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Darwin consistently writes the landscapes of his *Beagle* narratives in the epitaphic mode, from the plains of Patagonia to coral atolls. This mode draws on the Wordsworthian store represented by *The Excursion*, in particular the poem's preoccupation with 'a subterraneous magazine of bones' (vii, 345); and it has the effect of bringing new relations of causation to bear on William Whewell's palaeontological science. From August 1833, the district around the Rio de Plata had started to deliver up to Darwin, its secrets of extinct mammalia including the remains of the toxodon, a giant quadruped. In his 1837 paper for the Geological Society of London, written two years before the first edition of the *Journal of Researches*, Darwin adhered to Lyell's framework, looking for laws and processes working in the present and then applying them retrospectively to evidence from the past embedded in the ground, and palliated it by appealing to epitaphic language: 'the author... supposed that the ancient rivers, like those of the present day, carried down the carcasses of land animals, which thus became entombed in the accumulating sediment. Since that period . . . the gradual rising of the land . . . [has] exposed, in many places, the skeletons of those ancient inhabitants.' In describing the secrets yielded by land movement, Darwin uses the language of entombment.

Later, in the *Journal of Researches*, at another discovery of mass destruction, Darwin concludes that 'the whole area of the pampas is one wide sepulchre of these extinct, gigantic quadrupeds' (*Journal* 1845, 149). Extinction is afforded the kind of reverential language of mortality associated with Wordsworth and, latterly, Adam Sedgwick. And Darwin, in common with Sedgwick, finds 'strange . . . forms and fashions of organic life' in the extinct toxodon, described in the *Journal* as 'perhaps one of the strangest animals ever discovered'. Darwin, however, celebrates the strangeness of an animal which blends features of the rodent with the dimensions and structural plan of an elephant: 'how wonderfully are the different orders, at the present time so well separated, blended together in different points of the structure of the toxodon' (*Journal* 1845, 80). Darwin's point was to explain palaeontologically the means by which the strange blend of characteristics evident from the entombed remains of this dead being could be reconciled with the spread and separation of branched orders which characterised the existing plan of nature.

Darwin observed the materials of palaeontological science accumulating before him in Patagonia as he described the patterns of life and death of the guanaco, the 'South American representative of the camel of the East' (*Journal* 1845, 158). The living guanaco confronts Darwin with precisely the rather contradictory, entangled set of dispositions that a living species could manifest. Though 'generally wild and extremely wary' they are also 'very easily domesticated'. If the boundary between the wild and the domesticated is blurred in the case of the guanaco, its actual behaviour under domesticity is 'very bold', so that they 'readily attack a man by striking him behind with both knees'.

The guanaco in the wild, by contrast, displays ‘no idea of defence’ (*Journal* 1845, 158-9). Darwin notes that ‘the guanacos appear to have favourite spots for lying down to die’, and spots on the banks of the St Cruz river are ‘white with bones’. Darwin draws attention to these mass graves ‘because in certain cases they might explain the occurrence of a number of uninjured bones ... buried under alluvial accumulations; and likewise the cause of why certain animals are more commonly embedded than others in sedimentary deposits’ (*Journal* 1845, 160). Epitaphic writing needs to proceed carefully in the conclusions that it draws about the contents of graves, and the natural processes that have filled them. In fact, at this point Darwin moves from the language of the epitaph to the language of the romantic sublime. Recounting the expedition of a yawl to find water, Darwin recounts a scene of isolation, seclusion and desolation, punctuated only by a guanaco upon a hill as ‘watchful sentinel’, and, in descriptive language redolent of *The Excursion*, ‘a trickling rill. . . of brackish water’. Darwin ‘asks how many ages the plain had thus lasted, and how many more it was doomed thus to continue’; in answer, in the second edition of his narrative, he inserts Shelley’s ‘Lines on Mont Blanc’:

None can reply—all seems eternal now.
The wilderness has a mysterious tongue,
Which teaches awful doubt.

(*Journal* 1845, 161)

Strikingly, Darwin cuts the final line off before the alternative that Shelley’s actual line offers – ‘or a faith so mild’. Darwin’s

speculations and observations, palliated though they may be in a sympathetic epitaphic language, conclude in awful doubt’.

Darwin discovered a curious blend of life and death in one unique structure, coral. Coral colonies present a strange image of the relationship between the individual living elements of the reef and the dead, hard structure that predominates. Indeed, Howard E. Gruber has argued that Darwin’s theory of coral formations was an early ‘model theory’ of natural selection, even to the extent that it contains a Malthusian principle of population growth and limits, for coral cannot grow beyond some limiting distance from the surface of the sea. In the *Journal of Researches* Darwin records exploring the lagoons of Keeling Island: he wades out first ‘as far as the living mounds of coral, on which the swell of the open sea breaks’, and later finds himself amidst a forest of delicately branching coral that is all ‘dead and rotten’ (*Journal* 1845, 435-7). The contrast between the living and dead corals, and their branching tree-like form, come to function suggestively for Darwin, helping him to explain and re-conceptualise radically the relationship between extinction and transmutation. As he states in his first notebook, ‘The tree of life should perhaps be called the coral of life, base of branches dead, so that passages cannot be seen.’

