
It seems fair to say that while the pervasiveness of biological science, particularly evolutionary theory, in Victorian Britain, and its influence on literature, have been readily mapped, the impact of biology on architecture and design has not been explored. William Taylor’s interdisciplinary book *The Vital Landscape* aims to help fill this gap by establishing parallels between developments in biological science and the history of the built environment. As Taylor, a historian of architecture and design, points out in the Introduction, *The Vital Landscape* explores ‘the influence of biological or life science on architecture and landscape gardening in nineteenth-century Britain.’ (p. 11). Focusing on glasshouses,
garden cemeteries, and domestic and botanical gardens, Taylor seeks to show that ideas in the ‘life sciences’, such as ecology, zoology, botany, evolutionary theory, physiology and psychology, were readily translated into architecture and design. However, for the reasons I shall explain more fully further down, he does not always succeed in demonstrating this influence persuasively.

Let me begin with the content of the book. It comprises seven chapters: ‘Primitive Huts and Wild Gardens’, ‘Vegetables in Forcing-Houses’, ‘Humans in Glasshouses’, ‘The Vital Landscape’, ‘Elemental Existence’, ‘Patterns on the Landscape’, ‘Characterizing Life at Home’ and ‘Memory and the Garden Cemetery’. The first two chapters largely focus on pre-nineteenth-century ideas of humanity’s uniqueness, perceived superiority over nature and emerging ideas of the environment. Taylor shows how humanity’s belief in its uniqueness and superiority gradually gave way to a more enlightened and scientific understanding of human interaction with its organic and inorganic surroundings. Intriguingly, Taylor identifies instances where writers were largely unaware of the idea of an environment, and of relating oneself to the immediate surroundings, and others where something like it begins to appear. He argues that while Renaissance architects such as Leon Battista Alberti or Antonio Filarete did not anticipate the idea of an environment in the modern sense of the word, Rousseau’s *Discourse on the Origin of Inequality* (1755) was informed by what nowadays could be called environmental awareness. At various intervals, Rousseau ponders on climatic conditions in different places and the ways in which geographical variations in soils, climates, and seasons, must have introduced some differences in people’s manner of living.

In his third chapter, Taylor discusses the glasshouse and its importance as a major precursor to environmental awareness. The idea that the glasshouse is closely connected to the rise of the word ‘environment’ is not entirely new; Jonathan Bate, among others, has commented on this link in his book *The Song of the Earth* (2000). However, while Bate focuses more on the history of the glasshouse in the context of empire, Taylor elaborates on the glasshouse in the context of an emerging environmental awareness, and this is where the main strength of *The Vital Landscape* lies. Taylor describes the multi-faceted uses of the glasshouse, which went beyond its conventional agricultural purpose. He convincingly shows
that the nineteenth-century glasshouse, seen as an ‘analogue’ of nature, provided a microcosm for contriving landscapes in one confined space which brought together organic processes and functional architectural forms. Focusing on the example of the architect John Claudius Loudon (1783–1843), Taylor shows that his curvilinear glasshouses, such as the Palm House at Bicton in Devon, provided a context for thinking how human beings and their culture might be accommodated to their living and non-living surroundings. The glasshouse was instrumental in establishing environmental awareness and, according to Taylor, ‘helped the British public envisage alternative worlds and ways of living’ (p. xv).

Chapters four to six concentrate on the popularisation of science, its application in the Victorian home, and an increasing understanding of one’s home as habitat. Parallel to the life sciences describing the natural world as a system of relationships formed between species and between organisms and their surroundings, architecture began incorporating reflections on the dependencies between human beings and their habitat. Taylor offers some examples of efforts to design the house and garden to conform to the way nature worked, and describes at length how achievements in the life sciences, and a closer attention to nature’s fundamental elements of air, earth, and water, particularly in the home, helped the Victorians understand the conditions in which they lived. Loudon’s book, for example, published in 1838, contained a plan for determining the desirability of homes relative to their position alongside streets as they were commonly set out in towns and suburbs. Loudon’s sketch of this plan, which is one of numerous helpful illustrations in Taylor’s book, shows the possible positions of the houses and gardens most favourable to the admission of the sun throughout the year. Telling prospective home-owners the species best planted in some areas and not in others, the plan was a useful tool for Victorian homebuyers, helping them to imagine advantages and pitfalls of new abodes. Key to the purposes of Taylor’s book, the *Suburban Gardener and Villa Companion* emphasised the importance of the immediate surroundings: if neighbourhoods were surrounded by dusty roads or a smoky atmosphere, a careful choice of a building lot would matter little. Here Taylor convincingly argues that Loudon may not have held an environmentalist’s viewpoint *per se*, but he helped pave the way for developing environmental awareness in the pri-
Much like Loudon's book, Cuthbert Johnson's *Our House and Garden: What We See, and What We Do Not See In Them* (1864) had a strong effect on popularising the idea of the environment. Johnson, a prolific commentator on agriculture and home economics, invites his readers to embrace biology and the natural sciences in order to explain everyday organic and inorganic occurrences in the home. As Taylor argues, in an urban context, where the vicissitudes of the city's climate, smoke and dirt had a visible impact on people's lives, there was an increasing awareness of industry's tendency to change the quality of people's surroundings, and it is here that the pertinence of the word 'environment' becomes obvious.

