

ON THE TERM NEOCOMIAN.

SIR,—When my article on the use of the term Neocomian appeared in this MAGAZINE, I felt conscious that I had provoked a formidable antagonist, and when I saw Prof. Judd's long letter in the July Number, I felt like the captain of a frigate about to receive the broadside of a three-decker; but it seems to me that the utmost damage I have received is a few shot through my sails, and that the hull of my little vessel is left perfectly water-tight.

A large part of Prof. Judd's letter is devoted to showing that I was mistaken in crediting him with being the first to apply the term *Neocomian* to British strata, and he says that the author who had the chief honour (as he esteems it) of introducing that term was the late Mr. R. A. Godwin-Austen. Well, this is perfectly true. I admit that Godwin-Austen was the first to use the term; in 1843 he employed it for what we now call the Atherfield Clay of Surrey, and in 1856 he speaks of the "Lower Greensand or Neocomian group;" but in the first paper (Proc. Geol. Soc. vol. iv.) he correlated the Surrey clay with the *argile ostréenne* of the Vassy section, and in the second he makes the Lower Greensand of North Wilts correspond with the *Urgonien* of D'Orbigny. Now subsequent researches proved these correlations to be erroneous. Renevier and Marcou, writing in 1856 and 1858, showed that the English Lower Greensand was not the equivalent of the *Neocomien* or of the *Urgonien*, but of the *Rhodanien* and *Aptien*; consequently the use of the term in England, having originated in a mistake, ought to have been abandoned.

So indeed it might have been but for the intervention of Prof. Judd, who is certainly responsible for its revival in 1864, and for urging its more extended application in 1870. His article "On the use of the term Neocomian" (GEOL. MAG. Vol. VII. p. 220) was written with the special object of recommending the adoption of the term for the whole series of beds between the Gault and the Jurassic strata, and of raising this series to the rank of an independent system. I maintain therefore that if Prof. Judd had not introduced this name for the second time, it is highly probable that it would never have found a place in British nomenclature.

Prof. Judd next refers to Godwin-Austen's arguments for the Neocomian age of the Lower Greensand fossils. I repeat that by the increase of our knowledge these arguments have been shown to be fallacious; of course the fossils of the Lower Greensand resemble those of the *Urgonien* more than those of the Gault and Chalk! if it were otherwise, we should class the Lower Greensand with the Upper and not with the Lower Cretaceous rocks. If Prof. Judd cannot formulate a better reply to the arguments adduced by me on p. 318 of this MAGAZINE, I think I may look upon my case as proved.

I am told that "scientific names go through a struggle for existence," and that the fittest survive; maybe they do, but in my opinion the name Neocomian is not yet out of the struggle, and has not yet definitely found its proper place. Surely, Sir, geology is a

rapidly progressive science, and our nomenclature is always undergoing modification; old names must sometimes be limited or dropped, and new names must be created as the progress of knowledge demands. Why in point of fact Prof. Judd and I are actually discussing the desirability of dropping an old name (Lower Greensand), and of finding another to take its place; he prefers to borrow a foreign term and to extend its application; I point out the objections to this plan and prefer to use a new name altogether. Let us argue the matter clearly and fairly, and then leave the readers of this MAGAZINE to decide between us, but I do not see why my opponent should deprecate the idea of my "formulating a new nomenclature" for the Cretaceous rocks either in my private or official capacity.

Lastly, let me offer Prof. Judd my hearty thanks for drawing my attention to the passage which he quotes from Dr. Fitton, and which I had been careless enough to overlook. I am delighted to find myself anticipated by so great a master as Fitton, and to be relieved of the responsibility of introducing a new name; it is remarkable that Fitton should have foreseen the very want which has since arisen and I feel that I shall have a much stronger case in referring to the term *Vectine* or *Vectian* as his proposal, suggested in 1845, and revived by myself in 1885.

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August 10.

ON A REMARKABLE SECTION IN DERBYSHIRE.

SIR,—During the meeting of the Warwickshire Field Club at Matlock, we visited a remarkable sandpit at Longcliff, four miles S.W. of Matlock Bath, on high ground near Brassington. Our attention was drawn to this by Mr. Howe, of Matlock, as one of the most interesting geological features of the district. The section exhibits a series of variegated and highly coloured sands and clays, here and there containing a few pebbles of small size, chiefly of white quartz and in places lignite. These are not pebble-beds at all resembling the ordinary 'Bunter pebble beds,' nor do I remember any Bunter section showing such a peculiar succession of variegated sands and clays. They lie in a trough or hollow of the Carboniferous Limestone, and there are several other smaller pits in the same neighbourhood and under similar conditions, though not sunk at present to any great depth; at Longcliff the total thickness is thirty feet. The sands and clays are of various colours, yellow, white and red, and in some cases a dark vermilion, giving a very remarkable appearance to the section. Lithologically they resemble the variegated sands and marls in the Tertiary (Middle Bagshot) series, especially at Alum Bay in the Isle of Wight; and the question is whether they should be assigned to the Bunter or the Tertiary, and if they should prove to belong to the later period, I believe it is the first remnant of the kind recognized in Derbyshire. The occurrence of lignite leads to the possibility of this deposit being of Tertiary age: but of course no absolute decision can be given without further investigation, which Mr. Howe has promised to undertake. This pit was opened after the visit of the Geological Survey to Derbyshire, so that the section was not exposed at that time.

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