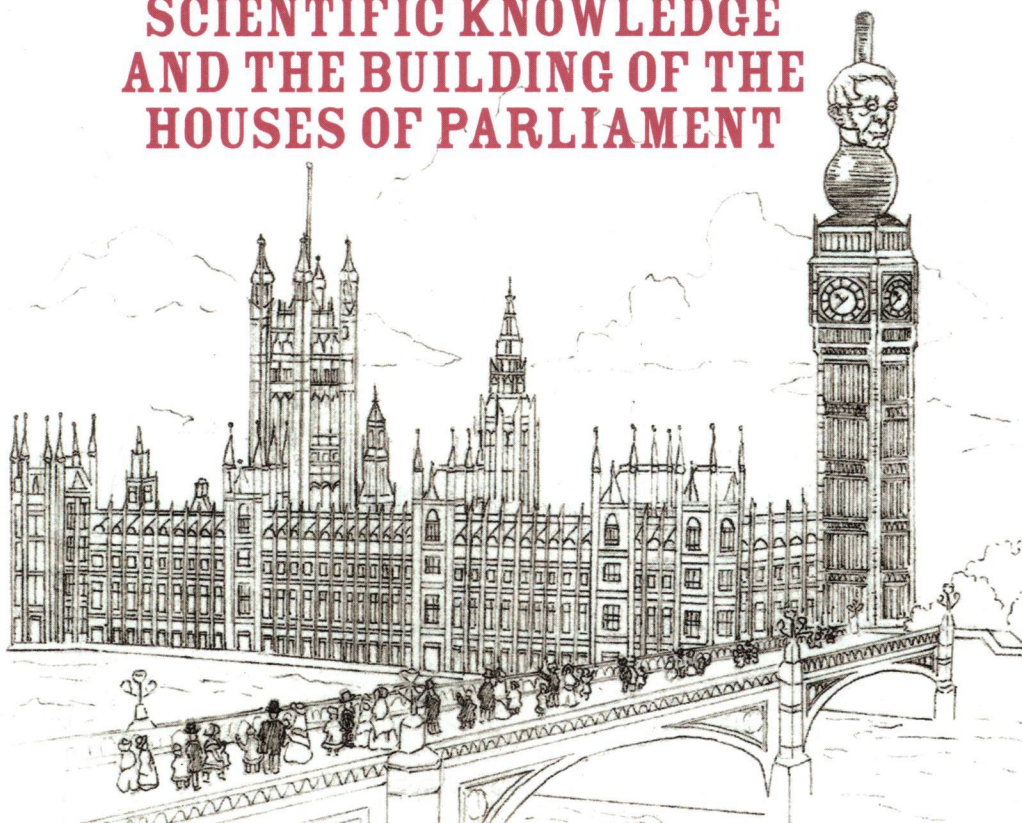


EDWARD J. GILLIN

THE

VICTORIAN
PALACE
& SCIENCE

SCIENTIFIC KNOWLEDGE
AND THE BUILDING OF THE
HOUSES OF PARLIAMENT



SCIENCE IN HISTORY

Series Editors

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*Scientific Knowledge and the Building of the
Houses of Parliament*

Edward J. Gillin

University of Cambridge



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The Victorian Palace of Science

The Palace of Westminster, home to Britain's Houses of Parliament, is one of the most studied buildings in the world. What is less well known is that while Parliament was primarily a political building, when built between 1834 and 1860, it was also a place of scientific activity. The construction of Britain's legislature presents an extraordinary story in which politicians and officials laboured to make their new Parliament the most radical, modern building of its time by using the very latest scientific knowledge. Experimentalists employed the House of Commons as a chemistry laboratory, geologists argued over the Palace's stone, natural philosophers hung meat around the building to measure air purity, and mathematicians schemed to make Parliament the first public space where every room would have electrically controlled time. Through such dramatic projects, Edward J. Gillin redefines our understanding of the Palace of Westminster and explores the politically troublesome character of Victorian science.

Edward J. Gillin completed a D.Phil. at the University of Oxford in 2015 and is now a Research Fellow at the University of Cambridge. He specialises in British science, technology, architecture and politics in the nineteenth century, with his current work focussing on the role of sound in the production of Victorian scientific knowledge. Previous works cover topics such as the Cunard Steamship Company, early twentieth-century political protest, and Isambard Kingdom Brunel's *Great Eastern* steamship. He received the 2015 Society of Architectural Historians of Great Britain's Hawksmoor Medal, and in 2016 was awarded the Usher Prize from the Society for the History of Technology.

SCIENCE IN HISTORY

Series Editors

Simon J. Schaffer, University of Cambridge

James A. Secord, University of Cambridge

Science in History is a major series of ambitious books on the history of the sciences from the mid-eighteenth century through the mid-twentieth century, highlighting work that interprets the sciences from perspectives drawn from across the discipline of history. The focus on the major epoch of global economic, industrial, and social transformations is intended to encourage the use of sophisticated historical models to make sense of the ways in which the sciences have developed and changed. The series encourages the exploration of a wide range of scientific traditions and the interrelations between them. It particularly welcomes work that takes seriously the material practices of the sciences and is broad in geographical scope.

