

from being proved by him to be truly of sedimentary origin, are of a most questionable origin, since they are neither in themselves fossiliferous, nor can they be correlated with any containing fossils as proofs of true sedimentary deposition; and the description of his section is sufficient to show this; for although it looks well on paper on a scale of three feet to the mile, the author has so little confidence in it that he is not even certain as to which is the top or bottom of the section on which so much generalization is based. (4) That a parallel structure equally, if not better, developed than any occurring in the gneiss of Donegal is common to many volcanic rocks, as in a specimen laid before the meeting, in which this parallel foliated structure, due to crystallization-layers, is so well developed as to make it appear exactly like a stratified rock, and even split along these lines, and this, although the product of volcanoes still active is found for great distances both overlying conformably and intercalated between beds of the Cretaceous and Oolite formations.

Mr. Scott was unwilling to accept the section given by the author as satisfactory. He agreed, however, as to the bedded appearance of the granite, and to the masses lying in general conformably with the lines of stratification of the country. The nearest spot at which fossiliferous rocks occurred was separated from the beds described by the whole width of the county of Tyrone, though some presumed Eozoal forms had been found at a less distance. He was not prepared to believe in the original absolutely fused condition of granite, nor in there being two distinct forms under which it occurred.

3. "Memoranda on the most recent Geological Changes of the Rivers and Plains of Northern India, founded on accurate surveys and the Artesian well-boring at Umballa, to show the practical application of Mr. Login's theory of the abrading and transporting power of water to effect such changes." By T. Login, Esq., F.R.S.E. Communicated by Alfred Tylor, Esq., F.G.S.

The author commenced by referring to the general conditions of the surface of the country under consideration, and to the evidence afforded by it of a great decrease in the amount of rainfall, and a great change in the nature of the rivers. His object was to show that the superficial deposits of the plains of India were formed by the action of mountain streams, the deposits being irregular transversely, but exhibiting a uniform section longitudinally, in a curve which the author believed to be a true parabola, as indicated by Mr. Tylor. The connexion of this with the author's theory as to the transporting power of water was indicated. The author also showed that the beds of the large Indian rivers are rising rather than being lowered, and pointed out that this was in accordance with his theory.

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## CORRESPONDENCE.

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### DENUDATION OF THE SHROPSHIRE COAL-FIELD.<sup>1</sup>

SIR,—I regret to find that I have read the passages contained in Mr. Randall's letter to the *Mining Journal* in a sense which the author had not intended; and I hope he will acquit me of any desire wilfully to misrepresent his views. I am well satisfied to find there is really no difference of opinion between us on the general question whether the denudation took place before or after the main faults of the Coal-measures. He refers, however, to a local instance of faults having protected the Coals at Halesfield. I think it would help forward the scientific inquiry if he would kindly furnish us with the data which have led to this impression—or rather opinion—that

<sup>1</sup> GEOL. MAG., 1871, Vol. VIII., p. 200.

such is the case at Halesfield. Should it be so, it would establish the fact of there being two systems of faults in point of age affecting the Coal-measures in this Coal-field, which has not, I think, been pointed out by any previous writer upon the subject. I had not supposed that my conclusions were different from those of most other geologists; but I have fallen into the error of supposing that Mr. Randall thought in any way differently on the general subject. The reference, however, to a local exception, is equally new to me; and therefore I should be obliged for information on the subject. It will be necessary to show that there are faults in that neighbourhood which affect the older Coal-measures, without affecting the younger, which fill the denuded valley. I take this opportunity of saying that I am indebted entirely to Mr. Scott for the lines showing the denudation of the several groups of Coal-seams from near the Hem pit northwards.

DANIEL JONES, F.G.S.

#### ON THE SUBMERGENCE OF THE WEST COAST OF BRITANNY.

SIR,—In connexion with Mr. Lebour's paper on the submergence of the western coast of Brittany (see above, p. 300), and the Rev. T. G. Bonney's reference to M. Quenault's book treating of the subsidence of the coast of Normandy (see above, p. 384), I beg to call your attention to the elaborate and conscientious collection of "physical and historical evidences of vast sinkings of land on the north and west coasts of France and south-western coasts of England within the historical period," by Mr. R. A. Peacock, C.E. (8vo., Spon, London, 1868.) Although the western coasts of Brittany (comprising Is) are not specially treated of, yet a vast amount of relative information is afforded by Mr. Peacock's work, and some of M. Quenault's labours, alluded to by Mr. Bonney, are given in detail at pages 131–133.

Mr. Peacock's "collected evidences prove that within the last nineteen centuries, and even so late as the beginning of the fifteenth century, large tracts of land and sea-bottom have sunk, even more than a hundred feet at some places, along the coasts of Western Prussia, Holland, and Belgium, from the Elbe to near Nieuport; along the coasts of North Somerset, and of Devon and Cornwall, north and south; in the bed of the English Channel; amongst the Channel Islands; along the coasts of Normandy and Brittany, from the Seine to Portrieux; on the north coast of Brittany, from about Lannion to the north-west angle of Brittany; around the Isle of Sein, on the west of Brittany; and probably also along the French coast in the Bay of Biscay. Whilst possibly the land around Rochelle has risen a few feet since the commencement of the twelfth century." (Phil. Mag. for May, 1869.)—Yours, etc.,

RUSTICUS.

#### TERRACES OF NORWAY.<sup>1</sup>

SIR,—I have endeavoured to follow Mr. Marshall Hall's advice (GEOL. MAG., July). But I found that there were many Aardals in Norway. I have been to that a little north of Stavanger. I found plenty of terraces, and my walk up the valley ended at a magnificent

<sup>1</sup> See GEOL. MAG., 1871, Vol. VIII., p. 75.