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## ACKNOWLEDGEMENTS

The first and biggest thank you for this book goes to the Oxford University Museum of Natural History itself. Since 2012, I have had the wonderful opportunity to work with the museum on several arts projects as well as to research its own art and architecture. The support and enthusiasm of the Director, Professor Paul Smith, and his team have been unflinching, and working with them has been one of the great pleasures of my professional life. Aside from Paul, especial thanks go to Scott Billings, who took several of the photos in this book, and to Ellie Grillo and Kathy Clough, who masterminded the museum's major arts projects in 2016 and 2019 respectively. I hope this book will underscore the extent to which the museum was born out of the union of the arts and sciences, and provide an inspiration and a resource for future reunions there and elsewhere.

As well as the museum, I would like to thank the Guild of St George and particularly its recent Master, Clive Wilmer. Although I had been fantasizing about writing this book for some time, it was a conversation over dinner with Clive in an Oxford pub that led me to revive and pursue the idea. Other conversations have shaped my thinking about the Oxford University Museum and natural history museum architecture more generally. Many of the most productive have been with Janine Rogers, Stefanie Jovanovic-Kruspel, Anita Hermannstädter, Verity Burke, Helen Goulston and Claire Jones, so 'thank you' to you all.

Finally, I would like to thank Samuel Fanous, Janet Phillips and Leanda Shrimpton, along with their colleagues at Bodleian Library Publishing, for inviting me to write this book, encouraging me to raise my ambitions for it, and agreeing to publish it once it was written. The text has gained hugely from Janet's advice, the guidance of the Bodleian's anonymous peer-reviewer and Alison Effeny's meticulous and sensitive copy-editing. At the same time, the text is only one component of the book. Leanda's advice on and help with the selection of the illustrations, and the Bodleian team's production of the images themselves, have made this book what it is. I am delighted to have had this chance to work on such a beautiful record of the museum's art and architecture, and am very grateful indeed to the Bodleian for making a book I had dreamt of writing for so long into a piece of fine art in its own right.

## INTRODUCTION

In July 1847, four Oxford dons signed a public memorandum calling for a museum to be built to set the teaching of science at Oxford University on a firm footing for the first time. A little over a year later, seven young artists met at a house in Bloomsbury to found the Pre-Raphaelite Brotherhood, committing themselves to the principle of truth in painting, poetry and sculpture. This book tells the story of how these two groups of men – scientists from the oldest university in England and the most controversial artists of the day – collaborated on the new museum. Built to be Oxford's first science faculty, its architecture was a hymn to science and nature. It combined the Gothic style with modern engineering, and cast a scientific vision of the natural world in stone, iron and glass. The very building itself was to be an education in science, teaching geology and natural history in its through its fabric and decoration, experimenting with new architectural principles and showing technology at work. To do this, it fused science with art, following the example of the Pre-Raphaelites themselves, drawing on their expertise as designers and employing them to sculpt the statues for a pantheon of great scientists.

Built by the Irish firm of architects Deane & Woodward (figure 1), the Oxford University Museum of Natural History (as it is now known) was the product of this pioneering collaboration between dynamic modern artists and scientists committed to teaching students and the public about the natural world. From a scientific perspective, it was the first building to communicate a complex, detailed conception of nature through architecture. Its vision of nature was grounded in its own age, but it has proven subtle and malleable enough to move with the times, keeping pace with changes in science itself. Even as the museum itself has changed its meanings, its legacy has shaped natural history museums across the world, from the Natural History Museum in London, built in the 1880s, to the Michael Lee-Chin Crystal at the Royal Ontario Museum in Toronto, which opened in 2007. As a site of art and design, the museum stands at the fountainhead of the Arts and Crafts movement and has a good claim to be the greatest single work of Pre-Raphaelite art. It is unquestionably the best place to see how the Pre-Raphaelite movement expressed and fulfilled itself in sculpture and architecture. In the end, though, there is no separating science from art at the Oxford museum. The building is a rare attempt to realize a comprehensive scientific vision in art, and a compelling witness to the fact that the two disciplines enrich one another, advancing each other's ends as well as their own when they work together.

