which are here for the first time made accessible to the student, and it is to be hoped that all that is extant of ancient Nahuatl literature will be printed ere long.

The texts are preceded by a brief introduction, in which the character of Mexican poetry is discussed. The importance of poetry, music, and dance among the Mexicans is set forth, and their method of delivering the songs is described. Of particular interest are the remarks of the author on prosody; and these are the more weighty, as he has studied this subject among many North American tribes. It is very difficult to decide whether accent or quantity is the ruling element of poetry, and the author does not attempt to decide which is more important. It seems to us that this question can only be solved by studying music and poetry jointly.

Dr. Brinton finds another wide-spread peculiarity of Indian poetry occurring in Mexican poetry. It is the inordinate lengthening of vowels and reduplicating of syllables for the purpose of emphasis or of metre, and the insertion of meaningless interjections for the same purpose. It is an interesting question whether the accent in Mexican poetry is always on the vowel, or whether certain combinations of consonants can form a syllable, as is the case in some American languages. The instrumental accompaniment of the songs is described, and the connection of the rhythm of the drums with the prosody is emphasized. In the present collection, as well as in those of other nations, we find a peculiar poetical language which makes their translation very difficult. Dr. Brinton describes this poetic dialect as abounding in metaphors. Birds, flowers, precious stones, and brilliant objects are constantly introduced in a figurative sense, often to the point of obscuring the meaning of the sentence. The grammatical structure is more complicated and elaborate than in ordinary prose writing, and rare words occur frequently. The rhetorical figure known as aposiopesis, when a sentence is left unfinished and in an interjectional condition, in consequence of some emotion of mind, is not rare, and adds to the obscurity of the wording. The last peculiarity is characteristic of the popular songs of all nations, while the occurrence of rare words may be due to the fact that many of them are sacred songs. The richness of metaphor, and the complicated grammatical structure, are also wide-spread qualities of poetry.

Dr. Brinton considers some of the songs as belonging to a time anterior to the Conquest, and gives in the brief notes which accompany each of the twenty-seven songs his reasons for this opinion. Undoubtedly most of them belong to the time of about 1500. Others are evidently ancient songs, composed before the Spaniards influenced the native customs and ideas, and this makes the present collection the more interesting. It is welcome material for the student of the Mexican aborigines.

Guatemala, the Land of the Quetzal. By WILLIAM T. BRIGHAM. New York, Scribner. 8°.

THE author terms his book very properly 'a sketch.' It is the tale of his journeys in Guatemala, adorned with some remarks on the geography and history of the country. The author does not claim to give any new information, but it is pleasant to follow him on his ride through a semi-civilized country. The book is profusely illustrated, and the illustrations have the merit of being new, characteristic, and trustworthy, most of them being reproductions of photographs. The scientific contents are selected somewhat at random, but will serve the purpose which the author has principally in view, — "to awaken among Americans greater interest in the much-neglected regions between the Republic of Mexico and the Isthmus of Darien." There are several maps in the volume, but they are of no great value. The map of Guatemala, which is claimed to have been compiled from various sources, is only a very rough sketch of that country. By far the greatest portion of the book is taken up by the author's journeys; and this is the most interesting part, as it gives a fair idea of Central American life, and valuable hints to future travellers. It is followed by a chapter on the ancient inhabitants of Guatemala, a brief history of the Republic, and a sketch of its volcanoes and produce. In an appendix, which the author compares to the attic-room of a thrifty housewife, information about a variety of subjects and a partial bibliography of Central America are given.

The Principles of Elocution. By ALEXANDER MELVILLE BELL. 5th ed., revised and enlarged. Washington, John C. Parker. 12°.

VERY many intelligent readers of the great orators, ancient and modern, must have experienced a feeling of keen regret that they themselves were unable even to approximate the directness, force, and fluency of those masters of the art of expression. It would almost seem that the power to rouse multitudes to action, to stir the deepest and most masterful emotions, to control and direct action, by the use of language, is so dangerous a one that it has been granted to but few. As a matter of fact, however, oratory or eloquence is nothing more than highly developed and cultivated power of expression. It implies the possession of something to express. The full head and the sympathetic heart are essentials.

But without aiming at the ambitious height of eloquence, there is a power of forceful and adequate expression by the use of language that belongs to us as human beings, but which is almost wholly overlooked in the training of the young. Not only is this undesirable in itself, but the conditions of our modern life render it more so. In politics, in religion, in practical life, and in social activity, men are endeavoring to communicate their own thoughts and convictions to others; and very many are the embarrassments that result from the lack of ability to properly express these thoughts and convictions. There is, therefore, a practical as well as a sentimental reason why our natural gift of expression should be cultivated.

