

tutions of learning is merely theoretical or even experimental. All have been tried out in practise with excellent results. I can go to any one of hundreds of retail clothing shops, steel foundries, fish markets, woollen mills, great excavation firms, and the like, and get at a moment's notice scores of alert, capable men, properly trained and disciplined, who would be willing to undertake, for suitable compensation, the entire rearrangement and standardization of any college or university, and would guarantee to bring about results that would amaze any professor of Greek or Sanskrit that ever lived.—*Extracts from a report by N. J. Snook, M.R., to the trustees of the Buncombe Fund as presented in the New York Sun.*

SCIENTIFIC BOOKS

Physical and Commercial Geography: A Study of Certain Controlling Conditions of Commerce. By H. E. GREGORY, A. G. KELLER and A. L. BISHOP, Professors in Yale University. 8vo. Pp. viii + 469; figs. 26, pls. 3. Boston, Ginn & Co. 1910. \$3.00.

When twenty years ago Mr. Geo. G. Chisholm published his most excellent "Manual of Commercial Geography," he virtually created a new subject of study in English-speaking schools and colleges. America was ready for such a line of study, and the demand for a text has called into existence a goodly number of books, but a reviewer scanning them one after another discovers in all of them a more or less slightly disguised Chisholm, in a condensed form. The attempt to present the principles of commerce, the commodities of commerce, and the commercial countries all in one small volume, has resulted in the assembling of endless statistics, often with little juice, and less geography.

This, the latest American contribution to the subject, is an earnest attempt to go to the roots of things, and to plant the commercial activity of the world upon a philosophical basis, recognizing all the factors at work, but giving special attention to the geographic influences, and especially to the human element involved.

The book is divided into three parts, spaced about equally: I., The Natural Environment; II., Relation of Man to Natural Conditions; III., The Geography of Trade. The spirit of treatment is commendable. The authors realize that "it is interpretation rather than arbitrary memorizing which is of educational importance."

In Part I. commerce and the human point of view have been kept well in the foreground, though the choice of material is not always defensible. For if the student comes to this work with no preparation in physiography, this presentation will not give him the grounding he should have. And if the student brings to it the training in physiography of a good high school, much of the material here is superfluous.

The following suggestions are offered on Part I.: For the space allowed in illustrating harbors any one outside of Connecticut might complain of the prominence given to the insignificant harbors of that state (pp. 32-3). On page 93 we learn that "For some reason, animals have learned to use diluted oxygen rather than the more abundant nitrogen. . . ." One might infer that it was a matter of poor taste or bad judgment on the part of the animals! By implication the great capacity of water for heat is due to transparency and evaporation (p. 102). The principle of specific heat, in this case so important, can not be read in or between these lines. On page 106 we read "The temperature of space outside the atmosphere is probably the 'absolute zero'"—Langley's researches give us an estimate of about 5° C. above absolute zero. On page 121 ff. the form "survival of the fitter" occurs, as a suggested improvement over the classic form "fittest." This suggestion is evidently based upon the misapprehension that only two stages, the positive and comparative, are involved. As a matter of fact in any case where the original and proper term "fittest" is used, there are innumerable individuals involved, and it may be also innumerable stages or phases of adaptation, and the final term only is described. Nor has any one who ever used the term "fittest" in this sense thought for

a moment that it was the ultimate possible term in the series. The use of "fitter" is pedantic, and it is a pity to put it into a text-book.

Part II., The Relation of Man and Natural Conditions, is in its point of view and horizon, a distinct contribution. It is by all means the best part of the book. Here the human element, with a decidedly biological perspective, is made the theme, with very suggestive treatment. Yet a number of criticisms are invited: To notice only a few of them: On p. 126 it is said "Every alteration of any importance in their environment sets before the animal or plant, as has just been seen, a series of alternatives: death, degeneration, flight, or adaptation." There should be but three alternatives. By any analysis, degeneration must be considered one phase of adaptation. Further down this page a misapprehension is certainly provided when it is stated that no change in the human physique is of record. The Neanderthal and Spy and other early men most certainly could not "well be duplicated among men of to-day." On p. 130 there is a very patent shrinking from being identified with "determinism," which is almost humorous. The whole point of such a book as this lies in the constant, specific evidence it brings of "determinism." Why shrink? On p. 144 we find: "Life in deep forests is passed in a sort of gloom;—the impenetrable 'scrub' of Australia occupies the surface of the earth to man's almost total exclusion!" Shades of Schimper and Schomburgk! On the next page the statement "the microscopic fauna, the living germs of disease," puts plague, leprosy and tuberculosis among diseases due to *animal* parasites, while every one should know that these diseases are due to bacteria. On p. 146 our freedom from small-pox, and our lack of fear of it is made due to an immunity we have acquired by long association with it! (not to vaccination). On p. 149 cocaine is made the essential principle of the "cocoanut." As a matter of fact *Erythroxylon coca* has no "nut," only a seed in a capsule, which is not used as a source of cocaine. It really sounds as if the author's cocaine comes from a coco-

nut. On p. 157 we read "Practically all the grains but maize, all the fruits, all the spices and condiments, all the textile products, vegetal and animal, and practically all the domesticated animals come from this region (Eurasia)." This is too inclusive. The pineapple and a number of other tropical fruits are natives of America; so is allspice; so are vanilla and cocoa; cotton was native here as well as in Asia; the alpaca and vicugna wool was extensively used in prehistoric Peru; and the dog and llama were the servants of the native Americans before 1492. The word "controlling" (p. 179) is much too strong. Most of the geographic influences referred to are merely modifying.

