

is slightly observable. The Shan face is usually short, broad, and flat, with prominent malars, a faint obliquity and contraction of the outer angle of the eye, which is much more marked in the true Chinese. The nose is well formed, the bridge being prominent, almost aquiline, without that breadth and depression characteristic of the Burman feature. The lower jaw is broad and well developed; but pointed chins below heavy, protruding lips are not infrequent. Oval faces laterally compressed, with retreating foreheads, high cheek-bones, and sharp retreating chins, are not infrequent; and the majority of the higher classes seemed to be distinguished from the common people by more elongated oval faces and a decidedly Tartar type of countenance. The features of the women are proportionately broader and rounder than those of the men, but they are more finely chiselled, and wear a good-natured expression, while their large brown eyes are very scantily adorned with eyebrows and eyelashes. They become much wrinkled by age, and, judging from the numbers of old people, appear to be a long-lived race. They are by no means a tall people, the average height for men scarcely reaching five feet eight, while the women are shorter and more squat in figure.

A minute account of these people, their manners, customs, dress, &c., is given by Dr. Anderson. Some of the ornaments worn by the women are of most artistic workmanship.

The latter part of the volume contains a clear account of the second expedition undertaken to open a trade route between Burmah and China, but which, as we have said, came to an untimely and sad end about a year ago in the murder of Mr. A. R. Margary. Dr. Anderson sets forth the whole circumstances with evident fairness, and yet it is difficult to say exactly who was to blame in the matter. That such a trade-route as it was attempted to establish would be of great advantage to all concerned, there is no doubt; and no doubt also it only requires time to establish it. There is yet a very great deal to be learned both with regard to the natural history of that part of the world, and with regard to the several interesting races of people which form its population. Dr. Anderson's work is a valuable contribution to such a knowledge, and the clear and straightforward manner in which he writes adds greatly to the intrinsic interest of the information with which his pages teem. The illustrations of the country and the people are charming, and the two maps enable the reader to follow satisfactorily the footsteps of the explorers.

OUR BOOK SHELF

A Class-book of Chemistry. By Edward L. Youmans, M.D. (London: Henry S. King and Co., 1876.)

"THIS book is not designed as a manual for special chemical students. It aims to meet the wants of that considerable class, both in and out of school, who would like to know something of the science, but who are without the opportunity or the desire to pursue it in a thoroughly experimental way. Such a class-book as the present . . . must be but a brief compendium of general principles and descriptions of the most important substances, and is not to be judged of by the fulness of its details." This extract from the author's preface sufficiently explains the objects which he has had in view in compiling the book before us. Certainly the work has no claims as a text-book for students; for the general reader we are afraid it will prove of little interest. Within the compass of about 350 pages we have an account of Gravity, Heat, Molecular Attraction, Electricity and Light, besides Chemistry

proper. Surely the day has passed when this kind of thing could be tolerated in a book which professes to teach science. People cry out against the teaching of science as a regular part of educational discipline. It is all very well in its own place, they say, but the only true mental training is to be derived from a study of classics.

If boys and youths devote years to the careful study of ancient languages, they can scarcely fail to receive at least some benefit. If, on the other hand, they pass rapidly through a course of training (?) in science, with the aid perhaps, of such a book as that before us, they quickly forget what they have learned, and, so far as mental training is concerned, they had better have left science alone altogether. Our chief objection to the present work is that it seems calculated, probably unconsciously calculated, to further the delusion that science is a thing to be taken up in a leisure hour, but not a thing the study of which requires, while at the same time it increases, every activity of the mind. If the study of science is to be made a discipline, that study must not be pursued in the spirit of Dr. Youmans' book. The student must not content himself with a superficial knowledge of a few facts, nor even with gaining one or two generalisations; he must be taught to amass facts on the basis of his own observation, to separate the more important from the less important facts, to classify these facts and at last to rise to a generalisation which shall enable him to group together and so explain what had appeared to be isolated phenomena. Dr. Youmans' book can afford the student little help in such a process as this.

Of course it must be admitted that there is a large class of people who have neither leisure nor inclination to make science a study, but who are nevertheless desirous, and properly desirous, of knowing something of what science has done and of the way in which she has accomplished her work. Such people will, we are afraid, receive but little enlightenment from the work we are noticing. There is just sufficiency of detail to make the whole subject appear uninviting, but not enough to make the book valuable to the student. The mass of isolated facts is too great for the ordinary reader; he would soon, if not bewildered, become fatigued.

A book designed for the purposes stated in the preface to the present work requires to be written more from the standpoint of some central idea, round which is grouped together such a number of facts as may serve to illustrate and enforce that idea. The relation of the facts to the general theory and of the theory to the facts may then be made the means of inculcating a certain amount of true scientific training.

While we thus complain of the general scope of Dr. Youmans' book, we must give the author praise for the manner in which some parts of his work are written, more especially the chapter on theoretical chemistry. The chapters on descriptive chemistry are exceedingly meagre in details, but pretentious in the ground which they appear to cover. M. M. PATTISON MUIR

Injurious Insects of Michigan. By A. J. Cook, of the Michigan State Agricultural College. Fourth Report of State Board of Agriculture for 1874.

THIS useful and instructive pamphlet is to a great extent compiled from the writings of Messrs. Riley, Fitch, Le Baron, Walsh, Harris, Curtis, and Packard. It is illustrated by numerous woodcuts from the able pencil of the justly celebrated Prof. Riley, of Missouri. Its object is to enlighten farmers, gardeners, and fruit-growers of the State of Michigan, as to the general appearance, structure, and habits of noxious insects; at the same time suggesting means by which the increase of these pests to agriculture may be arrested. The "Colorado Beetle" and the "Grape Phylloxera" occupy a conspicuous place among these enemies of man.

The pamphlet winds up with a valuable hint to house-