All of this is very familiar to Mr. Bell, and, in addition, he has given so much time and study to the working-out of the practical applications of the thing, that he is to-day easily our first authority on the subject. In this last edition, the fifth, of his 'Principles of Elocution,' he has given us the ripest fruits of his thoughts and study.

Mr. Bell deprecates in his introduction the neglect of elocution, and ascribes it to two causes, — first, it is neglected because it is misunderstood and therefore undervalued; and, second, it is misunderstood because it has been confounded with recitation, and otherwise misrepresented by many writers on the subject. Mr. Bell defines (p. 6) elocution as "the effective expression of thought and sentiment by speech, intonation, and gesture." Inasmuch as it involves the exercise of language, elocution must embrace the physiology of speech. It must study carefully the instrument of speech, so that the elocutionist may have all its parts under his complete control. The author therefore takes the pupil back to respiration as the first step toward making him an expressive and agreeable speaker. Suggestions in respiration lead naturally to the principles of vocalization, and these to those of vowel formation. From this point on, the book is made up largely of practical exercises on the successive steps in the elocutionary process. These exercises and illustrations are a peculiarly valuable feature of the book; for they are not roughly thrown together, but carefully arranged on scientific principles.

We know of no higher praise of Mr. Bell's book than to say that it is pre-eminently fitted to be recognized in our high schools and colleges as the authoritative exponent of that branch of training which has too long been left out of their curriculum.

Bau und Verrichtungen des Gehirns. Von Dr. JOSEF VICTOR BOHON. Heidelberg.

Uebersichtliche Zusammenstellung der Augenbewegungen, etc. By Dr. E. LANDOLT. Tr. by Dr. H. MAGNUS. Breslau.

THESE contributions to the anatomy and physiology of the nervous system are evidences of the time and attention now devoted by the Germans to the preparation of aids to instruction whereby the student can readily obtain correct notions of his subject. Especially in the nervous system, where recent research from a variety of sources has so essentially altered the accepted views, is such an elementary reconstruction of the subject necessary. Dr. Rohon's pamphlet contains a lecture delivered before the Anthropological Society of Munich, setting forth in clear language the main outlines of current notions of the structure and functions of the brain. The main interest in the pamphlet will centre in the colored chart, which illustrates with great clearness the points referred to in the text.

Dr. Magnus presents a chart for the use of physicians and instructors, showing the main points with regard to the motion of the eyes that one ought to retain. The main laws of motion of Donders, Helmholtz, Listing, etc., are given; then a cut illustrating the origin of the motor nerves of the eye. This is followed by a table giving the origin, course, insertion, axis of rotation, etc., for each muscle of the eye. The second part of the chart explains very clearly the effect of paralysis of each of the muscles; how such paralysis limits motion of the eye; what position the eye assumes; whether double images arise, and how they are placed; and so on. The chart shows careful preparation, and will doubtless be widely used.

The Journal of Morphology. Ed. by C. O. WHITMAN, with the co-operation of EDWARD PHELPS ALLIS, Jun. Vol. I., No. 1. Sept., 1887. Boston, Ginn & Co. 8°.

THE new zoölogical periodical, the first number of which has been so long expected, has at last made its appearance in the shape of a thick and handsome volume of more than two hundred pages, issued from the well-known press of Messrs. Ginn & Co. of Boston. It has been delayed almost unpardonably long, and yet its make-up and the character of its contents compel us to forget the delay, and confess that it was well worth waiting for. The plates alone would make the journal unique among American periodicals devoted to the subject; for they are mostly from the hands of Werner and Winter, the Frankfort (Germany) lithographers, whose names alone are ample guaranty of excellence. In brief, the journal appears to us admirable in almost every particular. The paper is good; the press-work is well done; the minor details of arrangement of footnotes, titles, headings, etc., give evidence of care and forethought.

In this periodical we have a substantial token of the progress of two distinct undertakings of which all American scientists ought to be proud. The first is that of Dr. Whitman, the editor, whose hope and struggle for many months have been to set going in the right way a zoölogical periodical that shall worthily represent American morphologists before the world, and be a suitable outlet for our strong and increasing zoölogical literature. Professor Whitman has certainly succeeded in making a good start.

A word is due also to the publishers, Messrs. Ginn & Co., for their courage in undertaking such a periodical, which can never be expected to be a financial success, as the demand must always be extremely limited. The difficulty of establishing such a journal will be the better understood when we consider that the proceedings of societies, supported by large endowments, meet with practically no sale, but are distributed throughout the world by exchange, and furnish a very excellent means for the placing on record of such papers as are given in this magazine.

