these erratics are the re-assorted materials of some great northern continent that has yielded to the gnawing tooth of time, leaving only these scattered fragments to attest its former existence. The portion of striated rock which he had laid before the meeting pointed to an agency adequate to the transport of such materials, and indicated that we should have to contemplate a glacial period deeper in time than had hitherto been suspected, when glaciers and icebergs planed down the hardest rocks and dispersed their fragments, obedient to the same great laws which still regulate the economy of nature.

III. *On the GEOLOGY of LEWIS.* By JAMES THOMSON, F.G.S., V.P.,
and HENRY CAUNTER. Esq.

(Read 10th April, 1873.)

THE authors briefly described the relations of the gneissic or Laurentian rocks to the Cambrian strata of the island. The junction of the two formations is seen in the bed of a small stream that flows into the sea in the harbour of Stornoway; also in Garabost Bay, about seven miles to the east. The Laurentians dip N.W., while the lower members of the Cambrian dip at an angle of 23 deg. to the N.E. The basic rocks partake more or less of a gneissic character, but on the eastern side of the bay are seen passing with imperceptible gradations into a deep, dull, chocolate colour. On the western side there is a precipitous escarpment of conglomerate, in which it is difficult to trace the plane of stratification, but where this can be made out, it is seen to dip to the S.W., or unconformably to the lower members of the series. These beds have been termed by Sir Roderick Murchison, Upper Cambrian. The conglomerates are in two divisions. Near the base of the group the boulders and pebbles are all rounded, similar to those found along the more exposed parts of the West Coast, and consist of gneiss, granitic gneiss, and granite, the majority being of greyish colour. The boulders of the upper conglomerate are all more or less of red binary and ternary granite. Special attention was drawn to this fact, as corroborating the classification of the sections seen in Islay, as described by Mr. Thomson at a previous meeting of the Society; and specimens

from both localities were placed upon the table and readily recognised as belonging to the same systems of rocks. The authors next described the more recent deposits of the island, beginning with the boulder drift, with its transported striated erratics, all of which belong to the Laurentian system, and are traceable to the west and north-west. They then referred to the gravels and drift-sand which overlies the remains of an extensive bed of peat seen in Stornoway Bay, where it attains a depth of fifteen feet. At the lower extremity of this bed, and only seen at extreme low tides, are numerous stumps of trees of considerable dimensions, the roots of which rest upon and pass down through a bed of clay, which forms the subsoil. From this it would seem that there has been an extensive subsidence of the island at a comparatively recent period, and that the climatal conditions must have been very different, during the time when such trees grew, from those which prevail at the present day. It is only recently, or since the Lewis passed into the hands of its present noble proprietor, Sir James Matheson, that any attempt has been made to cultivate trees in the island, and the conditions favourable to their growth seem to be found only in the more sheltered localities. Some interesting beds of clay and sand are found filling up the indentations that have been eroded out of the Cambrian conglomerate, at a time when this part of the island must have been depressed not less than 150 feet beneath its present level. The sections consist of (1) blown sand, underlying which is (2) clay varying from a few feet to 20 feet in depth, and which has long been wrought for making tiles and bricks. This is succeeded by (3) another bed of sand, containing numerous shells, which, however, are much broken. These, so far as examined, were of species found both in the pliocene beds and in the present seas; so that their age could not be accurately determined. The probability, however, is that they are, at most, not older than the upper pliocene beds of the Clyde. This point will be further elucidated when the authors have been able to obtain samples of the clay from underneath the old forest upon the shore already referred to, and fuller particulars will afterwards be given in the Transactions.