

THE OLDEST FOSSILIFEROUS ROCKS OF NORTHERN EUROPE.

SIR,—I have read the paper by Professor Linnarsson in the last Number of the *GEOLOGICAL MAGAZINE* with much interest; but I fail to see in it any facts stated which require that I should in any way modify the views there criticized. Indeed, I must claim the evidence brought forward as tending strongly to confirm those views. As this subject will be treated of fully in my paper, which is now being published in the *GEOLOGICAL MAGAZINE*, I will here only refer to one or two points which Professor Linnarsson seems to have lost sight of in his paper.

1. If the Swedish area was submerged, as suggested by him, at as early a period as the British area, there is no reason why it should not have been depressed to as great a depth. That this could not have been the case, however, is quite clear from the examination of the faunas and the sediments. The average thickness of the sediments in the British area at the close of the Cambrian was at least 15,000 feet, and at the close of the Lower Silurian 30,000 feet. As these are perfectly conformable sediments, it is certain that a depression of over that amount had taken place. The average thickness for the same period in Sweden is scarcely over 1,000 feet; hence if the depression there was equal to that in Britain, the sediments there before the close of the Lower Silurian must have been deposited in a depth of 29,000 feet of water. I do not think Prof. Linnarsson can possibly mean that the Swedish fauna of that period was likely to have inhabited a sea of that depth. The British and Swedish faunas are in many respects alike, and indicate the presence at that time of very similar conditions. And the reef-building corals so plentiful in each area prove conclusively that the depth of water could not have been very great.

2. As to the resemblance between the Harlech and Menevian faunas, it is not greater than what might naturally be expected in groups succeeding one another. The likeness indeed is not greater than between widely separated groups in the Silurian. Moreover, no one will believe that the forms of life in the Menevian had not earlier representatives, and which need not have differed from them very greatly. Indeed, the large size and high state of development of the Trilobites in the Menevian group prove conclusively to my mind that this state could only have been attained through many previous faunas of a similar type. Hence it is but reasonable to suppose that the very earliest Cambrian fauna which could be discovered would not differ greatly from the Menevian, and moreover that these forms of life were probably in existence before a single bed of the European Cambrian rocks had been deposited, or even the waters had encroached on the old pre-Cambrian European Continent.

April, 1876.

HENRY HICKS.

UNFADING INK.

SIR,—Would you or any of your readers kindly tell me of the most suitable and durable ink for marking Chalk specimens. I have for the last eighteen years marked them with common writing ink; but I now find that in a great number of cases the writing is fast disappearing, and that I must soon re-mark them with something more durable, if I can find it.

DRIFFIELD, EAST YORKSHIRE,
April 10th, 1876.

J. R. MORTIMER.