The other undertaking is that of Edward Phelps Allis, Jun., of Milwaukee, with whose co-operation the journal is edited by Dr. Whitman. Mr. Allis first formed, and then put into active operation, the idea of a private biological laboratory of research. For this he was fortunate to secure Dr. Whitman as director, and to it the name of the 'Lake Laboratory' has been given. Besides the director, Mr. Allis has added to his laboratory Dr. William Patten as assistant, and it is understood that Mr. Allis is himself at work upon important investigations.

NOTES AND NEWS.

IN September a school of Oriental languages was opened at Berlin, the object of which is to give merchants and civil officers an opportunity to learn the languages of Asia and Africa. The staff of the school consists of two teachers of the Arabian language, while Persian, Chinese, Suaheli, and Herero have one teacher each. These have studied the languages they teach in the country where it is spoken, and they are assisted by natives. This school will undoubtedly prove of great value to the commerce of Germany with the countries of Asia and Africa. The merchant or consular official who understands and speaks the language of the country in which he lives and works will have a great advantage over competitors who have to make use of the service of interpreters. Formerly students had the opportunity of studying Oriental languages at German universities, but there they were taught from an exclusively scientific point of view; and it is well known that a language learned in this way, though its grammar may be well mastered, is of no practical value to the student, particularly where the difference between the written and spoken languages is great, and where the dialects are numerous. In the new school the languages are taught as living languages, and this gives the institute its principal importance.

— The semi-annual session of the National Academy of Sciences will be held at Columbia College, Nov. 8, at noon, and continue for three or four days.

— The question of teaching physiology and hygiene to elementary classes in the public schools is one that is far from a successful solution. With a criminal rashness, legislatures have been induced to prescribe alcohol-teaching as a requirement, and the result has been to create noxious temperance-tracts with a smattering of physiology attached, instead of scientific text-books. A very great improvement in this direction is a recently issued primer of health lessons by Dr. Jerome Walker. Around the main facts of physiology, the author has woven an attractive text, fully and well illustrated, and has given the subject that kind of interest which healthy children appreciate. He has very much reduced the space usually allotted to alcohol and narcotics, but it may be questioned whether the reduction is sufficient. A few very objectionable passages (considering the age of the children to whom the book is addressed) still remain. On the whole, Dr. Walker has set an example in the right direction, and the instruction to teachers is not the least valuable chapter in the book.

— One of the subjects discussed at the annual meeting of the French Association for the Advancement of Science, which has just been held at Toulouse, was the project for making a maritime canal between Bordeaux and Narbonne. The different phases of this project, which was first mooted twenty years ago, were passed in review by M. Wickersheimer, deputy for one of the departments through which the canal will pass. The latest project was prepared this summer by a company which has been formed for the purpose of making the preliminary survey; and according to this scheme, the canal, which would be about three hundred and thirty miles in length from sea to sea, would start from the western side of Bordeaux, and follow the left bank of the Garonne for a distance of fifty miles, crossing that river at Castel-Sarrasin by a *pont-canal* (or aqueduct), and follow the right bank of the river as far as Toulouse, where a large port would be created. From Toulouse to the Mediterranean seaboard at Narbonne, the maritime canal would be quite independent of the railway from Bordeaux to Cette, but it would twice cross the Canal du Midi. The curves of the canal would be of the same radius as those in the Suez Canal; that is to say, not less than 6,000 feet, and there would be 38 locks, the fall of which would range from 20 feet to 30 feet. The depth would be about 24 feet, but if the minister of marine should determine to make use of it for the first-class ironclads of the French navy, contrary to what was originally determined, the company will be prepared to make it three feet deeper. It is estimated that the mean speed of vessels passing through the canal will be seven miles an hour, and they would be drawn by locomotives running along a line of rails placed on the banks, a force of from 1,000 to 1,200 horse-power being required to produce this rate of speed. The canal is to be lighted by electricity, the electric light being generated upon the engines used for the traction of the vessels. The total cost is estimated at £130,000,000, or less than half of the estimate originally prepared. The distance saved for vessels coming from the western ports of France into the Mediterranean would be 680 miles.

— It is noted in the *Journal of the Society of Arts*, London, that while the consumption of the other dietetic articles used for beverages — tea, coffee, and chiccory — show a decline last year, cocoa is marked by a considerable increase. This is remarkable, since for about four years, from 1875 to 1879, it remained pretty stationary at about 10,000,000 pounds, but after 1880 it began to make steady progress, advancing from 10,500,000 pounds in that year to over 15,000,000 pounds last year. Of powdered cocoa and chocolate England received 1,332,000 pounds, chiefly from Holland. She