necessary enterprise, and the authors are to be congratulated for tackling it. By strengthening each side of their theoretical edifice with support from other areas of study, they succeed in building an intriguing and largely coherent story. Their account is also fun and interesting to read. The dialogue between the authors—structured as a correspondence at an Italian villa cum conference center where they spent an engaging month of bocce ball, walks in the countryside, scrumptious dinners, and conversations with literati—enlivens the subject matter. Calvin and Bickerton offer a plethora of engaging anecdotes, quotes, and informational tidbits from many different disciplines. They provide an appendix to explain linguistic theory, a clear glossary, and (in keeping with the times) even a web address for additional information. Both authors are original thinkers, and they present many provocative ideas in addition to their main hypotheses.

Nevertheless, the book suffers from several substantial weaknesses. There is perhaps too much speculation. This leaves the reader with the feeling that although many of the claims might be right, there is no good reason to believe them. Despite the difficulties in obtaining hard evidence in some of the scientific domains discussed (especially in the evolution of language), much greater attention could have been paid to existing empirical findings. In addition, by ignoring a number of alternative theoretical perspectives the authors only reduce the strength of their own arguments. Finally, even though the integration of the various scientific strands is impressive given the difficulty of the task, it falls short in places.

The book's strengths and weaknesses are both reflected in the authors' claim of a link between motor skills and grammar. I believe this view to be important and likely to be largely accurate (*4, 5*). But the omission of supporting evidence and the neglect of other explanations weaken their case. In particular, because some of this evidence suggests a common neural basis for motor skills and grammar, these omissions preclude an opportunity to better integrate the neural theory into the broader perspective.

In sum, Calvin and Bickerton have given us an ambitious, intellectually exciting, and deeply stimulating discourse that brings together the what, how, and why of language. Despite its weaknesses, most readers will learn a lot from *Lingua ex Machina* and enjoy themselves while doing so.

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BOOKS: MUSEUMS

Hallowed Halls for Nature

Mary P. Winsor

This book by a young historian of architecture at Rutgers University will be welcomed by anyone interested in natural history museums. Carla Yanni has searched through British libraries and archives to uncover the stories behind three great cathedrals of Victorian science: the Oxford University Museum and the Royal Museum of Scotland (both designed in the 1850s) and London's Natural History Museum in South Kensington (designed in the 1860s). She reviews some of their predecessors, including the popular exhibits of Bullock and Peale, abortive plans for a Cambridge University Library, and two versions of the Hunterian Museum of the Royal College of Surgeons. She goes behind the scenes at Oxford, Edinburgh, and London to describe the competing tastes that shaped the design of their great museums. Her account is accompanied by over 100 illustrations, beautifully printed. Yanni supports her discussion with selections from contemporary news reports, entries in architectural competitions (losers along with winners), and her own photographs. She asks how, in the decades before the radical "new museum idea" of the 1880s finally separated the public displays from the storage of research material, Victorians thought their great collections should be housed.

Well-lit nave. The specimen-free central hall of Waterhouse's Natural History Museum has a church-like quality.

The answer is that there was no single answer. The glass roofs that provided illumination in Oxford and Edinburgh were excluded from consideration for the British Museum, perhaps because their resemblance to contemporary shopping arcades made this solution seem undignified. At Oxford, a committee of professors debated the merits of classical, Renaissance, and Gothic styles, but they also kept a sharp eye on costs and worried about rainwater. Yanni shows that the building, the site of T. H. Huxley's 1860 exchange with Bishop Wilberforce about apes and grandmothers, was conceived by men confident that biology could never conflict with truths about God's creation. Meanwhile, government bureaucrats were assigning an engineer to draw plans for the Edinburgh Museum of Science and Art. Francis Fowke's adaptation of the famous Crystal Palace (a giant greenhouse) of the 1851 Great Exhibition suited the Board of Trade, which wanted to encourage the Scottish people to see their natural resources as money. Yet in London, Fowke's temporary 1862 Exposition Building in London was scorned. The jury for the new British Museum (Natural History) did not know whose drawings they were judging when they selected the plans he submitted. It was only Fowke's premature death that brought Alfred Waterhouse into the project and shifted the style to the Romanesque.

Nature's Museums
Victorian Science and the Architecture of Display
by Carla Yanni

Johns Hopkins University Press, Baltimore, MD, 2000. 215 pp. $49.95. ISBN 0-8018-6326-0.

To me, statements like "there is no nature outside culture" are unhelpful, but in museum studies these days such language is de rigeur. I do know that making sense of the history of natural history museums is extraordinarily difficult, and I applaud the courage, insight, and hard work that went into this well-conceived study. I judge Yanni's book a success because it leaves me wanting others like it, ones packed with pictures of European, American, and colonial museums. Thanks to her, I would pore over such books asking, Did this one have galleries like Charles Barry's Hunterian Museum, where Richard Owen worked? Did it have "glazed haunches" (skylights on the sides of a vaulted roof) like the Museum of Practical Geology, where Huxley lectured? *Nature's Museums* will convince the reader that however stolid and self-assured an old museum may seem, its past conceals a local story of vision, conflict, and compromise.

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