blow to the winds many a fine theory as to the *gradual development* of species, and will most likely show that at no former period was there an ocean replete with shells and worms low in the scale of organization, which had not on its shores a rich vegetation and a *fauna* abounding in reptiles, and perhaps birds and quadupeds! Thus, when Hugh Miller wrote his *Old Red Sandstone*, he described it as peculiarly a *salt-water fish* formation, in which there was scarcely any shells or vegetables, the faint traces of the latter which he had discovered being only markings of fucoids and similar sea-weeds. So far as then known, the Scottish Old Red Sandstone was the produce of a deep shoreless ocean, to which no decayed forests had been brought down by rains and rivers to become future coal-fields, nor on whose margins and lagunes disported the amphibious crocodile or other allied genera, who could leave the impress of their feet or tails on the soft mud or sand. The formation, in short, was considered very low down indeed, and near the base of the platform of rocks in which rest entombed

altered as to have obliterated the traces of any relics of former life which may have been entombed in them, is opposed by examples of enormously thick and often finely levigated deposits beneath the lowest fossiliferous rocks, and in which, if many animal remains had ever existed, more traces of them would be detected.'

'And yet,' as he again observes, 'the fine aggregation and unaltered condition of those sediments have permitted the minutest impressions to be preserved. Thus, not only are the broad wave-marks distinct, but also those smaller ripples which may have been produced by wind, together with apparent rain-prints, as seen upon the muddy surface, and even cracks produced by the action of the sun on a half-dried surface. Again, as a further indication that these are littoral markings, and not the results of deep-sea currents, the minute holes left by the Annelides are most conspicuous on the sheltered sides of the reptiles in each slab.

'Surely, then, if animals of a higher organization had existed in this very ancient period, we should find their relics in this sediment, so admirably adapted for their conservation, as seen in the markings of the little arenicola, accompanied even by the traces of diurnal atmospheric action.'—*Siluria*, pp. 20-27. L. M.