The authors have trouble with the race question and with the tropics. One might infer (p. 188) that there is such a thing known as a "pure" race. What is there more "mongrel," to use the offensive term, than the English or Spanish or Italian or Japanese stock? It is quite unfair to charge the whole record of the Spanish-American republics to race mixture. It is worthy of note that one of these governments with the proudest of records, Chile, has about the most complete blend of Spanish and Indian. The authors have no right to speak for America when they say "we do not reckon the mulattoes of this country as an important element of our national strength." It is safe to say that they are quite as important as an equal number of "poor whites" or of several other elements of the middle and lower classes. As to the tropics, on one page we find "The yellow race seems to have little difficulty in acclimatization in any region"; and again, "The Chinese have made effective coolies and are now the best free-labor force applicable to the development of the hot regions"—and yet the paragraph is ended with the obsolescent suspicion that the tropics can never be fully utilized, because the western nations can not thrive in the tropics with their mid-latitude habits and ways of life. The Chinese will teach us a lesson in the development of the tropics one of these days, in spite of our "strong prejudice, partially justifiable and mainly not."

Part III. is devoted to the Geography of Trade. To treat "each important product in detail under the particular country which leads in its production or in some cases in its elaboration," has always been questionable as a method, and the authors have not succeeded in overcoming its drawbacks. While only the United States, the British Empire and Germany are treated, there is need of constant repetition in the discussion of given products, and still an added chapter is required for articles not treated under countries. Then, too, the space allowed is too small, and the treatment of countries becomes as usual so much abbreviated, as to fall into the old form of mere statistics. With discussion so condensed it is not always possible to distribute emphasis fairly. Thus we find that Germany gets no more space than Australasia, and though South Africa is given six pages there is no room for France.

We all realize that coal and iron are the bases of modern commerce, yet the iron industry gets no more space than cocoa and platinum, two items of insignificant value; and coal claims no more room than hemp, buckwheat and barley. The very great significance in industry and commerce of copper, clay, cement and the phosphates is quite overlooked, for buckwheat looms larger than copper; the clay industries get only two and one half inches; and cement and the phosphates occupy only as much space as the two words require, and that in eight-point type.

It is the firm conviction of the reviewer that the plan is illogical of attempting to mix the commodity and the country in a general text-book. To attempt it is to make both the commodity and the country suffer, as this book demonstrates anew. The field is amply large, and the geographic and teaching values are adequate, to make the commodity point of view sufficient for a general survey. If it is desired to take the country point of view it should be done as a course apart and in addition, and with space enough so that some geographic interpretation can be attempted. Certainly no adequate geographic study can be

given of a country like Germany, in eleven pages as here. The trouble is we are attempting far too much in one course, or in a brief survey. The authors might give a much better account of themselves were they to devote Part III. either to commerce and its commodities alone, or to America alone.

In spite of the many errors in detail, only a few of which are here noticed, and which would largely be eliminated by better team work on the part of the authors, and by more careful editorial supervision, the text stands as a distinct advance over its American predecessors.

J. PAUL GOODE

THE UNIVERSITY OF CHICAGO,
November 28, 1910

CHEMICAL TEXT-BOOKS

A Text-book of Organic Chemistry. By A. F. HOLLEMAN, Ph.D., F.R.A. Amst., Professor Ordinarius in the University of Amsterdam. Edited by A. JAMIESON WALKER, Ph.D., B.A., Head of the Department of Chemistry, Technical College, Derby, England; assisted by OWEN E. MOTT, Ph.D., with the cooperation of the author. Third English edition, partly rewritten. First thousand. New York, John Wiley and Sons. 1910. Pp. 599, 80 figures. \$2.50.

A long review of the second edition of this book appeared in this JOURNAL.¹ That a new edition is required in less than three years indicates the deserved reputation of Professor Holleman's book.

In the present edition the author has rewritten the chapter on proteins, which with that on amino-acids now follows the chapter on sugars. Dr. Walker has introduced the protein classification adopted by the Chemical Society of London jointly with the English and American Physiological Societies, and the American Society of Physiological Chemists.

A repetition of the detailed review referred to is not necessary. It is enough to quote from the author's preface: "This book is essentially a text-book and makes no claim to be a 'Beilstein' in a very compressed form," and

¹ Vol. XXVI., 1907, p. 791.