# Re-Categorizing Great Britain's Medieval Architecture: A Lesson in Nineteenth-Century Visual Taxonomy

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Submitted to the Graduate Faculty of

The Dietrich School of Arts and Sciences in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

University of Pittsburgh

2016

UNIVERSITY OF PITTSBURGH

The Dietrich School of Arts and Sciences

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**Re-Categorizing Great Britain's Medieval Architecture:**

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This dissertation explores the intersections of architectural history and natural science in the first half of the nineteenth century in Great Britain. Examining a set of seven British architectural historians between 1800 and 1850, an alternate approach to our contemporary understanding of Nineteenth Century architectural history writing is offered through an analysis of visual representations showing change over time. Each chapter confronts shifting notions about the developmental progress of biological and architectural species presented by some of the renowned theorists of natural science and architectural history from the eighteenth and nineteenth centuries. The theories about change over time from Carl Linnaeus, Jean-Baptiste Lamarck, Charles Lyell, and Charles Darwin, to name a few, are offered in order to contextualize pictorial arrangements of visual knowledge showing change over time in architectural histories of medieval British ecclesiastical buildings. The visual examples from works by Thomas Warton, James Storer, John Britton, Thomas Rickman, Robert Willis, Edmund Sharpe, and John Ruskin present their own narrative of progress and change over time as each new author arranged a different set of building examples for illustration that, when examined together, highlight the synchronic and diachronic relationships between space and time, text and image, and art and science. Nineteenth-century notions about vision, objectivity, and Truth to Nature are included in order to situate these often-overlooked images in the context of contemporary art historical thinking. Since its mid-nineteenth century formation as an academic discipline, the

teaching of art history has been influenced by the history of science and scientific research. The correlation between natural science and architectural history, however, has been largely ignored. What is missing from recent British architectural historiographies is an investigation of theoretical and artistic production pertaining to ideas of change over time in the nineteenth century. This dissertation situates medieval British ecclesiastical architectural history within the broader framework of natural history through an analysis of nineteenth-century taxonomic systems. Examining pictures and diagrams, the following chapters investigate how natural historians and architectural historians present, in pictorial form, evolutionary descent, the typical in species, and their synchronic relations among different types and forms.

## TABLE OF CONTENTS

## LIST OF FIGURES

# PREFACE

The significance of *visual taxonomies* in nineteenth-century British architectural history surfaced in the context of a graduate seminar at the University of Pittsburgh under the guidance of my advisor, Christopher Drew Armstrong. From the beginning, Professor Armstrong's careful attention to texts and images, his ability to push the boundaries of academic rigor through cogent questioning, and his detailed attention to interdisciplinary methodology has been and continues to be a source of admiration and inspiration. I am also indebted to the members of my dissertation committee, Kirk Savage, Josh Ellenbogen, and Ryan McDermott, for their guidance on this journey. My research and method has been encouraged by the unfailing support of the Department of History of Art and Architecture – not only through numerous financial contributions in the form of fellowships, teaching assistantships, and research and travel grants, but also through the pedagogical and scholarly strength of the faculty, particularly in the written work and teaching practice of Drew Armstrong, Kirk Savage, Josh Ellenbogen, Barbara McCloskey, M. Alison Stones, and Gretchen Holtzapple Bender.

Conversations and discussions with numerous scholars at national and international conferences and institutions have greatly contributed to the enlargement of my ideas. In particular, I am grateful for conversations with Daniela Bleichmar, Nick Hopwood, and all the presenters at the 6$^{th}$ European Spring School in Menorca Spain in 2011. It is my privilege to also thank Timothy Barringer, Michael Davis, André Dombrowski, Claudia M. Caruso, Jennifer

Ferng, Craig Hanson, Steve Hindle, Allison Ksiazkiewicz, David Lewis, Barbara McCloskey, Mrinalini Rajagopalan, Marrikka Trotter, Daniel Williams, Carla Yanni, and Jonny Yarker for reading or discussing my work as it passed through various stages of development. I am especially grateful for the librarians at the Frick Fine Arts Library at the University of Pittsburgh for helping me gain access to many of the primary and secondary sources that first inspired this dissertation and for the assistance offered by Gregory Priore, archivist in the William R. Oliver Special Collections Room housing the Bernd Collection of Architecture at the Oakland branch of the Carnegie Library of Pittsburgh. It is an honor to thank the department of Art History at my *alma mater*, Mount Holyoke College, for their generous contributions in support of travel and growing my research library. I am also indebted to the University of Pittsburgh for their generous support of my research through the Andrew W. Mellon Pre-doctoral Fellowship, which was awarded for the 2012-13 academic year and facilitated research at the Yale Center for British Art at Yale University in New Haven, Connecticut and at the Huntington Library in San Marino, California, as well as at several institutions in London, including: the Victoria and Albert Museum, the Linnaean Society, the National Art Library, the Paul Mellon Center for the Study of British Art, the Royal Society, and the libraries at the Royal Institute of British Architects and the Sir John Soane's Museum.

Throughout this process there have been numerous acquaintances, colleagues, and close friends, who have all aided in the completion of my dissertation in some way – whether it was through their camaraderie while studying in a library or coffee shop or their company for a shared meal, each of these companions offered encouragement and comfort in the difficult moments. Finally, "acknowledgement" is too short of a word to adequately convey the recognition that my family deserves for assisting, sustaining, and championing me throughout

this whole process. In particular, to my mother, who read and commented on early drafts, providing much-needed clarity of ideas and editorial support; to my father, who never failed to offer words of reassurance or motivational wisdom; and, to my sister, who believed in the goal and carried me through to the finishing line.

# 1.0 INTRODUCTION

Great Britain's *history of architecture* and *natural history* – what relationship could there be between the writing of a building's or a period's or a nation's architectural history and the theory and practice of natural history in the nineteenth century?[1]

To begin, it is important to remember that the arts and the sciences were not considered as distinct disciplines, but rather related, in the intellectual milieu of Victorian and pre-Victorian Great Britain.[2] The work of naturalists was not so *high* of a science as to be above the general understanding of literate members of society.[3] Architectural histories, too, appealed to a wide audience of antiquarians, academics, and book collectors.[4] Illustrated books were published serially in several volumes over decades as new investigations modified original statements and as continued popularity and demand for a subject persisted. Authors frequently boasted of the accuracy of their illustrations and suggested that the object portrayed could be easily recognized and identified *in situ* because of the truthfulness of pictorial representations.[5] Naturalists from Linnaeus to Darwin published works that communicated new ways to categorize and understand biological and geological specimens and phenomena, while those British scholars who studied

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[1] A similar question was asked at the beginning of Diana Donald's introduction *Endless Forms* where she posed the question about the connection between Charles Darwin and the visual arts. See Diana Donald and Jane Munro, *Endless Forms: Charles Darwin, Natural Science and the Visual Arts* (New Haven, CT: Yale University Press, 2009), p. 1. See also, David Amigoni and Jeff Wallace, eds., *Charles Darwin's The Origin of Species: New Interdisciplinary Essays.* (Manchester, UK: Manchester University Press, 1995).

[2] Ibid. When I use the word "Science" or the idea of scientific practice in the nineteenth-century, I generally mean the word's more standard definition to refer to the intellectual activity encompassing the creation of systematically organized body of knowledge on a particular subject.

[3] Ibid.

[4] Susan M. Pearce and Society of Antiquaries of London, *Visions of Antiquity: The Society of Antiquaries of London, 1707-2007*, Archaeologia, (London: Society of Antiquaries of London, 2007).

[5] Lorraine Daston and Peter Galison, *Objectivity* (Cambridge, MA: Zone Books, 2010), pp. 42-43.

buildings and the history of architecture sought to define the perimeters of architectural change over time by outlining the stages of incremental growth in ecclesiastical structures built between the Norman Conquest in the eleventh century and the reign of King Henry VIII at the beginning of the sixteenth century. This dissertation engages some of the ways that natural history and architectural history intersect and overlap in nineteenth-century attempts to order the world visually through pictorial displays of new knowledge.

The observations offered here draw upon existing eighteenth-century French models of studying architecture according to its duration over long periods of time. For instance, the neoclassicist architects Julien-David Leroy and his student Jean-Nicolas-Louis Durand both developed graphic histories in the form of comparative plates to show the transformation of architectural types, i.e. the "tableau of comparative church plans" (Leroy) or "Gothic and Modern churches" (Durand), as a means to visually communicate the variety within a form as it transitioned over centuries through several iterations. Chapter 3 discusses these plans in greater detail and uses them as a backdrop for understanding the nineteenth-century attempts made by British authors to study five centuries of medieval construction by breaking down those centuries into smaller periods, or categories, in order to more accurately document the visible architectural transitions over time. The greatest difference between Leroy's plans of churches, however, and the diagrams developed for example by Edmund Sharpe, examined in Chapter 4, may be observed through the fact that while both architects offer a graphic history in the form of comparative visual plates, the greatest difference between them is that one illustrates the invisible structure of a building (its plan), while the other illustrates that which can be seen from a building's exterior (its windows). Leroy's comparative plans strip away all architectural details except for the footprint and section plan of the building itself, suggesting that a building's plan is

the essential and necessary element for architects or scholars of architectural history to understand the history of a period or a building style. Sharpe, on the other hand, follows a British tradition prioritized by his predecessor Thomas Rickman who stated that the essential architectural element needed to date a medieval building is not the plan, but the window. Thus, this dissertation charts not only the practice of making comparative plates as graphic histories, but also the transformation of architectural history writing in Great Britain according to the prioritization of the window type as the necessary element and dating mechanism through which to visualize change over time in medieval monuments.

The current study emerged from a graduate student seminar entitled *Architecture and Historicism* taught by Professor Christopher Drew Armstrong in the fall semester of the 2008-09 academic year. His course broadly examined architectural history and historiography in France, Germany, and Great Britain in the eighteenth and nineteenth centuries and focused, more specifically, on published architectural texts and images, and it was in this context that my interest in architectural historicism in nineteenth-century British books was first awakened. Some of the texts examined in this dissertation by John Britton, Thomas Rickman, Robert Willis, Edmund Sharpe, and John Ruskin were first analyzed in my final seminar paper. My initial investigation of these sources focused on pictorial arrangements of the "window type" as a visual classification system devised to study medieval architecture. In my paper, "An Evolutionary Armature: A Window to Human Progress during England's Gothic Revival," I examined how British architectural historians engaged in the idea of *progress* as a model to chart how specimens of medieval architecture changed over time.

This dissertation enlarges my earlier research by expanding the number of primary architectural sources in order to develop the observable relationship between architectural history

and natural history in illustrated books from the long nineteenth century. As such, this topic is now in dialog with contemporary scholarship engaged in studying visual history, history of the humanities, and science/art studies. My dissertation also includes works by the turn-of-the-nineteenth-century antiquarians, Thomas Warton and James Storer. Their works are included here to situate my corpus of authors from the first half of the nineteenth century in conversation with those theories and practices that shaped the systematic approach to British architectural history writing and illustrating as a means to denote the changing contours of architectural and visual knowledge-making in published books in nineteenth-century Great Britain.

The year 2009 also marked the 150th anniversary of the publication of Charles Darwin's *On the Origin of Species*. To commemorate this event a tremendous outpouring of new scholarship emerged to honor the work of one of Great Britain's most notable naturalists. Two major museum exhibitions marked the anniversary by focusing on the ways that images have been effected by or responded to changing notions about evolution in the late nineteenth and early twentieth centuries. *Darwin, Art, and the Search for Origins*[6] featured at the Schrin Kunsthalle in Frankfurt, Germany, and *"Endless Forms:" Charles Darwin, Natural Science, and the Visual Arts*[7] hosted by the Yale Center for British Art in New Haven, Connecticut, opened within days of each other in February 2009. The former highlighted the effects of Darwinism on artistic practice post 1859, while the latter exhibition focused on the significant scientific visual traditions that Darwin would have seen both before and after the publication of his book. Each of these exhibitions conveyed the challenges that artists and theorists faced once evolution was newly described as a series of progressive divergences showing that, "The inhabitants of each

[6] Pamela Kort, Max Hollein, and Schirn Kunsthalle Frankfurt., *Darwin: Art and the Search for Origins* (Cologne: Wienand, 2009).
[7] Diana; Munro Donald, Jane, *Endless Forms: Charles Darwin, Natural Science and the Visual Arts* (New Haven Conn.: Yale University Press, 2009).

successive period in the world's history have beaten their predecessors in the race for life."[8] Both of these exhibitions helped to motivate my idea to investigate the relationship between architectural history and natural science in Victorian and pre-Victorian Great Britain in this dissertation. The following chapters provide context for thinking about the emergence of architectural knowledge published in British books between 1800 and 1850 and present through a series of case studies the points of intersection where architectural historians and naturalists shared in the process of making *visual taxonomies* to document their idea of what change over time looked like.

Chapter 2: *Visual Knowledge and the Presentation of History*, sets the stage for the discussion of visual history-making and the nineteenth-century search for and organization of pictorial material to chart the history of Great Britain's medieval monuments over time. The major points of this chapter center on answering the following questions: What is architectural history? How is it written? How is it visualized? As the introduction demonstrates, the period from 1800 to 1850 marks a spirit of architectural empiricism in Great Britain when writing and picturing history is defined by the rapid production of serial publications. This period has been covered in the historiographies of Clarke, Summerson, Pevsner, Watkin, and Frankl, to name a few, but in their documentation they ignore the idea that the authors and texts examined in this dissertation offered any real contribution to the thrust of architectural theory into the twentieth century. I propose a different reading from the one perpetuated in the work by Dana Arnold to show that the early, investigatory writing and picturing of architectural history in Great Britain

[8] Charles Darwin, *On the Origin of Species by Means of Natural Selection* (London,: J. Murray, 1859), p. 267; Michael Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology* (Cambridge, MA: Harvard University Press, 1996), p. 151.

had tremendous impact in visualizing history through the use of typological and chronological diagrams of windows.

Chapter 3: *Visual Practice* focuses on the documentation of British cathedral churches between 1800 and 1827. Examining the work of Thomas Warton, James Storer, and John Britton, this chapter expands contemporary discussion of these authors through an examination of published illustrations showing the development of pictorial arrangements of architectural elements to visualize change over time. Situated in the context of eighteenth-century natural history through the work of Carl Linnaeus, as well as in comparison to the diagrams by French architect Julien-David Leroy showing chronological arrangements of religious structures,[9] this chapter focuses on the development of a systematic methodology to organize architectural knowledge of British medieval structures in text and images at the beginning of the nineteenth century. While contemporary scholarship has examined this period through an analysis of major themes, significant dates, particular historic figures, and notable buildings, I combine these observations as a means to draw attention to the visual practices employed by architects and historians to illustrate architectural history through the development of *visual taxonomies*. Attention is given to British diagrams because these authors developed a typology for architecture through a classification system of easily observable architectural elements that then created a standardized method for visualizing chronological change over time.

Chapter 4: *Visual Science* charts the process of selecting, identifying, organizing, and presenting visual knowledge through the work of Thomas Rickman, Robert Willis, and Edmund Sharpe. The diagrams of architectural change over time seen through arrangements of windows showing typology as well as chronology within ecclesiastical Gothic forms marks the beginning

[9] See discussion in Chapter 6 in Christopher Drew Armstrong, *Julien-David Leroy and the Making of Architectural History*. (New York: Routledge, 2012).

of making British architectural history and theory visible. Images showing chronological arrangements of windows as they developed from simple to complex forms over a roughly five-hundred-year period are examined in the context of Linnaeus' taxonomic system, as well as Jean-Baptiste Lamarck's theory about organic development through the inheritance of acquired characteristics. The emphasis in this chapter is on the education of the eye and the importance of visual material in developing architectural knowledge for the historian, scholar, and architect to be their own architectural empiricist and to visualize the expanse of time through the presentation of incremental, sequential, and chronological shifts in the transformation of medieval monuments in a single image.

Chapter 5: *Visual History* examines the work of John Ruskin in the context of the Gothic Revival movement in Great Britain and through his interactions with natural historians while studying at Cambridge. Ruskin is given his own chapter because of the singular approach that he created to visualize architectural change over time through arrangements of windows in ascending order on a single page to permit the comparison of multiple examples from different periods. This visual presentation of history adapted from an idea about natural growth is emphasized through Ruskin's own interests in collecting specimens, as well as debating the origins of organic and architectural species. Drawing upon the work of Britton, Rickman, Willis, and Sharpe, one can see from Ruskin's presentation of windows that he is thinking differently about architectural categorization and chronology from his predecessors. This chapter focuses on the intellectual shift in thinking about the earth's history as arguments developed in favor of static hierarchical organizations of the organic and inorganic world beginning in the mid-eighteenth century were challenged by new, nineteenth-century theories suggesting that species mutated across time and space. Without a standardized practice for visualizing how species

develop in natural history texts, pictorial displays of architectural chronology offer a method for visualizing the slow process of continuous change over time.

