

*Melting and Boiling Point Tables.* By THOMAS CARNELLEY. London, Harrison & Sons. f°.

THE issue of the second volume of Carnelley's 'Melting and Boiling Point Tables' completes the valuable compilation, which now comprises more than fifty-one thousand data systematically arranged with a view to ready reference. Beside the melting and boiling points, so far as known, of individual chemical compounds, organic and inorganic, and such information as is at hand concerning their constitution, boiling-points of miscellaneous materials and mixtures, freezing-points of mixtures and solutions, and vapor-tensions of simple substances, mixed liquids, and saline solutions, are included. The statement of the relation between the numbering of volumes and the years of issue of the more important periodicals of chemistry and physics, and an alphabetical index of the 'root-compounds' of carbon, are minor conveniences. The list of authorities and original sources of knowledge, which really is an index to the literature, is not the least important feature of the work; and the additional references to correlative information in Watts's 'Dictionary of Chemistry,' and the Journal of the Chemical Society, will be especially appreciated by readers whose consulting libraries are not full. The work, planned so ambitiously and executed with the care which is evident, forms an important contribution to the resources of workers in physics and chemistry; and the many who will make use of it may very properly felicitate themselves upon the fact that the author, who is of the few endowed with the aptitude and patience necessary to complete the undertaking satisfactorily, possessed the fortitude to enter upon a course of such colossal drudgery.

*Educational Mosaics.* By THOMAS J. MORGAN. Boston, Silver, Rogers, & Co. 12°.

THIS work, compiled by the principal of the Rhode Island State Normal School, is a collection of extracts from a great number of writers, chiefly modern, on topics connected with education. Its appearance is one more sign of the great interest now taken in the subject with which it deals,—an interest that seems to grow greater every year. There has, indeed, been a great awakening in the public mind of this country in regard to education. It is not many years since our educated classes seemed to be very well satisfied with the knowledge and training they possessed, and to think it good enough for their successors; while public speakers and writers were never weary of proclaiming that our public schools were all that could be desired, and our people the most enlightened on the earth. We have learned better since those days, and have become painfully aware that our higher education is by no means what it should be, that the education of the masses is equally defective, and that the methods of teaching in all our schools admit of much improvement. The book before us faithfully reflects the present state of the public mind and the various shades of prevalent opinion. The subjects treated are necessarily very varied, yet questions of present interest are given far more space than all others; and, as both sides of every controversy are given, the reader obtains a pretty good idea of what the best thinkers on educational topics are now saying. Among the subjects most largely treated are the relative importance of the classics and the physical sciences, the need of studying English, the necessity of moral training, the higher education of women, and the improvement of the methods of teaching. The controversy between the friends of the classics and those of the physical sciences is naturally a prominent feature of the work; and, though the number of extracts is much greater on the side of the classics, this is probably due to the fact that as yet the greater number of educators are on that side. The large number of extracts relating to moral education show that our educators are alive to its importance; but they show also that there is much uncertainty as to how much education is to be given. Indeed, the art of teaching virtue seems to be as difficult and as perplexing now as it was in the time of Socrates.

General Morgan's book will be of great interest, not only to practical teachers, but to all persons interested in education. The only criticism we should be inclined to make is as to the arrangement of the extracts, which is according to the alphabetical order of the authors' names, while we should have preferred an arrangement by topics. The book is one to be taken up again and again for the

stimulating thoughts it contains; and teachers, in particular, will find it an excellent companion.

*Gilman's Historical Readers.* Nos. 1, 2, and 3. By ARTHUR GILMAN. Chicago, Interstate Publ. Co. 16°.

IF the young people of this country are not properly educated, it will not be for want of books intended for their perusal. In every department of literature that is adapted to young intelligences, books in great numbers may be had at low prices, and numerous additions are made to the list every year. The quality of the books, however, often leaves much to be desired. Indeed, the writing of books for children is an art by itself, quite different in some respects from that of writing for adults, and calling for special qualifications in the writer. Many books intended for the young fail of their purpose because they are dull, or because the style is obscure, or because they contain matters above the comprehension of juvenile readers. These little books by Mr. Gilman on the study of American history are not liable to these objections. The author's style is simple and clear without being undignified, his choice of topics judicious, and his manner of telling his story such as can hardly fail to interest youthful readers. The majority of brief histories are so overloaded with details, that young readers, and indeed readers of all ages, find it impossible to grasp them all, and are apt to grow weary of the study. Mr. Gilman has, for the most part, successfully avoided this fault, only a few of his chapters being crowded with detail, and these generally for some special reason.

The first of these little readers treats of the discovery and exploration of the country, the second of the colonization period, while the third and largest of them is devoted to "the making of the American nation." In the first volume the subject is so romantic that children can hardly fail to take an interest in it; and Mr. Gilman has made the most of this quality of his subject, yet without neglecting its more important aspects, so far as these are intelligible to very young readers. The second volume presents, in the main, similar characteristics, though the subject is more complicated. The third and concluding volume is somewhat deeper in thought, as well as larger in size, than either of the others. The greater part of it is, of course, devoted to the Revolution and the early years of the national life; but the history is carried on in brief to the end of the reconstruction period, the author holding that "the making of the American nation was not completed until the supremacy of the Union was acknowledged in every part of the land. The young American who familiarizes himself with the contents of these little books will not only have gained a good general idea of the history of his country, but will have laid a good foundation for a deeper and more extensive study in later years.

*The Upper Beaches and Deltas of the Glacial Lake Agassiz.* (U. S. Geol. Surv., Bull. No. 39.) By WARREN UPHAM. Washington, Government. 8°.

THIS bulletin is but an initial contribution to our knowledge of Lake Agassiz. The investigation is still in progress, and the general discussion of data and the eduction of conclusions are mainly reserved until its completion.

Lake Agassiz belongs in the same category with Lakes Bonneville and Lahontan, in that it is a large extinct lake dating from the close of the glacial epoch. But in its situation and origin, and the cause of its extinction, it is radically different from these ancient lakes of the Great Basin. The basins of the latter belong to the constructive type of Davis, being due to profound oscillations of the earth's crust, and these lakes owe their disappearance solely to climatic changes resulting in the gradual predominance of evaporation over precipitation.

The basin of Lake Agassiz, on the other hand, belonged to the obstructive type, owing its existence to the damming up of the Red River of the North and its tributaries by the southern edge of the continental ice-sheet during its gradual recession from the sources of that stream to Hudson Bay; and, although the disappearance of this lake can also be traced to a climatic change, it was not a change from humid to dry, but from cold to warm, the lake vanishing with the icy barrier that retained it. During this retreat free drainage from the melting ice could not take place, because the descent of