ceased to connote what the author of the term intended by it, is quite a minor question; and I was so completely satisfied with Professor Hull's surrender of the *argumentum ad rem* that I did not care to lay myself open to the charge of prolonging the discussion upon a collateral issue. In appealing to the English sentiment of an audience composed mostly of people who could scarcely be expected to be familiar with the question in all its ramifications, it was of course not difficult to obtain an expression of opinion in favour of the retention of the name Permian on that ground. But when we come to consider the rival claims of *connotative* and *geographical* names of groups of strata, a question of principle, rather than one of opinion, is raised. For individual *formations* (*pace* the International Commission) geographical terms are probably upon the whole preferable, except in certain cases (*e.g.* 'Bunter,' 'Keuper'), in which the general uniformity of character of a formation over a very large area renders the difficulty of naming it from any locality very great. In the main, however, the instincts of English geologists, which have led them to give geographical names for the most part to single formations, have led them at the same time to show a preference for connotative names for the larger groups of strata. Thus, taking any authoritative table of the British series, such as that in the excellent Geological Chart of Prof. Morris, the preponderance is nearly three to one in favour of connotative names for the more comprehensive groups, as the following lists show:—

Connotative Names.	*Geographical Names.*
Recent.	———
Pleistocene: Quaternary.	———
Pliocene.	———
Miocene.	———
Eocene: Oligocene.	———
Cretaceous.	———
Oolitic.	Jurassic.
Lias.	———
Trias: New Red Sandstone.	———
Dyas: Magnesian Limestone.	Permian.
Carboniferous.	Devonian.
	Silurian.
Old Red Sandstone.	Cambrian.
Archæan.	Laurentian.

The argument then in favour of the retention of the name 'Permian' (as against, *e.g.* that of 'Dyas') is based on no logical consistency with established geological nomenclature. It is an excellent local name for the Russian series, but as a general term for the European series it is highly misleading.

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ORIGIN OF CONTINENTS.

Sir,—My article under the above title, in the June Number of the Geological Magazine, is criticized by Prof. Le Conte, in the November Number, in a way that implies some misconception of my position. My arguments were directed chiefly against Prof. Dana's theory, and only incidentally against that held by Prof. Le Conte,

only, as I expressly stated, in so far as it coincides with Prof. Dana's theory. Granting the probable validity of Prof. Le Conte's first objection, that the coefficient of contraction is probably not the same in parts of the earth differing in composition, it simply shows that his theory is not so different from Prof. Dana's as I had supposed; although he still locates the Continents where Prof. Dana locates the ocean-floors, and demands a globe continuously rigid from centre to circumference, which Professor Dana does not.

Prof. Le Conte says that, unless we assume that the earth is preternaturally homogeneous, the very slight deformation exhibited by its surface would result from cooling. This appears to be a sufficient answer to my argument, so far as it applies to Prof. Le Conte's own theory, since he says the inequalities of the surface are due to unequal contraction of the radii through their entire length. But Prof. Le Conte's criticism does not meet my argument in its application to Prof. Dana's theory; for Prof. Dana says the oceanic hollows are due to the unequal contraction, not of 4000 miles of earth-matter, but of only about forty miles. His theory supposes that the earth has a thin solid crust, separated by a mobile layer from an immense solid nucleus, and that the inequalities of the surface are due to unequal contraction of this thin external crust alone. Hence Prof. Le Conte's illustration should be modified. Instead of taking a ball of molten iron or rock as a model of the whole earth, suppose a layer of molten iron or rock to represent the earth's crust. Let this layer be forty inches thick; then Prof. Dana says that when the whole is solid the layer will be three inches thicker in some parts than in others, in consequence of unequal contraction. Now I claim that this unequal conductivity and contraction, amounting to about eight per cent., requires, in the case of the earth, an unproved and improbable difference in composition.

If Prof. Le Conte will consult the last published expression of Prof. Dana's views (Amer. Journ. of Science, 3, vi. p. 168), he will find that Prof. Dana does hold that the steep slopes of the oceanic depressions are due to the supposed original difference in composition and conductivity of the continental and oceanic areas. I have not ascribed this view to Prof. Le Conte, but he seems to have both misread and misquoted me here.

Finally, although I have taken account only of the contraction due to solidification, yet I think this is fair, because I have made the extremely favourable supposition for Prof. Dana's theory that the oceanic areas remained liquid until the continents became entirely solid.

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W. O. Crosby.

THE MAMMOTH IN THE FOREST-BED.

Sir,—By a singular coincidence, the day after I received a copy of my paper on the occurrence of the Mammoth in the Forest-bed, a heavy storm laid bare that bed at Overstrand and Sidestrand. I took the first opportunity to go to Cromer, and Mr. Alfred Savin