Chapter seven then discusses the garden cemetery reform movement of the 1830s and 1840s, in which reformers, trying to address the effect of the morass of decaying corpses lying beneath cities such as London and Glasgow, called for new modes of burial. As Taylor emphasises, it was also hoped that if tombs and epitaphs were dispersed among botanical specimens systematically labelled and arranged, the cemetery would become a means for promoting civil obedience, inviting reflection and personal remembrance. They were intended, as Taylor argues, 'to be beneficial to the population as a whole, not solely to philosophers and aesthetes.' (p. 180). Taylor concentrates on Loudon and his book *On the Laying Out, Planting, and Managing of Cemeteries; and on the Improvement of Churchyards* (1843), in which he presented a 'Design for Laying Out and Planting a Cemetery on Hilly Ground'. As the sketch reveals, Loudon's design was informed by an acute environmental awareness. Garden cemeteries, according to Loudon, should not include too many trees forming belts and clumps, as this prohibited the free movement of air and the drying effects of the sun, both essential to countering the effects of putrefaction (p. 190). It seems remarkable, from an ecological perspective, that Loudon's primary aim was to return the remains of the dead to the earth from which they had sprung, whilst improving moral feeling was secondary (p. 187).

Given the centrality of these themes to Morris's work, it will come as a disappointment to the reader of this *Journal* that he is mentioned only three times, and rather fleetingly. The first reference we find in Chapter 5, in the context of organic design. Taylor emphasises that frequently the forms of organic nature were studied and imitated as a way of achieving a
closer bond with the natural world, which is evident in nineteenth-century visual culture. To substantiate his argument, Taylor cites Gottfried Semper's *The Four Elements of Architecture and Other Writings*, published in 1815, Owen Jones's monumental *Grammar of Ornament*, published in 1856, and 'the works of Arts and Crafts practitioners such as William Morris' (p. 124). The next reference to Morris is only five pages further on, in the context of nature writing, where Morris is given a place among those writers 'who sustained the imaginative exploration of nature with numerous fictional settings' (p. 129). Taylor mentions works of fiction such as Stevenson's *Treasure Island* (1883), Rider Haggard's *People of the Mist* (1894), H.G. Wells's *Island of Doctor Moreau* (1896), and Arthur Conan Doyle's *The Lost World* (1912) as examples of nature writing which were very similar, in their author's attention to detail, and close description of island forms and environs, to Darwin's account of his voyages on the Beagle between 1832 and 1836. When it comes to Morris, Taylor surprisingly does not mention the more celebrated *News from Nowhere*, but Morris's final novel, *The Sundering Flood* (1897), as an example of writing about rivers and valleys which proved 'serviceable as models of a bountiful and contiguous nature' (p. 129). The third reference to Morris we find in the context of Taylor's discussion of Robert Kerr's *The Gentleman's House*, published in 1864. Taylor briefly acknowledges Morris, together with Augustus Pugin, and Ebenezer Howard, as being among the 'great proponents of nineteenth-century design' (p. 153) before turning his attention to Kerr and *The Gentleman's House*. Kerr's book is important to Taylor's main argument that the natural sciences had an impact on architecture mainly because it urged designers to consider the interdependence of rooms and exterior spaces. He illustrates his point by focusing on the ground plan of the Manor of West Shandon in Dumbartonshire, completed one year before the publication of *The Gentleman's House*. The positioning of the rooms, which Kerr likens to a 'rabbit-warren' (Taylor suggests that Kerr intended the term as complimentary) where 'you can get from anywhere to everywhere at a jump' (p. 156), ensures an organic unity of spatial experience which was paramount. Two years before the German zoologist Ernst Haeckel coined the term 'ecology', *The Gentleman's House* was informed by a heightened degree of environmental awareness.

