

ner, after his introductory dose of theory, studies hydrogen on page 32, oxygen on page 46, but does not take up the study of water till he has studied all other common elements. He then finds on page 114, among the hydrides, the hydrides of oxygen and the customary elementary chapter on water. If the authors had preferred to regard water as an oxide of hydrogen it would have been found 33 pages farther on. Another example: Sulphur is discussed on page 50, hydrogen sulphide on page 120, sulphuric acid on page 220, nearly at the end of the book!

The present reviewer belongs to that number of chemists to whom the authors might refer in the words of their preface, as 'clinging to the remnants of past systems while introducing the law partially;' the reviewer made daily and constant reference to the law in lecture and laboratory at a time when the only text-book extant in which it received more than brief mention was Lothar Meyer's 'Moderne Theorien der Chemie.' The reviewer ventures to mention this to show that he does not underrate the value of the periodic system as a help in elementary instruction; yet it seems to him that the authors have followed the system so slavishly that their book is most unsatisfactory. The authors claim in their preface that they have obtained excellent results. Doubtless skilled teachers obtain good results by any method applied with personal enthusiasm and backed by thorough knowledge. In this case the reviewer believes that the good results were due to the ability of the authors as teachers, not to the method used.

E. R.

The Philippine Islands and Their People. By PROFESSOR D. C. WORCESTER. New York, The Macmillan Company. 1898. 8vo. Pp. xix + 529. 2 maps and 60 illustrations. Price, \$4.00.

This volume is the outcome of two trips to the Philippine Islands. The first journey was made with Dr. Steere, in 1887-8, and work was prosecuted at that time for eleven months upon fifteen of the islands. In spite of many unpleasant experiences, the author and Dr. Bourns, who had been one of his companions

upon the first trip, decided in 1890 to make a much longer stay in the group of islands. Upon this latter occasion they were occupied for two years and eight months with the careful study of the birds and mammals of the more important islands of the group. The volume combines the story of the two expeditions and is rich in the experiences of the author, while, as he says himself, he avoids 'talking shop,' from the biological standpoint, and in this fact consists one of the charms of the book, as a great deal of scientific information is imparted at the same time that the story of the trip is told in a very pleasant style. It is not often that the capacity for accurate description and pleasant narrative are combined as they are in this case.

The first chapter is devoted to a brief historical summary of the events between Magellan's eventful voyage and the fall of Manila last August.

The author's experiences in the city of Manila are given in Chapter II., which is largely devoted to a description of that quaint city. His diplomatic struggles with Spanish red-tape will remind any one who has happened to visit the Island of Cuba of the similarity of conditions existing in this other colony of Spain, where only the power of royal authority invoked by an order from some superior source is the means of overcoming the complaint known as the 'itching palm' so common in all that country's colonies. The author speaks quite pointedly of the tendency to provoke nervous prostration, which is induced by the inevitable delays, and closes a brilliant attack upon the whole system with the remark of a Spanish official: "In your country, time is gold; here it is boiled rice." A good illustration of the old story of Spanish official plundering is given in the case of an officer who succeeded in making a fortune of fifty or sixty thousand dollars upon an annual salary of five hundred and forty dollars.

The total land area of the group is estimated by the author at 114,000 square miles, of which the Islands of Luzon and Mindanao make up more than one-half. The author gives a very good idea of the character of the natives of each island as he takes it up in the course of the volume. Probably the most interesting, because

the most novel, is his description of the Mang-yans of Mindoro.

Of the eight to ten million inhabitants the author recognizes some eighty distinct tribes; Negritos, Mohammedan Malays, pagan Malays and civilized Malays are, however, the principal groups under which they can all be classified. The Negritos occupy the bottom of the scale, and apparently are incapable of civilization. They are, however, a disappearing factor and can be neglected. The Mohammedan Malays, or Moros, however, present a very different and much more difficult problem. Any nation hoping to get on peacefully with them will find it necessary to let their religion strictly alone. They will require to be ruled with absolute justice, but with relentless firmness, and must be held in check with a strong hand for a very long time before they can be brought into anything like sympathy with our customs. Of the pagan Malays the larger proportion are harmless and docile, but there are others hostile to the whites, with the best of reasons for their dislike. They are generally, however, made out much worse than they really are. The author suggests that the best use to be made of the warlike hill-tribes is to turn them into soldiers, as has been done in India.

The only problem presented by the wild Malays is their civilization.

Where there is so much that is interesting to draw from, it is difficult to choose, but a few examples might be given, which will illustrate the state of society upon the Islands. The reply of a certain native to his padre covers the ground quite completely. This unregenerate heathen said that if he became a Christian it would cost money to be baptized, to live, to marry, to die and to be buried. In his existing state some of these more or less necessary operations cost him nothing, and he could see no advantages to be derived from embracing Christianity commensurate with the increased expense. The author's observations led him to believe that the morals of the natives improve as the square of the distance from churches and other so-called civilizing influences. The author tells a great many interesting stories, which are intensely amusing, and none of them lose anything from his method of

presentation. The pages, for instance, which refer to his experience on the Island of Siquijor are unique. The story of the padre and the civet cat would do credit to Mark Twain. One can imagine better than describe the sensations of the author when, after innocently whistling one of our popular ditties, he awoke one morning to find that the band master had reduced the song to a proper score, and at the head of a dignified religious procession was marching to the cathedral with his band playing this tune at their utmost lung capacity; and now ohhny get your gun' has been added to the repertoire of the sacred music of the island.

