prizes, he assures us, makes the ornithologist "despise common bird-life," and look only for rarities!

Concerning the toucan and hornbill, he writes:—"The Almighty—speaking reverently—seems to have made certain animals and birds (*sic*) in a spirit of fun, or at least in a sportive mood"!! And this, too, in spite of a statement on a previous page to the effect that with "an ordinary beak" the toucan would be unable to procure the fruit on which it feeds, and that, in consequence, "the Almighty, in His wisdom, has provided it with a 'beak-hand' . . .!"

We confess we do not like this book; where it is not mischievous it is puerile. The illustrations could not possibly be worse. W. P. P.

The Elements of Chemistry. By M. M. Pattison Muir. Pp. xiv+554. (London: J. and A. Churchill, 1904.) Price 10s. 6d. net.

It is somewhat difficult to understand for what class of reader this book is intended. In style and treatment it is not well adapted to beginners, yet in its descriptive matter it is quite elementary. Probably it will prove of greatest service to mature students of other subjects who wish to gain some acquaintance with the principles of chemistry without intending to study the science practically. The author tells us in his preface that his object has been "to present some of the fundamental facts, generalisations, principles and theories of chemistry, lucidly, methodically, and suggestively." In this he has had a certain measure of success, but the general impression left by the book is that in its construction substance has been sacrificed to form. When, for example, the author tells us (p. 89) that weighed quantities of the basic oxides BaO, CaO, K₂O, Na₂O, have been combined with weighed quantities of the acidic oxides I₂O₅, N₂O₅, P₂O₅, P₂O₃, respectively, and that analysis showed the resulting products to be BaI₂O₆, CaN₂O₆, K₃PO₄, and Na₃PO₄, we are inclined to doubt the statement, and also to doubt the wisdom of adducing imaginary experiments in confirmation of a formal rule. On p. 252 we find the equation

We wonder if the author tried the experiment; the practical instruction to heat would almost indicate that he had.

Richard Jefferies: his Life and Ideals. By H. S. Salt. New edition. Pp. vii+119. (London: A. C. Fifield, 1905.) Price 1s. 6d. net.

THE fact of a new (and cheaper) edition of this work being called for may be taken as an indication of the hold the writings of the great pioneer of the true type of nature-study have taken on the popular mind. In the preface, the author emphasises his opinion that the real claims of Jefferies to literary immortality are based on his later works of the type of "The Story of My Heart"; but there can be no doubt, as the author himself is fain to admit, that "The Gamekeeper at Home" and "Round about a Great Estate" are the volumes which have made the name of Jefferies a household word. Biographers and eulogists may make what efforts they please to alter the verdict of the public; but in such cases the old maxim that the *vox populi* is *vox dei* still holds good. To the great majority of readers Jefferies will continue to be known solely by his inimitable (if sometimes too realistic) descriptions of rural life and character. Although in small type, the new edition of his life is well printed on good paper. R. L.

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LETTERS TO THE EDITOR.

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Historical Note on Dust, Electrification, and Heat.

YOUR readers may remember that in July, 1883, I penned a letter to your columns (vol. xxviii. p. 297) describing some observations which the late J. W. Clark and myself had recently made; among others, one to the effect that a small electrical discharge into a smoke-laden atmosphere rapidly dissipated the smoke by coagulating the particles. Some time afterwards we found that the observation had previously been made by a Mr. Guitard, and printed in the *Mechanic's Magazine* for 1850—a reference to this fact being actually contained in that great compendium of electrical information, Wiedemann's "*Galvanismus u.s.w.*," so that it must be regarded as fully "published."

I now write to say that during the labour of indexing, at the Royal Society, Prof. McLeod has come across a much earlier instance of the same observation, showing that the phenomenon was really discovered in 1824. An extract from Prof. McLeod's letter runs as follows:—

"In the course of our indexing we have come across a paper that may interest you, if you do not already know of it. It is by Hohlfeld, 'Das Niederschlagen des Rauchs durch Elektrizität,' Kastner, *Archiv Naturl.*, ii., 1824, 205–206. It is very short; he refers to the increase of the fall of rain and hail after a flash of lightning, and describes how he filled a globe with smoke and led into it a pointed wire connected to an electric machine which caused the smoke to settle."

If any importance attaches to the subject, it must depend upon the successful application, in future practice, of so conspicuous a result. Hitherto the only practical application of the same sort of principle has been the "coherer" used in some systems of wireless telegraphy, of which Prof. Branly's porphyrised-copper powder-smears and iron filings-tubes may be regarded as the earliest examples.

Perhaps, however, I may direct attention to my paper to the British Association (Report for 1885, pp. 743 *et seq.*), in which this electrical action on visible particles is likened to chemical agglomeration into molecular aggregates, leading to an electrostatic theory of chemistry, a matter worthy of, and now receiving, sustained attention.

May I further take the opportunity of amending an oversight? Mr. Clark and I came across the fact of the electrical deposition of smoke while we were experimenting on Tyndall's dark plane or dust-free space seen near hot bodies in illuminated air, a matter to which attention had been directed by a notable investigation of Lord Rayleigh's (see NATURE for 1882, vol. xxviii. p. 139). It turned out afterwards that we were not the only experimenters on this subject, Lord Rayleigh's letter having also roused the attention of that eminent specialist in dust researches, Mr. John Aitken, of Edinburgh; and though we published our account of dust-free spaces due to heat in the *Philosophical Magazine* for March, 1884, his corresponding investigations and explanations were published a month or so earlier in the *Transactions* of the Royal Society of Edinburgh, vol. xxxii. p. 239; and to him accordingly belongs priority in such parts of this matter as are not covered by my preliminary letter to NATURE of the July previous, which doubtless includes many things that were practically anticipated by Lord Rayleigh himself.

I mention this now because I have been rather too apt to forget it, and have omitted to mention Mr. Aitken's name when, if I had had all the circumstances consciously before me, I should certainly have mentioned it. In particular, in a history of the coherer principle contained in my little book on "Wireless Signalling," third edition, p. 75, I speak of the explanation of the dust-free space round a hot body, due to a molecular bombardment, as having been first published by ourselves, instead of by Mr. Aitken, whose name, I regret to say, does not appear; this is the oversight I wish to amend.

April 12.

OLIVER LODGE.