

retained their bright colours. In the same region a bed of fish-bones was observed extending for two miles along the bottom of the sea in eighty and ninety fathoms water. At the eastern extremity also of Rockhall Bank fish-bones were met with, mingled with pieces of fresh shell, at the depth of 235 fathoms.

Analogous formations are in progress in the submarine tracts extending from the Shetland Isles to the north of Ireland, wherever soundings can be procured. A continuous deposit of sand and mud, replete with broken and entire shells, Echini, &c., has been traced for upwards of twenty miles to the eastward of the Faroe Islands, usually at the depth of from forty to one hundred fathoms. In one part of this tract (lat. $61^{\circ} 50'$, long. $6^{\circ} 30'$) fish-bones occur in extraordinary profusion, so that the lead cannot be drawn up without some vertebræ being attached. This "bone bed," as it was called by our surveyors, is three miles and a half in length, and forty-five fathoms under water, and contains a few shells intermingled with the bones.

In the British seas, the shells and other organic remains lie in soft mud or loose sand and gravel; whereas, in the bed of the Adriatic, Donati found them frequently inclosed in stone of recent origin. This is precisely the difference in character which we might have expected to exist between the British marine formations now in progress, and those of the Adriatic; for calcareous and other mineral springs abound in the Mediterranean and lands adjoining, while they are almost entirely wanting in our own country. I have already adverted to the eight regions of different depths in the *Ægean* Sea, each characterized by a peculiar assemblage of shells, which have been described by Professor E. Forbes, who explored them by dredging. (See above, p. 627.)

During his survey of the west coast of Africa, Captain Sir E. Belcher found, by frequent soundings between the twenty-third and twentieth degrees of north latitude, that the bottom of the sea, at the depth of from twenty to about fifty fathoms, consists of sand with a great intermixture of shells, often entire, but sometimes finely comminuted. Between the eleventh and ninth degrees of north latitude, on the same coast, at soundings varying from twenty to about eighty fathoms, he brought up abundance of corals and shells mixed with sand. These also were in some parts entire, and in others worn and broken.

In all these cases, it is only necessary that there should be some deposition of sedimentary matter, however minute, such as may be supplied by rivers draining a continent, or currents preying on a line of cliffs, in order that stratified formations, hundreds of feet in thickness, and replete with organic remains, should result in the course of ages.

But although some deposits may thus extend continuously for a thousand miles or more near certain coasts, the greater part of the bed of the ocean, remote from continents and islands, may very probably receive, at the same time, no new accessions of drift matter,