Some idea, perhaps, may be obtained of the primitive condition of the natives of the islands from their customs. They seem to prefer their meat in the condition of Charles Lamb's cheese, ready to be led if you could tie a string to it; and one is not inclined to believe that their use of the white grubs from the Sago palm as confectionery will be universally adopted.

Ex-President Cleveland will probably be interested in the account of his canonization, as given on page 490.

The author does not find the climate to contain as many of the elements ascribed to Paradise as some of his predecessors. In fact, his own observations and the summary given of the thirteen years' series of observations, made at Manila, would lead to the inference that the climate was rather severe. This might have been expected from the tropical location of the Islands. The further complication of malaria and fevers of all sorts upon the lowlands make great portions of the Islands very unattractive as places of residence.

The important questions concerning the future of the Philippines naturally arise from the character of the five million civilized natives. These belong, for the most part, to three distinct tribes, the Tagalogs, the Ilicanos and Visayans. They have good and bad characteristics: for example; they are unfaithful to obligations of all sorts; they are refractory towards mental improvement, and they are confirmed liars, even without excuse, unless it should happen to be the æsthetic satisfaction of the use of their talents in that line. They

are said to lack originality, but this is perfectly natural under the conditions in which they have been forced to live. They are almost hopelessly indolent, but no one, not even a white man, could work there as he would in a temperate region and live. He has many good qualities, however, to counterbalance these defects in his character. His open-handed and cheerful hospitality is much in his favor. He is cleanly, both with regard to his person and his surroundings. His houses and family are well regulated. He is patient and forbearing, but when he does get angry becomes a perfect maniac. He is a kind father and dutiful son. He is genial and sociable among his fellows, and is naturally fearless.

With all these good qualities they seem, however, to be absolutely unfit for self-government, and probably their lack of education is the main difficulty in the way of their realizing this important object. They appear to be 'big children who must be treated like little ones,' but as they are naturally law-abiding and peace-loving there is some hope of them.

The natural resources and the conditions governing their development are dealt with in the appendix.

WILLIAM LIBBEY.

GENERAL.

AFTER four years a new edition of M. Ch. Féré's *La famille neuropathique* (Alcan) has been called for, and the author has used the occasion not only to revise the work throughout, but also to add much new material. A chapter is now devoted to the heredity of tumors; the discussion of monstrosities and their experimental production is enlarged as the result of new contributions, and the abundant recent literature on physical and mental degeneration is incorporated. The heredity of bodily diseases and malformations is a subject sufficiently difficult, while in the case of mental degeneration there is at present almost complete chaos. When M. Féré discusses the hereditary transmission of vice, crime and even functional disturbances of the nervous system it is impossible to be sure that what he regards as hereditary is not entirely due to environment. When he says we must spread precise ideas of the causes

of degeneration, and then proceeds to give the five causes, at least half of them are extremely doubtful. It is not even certain that degeneration does obtain in modern society. M. Féré's review, is, however, on the whole objective, and is made especially valuable by the ample references to the literature. It appears from the index of names that more than 1200 separate authors are quoted, and full bibliographical details are supplied.

PROFESSOR KARL GROOS'S work on 'The Play of Animals' has been translated into excellent English by Miss Elizabeth L. Baldwin and published by the Appletons. As the editor, Professor J. Mark Baldwin, says in his preface, the volume is a contribution to three departments of enquiry—philosophical biology, comparative psychology and the genesis of art. Being thus of interest to many students, the English version will prove most useful. It is not necessary to give an account of the contents of the book, as the German edition was the occasion of a thorough critical review by Professor Baldwin (Vol. V., pp. 347-52). Indeed, there was first adequately signalized the importance of Professor Groos's work. The promised companion volume on the play of children is awaited with much interest.

WE are glad to call attention to the second edition of Dr. Verworn's *General Physiology*, the original edition of which has already been reviewed in these columns (Vol. II., pp. 557-8). The second edition shows many improvements upon the first, and many of the subjects which were somewhat scantily dealt with in the earlier edition are now treated more fully; but the general plan and execution of the work remains closely similar to that of the original edition, so that we hold it to be unnecessary to do more than again commend the work to the attention of American biologists, and to express the hope that general physiology, in the sense of the science of the functions of the cell, may receive in this country a much greater attention than has hitherto been the case. For this reason the translation of the work by Professor F. S. Lee, of Columbia University, announced for early publication by The Macmillan Co., will be particularly welcome.