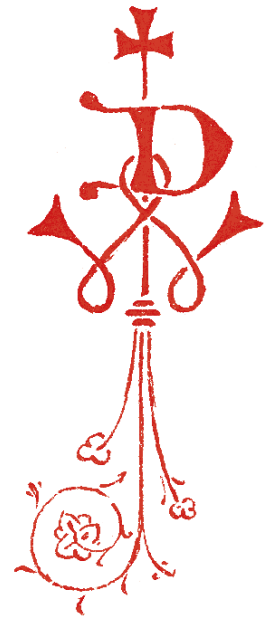
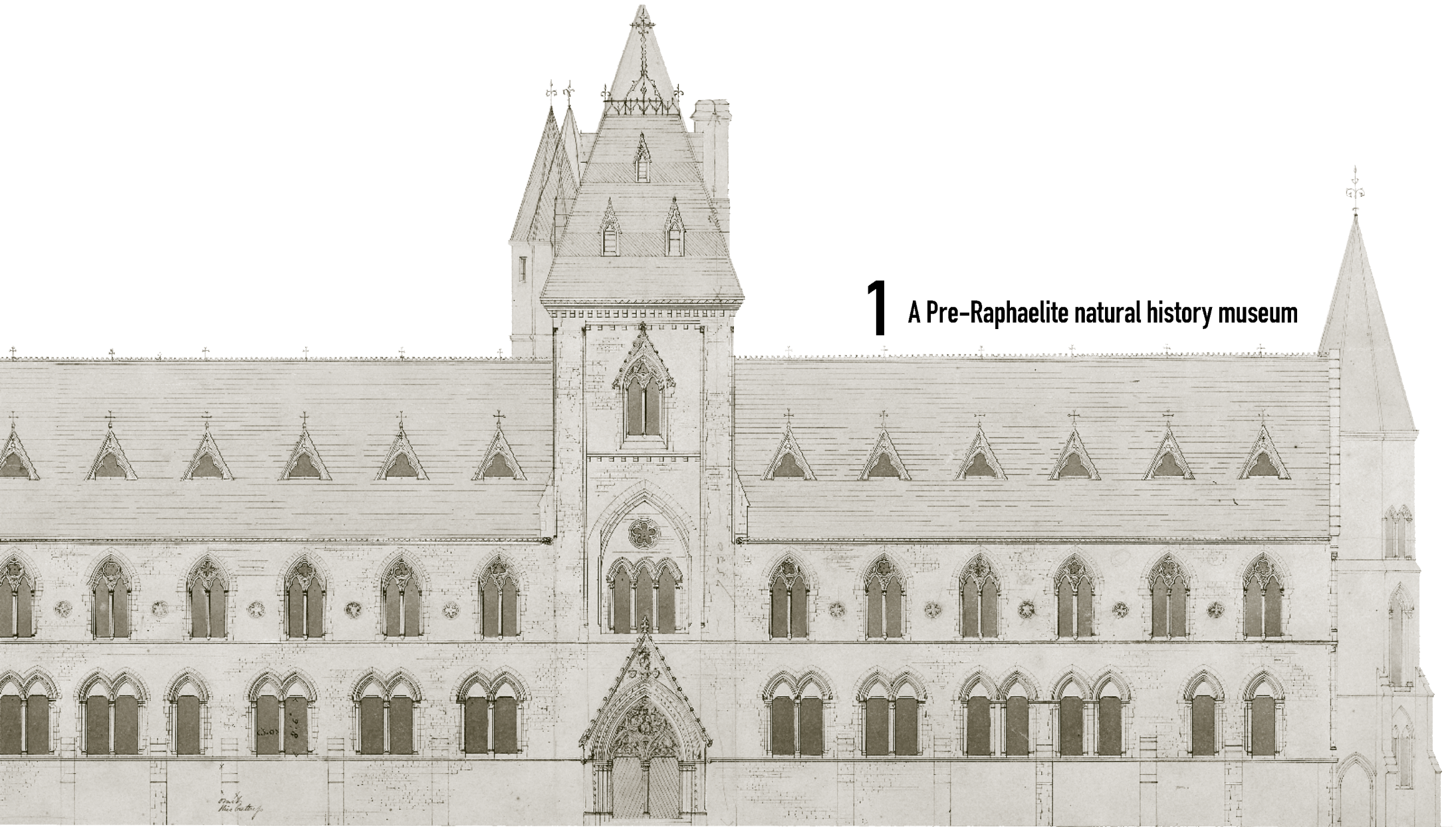


FIGURE 1 Monogram for Deane & Woodward from their contract drawings for the museum, 1855.



