

one and that of the other. Such an association of these canoes, therefore, cannot be regarded as proving synchronous deposition; nor, on the other hand can we affirm any difference of age from mere relative position, unless we see one canoe actually buried beneath another.*

At the time when the ancient vessels, above described, were navigating the waters, where the city of Glasgow now stands, the whole of the low lands which bordered the present estuary of the Clyde, formed the bed of a shallow sea. The emergence appears to have taken place gradually and by intermittent movements, for Mr. Buchanan describes several narrow terraces one above the other on the site of the city itself, with steep intervening slopes composed of the laminated estuary formation. Each terrace and steep slope probably mark pauses in the process of upheaval, during which low cliffs were formed, with beaches at their base. Five of the canoes were found within the precincts of the city at different heights on or near such terraces.

As to the date of the upheaval, the greater part of it cannot be assigned to the stone period, but must have taken place after tools of metal had come into use.

Until lately, when attempts were made to estimate the probable antiquity of such changes of level, it was confidently assumed, as a safe starting-point, that no alteration had occurred in the relative level of land and sea, in the central district of Scotland, since the construction of the Roman or Pictish wall (the 'Wall of Antonine'), which reached from the Firth of Forth to that of the Clyde. The two extremities, it was said, of this ancient structure, bear such a relation to the present level of the two estuaries, that neither subsidence nor elevation of the land could have occurred for seventeen centuries at least.

But Mr. Geikie has lately shown that a depression of

* Geikie, *Geol. Quart. Journ.* vol. xviii., p. 222. 1862.