Preface

The Palace of Westminster is probably the most recognizable nineteenth-century building in the world. Home to Britain's Houses of Parliament, it is the seat of the nation's democratically elected political representatives. As far as architecture goes, the Palace is the ultimate symbol of political power. Though to look at the Houses of Parliament building is not to see a bastion of democracy, but a fantastic shrine to the medieval powers of monarchy, church, and aristocracy. Adorned with glorious sculptures of English kings and queens (obviously Oliver Cromwell has to wait outside) and decorated with Queen Victoria's monogram and frescoes depicting idealized episodes in British history, this is every bit a royal palace. Even the style exudes aristocratic privilege. Although a Classical silhouette with obvious Italian influences, it is unmistakably Gothic, and while the Classical holds notions of republicanism (both from classical Rome and revolutionary France), the Gothic is feudal and ecclesiastical. Step inside and all the fantasy of Augustus Pugin's Roman Catholic imagination is overwhelming. One cannot help think that this romanticized mock-medieval illusion is a rather inappropriate venue from which to govern a modern nation. If this is Britain's representative legislature, then it is unclear which particular bit of Britain it represents.

It is the premise of this book that to interpret the Palace of Westminster in this way is to misconstrue it. Indeed, it is to fall into an architectural trap set long ago; the building is meant to seem traditional, medieval, and emphasizing of a British constitution in which the Crown is central. After all, this was a Parliament building to allay fears of radical political change in an age of reform. Yet beyond the reassuring symbols of ancient authority lies a far more modern, radical, and perhaps dangerous power: science. Parliament's architecture might appear medieval, but it was designed as a startlingly modern legislature, embracing the latest scientific learning. The Palace is a vast network of early Victorian science and was, in the mid-nineteenth century, a site of knowledge production.

Historical comparisons are always risky, but it is hard not to feel that now is an appropriate time to revisit the 1830s with a focus on the new

Parliament building. Built in an age of great social and political uncertainty, where existing institutions struggled to survive in the face of radical and popular pressures, this was a time when both the physical form of Parliament and the British state were recast. And at the centre of all this turmoil was the problem of knowledge. With religious teachings and aristocratic powers challenged, new bodies of scientific knowledge, such as geology and chemistry, provided alternate cultural authorities. If 2016 was the year in which substantial elements of society ‘had enough of experts’ and the Oxford Dictionaries opted for ‘post-truth’ as their Word of the Year, then the 1830s was a time when purveyors of science worked hard to fashion their knowledge as ‘truth’ and build cultural authority for themselves.

The political upheavals seen recently will engage historians for years to come as they devise explanations and historical comparisons. Yet in the background, Britain’s parliament building has attracted headlines. In the context of immense political uncertainty, the future of the Palace has been a quiet, yet important, cause for discussion. With its physical state dilapidated, its appearance and practicality in question, and the costs of renovating and maintaining the property divisive, the Palace of Westminster has itself become controversial again. A recent committee of MPs and Lords have warned that without a restoration costing at least £4billion, the future of the building is in peril.

Politicians have often commented on Parliament’s physical setting, either as a cause for celebration, ridicule, or disgust. Perhaps most recently, in her book *Honourable Friends?* (2015), the MP Caroline Lucas condemned the physical setting of Parliament and described it as a place of privilege and indolence. She proposed a dramatic solution. Electronic voting instead of division lobbies, iPads replacing paper, meetings beyond Westminster, office space, and an architectural redevelopment to include glass walls through which the public might see the machinations of their government, as can be done in Berlin and The Hague. What is so interesting about such proposals is that they echo some of the more radical calls for a new Parliament made in the 1830s. Attention to efficiency, architecture, division of space, public access, and even the location of the building were all central to the debates surrounding the new Palace. The problems faced in the 1830s are still resonant today.

Popular and architectural historians have contributed to this growing interest in the Palace, providing new interpretations of the building. While Henrik Schoenefeldt has drawn attention to the elaborate ventilation schemes and their significance within architectural and design history, Caroline Shenton’s *Mr Barry’s War* (2016) has provided an

entertaining account of the Palace's construction from architect Charles Barry's perspective. His enigmatic partner and co-designer of the Palace, Augustus Pugin, was the subject of Rosemary Hill's hugely successful biography, *God's Architect* (2007). At the University of York, John Cooper has been leading a considerable research project on the architecture of St Stephen's Chapel (the original home of the Commons) between 1292 and 1941. In London, at the Institute of Historical Research, Rebekah Moore has investigated the temporary accommodation used for Parliament during the 1830s and 1840s. All this activity has reminded us that the architecture of Parliament presents us with important questions over the history of our political system. The form a nation's legislature takes is not straightforward, but reflects the ideas and values a society holds dear. What past studies have failed to show is the extent to which the Houses of Parliament embody science and the degree to which Victorian society wanted their legislature to be a bastion of scientific knowledge.

