

carry away a very unfavourable impression of them if he confined his attention to this part of the book. The following portions, which treat of the application of the method to ores, alloys, rocks, &c., are much more satisfactory, and contain information of great value to the metallurgist, petrologist, and others.

After all, micro-chemical analysis is only in its infancy, and, as the author points out, the present work will doubtless prove to be a mere outline compared with the manuals which will be published twenty years hence, "when the advantages of micro-chemical analysis will be understood everywhere, when its appliances will be fully developed, when difficulties have been surmounted, and obscurities have been cleared up." Meanwhile it is to be hoped that the publication of this small but extremely valuable little volume will have the effect of largely increasing the number of those who use micro-chemical methods in this country.

OUR BOOK SHELF.

Practical Botany for Beginners. By F. O. Bower. (Macmillan and Co., 1894.)

PROF. BOWER'S well-known "Practical Botany" has won for itself universal recognition as forming an indispensable adjunct to the botanical laboratory. But with its increasing popularity the size and scope of the volume also advanced, and at the present time, though it is invaluable to the student with sufficient time at his command, it is somewhat bulky for the large class of persons who, from various circumstances, require a more elementary acquaintance with the types they investigate.

It is for these that the "Practical Botany for Beginners" has been designed, and it will certainly prove of great service. Although the book is of smaller dimensions than the larger work just referred to, it is still conducted on the same lines. The text, so far as it goes, is for the most part similar, and the reduction in size is provided for by the use of smaller type, and by the omission of many subsidiary descriptions which had been introduced for purposes of comparison.

Like all good introductory books, it assumes no previous knowledge in the department to which it relates, and thus the student is enabled to begin really at the beginning. It will, however, be his own fault if he is not in possession of a very creditable amount of sound knowledge by the time he has worked through the volume. For those who are unable to go through the more extended course, a better book than the present one could not be recommended.

Simple Experiments for Science Teaching. By John A. Bower. (London: Society for Promoting Christian Knowledge, 1894.)

TEACHERS of science in elementary schools now live in halcyon days. Time was when books containing courses of experiments suitable for teaching the young idea the science of common things were hard to find, and they who desired to impart such instruction had to prepare their own sequence of lessons. But the examinations of the Science and Art Department and similar bodies have changed all that. There are now numerous primers for all branches of elementary science, some good, many indifferent, and a few bad. Teachers are no longer under the necessity of exercising the faculty of originality in devising experiments for class demonstration, for the work is done for them, and frequently done well, by the much-maligned text-book writer. Possibly the mental atrophy thus brought about is not desirable, but there is

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little doubt that the teaching has been benefited. Few of the courses of elementary science in our schools and colleges were truly scientific in character, and it is chiefly the text-book that has improved the old state of things by giving law and order to the chaos of experiments.

Mr. Bower's book deserves classification with those that help on the work of science. It consists of two hundred experiments fully illustrating the elementary "Physics and Chemistry" division in the code for evening continuation schools. The experiments are well graded, they are simple, they illustrate phenomena of every-day life, and most of them can be performed with the homeliest things. The pupil who sees the experiments will learn much; he who does them will obtain an excellent foundation in physical science. The book is nicely printed and sufficiently illustrated, and would be a very acceptable present for a boy fond of finding out some of the ways of nature.

LETTERS TO THE EDITOR.

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The Teeth and Civilisation.

IN a letter to NATURE for May 17, on "The Teeth and Civilisation," the writer advances a theory to account for the great prevalence of decay of the teeth at the present day, and concludes that Dr. Wilberforce Smith's investigations show that "the ancients enjoyed a perfect set of teeth till advanced years, and modern savages enjoy the same blessing."

I have not had the opportunity of seeing Dr. Wilberforce Smith's communication, but the number of cases examined in this particular instance (ten Sioux Indians) would hardly be sufficient to draw any conclusions from; and even in these ten cases all the teeth were not examined. I think, however, it has been sufficiently proved by several careful investigations that caries of the teeth is not a purely modern disease, and is not entirely confined to civilised races. My father, in a communication to the Odontological Society in 1870, brought together the results of an inquiry extending over more than ten years, in which he examined over 2000 skulls, including all the available collections in Great Britain, and his conclusions as to the prevalence of dental caries differ very considerably from those of the writer of this letter.

Among thirty-six skulls of ancient Egyptians he found caries in fifteen (41·66 per cent.), in seventy six Anglo-Saxon skulls he found twelve cases (15·78 per cent.), among 143 skulls of Romano-Britons there were 41 cases of caries (28·67 per cent.), while among 44 miscellaneous skulls of ancient Britons 20·45 per cent. showed carious teeth. Several other collections gave similar results.

Again, with regard to savage races—among the Tasmanians 27·7 per cent. of caries was found, among native Australians 20·45 per cent., among East African skulls 24·24 per cent, and among those of West African natives 27·96.

Similar results were obtained on the examination of skulls of many other races, but I think I have quoted figures sufficient to prove that caries is not confined to civilised races or to modern times.

It is quite comprehensible that excessive nerve strain, especially by affecting vascular supply, may lead to imperfect nutrition during the development of the teeth, and we know that the diseases of early childhood have a very marked effect upon tooth structure, indicated by the ridged and defective teeth so frequently seen, and it seems quite possible that too early stimulus of the brain in childhood may have a similar effect on forming teeth. It is very difficult, however, to understand how nerve strain can have any direct effect upon fully formed teeth, and we should, I think, look for the explanation of the cases referred to in some vitiated condition of the fluids of the mouth, caused by the depressed condition of health so common amongst hospital nurses.

There is little doubt that an open-air life and healthy