

and the lesser glacier of the hill of Nigg, sloping towards the north, saw themselves reflected in the separating strait of sea which at this remote period flowed through the flat valley between. The valley is still occupied for half its length by a sandy estuary, known as the Sands of Nigg, which ere the upheaval of the higher beaches, must have existed as a shallow channel, through which the Firth of Cromarty,—then a double-mouthed arm of the sea, with the hill of Nigg as a mountainous island in the midst,—communicated with the Moray Firth beyond.

PHENOMENA EXPLANATORY OF ACCUMULATIONS OF SHELLS.

THERE are scarce any of the appearances with which the geologist is conversant more mysterious than the immense accumulations of shells which he occasionally finds, as in some parts of Sweden, separated from all extraneous matter, as if they had been subjected to some sifting process,—cleaned, as it were, and laid by; and it has long been a question with him how this sifting process has been effected. The theory that the accumulation had been heaped up by great floods, through which substances of the same specific gravity were huddled together, has been the commonly accepted one; but who ever saw a flood, however great, that did not cast down its mud and its clay among its transported shells, or that had not mingled them, in the process of removal, with its lighter gravels or its sand? In the flat estuary of Nigg, I have seen the sifting process effected through a simple but adequate agency. For about two miles from where the estuary opens into the Cromarty Firth, its wild tracts of yielding sand are thickly occupied by the shells that love such localities,—in especial, by the common cockle. Almost every tide, when the animals are in season, furnishes its vast quantities for the