Together, these chapters document the visual process of illustrating change over time through both static and flexible comparisons of windows to document successive and continuous change over time. The pictorial displays of architectural elements examined in each chapter try to capture the development of architecture through a set of selected examples as a means to show continuous growth for all types of ecclesiastical medieval monuments. The idea that all architecture forms one, unbroken lineage from the Ancients to the modern-day was challenged by nineteenth-century authors who observed that certain styles of architecture ceased to be practiced – ceased to exist. This last point relates to an underlying, nineteenth-century theme that runs as parallel to this dissertation as a whole, which is an idea about progress in architecture inherited from eighteenth-century scholars of architectural history. This concurrent theme allows for a comparison between the development of Great Britain, as a nation and as an empire, and her architecture, as a means to measure the success of British creativity according to the successive changes of architectural forms from seemingly simple to increasingly complex forms.

Collectively the following chapters do not fit into any standardized presentation of architectural history. Each chapter is offered as a case study in order to document the chronological, and sometimes intersecting, shifts in the process of writing and visualizing architectural history in Great Britain in the first half of the nineteenth century. The argument offered here asserts that the group of British architectural historians examined in this dissertation contributed a method of pictorial display for the creation of architectural visual knowledge that has since been ignored by contemporary scholars and publications. The motivation of this dissertation, therefore, is to accomplish two things: first, to emphasize the work of nineteenth-

century British authors who shaped our contemporary understanding of medieval architecture and show through an examination of window diagrams how medieval forms were categorized and visualized in *visual taxonomies* between 1800 and 1850; second, to focus on these authors' adaptations of the visual presentation of windows as a means to compare and contrast their individual ideas about architectural categorization and the visualization of change over time. Drawing from written and pictorial examples found in natural history, it will be shown how British architectural historians both adopted and adapted scientific methodologies for the construction and presentation of graphic, visual histories in the nineteenth century. It is through this interdisciplinary examination of architectural history and natural history that this dissertation seeks to reconsider how medieval architectural history was understood through pictorial displays of architectural knowledge in nineteenth-century Great Britain.

## 2.0 VISUAL KNOWLEDGE AND THE PRESENTATION OF HISTORY

On October 16, 1834 an overheated chimney caught fire in the Palace of Westminster resulting in the complete destruction of the building that housed the British parliament. Stunned witnesses gathered on the South Bank of the Thames River to watch as great flames and billowing smoke swallowed the buildings, a scene later memorialized in one of J. M. W. Turner's many painted representations of the event, *The Burning of the Houses of Lords and Commons,* 1835.[10] With the political environment in a state of refashioning as a result of the Reform Act of 1832, and the economic and manufacturing environment in a state of rapid development as a result of the Industrial Revolution, there emerged an intense debate in the wake of the fire about the type of architecture that should be used to reconstruct and house Great Britain's contemporary and future governing body.[11]

At its core, the debate was about style. The site of Parliament had been in use since the mid-eleventh century and stood as a symbol of England's political history. The architectural debate that ensued pitted the former Gothic building against Classical forms, and Classical forms against Great Britain's medieval tradition. Fearful that the burning of the old medieval Parliament building was a sign of internal corruption, and even more fearful of a neo-Classical

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[10] Ian Warrell and Franklin Kelly, eds., *J.M.W. Turner*, Tate Britain (London: Tate Publishing, 2007).

[11] Dana Arnold, *Reading Architectural History* (London: Routledge, Taylor & Francis Group, 2002); Joseph Mordaunt Crook, *The Dilemma of Style: Architectural Ideas from the Picturesque to the Post Modern* (Chicago: University of Chicago Press, 1987); Barry Bergdoll, *European Architecture 1750-1890*, Oxford History of Art Series (Oxford, UK: Oxford University Press, 2000).

approach to architectural reconstruction because of the style's recent association with republicanism and revolution, as witnessed in France and the United States, the Royal Commission announced that "the style of buildings would be either Gothic or Elizabethan."[12] The decision to use Gothic forms suggests an underlying purpose to not simply reconstruct the former building, but to re-unite modern Great Britain with its heritage, symbolized by the long-standing medieval Palace of Westminster under the authority of the Monarchy. The choice of medieval forms also had a strong symbolic connotation of being characteristically British. With the government in place to represent all Britons, the decision to use medieval forms suggests the awakening of a new self-consciousness in Great Britain's national identity through the selection of the Gothic style as the emblematic form of its national architecture.

Beneath the debate about style in the mid-1830s, however, was a growing movement to document the history of Great Britain's medieval buildings, which had begun to gain wide attention in published books and treatises on the subject as early as the middle of the eighteenth century. Though the literature from this period is outside the scope of this dissertation, it is necessary to state that British publications such as Batty Langley's (1696-1751) *Gothic Architecture* (1742),[13] Horace Walpole's (1717-1797) *The Castle of Otranto: a Gothic story* (1765),[14] and John Carter's (1748-1817) *The Builder's Magazine* (1794)[15] looked to Gothic

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[12] David Watkin, *Sir John Soane: Enlightenment Thought and the Royal Academy Lectures*, Cambridge Studies in the History of Architecture (Cambridge: Cambridge University Press, 1996).

[13] Batty Langley, *Gothic Architecture: Improved by Rules and Proportions, in Many Grand Designs of Columns, Doors, Windows, Chimney-Pieces, Arcades, Colonades, Porticos, Umbrellos, Temples, and Pavillions & Co.: With Plans, Elevations and Profiles, Geometrically Explained* (London: Printed for I. & J. Taylor, at the Architectural Library, Holborn, 1742). See discussion in Michael J. McCarthy, *The Origins of the Gothic Revival* (New Haven, CT: Published for the Paul Mellon Centre for Studies in British Art by Yale University Press, 1987).

[14] Horace Walpole, *The Castle of Otranto: A Gothic Story*, 2nd ed. (London: Printed for William Bathoe, and Thomas Lownds, 1765). See discussion in McCarthy, *The Origins of the Gothic Revival*.

[15] John Carter and Andrew George Cook, *The Builder's Magazine, and Complete Architectural Library for Architects, Surveyors, Carpenters, Masons, Bricklayers, &Co.*, (London: Printed by M. Allen, Paternoster-Row, 1794). See discussion in, J. Mordaunt Crook, *John Carter and the Mind of the Gothic Revival*,

architecture in England as the source of the nation's and, indeed, of the empire's heritage and strength. The birth of the Gothic Revival in Great Britain is often cited as developing out of a chain reaction after Horace Walpole designed his Gothic villa Strawberry Hill in 1749, an endeavor which has its own exhaustive history and well-documented story in countless books and articles on the subject beginning with Charles Eastlake's (1836-1906) history of the Gothic Revival first published in 1872.[16]

Joseph Mordaunt Crook stresses another observable key factor behind the motivation for the revival and archaeology of Gothic architecture: the French Revolution and the American War of Independence.[17] Crook states that by the 1790s, British scholars felt "cut off from Europe during the French wars" and, thus, "turned inwards, abandoning the broader humanism of the Grand Tour for an increasingly chauvinistic cult of the Middle Ages."[18] What this seemingly prejudiced eighteenth-century view caused was, quite literally, an internalizing gaze that sought to examine and understand Great Britain's medieval antiquities, where they originated and how they developed. Crook captures the underlying spirit driving the Antiquarian Movement in a quote from Horace Walpole,

> Our empire is falling to pieces; we are relapsing to a little island. In that state, men are apt to imagine how great their ancestors have been; and when a kingdom is past doing anything, the few, that are studious, look into the memorials of past

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Occasional Papers from the Society of Antiquaries of London (London: W.S. Maney & Son Ltd. in association with the Society of Antiquaries of London, 1995); see Noah Heringman's discussion of 'romantic antiquarianism' in, *Sciences of Antiquity: Romantic Antiquarianism, Natural History, and Knoweldge Work*. (Oxford, UK: Oxford University Press, 2013), pp. 1-17.

[16] Charles L. Eastlake, *A History of the Gothic Revival: an Attempt to Show How the Taste for Mediæval Architecture, Which Lingered in England During the Two Last Centuries, Has since Been Encouraged and Developed* (London: Longmans, Green, and Co., 1872). See also, McCarthy, *The Origins of the Gothic Revival*.

[17] Crook, *John Carter and the Mind of the Gothic Revival*; McCarthy, *The Origins of the Gothic Revival*.

[18] Crook, *John Carter and the Mind of the Gothic Revival*, p. 1.

> time; nations, like private persons, seek lustre from their progenitors, when they have none in themselves.[19]

Following Walpole's dire prediction of the "empire falling to pieces," numerous antiquarians and scholars travelled across the English countryside in an attempt to reclaim Great Britain's glorious history by examining and documenting her medieval monuments. From this eighteenth-century enterprise of excited exploration and book-publication came a need for order and a need for systematization.

This dissertation begins at that pivotal moment around 1800 when certain British antiquarian scholars try to slow the hectic production of cathedral monographs by calling for greater accuracy in the application of names and dates to study medieval ecclesiastical architecture as a whole. The result of that call for accuracy motivated a new way of history-making that produced new methods for writing, organizing, and visualizing architectural history that had never been applied to the study of medieval monuments before. This dissertation charts that process of systematization by navigating a series of texts and images as case studies for the development of architectural history as an empirical and scientific discipline in the first half of the nineteenth century.

The corpus of texts and images examined in this dissertation, include, John Taylor and Thomas Warton's collected *Essays on Gothic Architecture* (1800, 1802), James Storer's *Graphic and Historical Description of the Cathedrals of Great Britain* (1812-1819), Thomas Rickman's *An Attempt to Discriminate the Styles of Architecture in England from the Conquest to the Reformation* (1817), John Britton's *Chronological History* (1827), Robert Willis' *Remarks on the Architecture of the Middle Ages, especially of Italy* (1835), Edmund Sharpe's *A Treatise on*

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[19] Ibid., quoting, W. H. Lewis (ed.), *Horace Walpole's Correspondence*, 39 vols. (New Haven, CT: 1937-74), Vol. II, 117: 1 September 1778, letter to William Cole.

*the Rise and Progress of Decorated Window Tracery in England* (1849), and John Ruskin's *The Seven Lamps of Architecture* (1849).[20] These works have been collected here because all of them address, albeit in varying degrees and methodologies, the process of acquiring and visualizing knowledge through both an empirical and rational search to understand the progress and development of ecclesiastical medieval architectural forms. The common denominator among this diverse set of material articulates a desire on the part of nineteenth-century scholars for a systematic study of architecture as a means to chart the diversity of forms, as well as how they changed over time, within one overarching style: *Gothic*.[21]

While the authors examined here are also included in contemporary discussions and publications about the Gothic Revival in Great Britain, I would like to re-situate them in a context about making history through the use of pictorial representations such as *visual taxonomies*. I offer this distinction because the process of history-making as it developed in the book publications examined in this dissertation is quite different from proposals for the revival of Gothic forms for new architectural constructions in eighteenth- and nineteenth-century buildings. Contemporary scholars have failed to make this distinction, however, often grouping histories of medieval architecture in the same category as nineteenth-century architectural pattern books on

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[20] Thomas Warton et al., *Essays on Gothic Architecture* (London: Printed by S. Gosnell for J. Taylor, 1800); James Storer, *History and Antiquities of the Cathedral Churches of Great Britain: Illustrated with a Series of Highly-Finished Engravings, Exhibiting General and Particular Views, Ground Plans, and All the Architectural Features and Ornaments in the Various Styles of Building Used in Our Ecclesiastical Edifices*, 4 vols. (London: Published by Rivingtons, Murray, Hatchard, Clarke, Taylor, and Sherwood, Neely, and Jones, 1814); Thomas Rickman, *An Attempt to Discriminate the Styles of Architecture in England* (London: John Henry Parker, 1848); John Britton, *The Architectural Antiquities of Great Britain: Represented and Illustrated in a Series of Views, Elevations, Plans, Sections, and Details, of Ancient English Edifices: With Historical and Descriptive Accounts of Each*, 5 vols. (London: M.A. Nattali, 1827); Robert Willis, *Remarks on the Architecture of the Middle Ages, Especially of Italy* (Cambridge: J. & J. J. Deighton, 1835); Edmund Sharpe, *A Treatise on the Rise and Progress of Decorated Window Tracery in England* (London: J. Van Voorst, 1849); John Ruskin, *The Seven Lamps of Architecture* (New York: J. Wiley, 1849).

[21] One distinction to point out here is that many late eighteenth- and early nineteenth-century authors often characterized medieval Gothic forms using a variety of terms, other than "Gothic," such as "Saxon" or "Norman," to describe architecture produced in Great Britain during the Middle Ages.

the proper design of Gothic ornaments. Twentieth- and twenty-first-century historians who examine the work of nineteenth-century British writers on medieval architecture have neglected an important discussion about how architectural history was written and *visualized* as a systematic process during that period. This dissertation advocates for the re-examination of the above-mentioned authors for their contribution to the production of *visual taxonomies* and *chronologies of architecture* that showed through diagrams and illustrations of categorical arrangements of medieval architectural ornaments and building elements to communicate phases of development and the progress of architectural forms as they changed over time.

## 2.1 BRITISH BOOKS AND VISUAL TAXONOMIES

Of particular importance to this dissertation is the way in which early nineteenth-century British architectural history books and their illustrations were necessary components for communicating new organizations of architectural knowledge between 1800 and 1850. The group of seven authors examined in the following pages state in varying degrees of exactness that they would like to make the study of architecture a *science*.[22] The intersection of architecture and science is one of the primary themes for this dissertation and, thus, permits the discussion of architectural history and natural history together. It is important to state that there was a process that each British author of architectural history went through in order to arrive at a systematic, scientific study of medieval buildings that resembled the methodologies derived for the examination of the natural world. Each author featured here adheres to a method of empirical study in the tradition

[22] Not every author uses the word "science" to describe their process of history-writing, but it is clear that they do draw on an established practice in philosophy that in order to produce empirical research, one must include evidence.

of eighteenth-century philosophy and natural history. Careful observation of the "Species of Architecture," to use John Britton's (1771-1857) term, was closely linked to the approaches used by natural historians to systematize the study of organisms and phenomena. The organization of architectural history according to taxonomic systems drew from well-known methodologies and theories developed by Carl Linnaeus, Jean-Baptiste Lamarck, and Charles Lyell, to name a few. The botanical, zoological, and geological illustrations found in British and Continental European natural history books and journals display careful arrangements of categories of *species, genus, family, order, class,* etc. Drawings and watercolors of leaves from local and exotic plants, jawbone fossils from prehistoric hyenas once roaming the English countryside, and large painted plates of plant anatomy, all served the same purpose: to illustrate new knowledge within natural history with the intention of comparing data and expanding the boundaries of existing scientific knowledge through visual representations.[23]

Naturalists from Linnaeus to Charles Darwin published works that communicated new ways to categorize and understand specimens and phenomena, as well as to debate the origin, lineage, and cause(s) of "successive changes," to use Charles Lyell's term, in the "organic and inorganic kingdoms."[24] Similarly, the British architectural historians examined here demonstrate in verbal and visual material that medieval buildings, particularly Gothic cathedrals, were analogous to plant and animal species, adapting over time toward increasingly complex phases of

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[23] Daniela Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment* (Chicago: The University of Chicago Press, 2012). – Bleichmar discusses, at length, the powerful role that European natural history books played in the visualization of scientific practice and how each image "embodies not only a plant but also multiple observations, decisions, negotiations, and types of expertise" into one frame or one book, see p. 6.

[24] Charles Lyell, *Principles of Geology: Being an Attempt to Explain the Former Changes of the Earth's Surface, by Reference to Causes Now in Operation*, 3 vols. (London: J. Murray, 1830), Vol. I, p. 1.

construction.[25] Principal among these authors was John Ruskin, writer of *The Seven Lamps of Architecture* (1849), who noted that a church's structural firmness and decorative vaulting is closely related to "bones of animals" and "tree form[s]."[26] The common denominator found in a diverse range of architectural books hinged on a scientific mentality that advocated for the systematic, empirical study of medieval architecture as a means to chart its progress and development from the eleventh to the sixteenth century. This dissertation focuses on illustrated nineteenth-century British books dedicated to the study of British medieval architecture at a time when themes of *origin*, *place*, and *identity* were common topics in discussions about science, philosophy, and history. My study of the illustrated British architectural book as a product of a particular scientific mentality is motivated by the semiotic relationship between text and image as co-bearers of meaning, as well as by the picturing techniques used to educate and communicate with the reader/viewer.[27]

By examining the creation of *visual taxonomies* for the study of architecture, this dissertation explores how nineteenth-century architectural historians devised their own verbal and visual methods to describe and organize, through pictorial representations, how medieval British architectural forms changed over a roughly five-hundred-year period. It was through a process of categorization and classification that architectural historians were able to define which medieval structures articulated the incremental phases of progressive development over time.

