

transient, these pits retain their shape permanently, being dried by the sun, and being then too firm to be effaced by the action of the succeeding tide, which deposits upon them a new layer of mud. Hence we find, on splitting open a slab an inch or more thick, on the upper surface of which the marks of recent rain occur, that an inferior layer, deposited perhaps ten or fourteen tides previously, exhibits on its under surface perfect casts of rain prints which stand out in relief, the moulds of the same being seen in the layer below."

After mentioning that a continued shower of rain obliterates the more regular impressions, and produces merely a blistered or uneven surface, and describing minutely the characteristics of true rain marks in their most perfect state, Sir Charles adds :—

"On some of the specimens the winding tubular tracks of worms are seen, which have been bored just beneath the surface. Sometimes the worms have dived beneath the surface, and then re-appeared. Occasionally the same mud is traversed by the footprints of birds (*Tringa minuta*), and of musk-rats, minks, dogs, sheep and cats. The leaves also of the elm, maple and oak trees have been scattered by the winds over the soft mud, and having been buried under the deposits of succeeding tides, are found on dividing the layers. When the leaves themselves are removed, very faithful impressions, not only of their outline, but of their minutest veins, are left imprinted on the clay."

This is a minor illustration of that application of recent causes to explain ancient effects of which the great English geologist was the apostle and advocate, and which he so admirably practised in his own work. It is also an illustration of the fact that things the most perishable and evanescent may, when buried in the crust of the earth, become its most durable monuments. Footprints in the sand of the tidal shore are in the ordinary course of events certain to be obliterated