

divided into groups named uric and creatinic, from resemblances to urea and creatinine respectively. Sixteen were known. All represented progressive changes in albumen. All but one contained oxygen. They had been found in expired air, saliva, blood, brain, urine, pus, and the digestive tract. The progressive changes being interfered with so that retention occurred at some intermediate stage, or by-forms arising as a result of the interference, diseases might at once be produced. The neutralization of these products, even where made by bacteria, must, he thought, be more important than the destruction of the micro-organisms. Dr. N. B. Sizer of Brooklyn stated that canned meats usually owed their poisonousness to the presence of ptomaines, and not to the action of the soldering fluid used. In one instance canned apricots had contained a poison due to some alteration by decay, and resembling tyrotoxin in its effects. It had killed the child of a nursing mother in a few hours, the mother in forty-three hours, and, after an illness of six days, the father also.

BOOK-REVIEWS.

The Civilisation of Sweden in Heathen Times. By OSCAR MONTELIUS. Tr. by F. H. WOODS. London and New York, Macmillan. 8°. \$4.

PROFESSOR MONTELIUS'S excellent summary of the researches on prehistoric man in Sweden is well known to students of archæology, and an English translation of this standard work is highly welcome. The numerous cuts which illustrate the descriptions are of high order, and give particular interest to the handsomely printed book. Mr. Woods had the advantage of the co-operation of the author in translating the work, and thus the translation has become an enlarged edition. All the new matter and new plates that had been added to the German translation of 1885 have been incorporated in the English translation, and the results of recent investigations up to 1888 have been embodied in it. The number of plates has thus been swelled to two hundred and five. The book is pleasantly written, and unrolls a picture of the stone age, the bronze age, and the iron age so far as we are able to reconstruct it from the finds. The description of the last age fills almost two-thirds of the book. Professor Montelius assumes the end of the stone age to be about B.C. 1500. He describes the implements which were in principal use, and the methods of working stone; of chipping flints; and of making perforations by means of a stick and sand and water. A series of excellent cuts shows a great variety of unpolished and polished stone implements, axes, spear-heads, arrow-heads, knives, flint saws, etc. As remains of the earlier stone age are scanty in Sweden, the author dwells more particularly on the latter part of this age, and describes some of the most beautiful implements that have been found. The reader will, however, be particularly interested in the description of the mode of life of the people of this period, in which the author sums up the results of long-continued investigations. He describes the methods of hunting and fishing of this ancient race, their domestic animals, their clothing, and the probable existence of the beginnings of agriculture.

About the year B.C. 1500 the first bronze implements were introduced, and about the same time the first gold ornaments appear. As the forms of burial in the later stone age and the early bronze age are very much alike, Professor Montelius assumes that no immigration took place, but that the new art was introduced by intercourse with neighboring peoples. The bronze age is divided into two sections, characterized by peculiar ornamentations and different modes of burial. We cannot undertake to summarize the author's views, nor his terse description of the culture of each period, illustrated by cuts representing typical specimens and some of the important rock-carvings which are so numerous in Sweden.

The iron age is not absolutely prehistoric, numerous foreign coins being found along with remains of this age. Thus four periods are distinguished, the first reaching to the beginning of the Christian era, the second to the beginning of the fifth century. At this time the later iron age begins, the first part of which extends to the eighth century, while the latter terminates with the introduction of Christianity. In this part of the book the invention of the runes, and their connection with the Roman alphabet, are treated at some

length. The accounts of the subdivisions of the iron age are fuller than the preceding chapters, as the finds are far more numerous, and illustrative of aspects of life of which no traces have been preserved in the stone and bronze periods.

Although the book deals only with the progress of the early inhabitants of Sweden, it is not less interesting, as all archæology tends to show that there has been a remarkably similar process of development, not only among European peoples, but among all races of the world. Therefore the author's clear and succinct account of the progress of this people will give the student a clear notion of the successive stages of civilization through which man has passed.

Experimental Mechanics. By Sir ROBERT STAWELL BALL, LL.D. London and New York, Macmillan. 12°. \$1.50.

THIS volume is a revised edition of a course of lectures on experimental mechanics delivered some years ago at the Royal College of Science at Dublin to a large evening class consisting chiefly of artisans. The better to adapt his methods to the needs of so practical an audience, the subject has been so treated, that, for its ready comprehension, no knowledge of mathematics is required beyond an acquaintance with the rudiments of algebra and with a few geometrical terms and principles. The elementary laws of mechanics are well and clearly illustrated by simple experiments, the material for many of them being drawn from commonplace sources. Without at any time passing the limits set by the circumstances under which the lectures were delivered, Professor Ball has succeeded in presenting his subject in a lucid and extremely interesting manner.

AMONG THE PUBLISHERS.

D. APPLETON & CO. announce for this week 'The Florida of To-Day,' by James Wood Davidson, intended for settlers and tourists, giving the geography, climate, history, routes of travel, the geology, productions, sports, etc., describing the population, education, employments, etc., and including full list of hotels, and railway and county maps printed in colors. This is an entirely new work on this popular winter resort. 'Appletons' Handbook of American Winter Resorts,' revised for 1888 to 1889, will also be ready, with illustrations, railway time-tables and fares, maps, etc., brought down to latest date. A most useful guide for invalids and tourists.

— Robert Clarke & Co. of Cincinnati have in press, and will shortly issue, an octavo of 250 pages with the following title: 'Know Thyself: A Study of Man,' by a well-known Cincinnati physician, Dr. J. D. Buck. The book contains an outline of general biology and physiology, upon which the higher problems are based, and from which the true science of psychology must proceed.

— J. B. Lippincott Co. have in press a 'Life of Henry M. Stanley,' by H. W. Little; a 'History of the celebration of the One Hundredth Anniversary of the Promulgation of the Constitution of the United States,' edited by Hampton L. Carson; and 'A Shocking Example, and Other Sketches,' by Frances Courtney Baylor.

— *The Cosmopolitan* magazine has been purchased by John Brisben Walker, who will be remembered as the founder of the *Inter-Ocean*. Mr. Walker is establishing new headquarters at 363 5th Avenue, New York.

— J. W. Bouton, New York, will publish early next year a work on 'Remarkable Bindings in the British Museum,' for which Mr. H. B. Wheatley has prepared the text, and which is to contain sixty photogravure plates. "This is evidently intended," says the *Nation*, "to do for the British collection what M. Bouchot's sumptuous work did for the French; and, in recognition of the fact that the French interest in the art of bookbinding is greater than the English, there will be a simultaneous edition published in French by MM. Gruel and Englemann. The edition is limited to two hundred copies in English and two hundred in French.

— *The Princeton College Bulletin* is the title of a new quarterly publication to be issued from Princeton College. It will be philosophical, scientific, and literary in character, with President Patton as general editor, assisted in the various departments by several others.