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[25] Carla Yanni, "Development and Display: Progressive Evolution in British Victorian Architecture and Architectural History," in *Evolution and Victorian Culture*, Bernard and Bennett Zon Lightman, eds. (Cambridge: Cambridge University Press, 2014); Michael Hall, "What Do Victorian Churches Mean? Symbolism and Sacramentalism in Anglican Church Architecture, 1850-1870," in *Journal of the Society of Architectural Historians* 59, no. 1 (2000); David B. Brownlee, "The First High Victorians: British Architectural Theory in the 1840s," in *Architectura* 15 (1985); Alexandrina Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*, (Rochester, NY: The Boydell Press and Cambridge University Library, 2013.

[26] Ruskin, *The Seven Lamps of Architecture*, pp. 40, 56.

[27] W. J. T. Mitchell, "Word and Image," in *Critical Terms for Art History*, Robert Nelson and Richard Shiff, eds. (Chicago: University of Chicago Press, 1996), pp. 47-57.

Through this process of selection, organization, and categorization, British architectural historians outlined the contours of British medieval ecclesiastical architectural history for the first time.

Focusing on architectural diagrams, this dissertation compares the pictorial display of medieval windows with diagrams illustrating natural history publications as a means to compare and contrast the pictorial methodologies used to illustrate knowledge and visualize change over time. Though some of the authors examined here also include comparative diagrams of architectural plans, elevations, and vaults, among other elements, the attention given to diagrams of windows, mouldings, and tracery is offered by each of the authors examined here as the type specimen through which to document a building's development and thus permits the comparison of *visual taxonomies* in natural and architectural history. This is a crucial fact of nineteenth-century architectural history writing in Great Britain that is frequently ignored in twentieth- and twenty-first-century scholarship. In the absence of a standardized method for representing architectural change over time in a single image in the nineteenth century, this dissertation offers a new way to not only contextualize the formation of architectural history as a discipline, but also to think about how themes of change over time were visualized and theorized, simultaneously, in architectural and natural history in the nineteenth century.

## 2.2 PROGRESS IN ARCHITECTURE AND NATURAL HISTORY

In the histories of British medieval architecture written between 1800 and 1850, many of the authors correlated the comparison of buildings with plant or animal species in the way that they could be grouped according to like forms and in the way that they developed through stages of

incremental growth. In their examination of the development of architecture, the historians examined here focus on the period of architectural construction between the years 1000 and 1500. These rough dates coincide with the Norman Conquest of England in 1066 and King Henry VIII's break with the Catholic Church in Rome and the start of the English Reformation, beginning in the early 1530s. Because of the significance of these two events, British authors mark the beginning of "Norman" architecture in England after the Battle of Hastings and the end of Gothic cathedral and monastery construction after King Henry VIII disbanded Catholic religious houses beginning in 1534 – an act also known as the Dissolution of Monasteries.[28] The primary sources investigated in this dissertation make reference to these dating parameters throughout their discussions and sometimes in the titles of their books. Rickman, for example, titles his work, *An Attempt to Discriminate the Styles of Architecture in Great Britain from the Conquest to the Reformation*; Britton follows suit with, *A Chronological history … Of Christian Architecture in England, embracing a critical inquiry into the Rise, Progress, and Perfection of this species of Architecture*; and Sharpe begins with, *The Seven Periods of British Architecture.* Titles such as these helped the nineteenth-century reader understand that the author was focused on dating, as well as charting the progress, or stages of improvement, of medieval architecture in Great Britain. Focusing on the idea of development through stages of improvement, the turn of the twentieth-century scholar, John Bagnell Bury (1861-1927), remarked that, "Progress" quite simply, "is the belief in a doctrine about the course of history. It is a belief about change, from the past, to the present, and most probably onwards and upwards into the future."[29]

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[28] Howard Montagu Colvin, *The History of the King's Works*, 6 vols. (London: H. M. Stationery Off, 1963); Geoffrey Baskerville, *English Monks and the Suppression of the Monasteries* (New Haven, CT: Yale University Press, 1937).

[29] Michael Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology* (Cambridge, MA: Harvard University Press, 1996), p. 20.

In the year 1800, the same year that this dissertation marks as its starting point, British historians of medieval architecture identified two phases of Gothic construction, *circular* and *pointed*. These two phases, as discussed in Chapter 3, were organized in a similar way to arrangements of organisms according to their shared characteristics found in nature. As British historians of medieval architecture expanded their observations of ecclesiastical buildings they developed the belief that medieval structures passed through a series of improving, or progressive, stages from their conception in the early eleventh century to their fruition in the early sixteenth century. These stages, however, had never been systematically identified or studied with much precision. It was not until 1817 when Thomas Rickman first published his "discrimination of styles" in book form that it was possible, for the first time, to study the continuous arc of medieval architectural history and building construction according to four phases of development.

Rickman, who is discussed in Chapter 4, was one of the first British architectural historians who could be termed an *architectural empiricist* for the way in which he employed an experiential approach to studying architecture that was based on the collection of observable facts for the comparison of visual data. These facts came in the form of architectural ornaments (mouldings, finials, capitals etc.) and elements (windows, doors, columns, etc.) that were identified, organized, and classified according to their visible similarity into types (stages) and periods (dates). These *visual taxonomies* enabled the pictorial organization of forms to be viewed according to their shared characteristics and allowed for the initial visualization of an architectural form's successive change over time. Rickman's work is just one example of wide interest within the nineteenth century to generate systems of pictorial organization for the visualization of architectural and natural knowledge. This dissertation charts how architectural

empiricists set out to create accurate histories of medieval building practice through the collection and arrangement of medieval specimens, particularly windows, as visual data. This is the key contribution of Rickman's work upon subsequent histories of medieval architecture – namely, his idea that fenestration provides the key to dating all medieval ecclesiastical structures. As the following chapters show, the creation of *visual taxonomies* to arrange architectural change over time received the most attention between 1800 and 1850 when five-hundred-years of British medieval ecclesiastical buildings were organized into distinct groups for the first time.

While architectural historians like Thomas Rickman, John Britton, Robert Willis, and Edmund Sharpe contemplated the history of British medieval architecture, their goal of achieving an accurate *chronology* of building practice corresponded to a broader interest common to studies in natural history that focused on documenting the earth's history through arrangements of organisms and phenomena. Beginning in the middle of the eighteenth century, debates among naturalists ranged from concerns about organizations of natural knowledge to investigations of the successive changes within organic and inorganic kingdoms. These two major interests in organizing and mapping knowledge mirrored concerns among other areas of inquiry including, philosophy, theology, history, politics, botany, and architecture, to name a few. The development of verbal and visual mechanisms for describing and picturing the complex relations between organizing and mapping knowledge is what allows for the study of natural history and architecture to be drawn together in this study. Both disciplines of knowledge-making sought to write successive and chronological histories, with linear progressions, that could systematically describe either the organization of forms based on shared characteristics or

the sequential shifts of increasingly mutable forms over time.[30] The challenge of writing chronological historical narratives, as Peter Machamer has stated, is often due to the missing "reference to the detailed forces that are the mechanisms of transmission of specifics of the forces which interact to bring about differences. How something came to be, what function it has and why is persists," Machamer continues, "are necessary to explain adequately any phenomena of continuity and change."[31] This, of course, is the great debate surrounding, in particular, the writing of natural and architectural histories in nineteenth-century France and Great Britain. Part of the search for causality in the development of new architectural forms, however, was bound up by a desire to understand those forms according to their shared characteristics by first placing them into categories based on similarity.

In the following chapters, I examine the pictorial practices and empirical methods used by nineteenth-century historians, architects, and artists to conceive a visual history of medieval architectural forms, ornaments, and typologies in Great Britain. In order to contextualize this study of British medieval architecture in the nineteenth century, I situate the discussion in relation to emergent theories about progress and change found in natural history. Taxonomies such as Carl Linnaeus' system of botanical classification, Jean-Baptiste Lamarck's theory of organic transformation and the mutability of species, Charles Lyell's theory of the earth's

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[30] See Peter Machamer's discussion in K. Ostas Gavroglou, Jean Christianidis, and E. Nicolaidis, *Trends in the Historiography of Science*, Boston Studies in the Philosophy of Science (Dordrecht: Kluwer Academic, 1994), p. 152; and David L. Hull, *Science as a Process: An Evolutionary Account of the Social and Conceptual Development of Science*, *Science and Its Conceptual Foundations* (Chicago: University of Chicago Press, 1988); and, Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology*.

[31] Gavroglou, Christianidis, and Nicolaidis, eds., *Trends in the Historiography of Science*, pp. 152-153; See conclusion in Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science*, Cambridge History of Science (New York: Cambridge University Press, 1998), p. 186; and Part 3: "Humans and Natures" in William Clark, Jan Golinski, and Simon Schaffer, eds., *The Sciences in Enlightened Europe* (Chicago: University of Chicago Press, 1999), p. 169.

continuous advancement, and Charles Darwin's idea of species adaptation through "descent with modification" provide the theoretical boundaries for comparison and analysis.

## 2.3 IMAGING PRACTICE IN NATURAL AND ARCHITECTURAL HISTORY

Learning to represent new findings visually was in itself an experimental task for many naturalists and artists. Scientific authors and artists, though not always mutually exclusive, practiced how to translate their findings into written documentation and visual representation.[32] The use of images was crucial for early naturalists to share their often remote and specialized findings with a wider audience, giving credence to their theories and observations through careful visual rendering. David Freedberg explores the idea that the "great first age of visual encyclopedias" emerged in the sixteenth century, while changes in print production and the revolution of new image practices, such as the use of woodcuts and engravings, allowed for increased "reproduction and dissemination of visual information."[33] The sharing of knowledge in a visual way provided naturalists with another method to identify and classify their findings by comparing and cross-referencing specimens, organisms, and phenomena against other illustrated observations in the field.[34]

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[32] Daston and Galison, *Objectivity*; Donald and Munro, *Endless Forms: Charles Darwin, Natural Science and the Visual Arts*; Arnold, *Reading Architectural History*; David Freedberg, *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History* (Chicago: University of Chicago Press, 2002).

[33] Freedberg, *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History*, p. 3.

[34] Ibid., p. 4 - This is what Freedberg describes as Foucault's understanding of the sixteenth and early seventeenth-century practice of creating images to show objects based on "resemblance and similitude" as the "basis for understanding the relations between things; See also, Ray Desmond, *Great Natural History Books and their Creators*. (London: The British Library, 2003).

The imaging practices associated with natural history, the study of biological, botanical, and geological specimens in particular, developed as new taxonomic studies emerged. In the case of charting the progress of organic families – showing their slow, consistent change over time – images were used in the nineteenth-century to represent the various stages of a specimens' development. Authors associated with the scientific revolution of the seventeenth century, often defined as the birth of modern science, including the developed study of astronomy, biology, mathematics, and physics, sought to represent their findings in text and image.[35] In the case of biological studies, authors developed ways to define static families of animals, minerals, and vegetables into comprehensible categories for empirical study. Therese O'Malley and Amy Meyers highlight this point too in their book, *The Art of Natural History,* where they state that "drawings produced in the field were of particular importance in the transformation of the study of nature and in the emergence of empiricism," [36] which demonstrates that "naturalist-artists were concerned not only with natural production but also with the effects of natural processes such as the passage of time and environmental change on plants as they were transported around the world from originating habitats to gardens and collections."[37] The work of scientific authors such as Linnaeus and Lamarck laid the groundwork for different approaches to the study of natural history in the eighteenth and nineteenth centuries. Linnaeus offered a methodology for organizing species according to static, unchanging types and forms. More than half a century

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[35] Peter Galison and Caroline Jones. *Picturing Science, Producing Art*. New York: Routledge, 1998; John B. Bender and Michael Marrinan, *The Culture of Diagram* (Stanford, CA: Stanford University Press, 2010); Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment*; Freedberg, *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History*.

[36] Amy R. W. Meyers, Therese O'Malley, and Center for Advanced Study in the Visual Arts (U.S.), eds., *The Art of Natural History: Illustrated Treatises and Botanical Paintings, 1400-1850,* Studies in the History of Art (Washington: National Gallery of Art, 2008), p. 10; see also, Hans Walter Lack, *The Bauers: Joseph, Franz & Ferdinand: Masters of Botanical Illustration*: *An Illustrated Biography*. (London: Prestel Publishing, Ltd., 2015).

[37] Ibid., p. 10.

later, Lamarck proposed a theory that suggested species mutate across generations. Architectural historians, too, sought to arrange buildings and building elements into categories based on criteria of similarity. Yet, their work also defined categorical boundaries of the *Gothic type* as a means to understand new phases of medieval construction that allowed for further classification and chronological ordering through empirical study.

One of the major differences between visualizing natural history and visualizing architecture, however, is found in the way that architectural historians were able to represent the course of an individual building's lifespan and document how the fundamental characteristics of a style could change over long periods of time. This would have been unthinkable to someone like Linnaeus who did not, nor could not, illustrate change, but rather showed the fixed characteristics of specimens within their typological groupings. Lamarck, on the other hand, sought to describe the lifespan of specimens through a process that would allow for the possibility that they could develop, or mutate, toward increasing stages of complexity and therefore change their primary and definable characteristics.

Methods of organizing and representing scientific knowledge of organic family groupings, types, or the process of change over time found in studies of biology, botany, and geology experienced several processes of visual representation during the course of the late eighteenth and early nineteenth century. The zoological, botanical, and geological illustrations found in books and journals from the second half of the eighteenth century display careful arrangements of categories of species, genus, family, order, class, etc. on a single page. By the middle of the nineteenth century, however, new investigations on the development of species influenced the creation of other kinds of pictorial displays to present scientific findings. Instead of groupings of representations of leaves arranged by their type, line diagrams were developed to

show the relationship of species' development and progress across time. Lamarck's "Tableau" (**figure 1**) and Darwin's "tree diagram" (**figure 2**), for instance, are two visual examples of this kind of transformation in the production of visual representations to show categories of organisms, as well as their mutability, divergence, and, in some cases, stagnation or extinction.


ADDITIONS. 463

TABLEAU

*Servant à montrer l'origine des différens animaux.*

Vers.
Infusoires.
Polypes.
Radiaires.
Insectes.
Arachnides.
Crustacés.
Annelides.
Cirrhipèdes.
Mollusques.
Poissons.
Reptiles.
Oiseaux.
Monotrèmes.
M. Amphibies.
M. Cétacés.
M. Ongulés.
M. Onguiculés.
Cette série d'animaux commençant par deux

**Figure 1: Lamarck, "Tableau" in *Philosophie Zoologique,* Paris: 1809.**

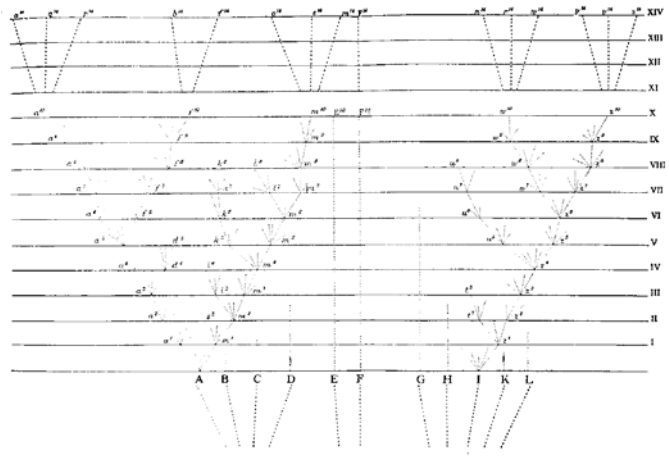


**Figure 2: Darwin, "Tree Diagram" in *On the Origin of Species*, London: 1859.**

Similar to naturalists, the early nineteenth-century architectural historians classifying Great Britain's medieval ecclesiastical architecture understood that some structures looked more similar than others. They also understood that the process by which one church differed from another did not take place overnight. Using a set of architectural elements (doors, arches, windows, columns, capitals, etc.), these architectural empiricists sought to identify a common architectural denominator to define the stages of transition that those elements marked along a five-hundred-year process of development.

