presentation. Under Hills, Ridges and Other Positive Land Forms are included (1) Fault Mountains, (2) Volcanic Cones, (3) Constructional Hills and Ridges, such as sand dunes, drumlins, eskers, kames, moraines and winter talus ridges. Under Cross-bedding are included (1) Delta Structure, (2) Torrential Cross-bedding, (3) Wave-built Cross-bedding, (4) Eolian Cross-bedding, and (5) Ripple marks. In other words, forms which look alike are classed together without regard to their origin.

A number of tables for the identification of structures and topographic forms are scattered through the text and included in the appendix. These analyses have been prepared with almost as much care and detail as are those in botanies for the identification of flowering plants. Especially is this true of the table of clastic sedimentary rocks (pp. 463–471). It is doubtful, however, if these tables will prove of great value in the field as

they are academic rather than practical. They will probably confuse the elementary student and will not be of great help to the advanced student. This painstaking analysis of the subject, however, has resulted in an admirable selection of material and an unusually logical presentation.

Mention should be made of the excellent block diagrams, of which there are more than 100, and of the numerous sections. Many of these drawings are new and are of great value, especially in the presentation of structural geology.

The typographical mistakes and occasional slight errors in statement which seem impossible to eliminate in a first edition will, doubtless, be absent in the second printing. Many who use the book will regret that a fuller discussion of the plane table is not given.

The limp covers, small size and light weight make this a convenient volume to carry about in the field, and both students who have only an elementary knowledge of geology and seasoned geologists will find the book a useful field companion.

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The Endocrine Organs. By E. A. SHÄFER. Longmans, Green and Company. London, 1916. Pp. 156.

The author has endeavored to compress into this book a great number of observations concerning the organs of internal secretion. He has not published a bibliography, this task having been recently performed by Biedl and by Vincent. As each of the organs is taken up the facts of its embryology and structure are briefly presented. Then we have an account of the properties of the extract and of the conditions produced by excessive and deficient activity, ablation furnishing the limiting case. There are well-chosen plates and tracings to the number of 104.

The attempt to read the chapters consecutively results in an oppressive realization of the magnitude of the subject. During the last few years emphasis has been increasingly upon the reciprocal relations of the several organs. As each may reinforce, oppose, or otherwise modify the influence of every other, we have here a number of possibilities which increases according to the principle of permutations and combinations. The writer of the book has not neglected this aspect of the matter, but has wisely restricted his discussion to the more striking instances. His condensed account of the work of hormones and chalones (excitants and inhibitors) in the animal economy will give any reader a wide, preliminary view of a field the importance of which we are but just coming to appreciate.

P. G. STILES

RACE HYGIENE IN NORWAY

THE Norwegian government under the lead of Professor Jon Alfred Mjöen, of Christiania, well known for his researches in race hygiene, and on the direct effect of alcohol on the integrity of germ cells, has under way a program of Applied Race Hygiene. As planned by Professor Mjöen this will involve:

A. NEGATIVE RACE HYGIENE

Segregation, optional for feeble-minded, epileptics and other individuals physically or mentally crippled, *obligatory* for drunkards, habitual criminals and professional beggars and all who refuse to work.

Sterilization.—Professor Mjöen is opposed to compulsory sterilization. But for certain types of crime, there is earnest need of considering methods of treatment more effective than those now in use.

B. POSITIVE RACE HYGIENE

Biological Enlightenment.—The study of race biology in school and university. The development of an institute for genealogical research. A state laboratory of race hygiene.

Decentralization.—Colonization from congested districts.

A *regressive tax* and *progressive* wage system in certain conditions.

Maternity Insurance and other protective measures for the welfare of the infant.