

It is imperfect knowledge on one subject, or on both, which leads to antagonism, and to all those unhappy bickerings which are so much to be deplored. As Helmholtz well said at the late scientific meeting in Innsprück:—"Full knowledge of the truth always brings with it the cure for the damage which imperfect knowledge may occasion." Firmly convinced of this truth, let us continue our work with the most perfect freedom and fearlessness, yet with modesty and in the spirit of love, guided by a clear-sighted faith in

"One God, one law, one element,
And one far-off divine event
To which the whole creation moves."

CORRESPONDENCE.

NOTES ON CONTINENTAL GEOLOGY.

SIR,—I am requested by M. Hébert to inform your readers that he has just returned from a long journey, which he had undertaken to study again the Upper Chalk in the North and the *Titonique* in the Alps. At Innsprück he met Prof. Zittel, a gentleman advantageously known on account of his excellent work on the Cephalopoda of Stramberg, and who now declares himself inclined to locate the *Limestone of Stramberg* in the Neocomien, so that his own views were apparently gaining fresh ground.

M. Hébert desires likewise to make two rectifications of his tables of classification of the Cretaceous system inserted at p. 200 of last year's volume of the *GEOLOGICAL MAGAZINE*; namely, that, on account of the recent studies he has made in Sweden and Denmark, it would appear that he has placed the *Limestone of Saltholm* a little too low down in the series. Formerly it had been considered more ancient than the Chalk of Meudon and Norwich, and in Angelin's Geological Map of Scania it is placed under the Chalk of *Tullstrop*, which last is equivalent to the Chalk of Meudon and Norwich with *Belemnitella mucronata*.

In M. Hébert's table above quoted, and from observations made by him in 1865, the limestone of Saltholm is placed above the Chalk of Meudon, and he had assimilated it as to age with the Chalk of Ignaberga, as well as to the gray beds of Ciplý. Prof. Johnstrup,¹ of Copenhagen, and Dr. Lundgren, of Lund, have ascertained that at Limhamn in Scania some beds of this limestone of Saltholm repose on the Chalk of Taxö (Faxoe), that he has verified this fact during his recent journey, but that at the same time, as will be hereafter explained in greater detail, he believes he has made out that in other localities some layers of this same limestone occur under the Chalk of Faxoe. He has therefore been led to consider the limestone of Saltholm as a simple *facies* of the Chalk of Faxoe as well as the *Limsteen*, and that the three deposits will require to be placed together in the same series with the Chalk of Maëstricht.

M. Hébert desires it also to be understood that the words "wanting," "wanting," in his division of the Gault refer solely to the columns in his table which are devoted to Touraine and Maine

¹ ? Steenstrup.

and Aquitaine, and not to Southern France and Switzerland, where the Gault division is largely represented.

M. Lory begs me likewise to state that in his tabular view (p. 252 of last year's Vol. of the GEOLOGICAL MAGAZINE), a simple line without connecting braces should divide the two columns respectively devoted to the Jura, and to Grenoble; that he does not believe the yellow Limestone of Neuchatel to be the equivalent of the limestone with *Chama ammonia*, but rather considers it more closely connected to the etage which underlies it. That in the 2nd column the words "corresponding to a complete change of fauna" refer exclusively to the word "break," and not as the brace would seem to imply to a series of beds in the opposite column, and which are the equivalents of the Kimmeridge clay.

I avail myself of this opportunity to mention that, as so many of my geological friends have expressed a desire that I should endeavour to complete my large work on British fossil Brachiopoda during the present winter, I am unavoidably compelled to postpone the publication of the continuation of my "Notes on Continental Geology" until the labours connected with the work above named will have been completed.

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MR. DE RANCE & THE REV. T. G. BONNEY ON SURFACE-GEOLOGY AND LYTODOMOUS PERFORATIONS.

Sir,—I regret that Mr. De Rance's able article on the Surface-geology of the Lake Districts, in which he repeatedly refers to an article by me in your number for July, 1865, was written before the publication of my work on the *Scenery of England and Wales* (reviewed in your number for October last), in various parts of which the Denudation of the Lake District is fully considered. In reply to several of Mr. De Rance's observations, I would remark—(1) that I don't regard the probable absence of erratic blocks on the Pennine Hills at a greater height than 1800 feet above the sea as a presumption that the Lake District was not submerged to a greater depth than that implied by these erratics, because at a greater depth the extent of coast-ice, or floating glacier-ice, capable of transporting blocks, must have been much reduced, owing to the decreased area of land above water, and likewise perhaps owing to an amelioration of climate, to say nothing of possible changes in the direction of currents. If I mistake not, erratics transported from short distances have been found in the Lake District which must have been floated over ridges rising to a greater height than 1800 feet above the present sea-level.

(2) Deflected or branching sea-currents, assisted by waves, may have acted very powerfully on the western side of Thirlmere Valley at the time when it was a strait; and supposing the eastern side of Helvellyn to have been once a longitudinally-strait slope, consisting of rocks varying in structure and hardness, the sea undoubtedly would have broken up this slope into coves and capes. Were the sea now to attack the eastern side of Helvellyn, it would probably destroy the edges, and fill up the cwms, because the sea generally