

of scouring out and deepening their channels, would be greater and greater, till at length, after a lapse of many thousand years, each of them would have eroded a deep channel or valley through the fluviatile formation previously accumulated. The surface of what was once the river-plain at the period of greatest depression, would remain fringing the valley sides as a terrace, apparently flat, but in reality sloping down with the general inclination of the valley. Every where this terrace would present cliffs of gravel and sand facing the river.

After these changes, the fundamental strata (Nos. 3, 4, 5, fig. 11, p. 196) might be restored nearly to their ancient positions; the fresh-water beds (No. 2) having been raised, and having suffered great denudation.

It is not improbable that the same series of movements gave rise to the accumulation and present position of marine strata of comparatively modern date, forming the lower terrace near Darien in Georgia\* which is indicated at 2\*, in the annexed section (fig. 11). The reader will remember that the remains of the megatherium, mastodon, elephant, Harlanus, equus, and other extinct species of land quadrupeds, are there associated with marine shells, of species agreeing with those now inhabiting the Atlantic.

On the other hand, there are proofs in Texas of the prevalence of the same succession of subterranean movements far to the southwest, along the country bordering the Gulf of Mexico; for on the Brazos River there are beds of loam, or loess, examined by Dr. Dickeson, and, when at New Orleans, I saw the bones of extinct quadrupeds brought from that deposit. Among them was the jaw-bone of a tapir, apparently identical with the South American species; remains of the mastodon, elephant, ox, and other mammalia, much resembling, on the whole, those found at Natchez and on the Ohio.

As to the seaward extremity of the ancient delta, the effect of the gradual depression of land above assumed would be to cause its mud and sand to increase in thickness, instead of augmenting in area. When at length the movement was reversed, and the fresh-water deposits began to rise, the action of the sea would un-

\* See ante, vol. i. p. 257.