because it is the only foundation upon which a system of technological education can be securely built, but for its value in drawing out the minds of the pupils.

In secondary, grammar, and high schools, however, where the academic influence and traditions are still strong, I incline to think that science scarcely occupies a position equal to that now attained in corresponding English schools. I should doubt, for example, whether there is any large high-class school in either of the colonies, where, as in Clifton college, a certain amount of attendance on science classes is required from every boy, no matter what his future is to be, in order that he may comprehend the meaning of scientific method and treatment of a subject. The colonial universities, too, though now generally modelled more or less on that of London, have usually so arranged their matriculation examination, unlike their prototype, that it is possible to pass it in purely literary subjects alone.

A glance through the calendars of the older colonial universities shows again, in a very marked degree, the strong influence of the older academic ideas of Cambridge and Oxford. I noticed this particularly in the case of Sydney, in 1880, where I had unusual opportunities of forming an opinion; and also, at the same time, in some of the provincial colleges in New Zealand. Within the last few years, however, a great change has come over colonial university opinion in this matter. Degrees in science have been instituted; faculties of science have been organized, and placed on an equal footing with those of arts, laws, and medicine. In the case of two, at least, of these universities, degrees in engineering science are now conferred, a proposal to establish which, as some present are aware, is now before the University of London.

Great as has been the progress of public opinion in England during the last few years, on the value of science as an element in education, I am disposed to think that the progress has been greater in the colonies in the same period. Certainly the development of that opinion to its present point has been much more rapid in the colonies than at home. In educational as well as in political matters the colonies are most valuable to the mother-country as localities where experiments in legislation may be, and often are, conveniently tried, the progress of opinion on certain subjects there being in advance of that in England.

To attempt a general review of all the other existing agencies for the promotion of a taste for science among adults would be almost hopeless. They are of the same general character as in England, modified to suit the special circumstances of each case; some of them being carried on, under circumstances of great difficulty and discouragement, by enthusiastic devotees of nature, while others, like the Royal societies of Canada, Victoria, and New South Wales, have achieved a reputation which extends wherever the English language is read.

EDUCATION IN SPAIN.

AN English writer, touching on the subject of education in Spain, complains that so different are the conditions in the various provinces of Spain, statistics mislead when they seem to show that Spain is one of the worst educated countries in Europe. While this is true, he says, of many districts, it is not true in all. The great drawback to the cause of education in Spain is the comparatively small educated public to which appeal can be made. Out of upward of sixteen millions of Spaniards, only four millions know how to read and write, and half a million more can read only. Thus only about twenty-five per cent of the population have any education worth speaking of.

Then, too, a corrupt and corrupting political and administrative influence is brought to bear on education. Nominally, and according to the letter of the law, education is compulsory on all Spaniards between the ages of six and nine. Yet the number of pupils on the school rolls is only 1,800,000, and the actual attendance is less than sixty per cent of the enrolment. The laws are violated in many particulars and neglected or evaded in many more. Of the 23,000 schoolhouses (and it must be remembered that the most of them escape inspection altogether), 7,999 are returned as *no decentes y capaces*.

The teachers' salaries are ludicrously small. Of 15,000 teachers, 1,273 receive less than twenty-five dollars a year, 2,827 receive from twenty-five to fifty dollars, and only half of them have a salary that amounts to one hundred dollars.

Between 1870 and 1880 some progress was perceptible in educational matters. The northern provinces are in advance of those of the south. Alava comes first, with sixty-three per cent of its male population able to read and write. The religious orders and corporations do not play so large a part in the education in Spain as is commonly supposed. In the matter of primary education, the whole number of pupils taught by the religious associations is only 30,879, while the returns from the Protestant schools show only 3,196 enrolled in them.

The chief trouble with Spanish education seems to be that it does not conform to the real needs of the nation. While seventy-five per cent of the total population can neither read nor write, the proportion of university graduates is as high as that in

France and Germany. The needs of Spanish education would therefore seem to be, first, vigorous and honest enforcement of the laws as they stand at present; and, secondly, some means of extending primary instruction.