## 2.4 THE SCIENTIFICATION OF ARCHITECTURE

One of the first twentieth-century historians of architecture to examine in detail the idea of architectural history as a systematic scientific practice was Carla Yanni.[38] In her writing,[39] Yanni considers that the scientification of architecture was advanced by the polymath William Whewell (1794-1866) who she describes as an "important founder of empirical architectural history."[40] Yanni charts the production of architectural knowledge in early Victorian Britain by examining the correlation between the methods of natural history and architectural writing as a means to discuss the scientification of architectural research in the nineteenth century.

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[38] Two other authors to work on this topic surrounding the publication of Yanni's own investigation include: Brownlee, "The First High Victorians: British Architectural Theory in the 1840s;" and Hall, "What Do Victorian Churches Mean? Symbolism and Sacramentalism in Anglican Church Architecture, 1850-1870."

[39] Carla Yanni, "On Nature and Nomenclature: William Whewell and the Production of Architectural Knowledge in Early Victorian Britain," *Architectural History* 40 (1997). Michael Ruse describes Whewell in the following way: "William Whewell: Anglican clergyman, powerful conservative Master of Trinity College Cambridge, scientific polymath, and author of major works on the history and philosophy of science;" see Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology*, p. 31.

[40] Yanni, "On Nature and Nomenclature: William Whewell and the Production of Architectural Knowledge in Early Victorian Britain," pp. 204-205.

Looking at the university curriculums at Oxford and Cambridge, Yanni discusses how academic courses were "limited to the traditional mathematics, classics, and theology" and that only a few exceptions were made to include the specific interests of professors and college fellows; these exceptions included the study of the physical world, such as natural theology and architecture. Beginning in 1802, when William Paley published his un-illustrated, but influential text, *Natural Theology, or Evidence of the Existence and Attributes of the Deity, Collected from the Appearances of Nature*, the connection between science and religion was commonly understood to be linked, and, therefore, it is not surprising that Oxford made the exception to the curriculum to include the study of science and religion. Using this example of the relationship between science and religion as the basis for her discussion of scientific practice and the development of knowledge about ecclesiastical architecture in Victorian Britain, Yanni suggests that like the natural objects being examined in a scientific fashion, "ecclesiastical architecture was considered a testament to God's greatness" and therefore contributed to the overall fascination with studying and visualizing those things that made the hand of God manifest through their existence.[41] The idea that Victorians viewed medieval church architecture as a kind of natural phenomenon created by God (through man's divine inspiration) suggests that these structures could be studied according to a methodology commonly applied to the study of natural history.

Much of Whewell's work was motivated by the desire to reform philosophy in the Victorian era. Laura Snyder, in her book *Reforming Philosophy*, discusses Whewell's proposal to advance the understanding of organisms by studying them according to their "general structure

[41] Ibid., p. 205.

and organization"[42] and not according to "definitions of classes chosen arbitrarily by the mineralogist."[43] Whewell made significant contributions to the study of natural history through his publications, *Essay on Mineralogical Classification and Nomenclature* (1828) and *History of the Inductive Sciences* (1837). Looking to the work of Carl Linnaeus (1707-1787) and Georges Cuvier (1769-1832), Yanni concludes that William Whewell's contribution to the study of architectural history was offered through his text, *Architectural Notes on German Churches* (1830), which she describes as the first "systematic account of German medieval architecture."[44] Whewell, unlike the eighteenth-century antiquarians before him, saw the origins of Gothic architecture emerging in Continental Europe. Thus, his text attempts to locate the genesis of Gothic architecture and to show how the forms developed outside of Great Britain.[45] Whewell's text is modeled on the work of botanists and architectural writers who defined their histories on the methodology of categorizing specimens and documenting change over time as a progressive, stage-by-stage, narrative.[46] Yanni notes, however, that Whewell's text holds a particular place of honor within the documentation of medieval ecclesiastical architecture because of his integration of the "practice of science and the production of scientific knowledge"[47] based on the study of a buildings' underlying structure.

Whewell is important because he held a prominent position as the Master of Trinity College at Cambridge, which situated him at the heart of one of England's most prominent

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[42] Laura J. Snyder, *Reforming Philosophy: A Victorian Debate on Science and Society* (Chicago: University of Chicago Press, 2006), p. 157-158.
[43] Ibid., p. 159.
[44] Yanni, "On Nature and Nomenclature: William Whewell and the Production of Architectural Knowledge in Early Victorian Britain," p. 205.
[45] William Whewell and F. Lassaulx, *Architectural Notes on German Churches*, 3rd ed. (Cambridge: J. and J. J. Deighton, 1830).
[46] Yanni, "On Nature and Nomenclature: William Whewell and the Production of Architectural Knowledge in Early Victorian Britain," p. 205.
[47] Ibid., p. 205.

centers of learning and debate and allowed for the merging of his two passions of architecture and science. Yanni treats Whewell's text as a discursive mechanism that helped to redefine the boundaries between old-fashioned methods of speculative architectural history, on the one hand, while simultaneously building empirical observations based on those methods used by naturalists to group and classify specimens, on the other. This dissertation, however, focuses on Whewell's contemporary British architectural historians and shows how they applied a rigorous, scientific approach to the study of architecture though the production of *visual taxonomies*. As each chapter navigates the various iterations of architectural and scientific knowledge through organizations of pictorial representation in the nineteenth-century, it will be made clear that as the contours of medieval architectural history were defined the presentation of visual material changed to meet the demands of writing history and picturing change over time.

One of the challenges posed by Yanni's discussion of Whewell and his contribution to the systematic study of architecture, however, is the lack of visual evidence accompanying his discussion of German churches. Whewell only illustrates his text with a frontispiece, two plates, and three in-text woodcuts. In this way, his work does not visualize the history of architecture to the degree that the other authors examined here do and so will not be discussed in the following chapters.[48] The importance of images within the historiography of British medieval building remains largely un-discussed in contemporary scholarship. Similarly, the re-illustration of these texts and images in contemporary publications has not given them the attention that they deserve.

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[48] This is largely the criterion that I have used throughout my research to come up with the current corpus of texts and images as a means to study how architectural history was written and visualized in Great Britain between 1800 and 1850. This is also why one will not find extensive discussion of Whewell, or the following authors (noted below) in this dissertation – all of them write and speak about progress and development in architecture, but do not attempt to *visualize that process*, therefore, excluding themselves from the present study. See: Edward A. Freeman (1823-1892), author of *A History of Architecture* (London: J. Masters, 1849); or John Henry Hopkins (1792-1868), author of *Essay on Gothic Architecture, with Various Plans and Drawings for Churches, Designed Chiefly for the Use of the Clergy* (Burlington, VT: Smith & Harrington, 1836).

Authors, including, Yanni, Alexandrina Buchanan, and Dana Arnold,[49] to name a few, illustrate their texts with architectural content (drawings, prints, book illustrations, newspaper clippings, etc.) from Victorian Britain, yet their discussion of the history of these images, too, is limited to the referential. The lack of recent visual analysis is problematic because contemporary scholarship continues to perpetuate a discursive history of architecture, rather than narrate a history that was conceived through a relationship between both text and image.

What remains unclear from examining nineteenth-century architectural and natural history books, however, is whether the picturing processes associated with these empirical endeavors adequately visualized the slow, continuous process of change over time. The early histories of medieval architecture in Great Britain, beginning with *Essays on Gothic Architecture*, published in 1800, were largely based on the comparison of structures representing distinct periods of construction, while texts following Rickman's *Discrimination of Styles*, grouped together similar elements to represent the continuous phases of construction from early, to middle, to late styles of medieval building. These transitions in documenting building history help to map each author's approach to the making and using of *visual taxonomies*. As the following chapters show, each new illustrated narrative provided a framework for later architectural historians to claim greater accuracy in their studies as the nuanced stages of transition of medieval forms from the eleventh to the sixteenth century were diagramed and visualized. This process ultimately contributed to the formation of our contemporary knowledge of architectural history today.

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[49] Yanni, "On Nature and Nomenclature: William Whewell and the Production of Architectural Knowledge in Early Victorian Britain;" Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*; Arnold, *Reading Architectural History*.

The primary contribution to the study of medieval architectural history in the nineteenth century was through the creation of *visual taxonomies*. Images outlined the sequence of change over time, and provided their own timeline of events for the reader/viewer to conceptualize the history that an author put forward and to contextualize their own architectural environment. Yanni notes that much of the research produced by Whewell and his contemporaries, including, Britton, Rickman, Willis, and Sharpe, to name a few, was defined by the scientific method insofar as the architectural historian sought to "explain what medieval architecture was before they explained why it looked the way it did."[50] It is in this light that the current study seeks to focus on the documentation and illustration of British architectural knowledge as it sought to understand and organize through pictorial arrangements of building elements the developmental strata of ecclesiastical architecture between 1000 and 1500.

## 2.5 TWENTIETH-CENTURY HISTORIOGRAPHY: STATE OF THE FIELD

Daniel Woolf notes that the challenge of reviewing the historiography of historiography itself is made more complicated by the task of describing historical thought between three centuries.[51] This is true for this dissertation as well. It is here that, like Woolf, I unpack some of the ways in which nineteenth-century architectural historians developed a process of communicating, articulating, and visualizing the past. It must be understood that my study, like the historical texts

[50] Yanni, "On Nature and Nomenclature: William Whewell and the Production of Architectural Knowledge in Early Victorian Britain," p. 207.
[51] Daniel Woolf, "From Hystories to the Historical: Five Transitions in Thinking about the Past, 1500-1700" in *The Uses of History in Early Modern England*, edited by Paulina Kewes. (San Marino, CA: Huntington Library, 2006), p. 33; see also, Stephen Bann, *Romanticism and the Rise of History*. (New York, NY: Twayne Publishers, 1995), p. 79.

I examine, intends to narrate a process of change over time. My analysis is focused on both advances in twentieth- and twenty-first-century scholarship, which helps to frame the past, and on those nineteenth-century texts that defined the field altogether.

Historiographies of nineteenth-century British architectural books were popularized by twentieth-century scholarship. Though histories and theories of architecture have existed since ancient times, the only known surviving example being Vitruvius's *De Architectura Libri Decem*,[52] it is widely understood that our contemporary understanding of architectural history as a discipline was legitimized and codified in the nineteenth century. Yet twentieth-century scholars, such as, Kenneth Clark, John Summerson, Paul Frankl, Nicolas Pevsner, and David Watkin,[53] for instance, narrowed the focus of British architectural history by extracting authors and texts that they determined to be the primary sources behind the establishment of architectural knowledge-making in the nineteenth century.[54] While their documentation includes architectural theorists, historians, and architects who gathered, documented, and sorted medieval buildings over a roughly five-hundred-year-period, the work of twentieth-century architectural historiography does not document the visual tradition found in these printed nineteenth-century books. This is problematic because the pictures in these texts aided in the production of *visual taxonomies* that was rooted in an empirical study of British medieval architecture. This section is dedicated to examining the inclusions and exclusions within twentieth-century scholarship as a

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[52] Hanno-Walter Kruft, *A History of Architectural Theory: From Vitruvius to the Present* (New York, NY: Princeton Architectural Press, 1994), p. 21.

[53] Kenneth Clark, *The Gothic Revival: An Essay in the History of Taste* (New York: Constable & Co., 1928); John Summerson, *Architecture in Britain, 1530 to 1830*, The Pelican History of Art, (Baltimore, MD: Penguin Books, 1953); Paul Frankl, *The Gothic* (Princeton, NJ: Princeton University Press, 1960); Nikolaus Pevsner, *Some Architectural Writers of the Nineteenth Century* (Oxford, UK: Clarendon Press, 1972); David Watkin, *The Rise of Architectural History* (London: Architectural Press and Eastview Editions, 1980); Stephen Hart, *Medeival Church Window Tracery in England* (Woodbridge, Suffolk, UK: Boydell Press, 2010).

[54] Pevsner, *Some Architectural Writers of the Nineteenth Century*; Frankl, *The Gothic*; Summerson, *Architecture in Britain, 1530 to 1830*.

means to highlight the necessity of images for the continuing study of architecture and architectural history in nineteenth-century Great Britain.

Historians such as Sir John Summerson and Sir Nikolous Pevsner wrote historical analyses investigating how the process of documenting architectural progress was accomplished in the nineteenth century.[55] Summerson's and Pevsner's works came to the fore at a time when national public interest in Great Britain was invested in understanding its history and planning for its future. In the wake of World War II, Great Britain focused on repairing a broken society by rebuilding its national monuments. Texts like Summerson's 1953 book, *Architecture in Britain 1530-1830* examined the history of Britain's urban fabric during a time of great industrial change,[56] while Pevsner emphasized certain authors and movements to study how the history of architecture developed between the life and work of two significant British figures known for their contributions to architecture and design, Horace Walpole (1717-1797) and William Morris (1834-1896). Both Summerson and Pevsner embraced the challenge of writing a comprehensive study of British monuments and architectural texts as a means to consider Great Britain's national past in preparation for (re-)building its future after World War II. Their surveys, however, could not have been written if the nineteenth-century historians and antiquarians had not done the groundwork of systematically arranging, classifying, and categorizing the periods of medieval structural and stylistic change.

Dana Arnold reflects on Summerson's text saying, "*Architecture in Britain 1530-1830* […] offered for the first time a clear, illustrated route through the development of architecture in

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[55] Frank Salmon, Paul Mellon Centre for Studies in British Art, and Society of Architectural Historians, eds., *Summerson and Hitchcock: Centenary Essays on Architectural Historiography*, Studies in British Art (New Haven, CT: Published for the Paul Mellon Centre for Studies in British Art and the Yale Center for British Art by Yale University Press, 2006).

[56] Summerson, *Architecture in Britain, 1530 to 1830*, important to note here that Summerson concludes his history of architecture in Britain in 1830 right before the debate about style that surrounded the rebuilding of Parliament.

this period."[57] While this might be true of the 1950s, the process of offering an "illustrated route through the development of architecture" was in itself codified by the architectural historians examined in this dissertation. Rickman and Sharpe, for example, published travel guides and small handbooks for architects and amateur architecture-aficionados to examine specific architectural ornaments and examples found around the countryside; Britton wrote for studious environments with sturdy tables to support his thick tomes; and Ruskin, though he looked primarily at Continental examples of Gothic architecture in Europe, prophesied in books, pamphlets, and lectures on the downfall of the arts unless contemporary trends of poor craftsmanship were prevented. While each of the books produced by these authors served a different study purpose, together they present a profound retrospective concerning the progress of British architecture and the writing and visualizing of architectural change over time across a broad, five-century classification system outlining Great Britain's "Gothic Style."

While Summerson and Pevsner discuss many of the primary sources also examined in this dissertation, the chief difference between their research and that of the present work is that they focus: 1) on written narratives of British architectural history, and 2) on writing their own complete history of British buildings. While both are needed in order to understand the history of British buildings and British architectural history, one of the elements missing from their examination that I take up here is the discussion of how the illustrated material accompanying these texts went through its own historical process of adaptation and articulation. The goal of this dissertation is not to write another historiography of British buildings or of British architectural history, but rather to map those illustrations of British buildings found within British books that

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[57] Arnold, *Reading Architectural History*, p. 9; *Tracing Architecture: the Aesthetics of Antiquarianism*, Dana Arnold and Stephen Bending, eds., (Oxford, UK: Blackwell Publishing Ltd., 2003).

contribute to our understanding of change over time through a pictorial and, therefore, visual articulation of historical order, chronology, and development.

Pevsner's *Some Architectural Writers of the Nineteenth Century*[58] is a biographical survey of the prominent architectural writers of the late eighteenth and early nineteenth-century in England, Germany, and France. Included in his survey are those authors who developed the first histories of British medieval buildings. Writers, such as, Thomas Rickman, John Britton, William Whewell, Robert Willis, August Welby Northmore Pugin, and John Ruskin, among others, are given special attention through specific, biographical chapters. Pevsner states, however, that,

> The writers of neo-Classicism are on the whole left out. No [John] Soane will be found, little [Karl Fredrich] Schinkel and little Quatremère de Quincy where needed, and hardly any [Charles Robert] Cockerell, because the material has not even yet been collected. The real start is with the English archaeologists of the late eighteenth and early nineteenth century, and the first biographical chapter is on Rickman.[59]

Pevsner, like the nineteenth-century historians before him, sought to find the origin of contemporary historical architectural thinking. In this regard, Pevsner generates his own taxonomy of architectural authors, identifying their respective narratives and how their contributions to the development of architectural history shaped modern conceptions of the past. Yet, for Pevsner, the author and the narrative, not the medieval monuments themselves, outlines his biographical study of British architectural history. This dissertation examines the ways in which nineteenth-century British architectural historians looked to medieval monuments to provide visual evidence to map the process of architectural change over time.

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[58] Pevsner, *Some Architectural Writers of the Nineteenth Century*.
[59] Ibid., p. vii.

