

New Zealand.—Deposits referable to the Pliocene division of the geological record play an important part in the geology and industrial development of New Zealand. According to Sir J. Hector, they belong to a time when the land was much more extensive than it now is, and when in the North Island volcanic action reached its greatest activity. Some of the beds were formed on the sea-floor, and contain in abundance *Rotella zealandica*, with *Dosinea anus*, *Struthiolaria Fraseri*, *Buccinum maculatum*. From 70 to 90 per cent of the mollusca are of still living species. In the South Island, the Pliocene strata are to a large extent unfossiliferous gravels, such as those of the Canterbury Plains and the Monteri Hills, in Nelson, which were derived from the mountainous interior. That considerable terrestrial disturbance took place during and subsequent to the deposit of the Pliocene series is shown by the disturbed and elevated positions of the beds in some places. Here and there the marine strata have been raised to a height of 300 feet (near Napier to more than 2000 feet) above the sea without disturbance of their horizontal position; but elsewhere they have been completely overturned. The economic importance of these deposits arises mainly from their yielding the richest supplies of alluvial gold.¹²⁸

PART V. POST-TERTIARY OR QUATERNARY

This portion of the Geological Record includes the various superficial deposits in which nearly all the mollusca are of still living species. It is usually subdivided into two series: (1) an older group of deposits in which many of the mammals are of extinct species—to this group the names Pleistocene, Post-Pliocene, and Diluvial have been given; and (2) a later series, wherein the mammals are all, or nearly all, of still living species, to which the names Recent, Alluvial, and Human have been assigned. These subdivisions, however, are confessedly very artificial, and it is often ex-

¹²⁸ Hector, "Handbook of New Zealand," p. 26; Hutton, *Quart. Journ. Geol. Soc.* 1885, p. 211.