

In Mr. Kinahan's former book, "Valleys and their Relations to Fissures, etc.," the following passage occurs: "The first of these propositions [that limestone once existed over the whole of S.W. Ireland] Mr. Jukes subsequently gave up. . . . This, however, does not much affect the present subject [i.e. formation of river-valleys], as some of the other rocks are nearly as easily denuded as limestone."

I should feel obliged to Mr. Kinahan if he would explain the full meaning of the extraordinary statement contained in the first of the above quotations, and also how the latter passage is to be reconciled with the former.

I entirely fail to see how Mr. Jukes' theory depends on the supposition that the Carboniferous Limestone once extended over the South-west of Ireland, and if Mr. Kinahan will carefully re-read the original paper in the Quart. Journ. Geol. Soc., vol. xviii., I think he will see that he has been under a misapprehension regarding the "supposed Limestone hills." There is only one passage in which such hills are supposed, and this forms part of a hypothesis mentioned only to be presently dismissed as leading to utter absurdity and confusion. The dominant ridges really involved in Jukes' explanation are the great anticlinals of so-called Old Red Sandstone separating the synclinal valleys in Cork and Waterford; he supposes the streams to have commenced the erosion of their channels along the surface of a plain of marine denudation which sloped southwards from these dominant ridges.

I am aware that Mr. Kinahan has published his idea of the origin of these and other valleys, and I have no desire to enter into a discussion regarding his peculiar views; but I must protest against so summary a dismissal of Jukes' well-considered theory. I need only add that I am one of those who believe that it completely explains the courses of many river-valleys both in England and Ireland.

HIGHGATE, March 10.

A. J. JUKES-BROWNE.

PROF. HULL AND G. H. KINAHAN.

SIR,—The statements of Prof. Hull in the GEOLOGICAL MAGAZINE for March, 1879, being mostly personal, I cannot think my answering them would be any advantage to Science. My facts cannot be disproved, and any one interested in the question can judge which is right by examining the Irish rocks for themselves. As to the supposed Permian, if Prof. Hull is mistaken, I am not bound blindly to follow him; and my opinion as to the age of the rocks is backed by the opinions of Griffith and others, also by the fossils found in the rocks.

G. HENRY KINAHAN.

GEOLOGICAL SURVEY OF IRELAND.

OCCURRENCE OF *EURYNOTUS* IN THE CARBONIFEROUS LIMESTONE OF BELGIUM.

SIR,—Prof. de Koninck has, in the recently published first part of his new great work on the "Faune du calcaire Carbonifère de la Belgique," p. 25, plate iii., described, under the name of *Platysomus* (?) *insignis*, De Kon., a fish from the Carboniferous Limestone

of Viesville, a query being appended to the genus on account of want of evidence as to dentition.

An inspection of the figures by which Prof. de Koninck's description is illustrated at once convinced me that not only was the query justifiable, but that the fish in question could not possibly belong to the genus *Platysomus*, the scales being represented as strongly denticulated on their hinder margins, besides being more obliquely arranged and differing essentially both in sculpture, and in the position of their articular spines, from those characteristic of the above-named genus.

I accordingly wrote to Prof. de Koninck, expressing these convictions, as well as my desire to see the specimens; whereupon my distinguished friend, with great kindness and courtesy, at once communicated my wish to the authorities of the Royal Museum of Natural History in Brussels, to whom I am much indebted for the opportunity of examining one of the specimens referred to.

As I had suspected, I find that it belongs to the genus *Eurynotus*, and to a species closely allied to, if not identical with, the well-known *Eurynotus crenatus*, of the Scottish Lower Carboniferous rocks. This genus has hitherto been found only in Scotland (Agassiz's "*Eurynotus tenuiceps*", from the American Triassic rocks, having turned out to be an *Ischypterus*), and the Viesville specimens are therefore the first veritable examples of *Eurynotus* which have been discovered elsewhere. In geological range, it remains, however, still confined to the Lower division of the Carboniferous formation, not a scale of *Eurynotus* having been as yet found above the horizon of the Millstone Grit.

R. H. TRAQUAIR.

EDINBURGH, 14th April, 1879.

THE BRIDLINGTON AND SEWERBY GRAVELS.

SIR,—The gravels overlying the Purple Boulder-clay at Bridlington Quay have been generally considered as decidedly Post-glacial, if not quite recent.

I cannot now enter into a full discussion of the age of all these gravels; but a careful examination of the cliff has convinced me of the Glacial age of a portion of them. I made some sketches of the coast section last November, which I hope some day to publish; and these will, I think, convince any one of this; but at present I must confine myself to saying this much. On the north side of the town the Purple Boulder-clay is overlaid by gravels, which are shown to be of Glacial age by their contorted bedding, and by the way in which they are jammed into and against the Boulder-clay. These crushed and crumpled gravels occur where the cliff is low, extending about as far as Sands Lane. North of this point the cliff rises at Potter Hill and continues to rise towards Sewerby; and along this part of the cliff the Boulder-clay is overlaid by gravels evenly bedded, which I call the Sewerby gravels. I shall not now discuss the question of the relation of these to the previously mentioned gravels. I will merely say that these Sewerby gravels, though as a rule evenly bedded, do exhibit in some places near their base contortions and