I first came across this relationship between science and the new Parliament building by accident in early 2012. While undertaking research on the cultural significance of the Houses of Parliament's architecture during the nineteenth century, I had to read through a host of parliamentary debates, minutes from select committee meetings, and commission reports. Throughout these, the names of individuals well known within the history of science, but perhaps obscure in architectural circles, kept appearing. The Astronomer Royal, George Biddell Airy, was a frequent contributor to royal commissions, while experimentalists Michael Faraday, Goldsworthy Gurney, David Brewster, and David Boswell Reid regularly provided evidence to committees. Charles Wheatstone, John Frederic Daniell, and John Tyndall were all officially employed to perform chemical investigations into various building materials. William Whewell and William Buckland were unofficially consulted for advice, and geologists Henry De la Beche and William Smith worked on a royal commission to select stone for the building. The naval architect John Scott Russell, railway engineer George Stephenson, and several of Isambard Kingdom Brunel's relatives sat on committees to provide technical knowledge. In short, it was clear that the celebrities of early-Victorian science were drawn together to help build the nation a new Parliament. On looking through their personal papers and newspaper articles, it became apparent that scientific knowledge played a central part in the building's construction. As I delved deeper it was also obvious that this role was far from simple. The use of such new and untried knowledge was full of epistemological and political problems.

There is no volume which closely examines all of this scientific activity and places it in its political and social contexts. My study unites histories of science, architecture, and politics into a cultural history of the building. This book argues that knowledge and architecture were interlinked through the act of governing in mid-nineteenth-century Britain. Unpacking exactly how this happened is the aim of this book.

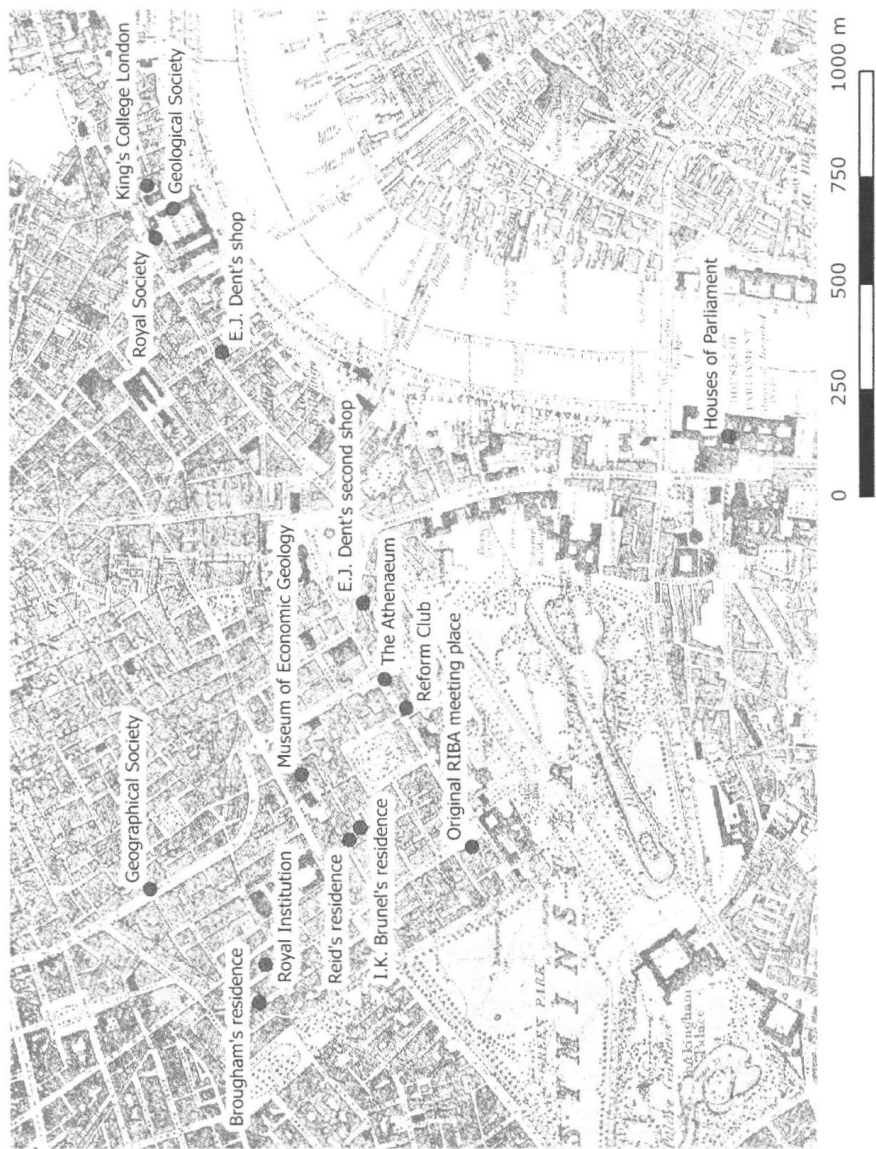
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Map A The venues of science in early-Victorian Westminster

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