Darwin explained coral within a Lyellian geological frame, though in this case, Darwin was more Lyellian than Lyell, who had thought that coral formations grew by encrusting rising volcanic rims. Darwin turned Lyell’s theory on its head, arguing that the landmasses forming the islands in the Pacific were gradually subsiding. As the land sinks, the coral accumulates, rising to compensate and keeping itself at optimum depth. The theory of land subsidence fundamentally alters the relationship

between the land and the coral, as Darwin registers in his choice of metaphor in his paper on coral formations for the Geological Society of London (May 1837); these formations are now seen as ‘monuments over subsided land’ — the land now buried from view beneath the waves, restored to memory. The coral takes on an epitaphic function.

Darwin’s description, in the *Journal*, of the view of a coral island presents a challenge to observation and theorising:

A long and brilliantly white beach is capped by a margin of green vegetation; and the strip, looking either way, rapidly narrows away in the distance, and sinks beneath the horizon. From the mast-head a wide expanse of smooth water can be seen within the ring. These low coral islands bear no proportion to the vast ocean out of which they abruptly rise; and it seems wonderful, that such weak invaders are not overwhelmed, by the all-powerful and never-tiring waves of that great sea, miscalled the Pacific. (*Journal* 1845, 282)

Coral atolls present a remarkable aesthetic effect created by nature: surrounded by a mighty and moving force of the sea, the atoll constitutes a sharp frame of white and green, which holds within it a smooth and calm expanse of water. It is a picture, but one that is brought about seemingly by great force, and unequal power relations; the Pacific has been misnamed because of the violence that it metes out upon corals, which are seen as ‘weak invaders’, and ‘great fragments scattered over the reef... plainly bespeak the unrelenting power of the waves’ (*Journal* 1845, 436). And yet, ‘wonderfully’ for Darwin, the coral formations hold steady, even though they can only continue to form their base in relatively shallow waters. Darwin explores this contest of power further:

It is impossible to behold these waves without feeling a conviction that an island, though built of the hardest rock, let it be porphyry, granite or quartz, would ultimately yield and be demolished by such an irresistible power. Yet these low, insignificant coral-islets stand and are victorious: for here another power, as an antagonist, takes part in the contest. The organic forces separate the atoms of carbonate of lime, one by one, from the foaming breakers, and unite them into a symmetrical structure. Let the hurricane tear up its thousand huge fragments; yet what will that tell against the accumulated labour of myriads of architects at work night and day, month after month? Thus do we see the soft and gelatinous body of a polypus, through the agency of the vital laws, conquering the great mechanical power of the waves of an ocean which neither the arts of man nor the inanimate works of nature could successfully resist. (*Journal* 1845, 436-7)

Darwin perceives a striking chemical agency at work in the interaction between the waves and the small, ‘soft and gelatinous body of a polypus’, which contributes to a theory of life expressed in the metaphor of accumulated labour. A higher ‘vital power’ is served by this agency, so Darwin works with a familiar romantic opposition, between the mechanism of forceful water and the vitality of the ‘soft’ body. Significantly, Darwin’s vitalism resists established hierarchies and rhetorics of power: the small, soft body is contrasted with the relentlessness of the machine-like sea, and it is the small soft body which is victorious, and the materiality of mechanical force that is overcome.

Yet this was not an opposition that could remain un-entangled and without supplements for Darwin as he was confronted by new natural relations and objects for which to account. In a remarkable passage on the kelp off Tierra del Fuego, Darwin constructs the sea not as a machine, but as a kind of reverse

image of barren coastal landscape in its capacity to sustain 'great aquatic forests' supporting 'new and curious structures' (*Journal* 1845, 228-9). And as Darwin contemplates the natural sandstone spit that forms the harbour at Pernambuco, Brazil, he doubts 'whether in the whole world any other natural structure has so artificial an appearance'. Several miles long, the spit is perfectly straight. At its centre is a few inches' thickness of calcareous matter, including shells, barnacles and nulliporae, which are 'hard, very simply-organised sea-plants'. Darwin's opposition between organic, vital coral-polyp and inert machinate water has been deconstructed; the tissue from which this natural, yet to all appearances artificial, structure is built is explained through myth, a language of primitive culture that points to nature as a process of labour. Darwin sees it as 'a breakwater erected by Cyclopean workmen (*Journal* 1845, 472-3). Darwin had referred to the South American continent as 'the great workshop of nature' in his first edition, but later removed the reference (*Journal* 1839, 158). But in the 'Essay of 1844', Darwin was beginning to articulate the implications of the forces at play in this workshop: 'Nature may be compared to a surface, on which rest ten thousand sharp wedges touching each other and driven inwards by incessant blows'.