is the African elephant, which Fred. Cuvier, in 1835, proposed to erect into a distinct genus under the name of Loxodonta." A more unfortunate error, complicated by a more unfortunate slip, could scarcely be conceived.

In one other passage where the author ventures into the domain of palæontology he has scarcely been more successful, since (p. 308) he unhesitatingly accepts the alleged Cretaceous age of presumed Hyracoid remains discovered in the Argentine. Possibly, however, his omission to mention that fossil "dassies" occur in the European Pliocene may be due to the time that the volume has taken in passing through the press, although the fact was announced at the Zoological Congress held at Cambridge in 1898.

Much general interest will attach to Mr. Sclater's account of the two large mammals which have undoubtedly become extinct in South Africa in modern times. With regard to the first of these, the author remarks that the last blaauw-bok (*Hippotragus leucophoeus*) was probably killed in 1799; and that, in addition to several pairs of horns, five complete mounted specimens are known to be preserved. The quagga (*Equus quagga*) he believes to have survived in the Orange Colony till at least 1878, although it is difficult to obtain exact information owing to the Boers confounding this species with Burchell's zebra. Of the white rhinoceros it is considered not improbable that a few may still survive in Zululand, although it is sad to learn that no less than six are reported to have been killed so lately as 1894, one of these being exhibited in the museum at Pretoria. The latest information with regard to the white-tailed gnu is that a few herds were, till recently, preserved on some farms in the Orange Colony and the Transvaal; while it is suggested that a few stragglers may survive in the Kalahari, Gordonia and German South-west Africa. Much anxiety will now be felt by naturalists as to what has happened to the gnus, and also to the blesboks, till lately preserved in the Boer Republics; and it is to be hoped that those responsible for the settlement of these districts will do all in their power to protect such remnants as the war may have left.

We hope ere long to have the pleasure of congratulating Mr. Sclater on the completion of his task. R. L.

OUR BOOK SHELF.

Acetylene, a Handbook for the Student and Manufacturer. By Vivian B. Lewes, F.I.C., &c. Pp. xxvi + 978. (Westminster: Archibald Constable and Co., Ltd., 1900.)

IN this handsome volume of nearly 1000 pages, Prof. Lewes has presented the English reader with a handbook on the manufacture and use of acetylene which in completeness of scope and wealth of illustration will compare with its French and German rivals.

In the first part (consisting of four chapters) the scientific history of acetylene and its properties is set forth with considerable detail; useful summaries of many researches are given, and references to the original memoirs are added. The question of the discovery of "commercial calcium carbide" is discussed with discrimination, the chief credit being assigned to the Canadian engineer, Mr. T. L. Willson. The reactions of acetylene, especially with metallic salts, are fully considered.

Part ii., the most important in the book, describes the development of the electric furnace, and its special adaptation to the manufacture of calcium carbide. The generation of acetylene by the action of water on the carbide is next considered, and then the question of impurities and their removal is discussed. Most of the figures illustrating this portion of the book are clear and satisfactory, but a few are indistinct and on too small a scale. The chapter on the combustion of acetylene is illustrated by a number of useful drawings of burners and flames, and full data are given for a comparison between acetylene and other methods of illumination, both as regards prime cost and working expenses. We think Prof. Lewes has shown himself eminently fair in the discussion of this subject.

The method of treatment adopted by the author naturally leads to some repetition, but in a book of reference this will not be felt an inconvenience. It was perhaps hardly necessary to give the author's "acetylene theory of luminosity" twice over. In a new edition we hope that the number of small inaccuracies will be reduced. We did not expect to find a chief gas-examiner saying that "sulphur dioxide, in ill ventilated apartments, will absorb oxygen and moisture from the air, and will in this way become converted into minute traces of sulphuric acid, which, concentrating themselves upon any cold surface in the room, give rise to corrosion," &c. The Harcourt pentane standard is not approved of, apparently, by Prof. Lewes, who states that it was first described in 1887. It was described ten years earlier. The specific heats of gases given on page 609 are incorrect, and several names are wrongly spelled, *e.g.* Vielle should be Vieille (p. 68), Smithell should be Smithells (563). In spite of small errors, the book is a mine of information, and will be useful, both to chemical students and to others interested in the making and use of acetylene.

Wireless Telegraphy and Hertzian Waves. By S. R. Bottone. Pp. 113. (London: Whittaker and Co., 1900.)

THERE are many whose interest in wireless telegraphy will take the form of a desire to experiment for themselves, and who, whether from inclination or necessity, will prefer to do so with home-made apparatus. To these the little book before us will especially commend itself.

The first half of Mr. Bottone's work is devoted to "preliminary notions," "historical considerations," and to a chapter on electric waves. This earlier half seems to us to leave much to be desired. Thus a clear elementary description of the fundamental experiments of electrical science is followed (p. 12) by a very obscure summary of the properties of electric charges and currents. Again, the confusing of the words "stress" and "strain" will not please the reader accustomed to the modern strict usage of these terms.

The description of apparatus in these earlier chapters is often involved, and many sentences will be found which through faulty punctuation or other small errors are not at once intelligible. A considerable amount of repetition also seems to occur, apart from deliberate recapitulation.

The later part of the book includes a number of really good descriptions in detail of how to make such apparatus as a small induction coil, a Wimshurst machine, a relay, or a coherer; and the author is evidently familiar with the little practical difficulties which arise. Possibly the importance of making a dimensioned drawing before starting work might have been emphasised; but in all other respects these "workshop recipes" seem very complete and well suited to the wants of those about to make such apparatus. D. K. M.