Pevsner's interest in the biographical relationship between author and narrative is articulated in the way that he focuses on how individual authors contributed to shaping the historical narrative of architectural construction in Great Britain, Germany, and France. In his discussion of British authors, Pevsner's book provides an example of a twentieth-century taxonomy of early nineteenth-century texts in the same way that nineteenth-century texts created a taxonomy of British medieval buildings erected between 1000 and 1500. Pevsner characterizes the work of nineteenth-century architectural historians, stating, "These English publications of the late eighteenth and the early nineteenth century are without exception minor in scale and value, but in the aggregate they are significant."[60] Pevsner found the works of Rickman and Willis, for instance, important because of their later use by French architectural historians to study medieval architectural history and the construction of vaults. But this is the only redeeming quality that he seems to afford the scholarship of British architectural historians. This dissertation emphasizes the great, not minor, scale and value that British architectural knowledge and image-making contributed to the understanding and visualization of architectural change over time and gives greater credit to those nineteenth-century authors who shaped our contemporary understanding of British medieval architectural history today.

Since the 1960s there have been three different modes of thinking and writing about architectural historiography in contemporary scholarship.[61] These publications focus on creating historical narratives, on antiquarianism and archaeology, and on developing a wider sense of the past through the cultural history of early modern England. Yet what they fail to do is chronicle the historical transference and progression of ideas from one publication to the next. In this way

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[60] Ibid., p. 16.

[61] 1. Historiographical: Clarke, Pevsner, Summerson / 2. Historicist/Biographical: Arnold, Colvin, Watkin, Buchanan / 3. Revisionist: Bender, Yanni.

their desire to highlight a *sense of the past* is limited in scope to the medieval period and cuts out the very endeavor that enabled a *real* sense of the past in the first place. The narrative of how the history of medieval building in Great Britain was written is not a strict sequence of publications and or new editions. Rather, there is a rich strata of overlapping texts and images that must be parsed-out, and re-assembled together, like disjointed minerals layered along a fault line.

The selection of primary-source authors profiled in this dissertation delineates the stages of transition in nineteenth-century thinking, illustrating, and describing medieval architecture in Great Britain. Focusing on the empirical study of architectural history, these authors also represent the adoption of methodologies drawn from natural history to create *visual taxonomies* for the production of new architectural knowledge and the systematic study of medieval monuments in the nineteenth century.

## 2.6 CURRENT METHODS AND APPROACHES

The discipline of art history has long been focused on the relationship between texts and images (and their reciprocal relationship) in conveying multiple layers of meaning found in graphical and textual representations of ideas. My study of the illustrated book as a product of a particular scientific mentality is motivated by the semiotic relationship found between the text and the image as co-bearers of meaning, as well as by the picturing techniques used to educate and communicate with the reader/viewer. My research, therefore, is grounded in the study of the production of visual knowledge, which examines the graphic and textual methods used by architectural and natural historians to classify specimens, phenomena, and architecture found in illustrated books. The product of this research offers a new way to contextualize ideas about

adaptation, mutation, and change through an analysis of how key concepts are represented and theorized simultaneously in architectural and natural history. While focusing on the use of texts and images in the construction of historical narratives about change over time in architectural and natural history in nineteenth-century Great Britain, it is important to take a moment to discuss some of the methodologies surrounding the use of image/text combinations, theories, and methodologies

In 1995, W. J. T. Mitchell coined the term "imagetexts" arguing that "all media is mixed media" and that images and texts should not be considered as discrete individual objects set in relation to each other, but rather as a "composite, synthetic work combining image and text."[62] Jonathan Smith observes that Mitchell's theory of imagetexts is frequently overlooked by sociologists and historians who "have tended to rely on the notion that the meaning of images is determined largely by the accompanying text."[63] Ann B. Shteir and Bernard Lightman also note that, "Over the past two decades, scholars within the history of science and science and technology studies have taken up visual dimensions of science and examined the use of visual materials in relation to science and its various local and disciplinary cultures."[64] Jennifer Tucker continues Shteir and Lightman's observation when she states, "The study of images and image production in the history of science is a rapidly expanding area of inquiry. Its rise, in turn, reflects growing interest in larger questions about the changing relations between scientific practice and theory, pictures and truth claims about natural phenomena, seeing processes and

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[62] W. J. T. Mitchell, *Picture Theory: Essays on Verbal and Visual Representation* (Chicago: University of Chicago Press, 1994).

[63] Jonathan Smith, *Charles Darwin and Victorian Visual Culture*, Cambridge Studies in Nineteenth-Century Literature and Culture (Cambridge: Cambridge University Press, 2009); Bleichmar has also made this claim in her book, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment*.

[64] Ann B. Shteir and Bernard V. Lightman, *Figuring It Out: Science, Gender, and Visual Culture*, 1st ed., Interfaces, Studies in Visual Culture (Hanover, NH: Dartmouth College Press and University Press of New England, 2006), p. xvi.

scientific instrumentation, and science and its multiple publics."[65] Furthermore, Jonathan Crary addresses the cultural and pictorial issues surrounding the scientific mechanics of vision, representation, and historical consumption prior to 1850.[66] Focusing on the optics of the human eye in relation to the development of mechanical practices used for the production of images, Crary addresses an early nineteenth-century discussion concerning the body in relation to positions of social power as a tool for understanding new ways of seeing: i.e. physical, social, political, mechanical, etc. Noting how these shifts challenged the production of and reception to visual representations, Crary's study confronts the reorganization of knowledge and social practices through the mechanics of sight in the nineteenth century. This discussion of art and science as one, interlocked field of knowledge and practice is especially important for the examination of John Ruskin in Chapter 5 as a means to understand Ruskin's own heightened attention to the workings of vision through new kinds of pictorial displays to accompany his text.

Scholarly observations of the interdisciplinary, interconnection between text and image, art and science, vision and display, mechanical and non-mechanical reproduction are especially important themes for the groundbreaking publication by Lorraine Daston and Peter Galison, *Objectivity*.[67] Daston and Galison discuss the scientific atlas as the framework through which to chart the changes of scientific standards, ideals, and opinions through the production of new pictures and illustrated books. Beginning in the sixteenth century, illustrated atlases and encyclopedias offered increased access to pictorial representations of objects, organisms,

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[65] Jennifer Tucker, "The Historian, the Picture, and the Archive," in *Isis* 97, no. 1 (2006), p. 111.
[66] Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1990), pp. 1-4; see also, Kate Flint, *The Victorians and the Visual Imagination*. (Cambridge, UK: Cambridge University Press, 2000).
[67] Daston and Galison, *Objectivity*.

phenomena, etc.[68] One of the primary definitions of an atlas, according to the English Oxford Dictionary, is "a book of illustrations or diagrams on any subject." The use of an atlas is often characterized by its content, most often maps and charts, and is usually oversized in scale to allow for easy examination of large images. Daston and Galison's study of scientific atlases feature examples of, what they call, "working objects"[69] that served as evidence for the changing boundaries of scientific thought through the development of new kinds of visual knowledge.

Daston and Galison mark the ever-changing boundary between objective and subjective reasoning by charting how scientific images were created between the eighteenth and mid-twentieth century. Their study is based on the examination of three types of images, one from each of the centuries just mentioned. Each of their selected images – first, a botanical diagram; second, a catalogue of snowflakes; third, a compendium of solar magnetograms – conforms to a specific idea about what it might mean to produce an "objective" image at the time of its production. Daston and Galison view these three kinds of images as synopses of their study of objectivity, saying, "they capture more than a flower, a snowflake, and a magnetic field: each encodes a technology of scientific sight implicating author, illustrator, producer, and reader."[70] Jan Golinski discusses Daston and Galison's observations saying, "the authors discuss these images in relation to the notions of objectivity that they embody. They argue that a significantly new conception of objectivity was introduced in the nineteenth century which linked objective representation with a capacity for discipline and self-restraint on behalf of the observer."[71] What is important to this discussion, therefore, is the way in which scientific images produced at the beginning of the nineteenth century differed from the scientific images produced at the end of the

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[68] Freedberg, *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History*.
[69] Daston and Galison, *Objectivity*.
[70] Ibid., p. 18.
[71] Golinski, *Making Natural Knowledge: Constructivism and the History of Science*, p. 153.

nineteenth century. This can be seen in the change of material practices from hand-drawn representations to mechanically produced pictures. Yet, the method by which the image was created should not, according to Mitchell's definition of imagetexts, alter the composite relationship of image and text combinations.

Within the development of pictorial practices, however, is a more nuanced shift in the format of visual and textual presentation on a page. At the beginning of the nineteenth-century, scientific atlases presented to their viewers "working objects,"[72] idealized images that were meant to show the archetype specimen in a single image. The "working object" was a stand-in, a model, against which a range of specimens found in nature could be compared or challenged. Golinski describes the difference between Daston and Galison's ideal versus characteristic images saying, "Those who wanted to portray, for example, human anatomy or the forms of plants could […] choose between two options. Either an "ideal" form could be depicted, representing a degree of perfection not found in any actual specimen, or a "characteristic" example could be shown, in which features typical of a class as a whole were located in a selected individual."[73] By the end of the nineteenth century, atlases no longer resorted to ideal or characteristic images and rather displayed a series of individual images, showing multiple examples of existing specimens or phenomena, which the reader could then situate according to his findings within the now defined scientific parameters. For Daston and Galison what constituted an objective image was this latter form of visual presentation, emerging from mechanical reproductions at the turn of the twentieth century, which situated an individual image alongside or within a range of other individual images of the same kind as a means to display variety and, therefore, offer an objective representation of specimen or phenomena found in

[72] Daston and Galison, *Objectivity*, pp. 19, 21.
[73] Golinski, *Making Natural Knowledge: Constructivism and the History of Science*, p. 154.

nature. While Daston and Galison's history of objectivity is groundbreaking within the history of philosophy of science and visual studies, much can still be said about the presentation and construction of scientific images, including those images created for botanical, biological, and, as I discuss in the following chapters, architectural research within the nineteenth century.[74] What needs to be clarified here, however, is that while mechanical reproduction of scientific research was standardized through their ability to be mass-produced toward the middle of the nineteenth century, their systematic arrangement showing a range of individual instances was not new.

Since its formation as an academic discipline in the mid-nineteenth century, the teaching of art history has been influenced by the history of science and scientific research.[75] The correlation between natural science and architectural history, however, has been largely ignored. This fact is important for this dissertation because of the correlation that I draw between images produced to illustrate natural history and images produced to illustrate the history of architecture. It is this idea of encoded, scientific sight that this dissertation seeks to build upon as it pertains to the publication of architectural knowledge and the development of visual taxonomies of medieval British ecclesiastical architecture in the nineteenth century. Thus, what is missing from recent studies of British architectural history is an investigation of the theoretical and artistic production pertaining to ideas of change over time in nineteenth-century texts and images. My dissertation situates architectural history within the broader framework of natural science through an analysis of nineteenth-century British taxonomic systems. Examining pictures and diagrams, the following chapters investigate how natural scientists and architectural historians

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[74] Bleichmar does an excellent job of filling this gap in her discussion of natural history and exploration in the Spanish Empire, see: *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment*.

[75] Robert O. Bork, "Art, Science, and Evolution," in *Making Art History: A Changing Discipline and Its Institutions*, Elizabeth Mansfield, ed. (New York: Routledge, 2007).

present, in pictorial form, change over time, chronological descent, the typical in species, and their synchronic relations among different types or forms.

## 3.0 VISUAL PRACTICE AND THE SCIENCE OF NAMING

> The soul of Science, indicates that every natural body may, by inspection, be known by its own peculiar name; and this name points out whatever the industry of man has been able to discover concerning it: so that amidst the greatest apparent confusion, the greatest order is visible.[76] – Carl Linnaeus

In his *Systema Naturae*, first published in 1735, Carl Linnaeus (1707-1787) offered a method for understanding the natural world according to categorical arrangements of minerals, vegetables, and animals. He proposed that the "various productions of the earth" should be studied according to a five-branch hierarchical system based on the name and character of each element's *class, order, genus, species,* and *variety*.[77] The challenge of selecting objects and phenomena to serve as accurate visual witnesses of specimens found in nature was experienced by Linnaeus in a particular way. In his *Systema Naturae*, Linnaeus illustrates his classification system with diagrams and tables to represent his systematic breakdown of the natural world, and in one of these diagrams can be seen the basis from which British architectural historians developed their own *visual taxonomies*.[78] Linnaeus's taxonomy not only provided the basis for organized study of the earth and all its parts, but also offered a systematic method for naturalists, philosophers, and historians to categorize their own fields of investigation. This chapter engages some of the

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[76] Carl von Linné, *Systema Naturæ Per Regna Tria Naturæ, Secundum Classes, Ordines, Genera, Species, Cum Characteribus, Differentiis, Synonymis, Locis*, ed. 10, reformata. ed., 2 vols. (Holmiæ: Impensis L. Salvii, 1735); *A General System of Nature*, 7 vols. (London: Lackington, Allen, and Co., 1806)., I:3.

[77] Ibid.

[78] Daniela Bleichmar's treatment of Linnaeus's diagrams in relation to botanical illustration and organization during the Spanish Empire of the eighteenth-century is one of the most useful discussions on this material that I have seen thus far; see, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment*.

ways that natural history and architectural history intersect in nineteenth-century attempts to order the world through new knowledge and pictorial display. This chapter also aims to show how three British architectural historians, Thomas Warton, James Storer, and John Britton, straddled the divide between antiquarianism and historicism through their attempts at ordering the study of British medieval ecclesiastical architecture in a visual way. This chapter focuses on the process of naming, visualizing, and organizing architectural knowledge as a means to develop accurate and empirical methods for the study of British medieval architecture in the first quarter of the nineteenth century.

One of the promoters of Linnaeus' work was George Clifford III (1685-1760), a prominent director of the East India Trading Company and wealthy Dutch banker, who fostered Linnaeus's study of botany by inviting him to visit his garden at Hartekamp in Heemsede, Netherlands. Clifford's patronage led Linnaeus to produce *Hortus Cliffortianus* in 1737, which functioned as a catalogue of Clifford's personal botanical garden. In this book, Linnaeus conceived a diagram of principal plant types that he divided into groups based on the shape of their leaves (**figure 3 and 4**), which he then categorized by their primary types, "simple," "composite," and "determinate;" followed by secondary classes, "triangular," "circular," "truncated."[79] Each specimen is presented at bare minimum – a line drawing depicting the contour of each leaf. This simple presentation of types of leaves found in nature focused on one core identifier – the leaf's shape. Linnaeus's work in Clifford's garden at Hartekamp motivated a

[79] Carl von Linné, *Hortus Cliffortianus, plantas exhibens quas in hortis tam vivis quam siccis, Hartecampi in Hollandia, coluit Georgius Clifford reductis varietatibus ad species, speciebus ad genera, generibus ad classes, adjectis locis plantarum natalibus differentiisque specierum.* (Amsterdam: 1737).

whole new way of knowledge-making that was based on the grouping of like-objects to advance the empirical process of visualizing and organizing variety in nature.[80]

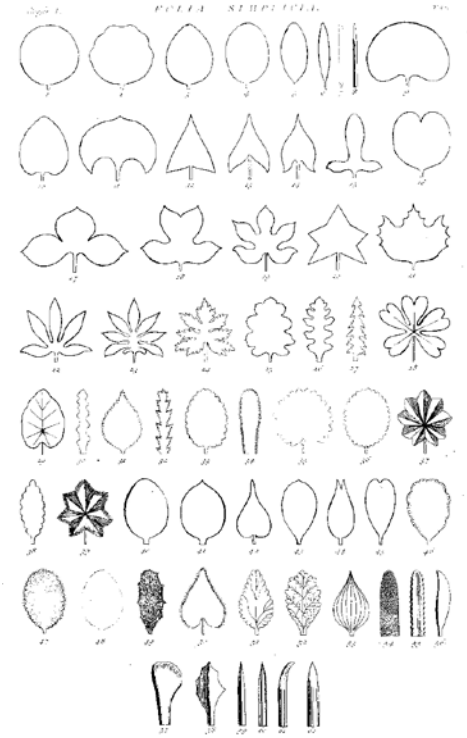

**Figure 3: Linnaeus, "Table I: Classis I - Folia Simplica" in *Hortus Cliffortianus*, 1737.**

[80] Frans Antonie Stafleu, *Linnaeus and the Linnaeans. The Spreading of Their Ideas in Systematic Botany, 1735-1789*, Regnum Vegetabile, (Utrecht, NLD: Oosthoek, 1971); James L. Larson, *Interpreting Nature: The Science of Living Form from Linnaeus to Kant* (Baltimore, MD: Johns Hopkins University Press, 1994); Lisbet Koerner, *Linnaeus: Nature and Nation* (Cambridge, MA: Harvard University Press, 1999); Wilfrid Blunt, *Linnaeus: The Compleat Naturalist* (Princeton, NJ: Princeton University Press, 2001); European Secretariat for Scientific Publications, Marco Beretta, and Alessandro Tosi, eds., *Linnaeus in Italy: The Spread of a Revolution in Science*, Uppsala Studies in History of Science (Sagamore Beach: Science History Publications/USA, 2007); Matthew D. Eddy, "Tools for Reordering: Commonplacing and the Space of Words in Linnaeus' *Philosphia Botanica*," in *Intelletual History Review* 20 (2010).