As I have already indicated, Taylor's account does not always convince.
It might be unfair to criticise Taylor for not mentioning Morris more often, but surely someone with such a strong interest in the organic and architecture as Morris should have played a stronger role in the book. As I have argued in my PhD thesis, *Early Green Narratives and the Rise of Bioregionalism* (2004), the principle of organic unity between house and garden, between interior and exterior, can also be applied to Kelmscott Manor and garden. While Taylor convincingly argues that attitudes to nature in the nineteenth century are ‘notable not for the reason that people began to think differently about the environment, but that they began to think imaginatively about the environment at all’ (p. 14), it seems odd that in *The Vital Landscape* there is no mention of the organic and environmentally-friendly society as described in Nowhere, or any hint of Morris’s ideas on the integration of town and country. It is also surprising that Taylor does not mention Ebenezer Howard’s garden cities. Howard’s plan of a new era of decentralisation, in which he envisaged several clusters of towns, linked to each other and to a larger Centre City by a circular canal leading to a Central Park, seems central to the ideas outlined in *The Vital Landscape*.

More troubling, perhaps, is Taylor’s tendency to be very general and unspecific at times. For example, he argues that ‘Developments in science, particularly biology, gave philosophers and social reformers reason to believe that living beings were influenced by where and how they lived.’ (p. 98). While I do not question the validity of his argument, it would be desirable to see extracts from scientific theory which support this claim. Which developments does he mean exactly? Similarly, Taylor argues that ‘Contemporary appraisals of the influence of biology on nineteenth-century design cite many instances of the organic in architecture’ (p. 124). Again, one would wish to be given concrete examples of these ‘many instances’. Much in the same vein, Taylor discusses at length how achievements in the life sciences helped the Victorians understand the conditions ‘in the home’, but he never critically examines this monolithic term ‘home’ and omits to mention the fact that what he is addressing is the bourgeois home. Surely the large majority of industrial workers only took a peripheral interest in, say, how many spores there were in one cubic metre of air in the home? Unfortunately, *The Vital Landscape* is pervaded by these general and vague comments. Contrary to what Taylor promises
in the Introduction, there is only little evidence from biological theory that would make clear the direct impact of the ‘life sciences’ on architecture and design.

There are also instances when one must question Taylor’s assertions. In his third chapter, for example, he seems overoptimistic when arguing that ‘The appeal to science not only helped residents of Britain’s cities adapt to their surroundings. It led them to become more valued, productive and creative members of society as well.’ (p. 94). If Taylor’s arguments are correct, why was there such widespread poverty and unemployment at the end of the nineteenth century? Here Taylor’s description sounds more like a description of society of Nowhere in Morris’s novel, but not that of their Victorian counterparts. Similarly, at times he seems to draw rash conclusions to serve his own ends. On page 147, for example, Taylor cites a lengthy passage from Johnson’s Our House and Garden and argues that it ‘conceptualised the house and the garden as a contiguous whole – an environment in which human beings need to position themselves’. (p. 147). However, this claim is not supported by the quotation, and this overinterpretation is, unfortunately, characteristic of The Vital Landscape.

I do not wish, however, to end my review on a too critical note, since the merits of Taylor’s book outweigh its limitations. The Vital Landscape is an intriguing book in which Taylor argues – not always convincingly – that the imperative to think about the environment in a methodical way, to imitate or improve it, had a fundamental impact on architecture and design and was, at the same time, an important catalyst for social change. Considering Loudon and the glasshouse from a distinctly environmental point of view, The Vital Landscape is an important addition to existing research, following on from Nikolaus Pevsner’s Pioneers of Modern Design (1936), and Melanie Simo’s Loudon and the Landscape (1988). Taylor incorporates a plethora of illustrations in order to substantiate his arguments, and also establishes a welcome sense of continuity by making comparisons between the nineteenth-century glasshouses and contemporary examples, such as the Eden Project in Cornwall, completed in 2001. Although Morris is mentioned only three times, the reader may take solace from the fact that Taylor addresses themes central to Morris’s interests and ideas. Owing to its interdisciplinary approach, The Vital Landscape should appeal not only to historians of design and architecture,
landscape gardeners, and biologists, but also to those interested, or working, in English, Ecocriticism, and the History of Science and Ideas.

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