COLLAR'S LATIN BOOK.

THIS book is an outcome of the discussions of the past few years on the value of classical study. Its method is a complete change from the tedious study of grammar to a rational view of the language as a form of expression. Its aim, as stated in the preface, "is to serve as a preparation for reading, writing, and, to a less degree, for speaking Latin." This preparation it gives, not by getting the Latin language before the beginner as a collection of paradigms and rules of syntax, but as a vehicle of ideas. It is here that the book breaks away from the traditional method.

Immediately on opening it, one notices the absence of any reference to the grammars. The book is not, as so many are, a mere guide-post, telling the pupil where in the grammars he can find forms, rules, or exceptions. In a compact form it gives all necessary paradigms and rules, but with full and repeated illustration. The examples are chosen not merely to illustrate forms and rules, but to show that forms and rules are instrumental to expression, and that it is as possible for a boy to express his own ideas in Latin as it is to find out what some one else has expressed. Further aid in this direction is given by the arrangement which brings the verb near the beginning, before the completion of declension, enabling the pupil to construct sentences, and by inserting early in the vocabularies verbal forms. Thus a boy learns that *habet* means 'has' before he can conjugate, just as a child learns 'has' before he knows it is a part of 'to have.' By slight changes of meanings, the exercises and vocabularies are made suggestive, and the *colloquia* scattered through the book cannot fail to interest and stimulate to imitation.

The plan of the book rests upon the fact that the memory and not the judgment of the pupil is to be exercised; that one can learn facts rapidly who cannot appreciate reasons. The unslaked thirst of memory that belongs to the age when Latin is usually begun is made use of, but is not quenched by a mass of unnecessary detail and unimportant exceptions. Explanations are omitted, except as they help the pupil to understand, not the theory of constructions, but their uses. The omissions of the book are noteworthy, and the editors have happily avoided the deplorable error "of failing to discriminate between the relatively important and unimportant." The subjunctive mood, that slough of despond for beginners, is treated briefly but clearly, and fully enough for such a book.

The chapter on derivation does not seem quite up to the general level of the book. The examples are apt and well grouped, but they will be taken as individual specimens rather than illustrations of principles. In other chapters, after the examples, the rule or principle covering them has been stated, and in this it would have been well to add statements of the meaning attached to certain terminations.

The book is a *live* one. No lazy teacher can use it with success. It gives suggestions, but requires attention, and, properly used, will fulfil the expectation of the editors that pupils can be prepared by it for Caesar within a year. It will meet with success, because it throws off the trammels of artificial methods, and seeks those that are rational and natural. JOHN K. LORD.

The beginner's Latin book. By WILLIAM C. COLLAR and M. GRANT DANIELL. Boston, *Ginn*, 1886. 12°.

MONOGRAPHS ON EDUCATION.

THE publishers of this handy series of essays are doing an excellent work. As they state in their preface, "many contributions to the theory or the practice of teaching are yearly lost to the profession, because they are embodied in articles which are too long, or too profound, or too limited as to number of interested readers, for popular magazine articles, and yet not sufficient in volume for books." Every teacher knows how true this statement is, and should therefore welcome such contributions to pedagogics when presented in so attractive a form as that in which these monographs are issued.

Prof. Stanley Hall's monograph on reading [1] is an example of applied pedagogics. He outlines the various traditional methods of teaching children to read, and also some of those suggested by the psychologists, and reaches the eminently sensible conclusion that "there is no one and only orthodox way of teaching and learning this greatest and hardest of all the arts." We cannot believe, however, that Professor Hall means to be taken seriously when he says (pp. 17, 18) that "many of our youth will develop into better health, stancher virtue, and possibly better citizenship, and a culture in every way more pedagogical and solid, had they never been taught to read, but some useful handicraft, and the habit of utilizing all the methods of oral education within reach, instead. . . . The school has no right to teach how to read, without doing much more than

[1] *How to teach reading, and what to read in school.* By G. STANLEY HALL. Boston, *Heath*, 1886. 12°.