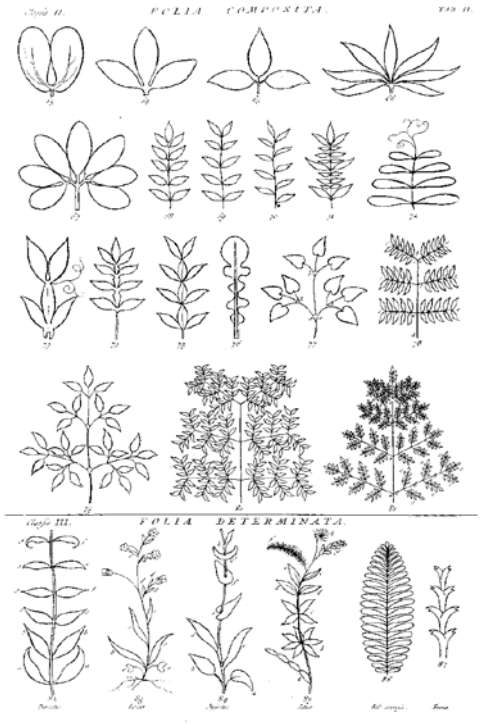


**Figure 4: Linnaeus, "Table II: Classis II - Folia Composita" in *Hortus Cliffortianus*, 1737.**

Identifying objects based on their shape is a crucial fact of eighteenth-century publications of natural history.[81] It is through visual material such as Linnaeus's diagrams that one can begin to see the origin and influence for the kind of scientific sight applied to the study of architecture in the late eighteenth and early nineteenth century. Both natural and architectural historians focused on producing scientific and empirical taxonomies based on groupings of objects sharing the same, or similar, form. Lorrain Daston and Peter Galison highlight this point in their discussion of atlas makers, saying, "Collectively, eighteenth-century atlas makers created a way of seeing, one that saw past the surfaces of plants, bones, or crystals to underlying

[81] Freedberg, *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History*; Meyers, O'Malley, and Center for Advanced Study in the Visual Arts (U.S.), eds., *The Art of Natural History: Illustrated Treatises and Botanical Paintings, 1400-1850*.

forms."[82] As we shall see in the following pages, architectural historians engaged in this same process of selection, organization, and presentation of forms to document development in medieval architecture and, through this process, provided a method to examine change over time in a visual way.

## 3.1 CLASSIFYING ARCHITECTURE

One of the prominent eighteenth-century neoclassicists to first consider the study of architectural forms according to Linnaean taxonomy was the French architect and archaeologist, Julien-David Leroy (1724-1803). In his book, *Julian-David Leroy and the Making of Architectural History*, Armstrong observes that,

> In his 'Discourse on the History of Civil Architecture' at the beginning of the first edition of *Les Ruins des plus beaux monuments de la Grèce* (1758), Leroy laid out a concise overview of the development of religious architecture from antiquity to modern times, isolating a small number of formal planning strategies and structural concepts developed over the *longue durée* of human history.[83]

Leroy's taxonomic ordering of religious structures, or tableau of comparative church plans, according to a system of shared characteristics, runs parallel to Linnaeus's own taxonomy of minerals, vegetables, and animals. When grouping botanical specimens, for instance, Linnaeus limited his arrangements and pictorial representations to the reproductive parts of the plant. Armstrong ponders this similarity between Linnaeus and Leroy, saying, "Just as Linnaeus isolated the number and arrangement of stamens and pistils of flowering plants to develop his

[82] Daston and Galison, *Objectivity*, p. 60.
[83] Christopher Drew Armstrong, *Julian-David Leroy and the Making of Architectural History*. (London: Routledge, 2012), p. 156.

system of botanical classification, Leroy isolated the column and used its proportions and details as the criteria to classify ancient architecture."[84]

While Leroy adopted the Linnaean taxonomic system for the study of religious and ancient forms he also expanded this scientific methodology by arranging architectural specimens according to their date of construction. Armstrong notes that in Leroy's "taxonomy of architecture, [he] takes a step that Linnaeus could never have taken by representing the transformation of a single type over time, rather than an array of static types. Leroy's tableaux of architecture," Armstrong continues, "represent the filiation of forms over centuries, the inheritance of salient characteristics across generations, and the mutation of forms over time."[85] Leroy's taxonomy for religious and ancient forms influenced several other architectural historians to attempt their own classification of building history according to the organization of building plans, elevations, and façades.[86] Most notable among these was Leroy's student and follower, the French author, architect, and teacher, Jean-Nicolas-Louis Durand (1760-1834).[87]

Durand, like Leroy, attempted his own graphic history of architecture in his most famous published work, *Recueil Et Parallèle Des Édifices De Tout Genre Anciens Et Modernes*,[88] which emerged in 1800. In *Recueil Et Parallèle*, Durand presents a rough visual timeline of architecture according to comparative arrangements of plans, elevations, and façades found in sixty-seven different types of buildings grouped according to their shared characteristics. This format can be

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[84] Ibid., p. 160.
[85] Ibid., p. 173.
[86] For instance, in France, Quatremère de Quincy (1755-1849) developed a theory of type by comparing architecture with the study of language and natural history. See: Armstrong, p. 174; and Carroll William Westfall's chapter on "Building Types" in R. J. van Pelt and Carroll William Westfall, *Architectural Principles in the Age of Historicism* (New Haven, CT: Yale University Press, 1991), pp. 138-167.
[87] See discussion in Armstrong, *Julien-David Leroy and the Making of Architectural History*, pp. 174-6.
[88] Jean-Nicolas-Louis Durand and J. G. Legrand, *Recueil Et Parallèle Des Édifices De Tout Genre Anciens Et Modernes, Remarquables Par Leur Beauté, Par Leur Grandeur, Ou Par Leur Singularité, Et Dessinés Sur Une Même Échelle* (Paris: Impr, Gillé, 1800).

attributed to Leroy's own approach to studying buildings according to comparisons of types of architecture on a single page. Peter Collins describes Durand's *Recuiel* as "The first textbook to publish a comprehensive international survey of historical monuments drawn to the same scale."[89] Similarly, Barry Bergdoll states that Durand's textbook "proposed a rationalized system of design based on gridded space" that offered arrangements of buildings according to their shared "type" as "pedagogical exercises" in the "quest for architectural character."[90] Bergdoll continues that, "in the spirit of classification of artefacts then being essayed in the newly founded museums of natural history and technology in Paris, Durand […] demonstrated how a single analysis [of architecture] might give rise to different but related solutions and expressions."[91]

In seeking to organize sets of interconnected architectural ideas and theories, Durand was able to offer a visualization of architectural history according to arrangements of variety within a single type – this is what Anthony Vidler has called an "assembly of a comparative taxonomy."[92] Vidler describes how Durand explicitly stated his desire to arrange buildings according to their "species" as a means to create a "natural history of architecture."[93] To accomplish this task, Vidler observes that Durand "assembled a series of plans that illustrated the known building types, 'classified according to their kinds, arranged in order of degrees of likeness and drawn to the same scale'."[94] Similarly, Carroll William Westfall observes in a chapter on "Building Types" in *Architectural Principles in the Age of Historicism*, that Durand's assemblage of the

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[89] Peter Collins, *Changing Ideals in Modern Architecture, 1750-1950*, 2nd ed. (Montreal: McGill-Queens University Press, 1998), p. 130.
[90] Bergdoll, *European Architecture 1750-1890*, p. 115.
[91] Ibid., p. 115.
[92] Jean Nicolas Louis Durand; with intro by Anthony Vidler; and discussion by J. G. Legrand, *Recueil Et ParallèLe Des Édifices De Tout Genre Anciens Et Modernes: Remarquables Par Leur Beauté, Par Leur Grandeur Ou Par Leur Singularité, DessinéS Sur Une MêMe Bechelle* (Princeton, NJ: Princeton University Press, 1981). See Vidler's "Introduction," p. 2.
[93] Ibid., p. 2. See also, Pelt and Westfall, *Architectural Principles in the Age of Historicism*, p. 147.
[94] Legrand, *Recueil Et ParallèLe Des Édifices De Tout Genre Anciens Et Modernes: Remarquables Par Leur Beauté, Par Leur Grandeur Ou Par Leur Singularité, DessinéS Sur Une MêMe Bechelle*, p. 2.

"parts into the whole controlled by the regularities of descriptive geometry (plan, elevation, section, etc.)" was found through his arrangement and organization of types according to "the grid and the axis."[95] Durand's method of comparing plans, elevations, and façades is important here because one can find several instances of Leroy and Durand's methodology influencing British publications based on chronology, and can be seen, most notably, in the work of Royal Academy architects and professors of architecture such as Sir John Soane.[96]

Noting the scientific approach to organizing material, Leroy's "tableau of comparative church plans" and Durand's diagram of "Gothic and Modern churches" are useful here as they help to visually situate the specific work of British historians of medieval monuments and their efforts to construct a unified, comparative history of architecture through pictorial organizations of building elements as diagrams of *taxonomy* and *chronology* of medieval architecture. This chapter and the chapter that follows focus on the efforts of British antiquarians, historians, and architects to create and apply an empirical approach to naming, organizing, and visualizing architectural knowledge of British medieval forms as a means to chart its development and change over time.

Linnaeus believed that if a specimen could be named and thus placed in an organized schema it could be understood. "Every natural body may, by inspection, be known by its own peculiar name," he wrote.[97] British architectural historians attempted this model for the study of medieval ecclesiastical architecture beginning around the turn of the nineteenth-century. For instance, John Taylor (1781-1864) published *Essays on Gothic Architecture* (1800, 1802) as a means to address the need for an accurate and critical history of medieval architecture. In the

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[95] Pelt and Westfall, *Architectural Principles in the Age of Historicism*, p. 147.
[96] Watkin, *Sir John Soane: Enlightenment Thought and the Royal Academy Lectures*.
[97] Linné, *Systema Naturæ Per Regna Tria Naturæ, Secundum Classes, Ordines, Genera, Species, Cum Characteribus, Differentiis, Synonymis, Locis*; *A General System of Nature*, p. I:3.

opening letter to the editor by Milner, he states that, "My present object, Sir, is merely to suggest the necessity of an agreement amongst the learned in the use of scientific language on the present subject, and not to dictate the conditions of that agreement."[98] As Milner observed, the lack of scientific language, as well as the lack of a standardized use for that language, problematized the creation of a useful history through continuous inaccuracies in naming and dating of medieval buildings.

Determining the appropriate nomenclature and categorization of medieval architecture was also a primary theme in many British books dedicated to the subject in the early decades of the nineteenth century. These early architectural histories chronicling the *medieval* or the *Gothic* were concerned with the overarching historical picture. They highlight notable transitions and chart comparable differences – *Circular* vs. *Pointed* (which Taylor and Warton et al. illustrate by comparing Durham Cathedral and Westminster Abbey) – and divide the notable specimens exemplifying specific characters of building into groups. This division as a usable history, however, did not provide either an accurate study of building practice or a chronological advancement. Nor did it present a method of visualizing change over time in a scientific way. Rather, these early histories created a framework in which future historians could focus on particular aspects of medieval building in order to more clearly render the chronological transitions driving the design of new elements that, when viewed in chronological order, defined the long tradition of medieval building practice from the beginning of the Norman period (1066) to roughly the time when King Henry VIII became the supreme head of the Church of England in 1534.

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[98] Warton et al., *Essays on Gothic Architecture*, xi.

## 3.2 GRAPHIC HISTORIES: "CIRCULAR" VS. "POINTED" ARCHITECTURE

Daniel Rosenberg and Anthony Grafton begin their 2010 book, *Cartographies of Time*, with the following two questions: "What does history look like? How do you draw time?"[99] Similarly, Dana Arnold's 2002 book, *Reading Architectural History*, begins by asking, "What is architectural history?"[100] To these questions I would like to add my own: What does architectural history look like? How do you represent change over time? These additional questions correlate to those asked by Rosenberg/Grafton and Arnold in that they seek to engage the contemporary reader's imagination in understanding the creative process in the organization of visual material in the nineteenth century.

In order to engage these questions, the following sections in this chapter examine three texts by British architectural historians who published their works between 1800 and 1827. The texts include a set of illustrated collected essays by Rev. Thomas Warton (1728-1790), Rev. James Bentham (1708-1794), and Captain Francis Grose (1731?-1791), with an introductory letter by Rev. John Milner (1752-1826), and edited by John Taylor (1800, 1802); a four volume illustrated history of the cathedrals of Great Britain, by James Storer (1812-1819); and the final volume from John Britton's five volume illustrated series on the chronology of Great Britain's cathedrals (1827).[101] The goal for the following sections is to extend the discussion of Rosenberg/Grafton and Arnold to include an examination of architectural historians who not

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[99] Daniel Rosenberg and Anthony Grafton, *Cartographies of Time*, 1st ed. (New York: Princeton Architectural Press, 2010), pp. 10, 272.
[100] Arnold, *Reading Architectural History*, p. 1.
[101] Warton et al., *Essays on Gothic Architecture*; Storer, *History and Antiquities of the Cathedral Churches of Great Britain: Illustrated with a Series of Highly-Finished Engravings, Exhibiting General and Particular Views, Ground Plans, and All the Architectural Features and Ornaments in the Various Styles of Building Used in Our Ecclesiastical Edifices*; Britton, *The Architectural Antiquities of Great Britain: Represented and Illustrated in a Series of Views, Elevations, Plans, Sections, and Details, of Ancient English Edifices: With Historical and Descriptive Accounts of Each*.

only wrote histories of architecture, but also engaged in the nineteenth-century preoccupation to chart progress by producing *graphic histories*. My interest in these graphic histories is specific to the above-mentioned illustrated texts, which offer visual representations of the development of Great Britain's medieval ecclesiastical architecture.

The texts and images examined here begin the process of identifying the origin and charting the development of medieval ecclesiastical structures scattered across Great Britain. The works by Warton et al., Storer, and Britton laid the groundwork for future authors to develop their own systematic approach to dating and grouping specific stylistic changes associated with the five-hundred-year history of medieval British ecclesiastical architecture. These texts, written between 1800 and 1827, have their own linear history and historical progression that twentieth-century scholars have sought to engage in order to show how the codification of architectural history, as a kind of knowledge-making, came into being in the nineteenth century. My study of this material, however, focuses on the graphic representations included within these texts, which is an approach that I find to be largely ignored by twentieth- and twenty-first-century scholars. The following pages investigate the work of three British architectural historians as they documented the development of their national architecture and codified an empirical methodology for naming, organizing, and visualizing the phases of historical transition in British medieval architecture. Their attempts at producing linear and *graphic histories* is examined here for the way that they exposed how monuments can be grouped and arranged chronologically according to a selection of observable traits.

## 3.3 HISTORICAL TRANSITION IN *ESSAYS ON GOTHIC ARCHITECTURE*

In John Taylor's collected *Essays on Gothic Architecture,*[102] first published in 1800 with a revised edition printed in 1802, he produced the work of four authors whose prominence as antiquarian scholars had been firmly established through their contribution to the study of medieval architecture in the second half of the eighteenth century. When we arrive at the discussion of James Storer and John Britton later in this chapter it will be shown how the contributing authors, Bentham and Milner, were often championed as the established resources for the study of Gothic architecture at the end of the eighteenth century. Their tomes dedicated to the history of individual Gothic cathedrals, Bentham's *Ely* from 1771 and Milner's *Winchester* from 1793, provided the model approach to the study of Great Britain's key medieval ecclesiastical monuments. The problem that *Essays on Gothic Architecture* sought to address, however, was the seeming mass production of cathedral monographs in the vein of Milner and Bentham. Increased distribution of cathedral series[103] was problematic because as each new architectural antiquarian took up the study and authorship of cathedral-building history, there arose a complex situation regarding the naming of periods, grouping of buildings, and the general history of individual British monuments. In this light, there emerged a need for an accurate, critical survey based on all of these studies, the result of which was to systematize the vocabulary, terminology, and parameters of architectural inquiry.

The essays included in Taylor's compilation seek to first address the growing anxiety about the disorganized use of terminology, what Milner calls a subject that should be

[102] Warton et al., *Essays on Gothic Architecture*.
[103] See discussion of "Cathedral series" in Crook, *John Carter and the Mind of the Gothic Revival*.