**1** A Pre-Raphaelite natural history museum

*nature only. Every Pre-Raphaelite landscape background is painted to the last touch, in the open air, from the thing itself.<sup>35</sup>*

Like Ruskin's praise of Gothic architecture, this core principle of Pre-Raphaelitism, which chimed with Ruskin's own views on art and was epitomized in Millais's painting, was to have a profound effect on Acland and on the museum he was determined to build.

### CHOOSING GOTHIC

In 1853, as the campaign to build the Oxford University Museum gathered momentum and the creative partnership between Millais and Ruskin came to fruition, the concept behind the museum's architecture began to take shape. Under Ruskin's influence and with Acland's support, voices were raised in favour of building the museum in a Gothic style. On the face of it, this was an eccentric choice. Why build a science museum in a style that dated to a time when science as we know it barely existed? As Owen, looking on from the Hunterian Museum, succinctly put it in a letter to Acland, 'The sciences were not born or nursed where that style originated.'<sup>36</sup> Surely it was better, as the *Athenaeum's* architecture critic argued, to make 'a building destined as a tribute to the dignity of Experimental Philosophy' in the English Renaissance style 'loved and honoured by men such as Bacon'<sup>37</sup>

The diocesan architect for Oxford, George Edmund Street, did not agree. Street was one of the leading architects of the Victorian Gothic Revival. His commitment to Gothic architecture was not just aesthetic. It was ideological. For Street, Gothic architecture was Christian architecture. He played a major part in the nineteenth-century resurgence of church building, designing places of worship up and down the country, as well as for Anglican and Episcopalian communities in Rome and Paris. In Street's eyes, the finest English architecture was that of the medieval churches and cathedrals, so as well as being Christian, modern Gothic architecture was a patriotic revival of a distinctive national tradition. His grandest secular building, the Royal Courts of Justice, is a homage to the English Middle Ages and the common law. He recognized, too, the sheer ambition of the medieval cathedrals, realized through astonishing feats of engineering which enabled their architects to build higher with less stone and more space and glass than any other buildings before or – up to Street's time – since. The dismissal of Gothic as backward was absurd, when it could accomplish so much more than other styles of architecture. Rather, Street insisted, it was the most advanced form of architecture yet attempted.

**FIGURE 14** John Everett Millais, *John Ruskin*, 1853–4. Henry Acland proposed that Millais paint this portrait while they were all holidaying together at Glenfinlas in Scotland. Soon after, Acland would adopt the Pre-Raphaelites' precise representation of nature as the model for the art of the Oxford museum.



