form one horizon; the slate breccias of Blores Hill, Bradgate, Ulverscroft Mill, Markfield, Bardon, and High Towers, a second; the coarse ash-beds of Benscliff, Chitterman Hill, Timberwood Hill, and the Monastery, a third; and the quartzose rocks of Charley Wood, Charley, the Old Reservoir, and Blackbrook, a fourth.

Hence they showed that the beds are considerably dislocated near the Syenites, which removes the main objection which previous writers have urged against these being intrusive; and they described the evidence they have obtained as to this being their real nature. This evidence included the description of actual contacts of igneous and sedimentary rock seen at two points in the wood south of Bradgate House, and at a third in Bradgate Park.

They propose, in a continuation of the paper, to touch upon the Faults, and to describe in greater detail the microscopic structure of the rocks.

CORRESPONDENCE.

THE NORFOLK FOREST BED.

Sir,—At your request, I gladly furnish you with all the information I can respecting the stools of trees being found, *in sitû*, where they grew in the Forest-bed on the eastern coast. I have repeatedly seen them at Happisburgh, and once in the company of Professor Sedgwick and of Professor Harry Seeley, who, at a meeting of the Geological Society in 1876, gave a vivid description of the appearance of the stools of trees, and of the gratification which Professor Sedgwick expressed on seeing them.

I have also seen them, *in sitû*, at Bacton, on a recent excursion of several of the members of the Norwich Geological Society, by whom one stool in particular, which grew out of the blue clay of the soil of the forest, was examined, and ascertained to be rooted in its native soil.

On the excursion to Cromer of the members of the British Association in 1868, the company assembled on the beach at Overstrand, at the spot where the stool of a tree stood on the soil of the forest. Being invited, I endeavoured to explain that the trees grew on the estuarine soil, in which the bones of the *Elephas meridionalis* were associated with Cetacean remains, after it was raised above the surface; and that then the growth of the forest commenced, of which the *Elephas antiquus* was the typical mammal. This stool was dug up by the direction of Lady Buxton, who placed it, where it now is, in the Norwich Museum. Mr. Reeve, the Curator, says that one of the roots was about four feet long, and he was obliged to have it shortened to get it into its case.

The above mentioned are the principal places where remnants of the Forest-bed have survived its general destruction and denudation from Kessingland in Suffolk to Runton in Norfolk beyond Cromer. The trees were torn up, and together with fossil remains were redeposited in the laminated beds above; and hence it is, no doubt, that so few of the trees, or rather of the roots and stumps, are to be seen at present *in sitû*, in proportion to the *débris*. The evidence,

however, of the late Samuel Woodward, who may truly be said to be the Father of Geology in the eastern counties, and whose memory I honour as my preceptor; of Sir C. Lyell and Mr. Symonds, late of Cromer; of R. Taylor, author of "The Geology of East Norfolk;" and of the Rev. Charles Green, author of "The Geology of Bacton" (page 69), is so direct that it would be a waste of time to add more. As a question has been raised by Mr. Norton as to the validity of the evidence of Sir C. Lyell, and also of Mr. Symonds, I will mention an incident which occurred at Cromer in 1862. I had the gratification to accompany Sir Charles, together with Sir J. D. Hooker and the late Mr. King, of Saxlingham Rectory, to the Hotel des Bains at Cromer; and in the evening Sir Charles requested Mr. Symonds to join our party. The conversation turned on the Forest-bed, and Mr. Symonds mentioned that he had observed Sir Charles to pay particular attention to the annual rings of growth on the stumps or stools of the forest. I do not remember the precise place where, or the year when, this took place; but it is indelibly fixed in my memory that both Sir Charles and Mr. Symonds said they had seen the stools *in sitû*.

I will mention one corroborative fact, which convinces me that the trees must have grown on the spot at Happisburgh, namely, the finding a large quantity of leaves imbedded there in a muddy ooze. These were seen by Dr. Falconer, by whose advice I had a large quantity conveyed to Irstead, and they were identified by Dr. R. H. Nathorst, an eminent Swedish naturalist, as the leaves of two varieties of willow. They must have fallen from trees which grew on the spot. The same may be said of the immense quantity of fir-cones which must have dropped from the trees. Dr. Falconer, with his characteristic sagacity, picked from the interspaces of the teeth of the *Rhinoceros Etruscus* some remnants of coniferous wood, observing that this showed what the Rhinoceros of the Forest-bed lived upon. Whether the animals and the trees of the forest lived and grew upon the spot where their remains are now found, and whether they are imported from some other unknown regions, I must leave to the judgment of the dispassionate reader.

10, Cathedral Street, Norwich, John Gunn.
June 11*th*, 1877.

GEOLOGY AND SCENERY OF NEWFOUNDLAND.

Sir,—When my friend Prof. Milne told me of the unfossiliferous character and monotonous aspect of the rocks of Newfoundland, the involuntary "shudder" of which he speaks was occasioned by feelings of commiseration for the geologist who should have his lot cast there, and not, as Mr. Murray seems to suppose, from any opinion concerning the absence of agricultural capabilities or picturesque features in the country. Since, however, I have had the opportunity of reading the valuable notes in your last Number, and studying Mr. Murray's valuable map, the sentiment of horror has been replaced by one of pride in the science which can manage to extract so much of interest even out of the "marshes, thickets, and swamps" of Newfoundland.

John W. Judd.
Royal School of Mines, 18*th June*, 1877.