

remained above sea-level or else have been shielded by some protective covering during both subsidence and elevation," a view from which I do not yet see the slightest reason to waver. If the country is a cold one, such for example as we might imagine during the retreat of a continental covering of ice from the face of Sweden, and depression were taking place, coast-ice, it seems to me, would grind every furrow from the surface of the rocks, as they gradually sank down at any particular time, the abrading action taking place from a level above that of high water to one below low water, and every portion of the surface of the country being many thousands of years in sinking through the abrasion region. On elevation this erasing action would be repeated. If the country were not a cold one, atmospheric agencies, a continual exposure to an artillery of pebbles, the grinding of sand, and like causes, would, according even to the most modest calculations, have sufficient time for the production of a similar result.

JOHN MILNE.

YEDO, June 17, 1878.

THE QUARTZITES OF THE BUNTER CONGLOMERATE.

SIR,—As I happen to be very familiar with the quartzites of the Bunter Conglomerate of the Midland Counties, may I be allowed to question the correctness of one or two statements which have been lately made in the pages of the *GEOLOGICAL MAGAZINE*. 1. I cannot admit that the typical quartzite of this Conglomerate is lithologically identical with that from Budleigh Salterton. 2. I greatly doubt whether the fossiliferous pebbles from the Birmingham Drift, now in Jermyn Street Museum, have been derived from the Bunter Conglomerate. At any rate, the rock, though a quartzite, does not appear to me that of the Bunter pebbles: it more nearly resembles that from the Lickey. 3. I have many times searched for fossils in the pebble beds of Staffordshire, and have only twice found them: these were obscure annelid burrows. Hence I cannot admit that there is any palæontological identity with the Budleigh Salterton rock. From physical considerations it would require very strong evidence to induce us to believe that the Midland Counties pebbles came from S. Devon. I have no doubt Professor Hull is right in assigning to them a northern origin (Permian and Trias of Midland Counties, p. 60). I have myself identified them in more than one place in Scotland. For example, they abound in a conglomeratic red sandstone of Lower Carboniferous age in Arran, mixed, however, with fragments of schist, greywacke, etc. These softer rocks have almost invariably perished on the southward journey—so that it is a case of survival of the most durable.

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ST. JOHN'S COLLEGE, CAMBRIDGE, Aug. 12.