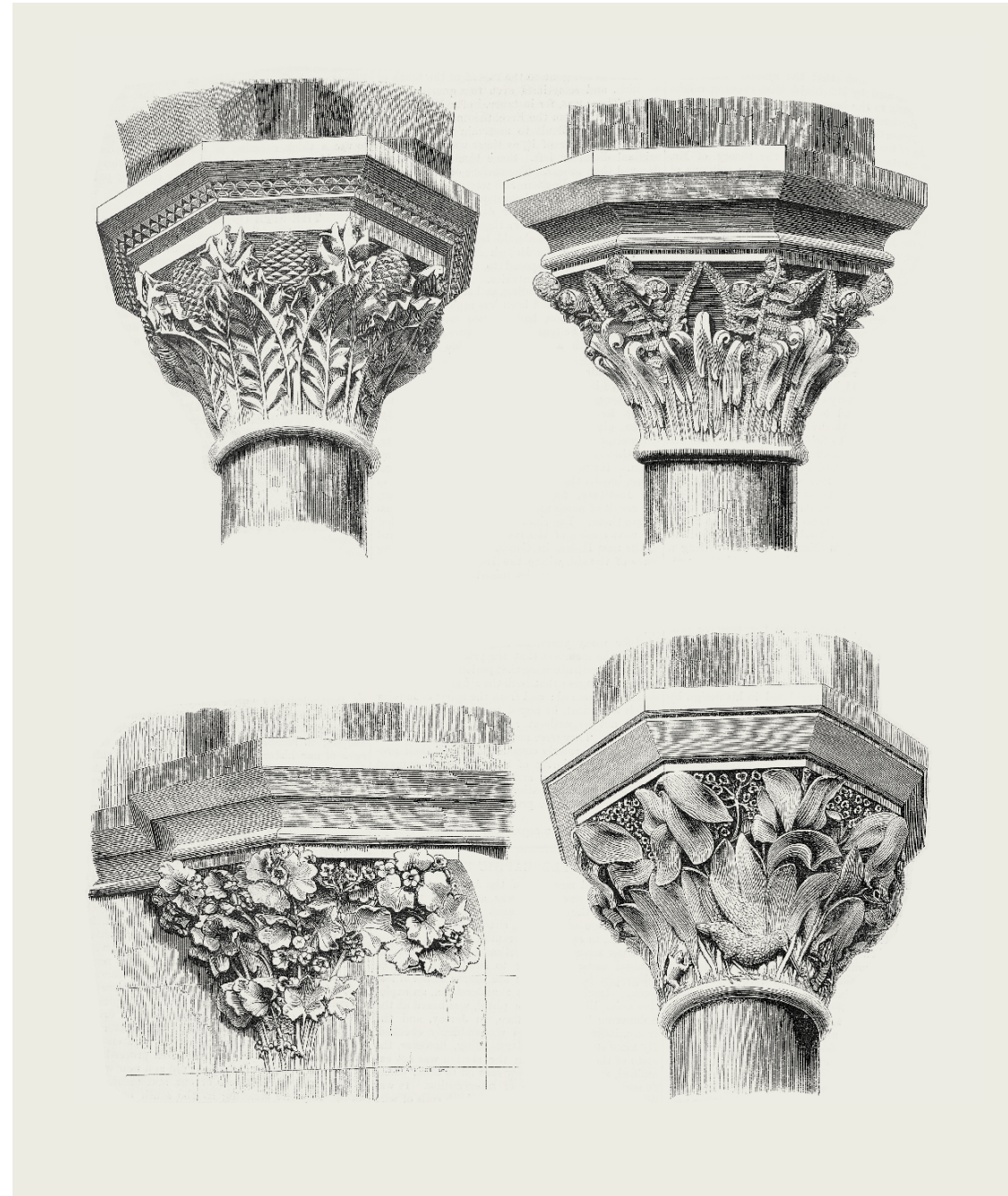


**FIGURE 24** *above right* James O'Shea posing as if carving the Cat Window, his most famous composition at the Oxford University Museum, c.1859.

**FIGURE 25** *opposite* illustration from *The Builder*, 18 June 1859, showing a selection of the O'Shea family's carvings at the Oxford University Museum.

to reappear under their chisels in the rough-hewn capitals of the pillars' of the museum.<sup>78</sup> As director of the Botanic Gardens, Daubeny must have supplied them with particular individual plants. The O'Sheas then set about capturing the specific characters of these living organisms with a precision and honesty in line with Pre-Raphaelite principles, as Acland demanded. They fulfilled their brief with extraordinary skill. Their carvings in the museum's central court (**figure 25**) are some of the Victorian age's most exquisite pieces of decorative sculpture.

While the O'Sheas took on the stonework, Woodward entrusted the ironwork to Francis Skidmore. Like Acland, Street and Woodward, Skidmore was an enthusiastic reader of Ruskin. Based in Coventry, he





## 2 'God's Own Museum' The façade

merits, wrought iron on its own was simply not strong enough to bear the weight of the roof. On 23 February 1858, the delegacy overseeing the construction of the museum for the University was called to an emergency meeting to discuss the fact that part of the roof had collapsed.<sup>101</sup> Skidmore was thrown back on a design which combined wrought and cast iron, with the cast-iron columns, girders and brackets taking most of the strain and the wrought-iron spandrels from the old roof redeployed principally though not exclusively to enhance the visual effect. Stencilled with stylized designs based loosely on plants and flowers, the girders sweep up in grand curves to form Gothic arches supporting the museum's glass roof (figure 46). Between them, from the apex of each aisle, hang the original gas lighting rings, another witness to the new advances of Victorian technology.