"Characteristically denominated."[104] Second, the authors assembled in Taylor's 1800 compilation sought to provide a text that would serve as a reference book to help antiquarians, historians, and scholars engage in the process of writing architectural history according to a few guiding principles. Third, and most important for this dissertation, *Essays on Gothic Architecture* contributed to the readers' experience of architecture by helping them to see, through a set of twelve plates, the categorical and developmental shift that took place in building practice during the medieval period. This shift was the visible transition in the construction of arches and decorative mouldings from "circular" to "pointed" forms.

In this way, *Essays on Gothic Architecture* is one of the first works in Great Britain to break away from the eighteenth-century practice of writing cathedral monographs. This was accomplished by the combined efforts of Taylor's essayists who worked together to halt the disjointed nature of historical writing and instead championed a consistent and methodological approach to the study of architectural knowledge. Milner congratulates Taylor for his support of their work, stating in his introductory letter,

> Sir, I congratulate the Public on your attempt to elucidate the architecture of the middle ages, by the collection of Essays which you are about to publish on this subject; and I cannot refrain from pointing out to those antiquaries, who, like myself, delight in this branch of their characteristical science, certain matters, which seem to me particularly deserving of their attention, for promoting its progress, for fixing it on clear and sure principles, and for furnishing artists with rules to go by when constructing and repairing works in the style in question.[105]

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[104] Milner, "Observations on The Means necessary for further illustrating the ecclesiastical Architecture of the middle Ages." In a letter from the Rev. John Milner, M.A.F.S.A. to Mr. Taylor, found in J. Taylor's, *Essays on Gothic Architecture*, 1802 – "I flatter myself, however, that when speaking of that light and elegant species of architecture which properly began in the reign of our first Tudors, I call it the pointed style; and when describing this, in conjunction with the heavy circular order which preceded it, in the time of the Saxons and first Normans, I term them both together, the architecture of the middle ages, I say. I flatter myself that I am clearly understood by persons of information, and that the subjects themselves are characteristically denominated," p. xiii.

[105] Milner, "Observations on The Means necessary for further illustrating the ecclesiastical Architecture of the middle Ages." In a letter from the Rev. John Milner, M.A.F.S.A. to Mr. Taylor, found in J. Taylor's, *Essays on Gothic Architecture*, 1802, p. xi.

It is through the eyes of Milner, an antiquarian scholar whose knowledge of medieval architecture was rooted in personal observation, which one can begin to understand Taylor's audience and the importance of his work for antiquarians and artists. Dana Arnold also points to this shift in thinking and writing about the construction of history between the eighteenth and nineteenth centuries, indicating that the historical transition is marked by a search to "identify truth with fact and to regard fiction as the opposite of truth."[106] As we can see from Milner's statement, Taylor's publication is praised for its attention to principles and rules – in other words, philosophical thinking and measured instruction. A comment such as Milner's attests to what Arnold describes as a post-Revolutionary era that was afraid of "mythic thinking" as it was believed that ideas born from falsities lead to the "excesses and failures of the Revolution." [107] A search for order ensued, which focused on a "linguistic self-conscious"[108] and on the appropriate use of terminology.

Not only do we learn from Milner about the value of *Essays on Gothic Architecture* for antiquarians and artists, but we also learn from Taylor about how he envisioned that his book would be used. In the opening advertisement for the second edition (1802) the text states that, "for the case of consulting, [the cathedrals] are arranged alphabetically; and every endeavor has been used to be accurate in the dimensions, which have been taken principally from [Browne]

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[106] Arnold, *Reading Architectural History*, p. 25.
[107] Ibid., p. 30.
[108] Ibid., p. 30 – writing about the turn in the nineteenth century to the importance of the "order of words," Arnold notes that, "It is the linguistic self-consciousness which distinguishes them from their mundane counterparts and followers, who think that language can serve as a perfectly transparent medium of representation and who think that if one can only find the right language for describing events, the meaning of the events will display itself to consciousness."

Willis's *Survey of the Cathedrals and the Mitred Abbies*."[109] The advertisement concludes by stating that the

> … Cathedrals only of England are noticed in this list, with the exception of Westminster Abbey, which, for its elegance and magnitude, it would have been unjust to have omitted: if needful, it may be pleased it was once numbered among our Cathedrals. The dimensions of Old St Paul's, London, are added from Dugdale, as highly curious, and without which the subject would not have been complete.[110]

At a glance, what this advertisement provides is a brief overview of what is important to the editor of the collected essays: images showing difference, measurable dimensions of buildings, and the chronological ordering of elements for easy reference and consultation for scholars to chart change over time visually. Taylor's concerns seem to reference the graphic methodology provided by the French architects Leroy and Durand who constructed their observations of architectural change over time through comparative plates illustrating plans, sections, and façades from multiple building examples on a single page.

Following the advertisement, Taylor describes in the preface the growing interest in England's "ancient" buildings at this time. He points to the desire to group these buildings by their "characters and facts" describing how "laborious researchers of these celebrated antiquities"[111] examined the cathedrals of England in order to articulate an accurate historical ordering. Speaking from a place of authoritative understanding and expertise, Taylor claims that

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[109] Warton et al., *Essays on Gothic Architecture*, p. v. See also, Browne Willis, *An History of the Mitred Parliamentary Abbies, and Conventual Cathedral Churches. Shewing the Times of Their Respective Foundations, and What Alterations They Have Undergone. With Some Descriptions of Their Monuments, and Dimensions of Their Buildings, & Co. Together with a Catalogue of Their Abbats, Priors, & Co.*, 2 vols. (London: Printed by W. Bowyer, for R. Gosling at the Miter and Crown, against St. Dunstan's Church in Fleetstreet, 1718).

[110] Warton et al., *Essays on Gothic Architecture*, p. vi. Quote refers to: William Dugdale, *The History of St. Paul's Cathedral in London, from Its Foundation. Extracted out of Original Charters ... Beautified with Sundry Prospects of the Old Fabrick ... As Also with the Figures of the Tombs and Monuments Therein, Which Were All Defac'd in the Late Rebellion. Whereunto Is Added, a Continuation Thereof ... To the Year 1685. Likewise, an Historical Account of the Northern Cathedrals, and Chief Collegiate Churches in the Province of York*, 2nd ed. (London: Printed by G. James, for J. Bowyer, 1716).

[111] Warton et al., *Essays on Gothic Architecture*, p. vi.

this study is “interesting to every Englishman. Whether considered historically or nationally.”[112] Taylor’s motive seems to align with the observations made by J. Mordaunt Crook in the introduction suggesting that British scholars had turned-inwards to examine their national monuments. Thus, Taylor’s book was an appropriate companion on tours of the countryside. His book also supported an underlining theme of many British books at this time, which advanced an idea that by ordering and describing British monuments the reader could investigate and understand the advancement of the nation over time.

Remembering that the opening advertisement states, “For ease of consulting, [the cathedrals] are arranged alphabetically,” it should be understood that Taylor, and the authors included in his book, do not attempt to arrange the cathedrals according to their similarity or difference. Rather, Taylor and the enclosed authors focus on how to describe those buildings and recognize their similarity or difference according to a few carefully selected observable traits in the same way that Linnaeus selected his leaves. Taylor laments that, “the want for a concise historical account of Gothic architecture has been a just cause of complaint,”[113] thus challenging his readers, as well as future historians, to reconsider the appropriate and consistent use of terminology to describe the set of cathedrals listed in his book. Taylor calls for an accurate terminology and nomenclature to describe the visual characteristics defining “Gothic” architecture in the hopes of developing a method for organizing phases of medieval buildings based on their similarity. He states, “The term Gothic architecture does not occur in any of our ancient historians, it must therefore be of modern introduction; and it has been well conjectured

[112] Ibid., p. vii.
[113] Ibid., p. vi.

by several eminent antiquaries was applied solely for the purpose of crafting an opprobrious epithet on it, at the period of introducing the Greek or Roman style into this country."[114]

For these early historians of medieval architecture one of the greatest challenges was that of nomenclature; finding the appropriate terminology to convey the categories of building change that they saw – this was also a problem of classification. British architectural historians writing between 1800 and 1850 undertook the particular challenge of defining how architectural elements could be used to document the phases of Gothic building practice according to a selection of observable traits. The practice of arranging buildings chronologically according to a set of perceivable characteristics became the standardized method in nineteenth-century historical studies of British medieval architecture. This practice can also be tied, as the next section demonstrates, to a growing national trend that sought to better understand Great Britain's development as a nation within the larger context of Western progress.

## 3.4 HISTORY VS. PROGRESS

In the nineteenth century several changes took place in the writing and presentation of historical and scientific thought. It was no different in the presentation of architectural history. But, for much of the nineteenth century it was also the case that history and science were linked. The facts of history were also considered to be the facts of science and the two were narrated together in an empirical and theoretical fashion. The Irish historian, J. B. Bury (1861-1927) reflected on how this was done in his public lecture titled "The Science of History" from 1902,

[114] Ibid., p. vii-viii.

> I may remind you that history is not a branch of literature. The facts of history, like the facts of geology or astronomy, can supply material for literary art; for manifest reasons they lend themselves to artistic representation far more readily than those of the natural sciences; but to clothe the story of human society in a literary dress is no more the part of a historian as a historian, than it is the part of an astronomer to present in an artistic shape the story of the stars.[115]

Bury also commented on the idea of progress, which contributed to Michael Ruse's thinking in his 2006 book, *Monad to Man*. Ruse states,

> […] a belief in Progress is the belief in a doctrine about the course of history. It is a belief about change, from the past, to the present, and most probably onwards and upwards into the future. […] Bury summed up the concept as follows: 'the idea of human Progress then is a theory which involved a synthesis of the past and a prophecy of the future. It is based on an interpretation of history which regards men as slowly advancing – *pedetemtim progredientes* – in a definite and desirable direction, and infers that this progress will continue indefinitely.'[116]

The combination of thoughts presented by Bury and Ruse offers one way to contextualize the work of architectural historians presented here who sought to offer facts in order to shape history that would, in turn, visualize the idea of an ever-improving development of British medieval forms into the future.

For instance, the fact that Taylor states his subject would be 'interesting to every Englishman' is a testament to the popularity of architectural history at the turn of the nineteenth-century. It also touches on one of the possible motivators to write a history of Great Britain's medieval architecture in the first place. As a post-revolutionary investigation, the desire to write an authentic history of Great Britain's medieval architecture identifies a contemporary concern to know one's origin. British authors assumed at this time that medieval architecture was born in Great Britain. To investigate its progress and change over time, therefore, was to investigate the

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[115] Bury, John Bagnell, "The science of history" in *Selected Essays*. (CUP Archive), p. 9 – Retrieved 2015-04-01.
[116] Michael Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology*. (Cambridge, MA: Harvard University Press, 1996), p. 20.

progress of the Nation, of the British people, of the Empire, etc. The search for knowledge about Gothic architecture in Great Britain was related to the study of Antiquity through its association to Empire and spheres of cultural, political, and social influences. Some British antiquaries tried to draw a comparison between Great Britain's national architecture and the architecture of Ancient Greece and Rome, suggesting that the medieval period was an outgrowth of Ancient forms.[117] It was also suggested that medieval architecture was the first new Western style since Ancient times and many British authors tried to claim this new architecture by searching for its origin on British soil and, therefore, defining its growth as a purely English phenomenon.

With this in mind, it should be noted that the process of identifying, naming, visualizing, and organizing Great Britain's medieval architecture was to align the process of writing *graphic histories* with other processes of classification found in natural history, including biology, botany, geology, and zoology. The relationship between these processes of arranging specimens helped craft the writing of architectural history as a viable discipline rooted in scientific methodology, on the one hand, and to form a new discipline that had its own terms, its own system, and its own method of visualization and understanding, on the other. I will go into this next point in more detail in Chapter 4, but it is worth noting here that the primary difference, of course, as Armstrong showed between Linnaean taxonomy and the diagramming of architectural history generally or of temple/church types from antiquity to the eighteenth century, was that historians were not simply interested in organizing elements according to their similarity. They

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[117] See Storer, *History and Antiquities of the Cathedral Churches of Great Britain : Illustrated with a Series of Highly-Finished Engravings, Exhibiting General and Particular Views, Ground Plans, and All the Architectural Features and Ornaments in the Various Styles of Building Used in Our Ecclesiastical Edifice*, – where he states: "The late Mr. Barry [referring to James Barry 1741-1806(?)] attributes the Gothic style to the corruption of the Grecian and Roman manner, and produces many examples to prove that the pointed arch, with the peculiar ornaments, arose from this source." p. 13.

also sought to show the slow, incremental change of medieval architectural species over time through *visual taxonomies*.

The desire to systematically classify and arrange Great Britain's medieval churches, however, was a starting point, and Taylor justifies their efforts in this way,

> The want for a concise historical account of Gothic architecture has been a just cause of complaint: the subject is peculiarly interesting to every Englishman, as his country contains the best specimens of that style of building not unequal in grace, beauty, and ornament, to the most celebrated remains of Greece or Rome. This style of architecture may properly be called English architecture, for if it had not its origin in this country, it certainly arrived at maturity here; under the Saxon dynasty this style of building was introduced, and under the Norman dynasty it received its ultimate degree of beauty and perfection.[118]

By Taylor's own argument we see that he defends the study of British medieval architecture not as a scientific endeavor, but as an exercise in situating Great Britain on a historical, linear trajectory of ever-improving forms that highlight the perfection of British medieval architecture. The overall purpose of Taylor's text is dedicated to labeling the historical transition from Saxon to Norman architecture. He does this by proposing a methodological application of terms in order to describe the characteristic architectural traits defining change over time. This next section concentrates on the distinctions made by Taylor when the process of picturing the transition from Saxon to Norman architecture is applied.

[118] Warton et al., *Essays on Gothic Architecture*, p. v-iv.

## 3.5 CATEGORICAL CHANGE: CIRCULAR VS. POINTED

In Taylor's 1802 edition of *Essays on Gothic Architecture* he includes twelve plates, ten of which were also present in the first edition published in 1800.[119] These ten plates show ornaments, details, and architectural elements meant to "exhibit the various styles of different periods" of Saxon and Norman architecture – a feature of presentation that, as we have seen already, is entirely different from the comparative plates by Leroy and Durand illustrating whole buildings through plans, sections, and façades. The original ten plates, including the frontispiece, accompanying *Essays on Gothic Architecture* feature either a single architectural element or grouping of four to seven elements. Each element is numbered to help the reader/viewer navigate the visual arrangement on the page. The two new plates, plate 11 and 12, however, are full-page engravings illustrating nave elevations from Durham cathedral and Westminster Abbey, respectively. I will give special attention to these final two plates as they highlight Taylor's proposal for categorical arrangements of buildings according to their characteristic traits.

Looking at Plate 11 (**figure 5**), the viewer examines the nave of Durham cathedral from an interior vantage at a sweeping diagonal glance. Situated as if standing in the left side aisle of the cathedral, the viewer looks across the nave and studies the height of the nave wall, the bay structure defining the second and third bay of the cathedral, and across into the right side aisle through to the exterior wall and door leading to the adjoining monastic cloister outside. In this image the viewer is confronted by the depth and strength of this example of, what Milner terms,

[119] Ibid., The second edition, to which is added, a list of the Cathedrals of England, with their dimensions, also two new plates. (London: printed by S. Gosnell, Little Queens Street, Holborn, for J. Taylor, at the Architectural Library, High Holborn, 1802).

*round* architecture.[120] Large columns like solid tree trunks rest on thick, unrefined blocks of raw stone, each supporting three tiers of round arches: the nave arcade, the double rounded arches set within a single decorative arch in the gallery, and the three arches of varying height and width are arranged in an ABA pattern in the clerestory. This repetition of rounded arches accentuated by geometric moldings illustrates the statement that "Durham cathedral is justly considered one of the best and purest specimens of the early, circular, or Saxon style." The entire cathedral is an essay on texture, pattern, and the interplay of light and shadow over these massive, detailed forms.

