

and people observe and study more abroad than at home. The time has passed when antiquities should be regarded as trophies of war. It is no longer necessary for instruction to hoard up valuable specimens of foreign antiquities in European museums. So long as science has access to the materials of knowledge, that is all that it is necessary to bring away; and national museums, with the limited space at their disposal, should more and more become devoted to local collections. Besides which, it should be remembered that the atmosphere of Egypt preserves antiquities in a way that no other climate can do; and when this fact hereafter becomes fully impressed upon the public mind, the time may come when subscriptions will be raised to take back obelisks and put them up again in their proper places; at any rate we have enough of them weathering and withering in smoke and damp. They are quite out of place in European towns, and seem to hold up a finger of caution to us to proceed no further in that direction. But the opportunity for exploration should not be lost. The French savants did their work thoroughly during their military operations in that country, and it would be shameful if, with the knowledge now at our disposal, the British expedition did not achieve more for the promotion of science than was effected by Napoleon half a century ago.

Carlsbad, August 3

A. PITT-RIVERS

Francis Maitland Balfour

THE memoir of Prof. Francis M. Balfour, published in *NATURE*, vol. xxvi. p. 313, appears to have been founded, as far as his life at Harrow is concerned, on incomplete information; and I therefore ask your permission to supplement it with my own reminiscences.

He entered Harrow School in January, 1865, and when he had reached the upper part of the fifth form in 1867, I was appointed to give instruction in natural science. Although this subject was not taught in any of the forms which Balfour passed through, he soon afterwards eagerly availed himself of the opportunity offered of taking lessons in practical work in biology. This continued without intermission until he left the school for Cambridge more than three years afterwards. He was always ready to spend as many hours as I could give him for work with the microscope and in making dissections. With Dr. Rolleston's "Forms of Animal Life" as guide, he dissected nearly all the typical examples described in that book. In the same way he gained a knowledge of osteology, using a small collection of skeletons which received, for his special benefit, the important additions of a complete crocodile, and an armadillo, several incomplete skeletons of ornithorhynchus, and echidna. No part of comparative anatomy was neglected, but of such an extensive subject, much of his knowledge was necessarily derived from books only, but it was sound, being based on Huxley, Müller, Kölliker, and the like. He had the opportunity also of learning elementary botany.

All this work was carried on under conditions with which only a boy of his energy and indomitable perseverance could have coped. At first he had some difficulty in acquiring skill in the purely mechanical details of dissection, but he determined to overcome this difficulty, and he succeeded. The time at his disposal for biology was chiefly the half-holidays, and for such work no marks could be given by his form masters, but on the contrary, it is only too certain that his position in other subjects was affected by his devotion to natural science.

Those who managed the affairs of the School Scientific Society in 1868 (two years before Balfour left Harrow), showed their appreciation of his remarkable powers by asking Prof. Huxley to award the prize, which had been offered, through the liberality of Mr. C. J. Leaf, for the best essay written during the previous holidays, being a description of some district known to the author. This unusual step was taken when it was found that the essay sent in by Balfour and another by his friend A. J. Evans, were of such rare merit, that it was felt that they were worthy of being brought under the notice of such a distinguished man as Prof. Huxley. His opinion of the value of these essays fully justified this view.

Balfour's knowledge of geology was chiefly gained at home, and no doubt it was of considerable service to him in the com-

petition for the Natural Science Scholarships, which he gained soon after he went into residence at Cambridge.

Whether the teaching referred to in the previous lines was of advantage to him or not, could be best determined by himself, and it is interesting to have his judgment on this point when the recollection of it was fresh in his mind. In a letter dated "Cambridge, April 28, 1871," he says: "Many thanks for your congratulations on my success, which is certainly chiefly due to you." This opinion he again very warmly expressed to me when I had the pleasure of spending a few days with him in the same year after the meeting of the British Association at Edinburgh.

He left Harrow in August, 1870, having spent nearly six years in the school.

G. GRIFFITH

Harrow, August 7

I AM sorry that I omitted in my brief sketch to point out the benefits which Balfour undoubtedly derived from the science teaching at Harrow, and I am sure my friend Mr. Griffith will understand that it is as far as possible from my wishes to fail in acknowledging the fruit of the labours which he has been carrying on there these several years with such zeal and energy. There can be no doubt, I think, that the training which Balfour had under Mr. Griffith not only helped towards his gaining the scholarship, but materially contributed to making him the man he was. What I wrote concerning his reputation at Harrow, referred rather to what I understood was the general opinion of the school, than to Mr. Griffith's own forecast of what Balfour might become; the latter I have known for a long time to be so sanguine as to come near the truth.

M. FOSTER

On "getting" Coal by Means of Caustic Lime

IN an article on this subject (*NATURE*, vol. xxvi. p. 299) Mr. William Galloway states that this system "has been found by experiment to be incapable of breaking down a hard rock or shale roof," and is, therefore, not likely to have anything but a limited application.

Will you allow me, as one who has had a good deal to do with the new process, to assure Mr. Galloway that so far as it has yet been applied, it has answered every purpose in respect of which gunpowder or wedging have been hitherto used.

We have not yet had time to make a series of experiments with the lime-process on hard rock, &c., as our attention has been until now turned exclusively to the getting of coal, especially in those mines in which, from their fiery nature, the use of powder has been prohibited. In the Shipley Collieries, where the lime-process has been in constant operation for many months, it is regularly applied to one of the hardest seams in the Midland coal-field, the toughest part of which is that next the roof, and this portion could never be got by wedging in the ordinary way, but had subsequently to be hacked down into slack—by the lime process, however, the coal is parted clean from the roof, along the entire face operated on.

In other districts where it has been proved to be a complete success, the places selected for experiment were invariably the hardest in the mine. The cases where the tamping has been blown out are extremely rare, and have been due to causes immediately and easily rectified.

We have no reason to believe that the process would fail in its application to the mining of shales, iron ores, &c., and this point will be settled by experiment before long, pending which Mr. Galloway's conclusion on the subject is at least premature.

PAGET MOSLEY

81, Warwick Road, Earl's Court, August 10

IN stating that the caustic lime process was likely to have only a limited application in coal-mining operations, it was not my intention to convey the impression, as Mr. Mosley appears to think it was, that the area of its usefulness would necessarily be a small one. On the contrary, I believe it could be successfully employed in getting coal under a large variety of circumstances.

Mr. Mosley's connection with the subject could not well be more intimate than that of the gentlemen who supplied me with the information brought forward in the article referred to, and I understood them to say that experiments had been made with the roof of Shipley Collieries, giving results which amply justified the conclusions I stated.