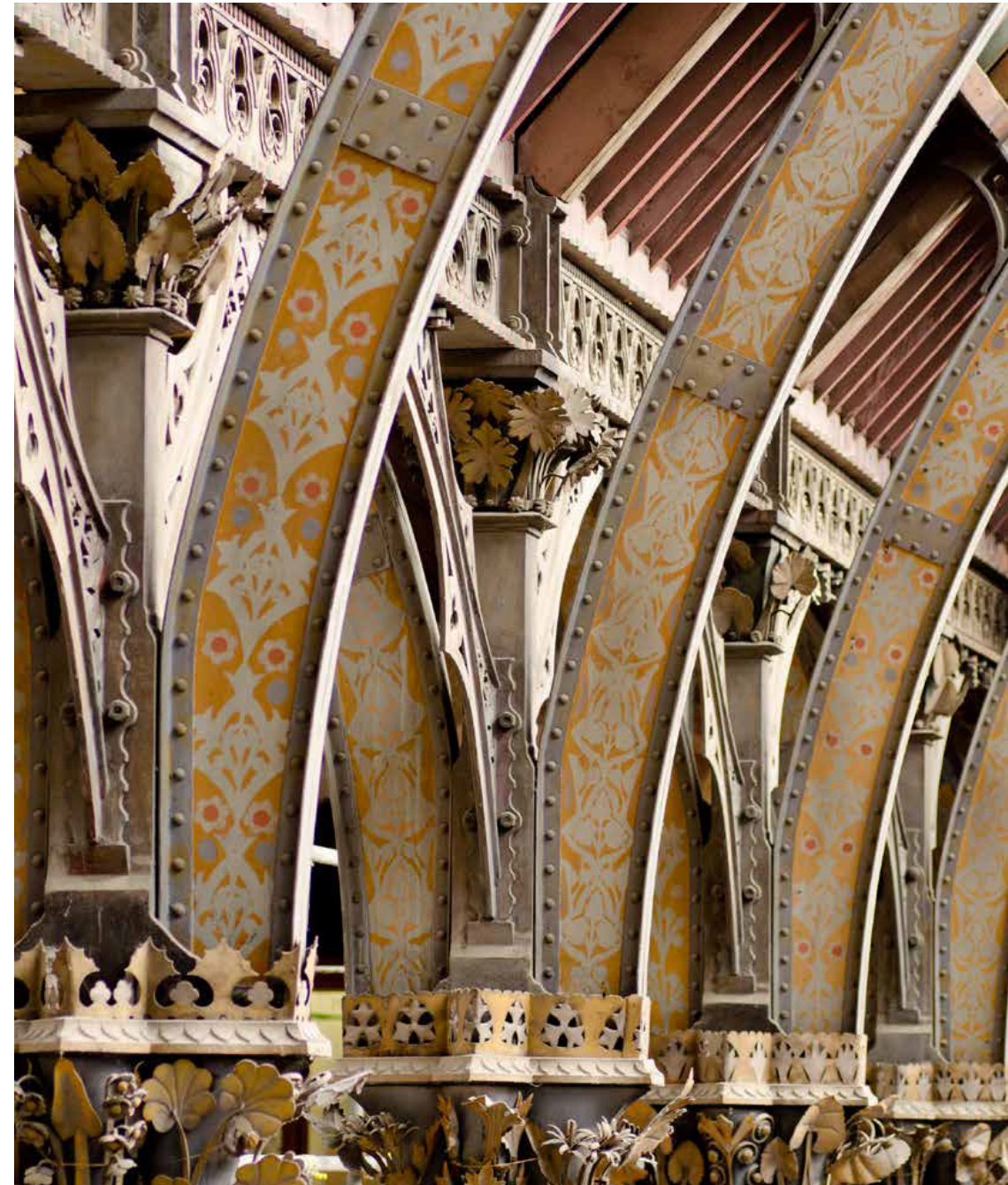
Acland had wanted to conduct an experiment 'to try how Gothic art could deal with those railway materials, iron and glass'.<sup>102</sup> In *The Germ*, Frederic Stephens had urged people to recognize 'the poetry of ... the endless novelties and wonders produced every day', from railways to steamships.<sup>103</sup> In its final version, Skidmore's roof pushes the aesthetic and architectural experiment with Victorian engineering far further than wrought iron alone could have done, spectacularly vindicating both Acland's vision for the museum and the Pre-Raphaelites' call for an artistic expression of the wonder of modern industrial technology.

#### GEOLOGY: THE COLONNADES

In the introduction to the second edition of *Modern Painters*, Ruskin had stressed the importance of sound geological knowledge to landscape painting:

*It is just as impossible to generalize granite and slate, as it is to generalize a man and a cow. An animal must be either one animal or another animal: it cannot be a general animal, or it is no animal; and so a rock must be either one rock or another rock; it cannot be a general rock, or it is no rock.*<sup>104</sup>

Stephens too insisted on accuracy in painting rocks, mocking how 'the Public are taught to look with delight ... upon rocks that make geologists wonder, their angles are so impossible, their fractures are so new'.<sup>105</sup> The care with which Millais painted the rocks on either side of the stream in the background to his portrait of Ruskin typifies this concern for the precise representation of geology in Pre-Raphaelite painting. Following the lead of



**FIGURE 46** The roof girders, still decorated with the stylized designs based on plants which were first completed in the early 1860s.