

distinct animal" (Darwin's *Balanites*, Ray Soc., 1854, p. 158).

It would be an immense gain if every name proposed to be altered had to pass through a regularly-constituted committee of investigation before it was accepted and allowed to pass current; as it is, endless confusion must arise, and needless alterations will for ever be made, serving no good end to science.

Mr. R. B. Newton's systematic list of the Eocene and Oligocene Mollusca of our British strata will prove extremely valuable to all those who take an interest in our Tertiary deposits and their contained organisms. Every curator of a palæontological collection must have it, as a work of reference, by his side, as, for this section of fossils, it takes the place of "Morris's Catalogue," now long out of date. We shall be very glad to see other sections treated in a similar manner—indeed, Messrs. A. Smith Woodward and C. D. Sherborn have already catalogued the fossil Vertebrata of the British Isles in 1890, and the work has been published by Dulau and Co.

THE LIFE AND WORK OF A NORFOLK GEOLOGIST.

Memorials of John Gunn: being some Account of the Cromer Forest Bed and its Fossil Mammalia. Edited by H. B. Woodward and E. T. Newton. Pp. xii, 120; 13 Plates (Portrait and Fossil Mammalia). (Norwich: W. A. Nudd, 1891.)

ALL students of the geology of the eastern and central parts of Norfolk and Suffolk will welcome this book, as giving the well-matured opinions of a geologist whose life-work was chiefly concerned with the Forest Bed and its associated formations, Crag and Drift. Those too who knew Mr. Gunn must be glad to have this memorial of so courteous, kindly, truth-seeking a man. No one enjoyed his friendship but was the better for it, and the writer looks back on days spent in his company, both in the field and at meetings of the Norwich Geological Society, as amongst the happiest events of a long sojourn in the Eastern Counties. Until reading this book he did not know the politics of Mr. Gunn, and he is glad to find another of many instances in which such matters are kept in the background, as regards scientific intercourse and personal friendship.

To those who, like the writer, are not greatly enamoured with biography and its multiplicity of personal details it is satisfactory to find this part of the book artistically treated, by Mr. Woodward, in only 27 pages, which are full of interest. The best memorial of a scientific man is the work that he has done and by which he will be known in the time to come, and it is to Mr. Gunn's work that the editors chiefly direct our attention. After the memoir and about 13 pages of notes on some of his geologic papers, the book takes the form of a short essay on the Cromer Forest Bed and its fossil Mammalia, by the hand of Mr. Gunn himself; that is to say, from notes practically completed by him shortly before his death.

For the task of bringing these matters before the public no better editors could have been chosen. One of them, who, in his Geological Survey work, was brought much in contact with Mr. Gunn, may be called the hereditary geologist of Norfolk. The other has for some years

given great attention to the study of the fossil Mammalia of the Forest Bed, and indeed has made himself the chief authority on the subject.

In 1864, Mr. Gunn helped to found the Norwich Geological Society, of which he was the first and the last President, retiring from that post only for six years (1877-83) in order that it should be filled by officers of the Geological Survey who were stationed in Norfolk and Suffolk: a graceful compliment. He was also one of the founders of the Norfolk Archæological Society, an active member of the Norwich Science Gossip Club, and a member of the Norwich Museum, which he enriched by his fine collection of fossil mammals.

Now that coal has been found underground at Dover, and that there may be some chance of a search for it being made in the Eastern Counties, it should be remembered that Mr. Gunn was the first to advocate trial-work in Norfolk.

On the ground that "unanimity does not prevail in regard to the nomenclature of the strata" of the Norfolk cliffs, Mr. Woodward gives a useful table, on p. 40, showing the classifications of Gunn, of Prestwich, and of C. Reid; but that of Wood might have been added with advantage; and he draws attention to the fact that the cliffs are cut back greatly year by year, so that earlier observers may have seen something different from later ones. As the loss of coast is still going on, and the Forest Bed seems not to reach far inland, a happy time may come when that Series will cease to furnish any ground for contention: in this matter the geologists of the future may have to take the work of their foregoers, without the luxury of upsetting it.

In his account of the Forest Bed Series, Mr. Gunn holds to the view that, as a rule, the trees grew on the spots where the stumps are now found. He describes firstly the Estuarine Soil, then the Forest Bed proper, then the Reconstructed Forest Bed (a division not hitherto recognized, and hardly likely to be, reconstruction seeming to occur in various parts of the Series), and lastly the Unio and Rootlet Bed; but it should be noted that other observers take the Forest Bed and the Rootlet Bed to be one. His use of the term Laminated Beds, for the immediate successor of the Forest Bed Series, is unfortunate, as such names usually are, for lamination is common in the Chillesford Clay below and in some of the Glacial Drift above.

Mr. Gunn's notes conclude with remarks, in some detail, on the Proboscidea of the Norwich Crag and of the Forest Bed Series, and on the Cervidæ of the latter, chiefly based, with the plates, on the specimens which he so liberally gave to the Norwich Museum. The notes are followed by a list of his geological and archæological papers, ranging over forty-eight years, from 1840 to 1887.

The plates of Mammalian fossils are well executed; but it is a pity that those of Proboscidea and those of Cervidæ are not numbered consecutively, instead of independently. The portrait that forms the frontispiece is a good one, and the book is well printed.

Few geologists can expect their names to be handed down to posterity by so fine a set of specimens as those of the Gunn Collection in the Norwich Museum, and by so interesting a literary accompaniment as that now noticed.

W. W.