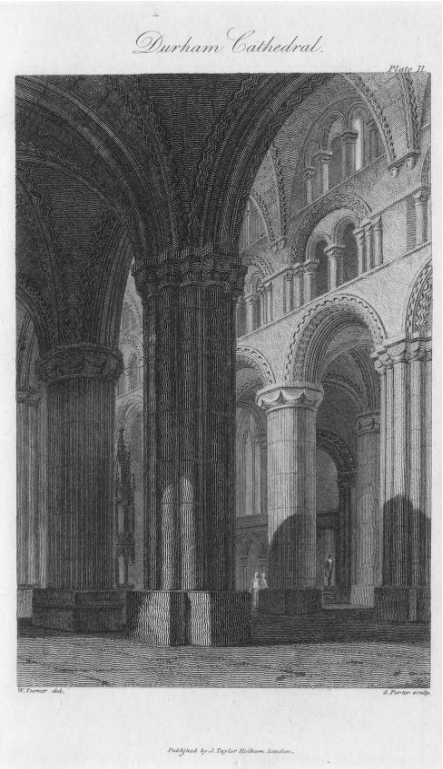


**Figure 5: Warton, et al., "Plate 11: Durham Cathedral." London: 1802.**

[120] Ibid., p. xiii from Milner's letter: "Again, one of these eminent authors testifies, that "some writers call all our ancient architecture, without any distinction of round or pointed arches, Gothic; though of late," he adds, "the fashion has been to apply the term solely to the latter." See footnote "c" in Bentham's Essay, pp. 74, 75.

Turning to Plate 12 (**figure 6**), Taylor describes the engraving in the following way, "The view in Westminster Abbey is taken from near the principal entrance into the choir, looking up the great isle or nave; and shows the lightness of highly-pointed arches, springing from slender clustered columns, from which issue mouldings and ribs fancifully spreading over the adjoining parts and the vault of the roof. A view is also given of the elegant tracery and magnificence of the great western window."[121] What the viewer experiences here is in contrast to the first impression made by Durham cathedral in Plate 11. Here the viewer is confronted not by imposing foregrounded columns, but by the sense of airiness provided by the axial view down the length of the Abbey nave. Instead of glancing obliquely across the nave, the viewer of Westminster Abbey is situated firmly in the center aisle and experiences the length and height of the building in its entirety. Four figures share the viewer's space in the nave and punctuate the length of the aisle by providing a sense of scale to the vast space. Similarly, two figures can be seen walking together in the side aisle, their heads framed by the blind arcade defining the portion of the exterior wall below pointed lancet windows. The theme of double pointed arches is continued in the gallery level where two pointed arches, segmented by double pointed lances with oculi, can be seen to fill the space above the single bay arch defining the nave arcade; all of this is topped by a single arch housing a double lancet window with oculus in the clerestory.

[121] Ibid., p. 4.

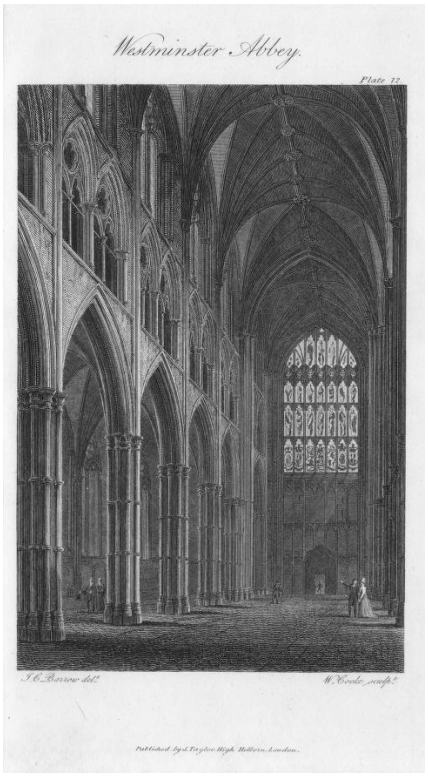


**Figure 6: Warton, et al., "Plate 12: Westminster Abbey." London: 1802.**

By adding these two plates to the 1802 edition with the already existing ten diagrams in *Essays on Gothic Architecture*, the authors hoped that, "An attentive inspection and comparison of these prints will give a pretty clear and accurate idea of the two styles, in which consist the distinguishing characters of our ancient architecture."[122] While specifically referencing the addition of Plates 11 and 12, this statement could also apply to the authors' vision for the book as a whole. In its entirety, Taylor and Warton et al. sought to make visible the defining characteristics of medieval British architecture by providing a reference book[123] with scholarly essays to clarify the naming discrepancies found in earlier written works. These earlier works

[122] Ibid., pp. 4-5.
[123] The list of cathedrals that Warton includes are arranged in alphabetical order in the following way: St. Asaph, Bangor, Bath, Bristol, Canterbury, Carlisle, Chester, Chichester, St. David's, Durham, Ely, Exeter, Gloucester, Hereford, Landaff, Litchfield, Lincoln, London: St. Paul's Cathedral, Man, Norwich, Oxford, Peterborough, Rochester, Salisbury, Wells, Winchester, Worcester, The Collegiate Church of Westminster, York.

seemed to fail, in the authors' estimation, in their ability to explain and *visualize* the differences between circular and pointed architecture. The selection of Durham cathedral and Westminster Abbey make them *type specimens* for what Taylor and Warton et al. believed to embody the characteristic traits of Saxon and Norman architecture. In this way, Plate 11 and 12 also serve as indexes for other national monuments and help the reader contextualize the individual building elements pictured in plates 1 through 10.

## 3.6 ARCHITECTURAL SPECIMENS AND WORKING OBJECTS

Taylor and Warton et al. continually state the difficulty facing architectural historians in their attempts to apply the appropriate terminology to describe medieval buildings. Part of this difficulty arose from the fact that many medieval buildings were constructed across several decades or centuries and, thus, the style in which the building started might not be the same style at its point of completion. For the buildings that the authors could not place in any easily recognizable category, they suggested that it was the work of future historians to define the phases of construction meshed into these seeming *transmutative* façades. The job of future authors, then, was to tease-out the various elements of a transitional structure in order to create a timeline of its building history. One of the ways that the authors of *Essays on Gothic Architecture* began this process was by appealing for the use of images to aid in visualizing the narrative of change over time in medieval forms.

A sampling of some of the additional plates and their descriptions included in *Essays on Gothic Architecture* shows that the authors are particularly interested in the word "specimen" and that they maintain a clear distinction between those elements that are circular and those that

are pointed by not combining the two types on the same page. The frontispiece and plates 2 through 7 are dedicated to circular specimens, while plate 8 shows the intersections of circular arches leading to pointed arches via their decorative application on Saxon buildings, and, finally, plates 9 and 10 focus exclusively on those examples pertaining to pointed specimens. *Essays on Gothic Architecture* notes the difference between the two kinds of plates by titling the images dedicated to circular forms as "Various Ornaments" and the images showing the origin of pointed forms, as the "Rise and Progress of the Pointed Arch." The diagrammatic approach that is applied to the arrangement of architectural elements in plates 1 through 10 is similar to the kind of informational images showing the methods for constructing a rounded arch, for example, found in Diderot and d'Alembert's *Encyclopédie*, published in France between 1751-1772, and attests to the desire of Taylor and Warton et al. to present the study of architecture as an empirical and scientific endeavor.

Plate 8 (**figure 7**), for instance, begins the sequence of plates titled "Rise and Progress of the Pointed Arch." This particular plate shows four elements (1. Saxon piers; 1:A. crypt; 2. Double Saxon or Norman arch; 3. Specimen of double arch; 4. Intersecting round arches) and highlights the shift in style from Saxon to Norman architecture. Illustrated with four numbered figures and one sub-figure (A), the image directs the viewer's eye from the Saxon piers in the crypt of Winchester (980) at the center of the page, down to Figure 1:A showing a plan of the crypt in the lower left-hand corner, up to the upper left-hand corner where "Double Saxon or Norman arches at Winchester (1093)" are depicted, across to the upper right-hand corner to a "specimen of a double arch," and down again to the lower right-hand portion of the page where the diagram ends with "intersecting round arches without pillars or mouldings."[124] This is one of

[124] Warton et al., *Essays on Gothic Architecture*, see appendix.

the more convoluted pathways through a diagram in *Essays on Gothic Architecture*. The majority of the diagrams arrange elements in a zigzag fashion down the page in a "Z"-like manner. Yet, this diagram offers the reader/viewer, what John Bender and Michael Marrinan reference in *The Culture of Diagram* as Daston and Galison's idea of a "working object"[125] – a way to compare a variety of actual specimens that have been arranged on a page to help visualize the architectural transitions between the Saxon and Norman periods.

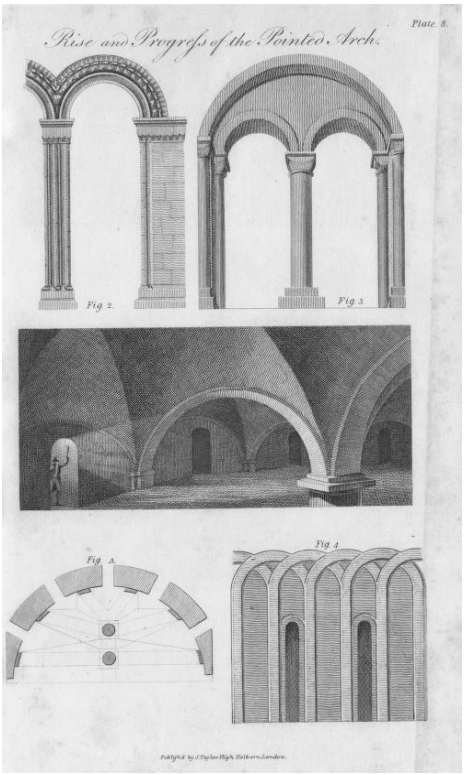


**Figure 7: Warton, et al., "Plate 8: Rise and Progress of the Pointed Arch." London: 1802.**

Bender and Marrinan believe that the role of a diagram is to capture the viewer's attention, to help "shape the way others see the world and, by extension, […] shape collective views of the world by convention and education."[126] They suggest that diagrams do this by presenting a "dominant point of view" through "hierarchical models of seeing," and that their

[125] Bender and Marrinan, *The Culture of Diagram*, p. 10; Daston and Galison, *Objectivity*.
[126] Bender and Marrinan, *The Culture of Diagram*, p. 13.

"success is measured when a convergence of data is recognized."[127] The diagrams included alongside *Essays on Gothic Architecture* do all of these things and even provide what Bender and Marrinan describe as typical visualizations among diagrams:

> […] they multiply points of view by presenting arrays rather than legislating the single view of a replete spatial environment. Diagrams incite a correlation of sensory data with the mental schema of lived experience that emulates the way we explore objects in the world. They are closer to being things than to being representations of things.[128]

Plate 8 highlights the exploratory nature of the diagrams belonging to Taylor and Warton et al. The presence of a human figure entering the crypt in Plate 8 with a torch held high, for instance, suggests that the authors wanted to communicate to the reader/viewer their desire for sensory and experiential interactions with architectural spaces.

*Essays on Gothic Architecture* promotes exploration by inviting the viewer to self-identify with the human figure in the crypt. The viewer's knowledge of Saxon architecture is awakened in the same way that the figure's torch eliminates the darkness of the recessed space, illuminating rounded arches springing from stocky piers that support a groin-vaulted ceiling. Similarly, the inclusion of the crypt plan in the lower left-hand corner allows the viewer to visually "walk" through the space, understanding the relationship of piers to the wall, and springing of the vaults in relation to the floor. Likewise, the inclusion of three different specimens of double arches invites the viewer to imagine a similar relationship between this particular crypt at Winchester with other crypts they may have visited and note the variety of decorative types used to adorn similar spaces.

As a reference book, the compilation of essays does more than just arrange a list of cathedrals alphabetically. Their work lays the groundwork and expands the foundation of

[127] Ibid., p. 17.
[128] Ibid., p. 21.

historical and scientific thinking about the advancement of medieval British architecture over time by focusing on the need to standardize language and provide visual guidance to readers in the form of *Encyclopédie*-like diagrams. The works that follow *Essays on Gothic Architecture* continue the debate about terminology while also expanding the conversation to include an appropriate dating and organizing methodology. None of the images in the pages that follow reflect the visual investigation and organization that Taylor and Warton et al. offered as a whole. Rather, as we shall see, the visual presentation of change over time undergoes its own historical process of transformation, development, and standardization – a point that remains continually overlooked in contemporary scholarship.

The importance of Plates 11 and 12 in relation to *Essays on Gothic Architecture*'s other ten diagrams highlights the continued need for sensory and tangible experiences of the buildings discussed by the authors. Together, the final two plates in the second edition of *Essays on Gothic Architecture* provide the necessary visual context in which to situate and understand the fragmented specimens of medieval architecture illustrated in the earlier plates. Like Diderot and d'Alembert's *Encyclopédie*, the specimens provided by Taylor and Warton et al. can be juxtaposed against the full-page plate illustrations of Durham and Westminster and placed within a familiar visual context. The inclusion of Plates 11 and 12 in the subsequent editions of *Essays on Gothic Architecture* activated the diagrams as working objects for architectural knowledge-making by providing the viewer with an opportunity to compare and contrast the differences between two phases of building practice in Great Britain.

In the subsequent discussion of works by Storer and Britton, it must be noted that at some point in the span of fifty years, between 1800 and 1850, the interest in the shift from "circular" to "pointed" architecture is no longer interesting for British architectural historians. The

chronological shift from one set of forms to another and the documentation of that shift changes to a deliberate interest in documenting the nuances of building practice within *one* of these types. The focus on "pointed" architecture becomes a search for chronological evidence that could show how this particular form transitioned and morphed toward a perfected state. Nineteenth-century authors studied these transitions and sought to visualize their chronological ordering to provide greater dating accuracy for the study of Gothic architecture as a whole. As we shall see in Chapter 4, around 1817 when Thomas Rickman published his book *An Attempt to Discriminate the Styles of Architecture in England*, the emphasis of architectural history texts is less about broad characterizations of "circular" vs. "pointed" medieval forms, and more about the specific and consistent analysis of observable traits that can be used to accurately date a building's history by century.

## 3.7 J. STORER'S *DESCRIPTION OF THE CATHEDRALS OF GREAT BRITAIN*

James Storer (1771-1853) is remembered as a draftsman and engraver, the producer of works relating to topography and architecture, and the author of five books.[129] His *Graphic and Historical Description of the Cathedrals of Great Britain*,[130] completed in four volumes between 1812 and 1819, was produced in conjunction with his son, Henry Sargent Storer (1796-1837) to showcase twenty-seven of Great Britain's most notable cathedrals. Augustus Welby Northmore

[129] F. M. O'Donoghue, 'Storer, James Sargant (1771–1853)', rev. Dennis Harrington, in *Oxford Dictionary of National Biography*. (Oxford: Oxford University Press, 2004; online edition, 2010 – accessed 11 Jan 2015).

[130] *Graphic and Historical Description of the Cathedrals of Great Britain illustrated with a series of highly-finished engravings, exhibition general and particular vies, ground pans, and all the architectural features and ornaments in the various styles of building used in our ecclesiastical edifices* by James Storer. In four volumes, Vol. I. (London: published by Riningtons; Murray; Hatchard; Clark; Taylor; and Sherwood; Neely, and Jones. 1814).

Pugin (1812-1852) praised Storer's work and considered it "to be the most accurate views of those buildings in existence."[131] The selection of cathedrals include, *Volume 1:* Canterbury (1070), Chichester (1108), Bath (1090), Peterborough (1118); *Volume 2*: Ely (1109), Salisbury (1220), Gloucester (1089), Rochester (1080), Worcester (1084), Hereford (1110); *Volume 3*: Lichfield (1195), Lincoln (1185), Winchester (1079), Orford (?), St Paul's, London (1657), Landaff, Wales (1120), St David's, Pembrokeshire (1131), Bristol (1220); *Volume 4*: York (1080), Durham (1093), Carlisle (1133), St Asaph (c. 1200), Exeter (1112), Bangor (1102), Norwich (1096), and Wells (1176).[132] It is not readily apparent why Storer grouped the cathedrals in this way. Geographic location, alphabetical arrangement, and chronological dating are all ignored as possible guides to group this set of twenty-seven British cathedrals. What Storer does provide, however, is a multi-layered written structure that includes suggestions for categorical terms such as Roman, Pyramidal, East, Goths, etc., that he suggests may be used in order to document the arrival of Gothic architecture in Great Britain.

In his introduction, Storer poses two contrasting ideas about the origin of Gothic architecture. In the first, he reports that a number of authors believe that Gothic architecture originated from Ancient Greece and Rome; and that another set of authors, including himself, believe that Gothic architecture is the result of mimetic desire on the part of medieval crusaders returning from the East.[133] Storer states that Gothic "has not the most distant similarity either to

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[131] F. M. O'Donoghue, 'Storer, James Sargant (1771–1853)', rev. Dennis Harrington, in *Oxford Dictionary of National Biography*. (Oxford: Oxford University Press, 2004; online edition, 2010 – accessed 11 Jan 2015).

[132] Dates ascribed to the cathedrals have been selected to show the most notable medieval construction date at that particular site.

[133] Storer, *History and Antiquities of the Cathedral Churches of Great Britain : Illustrated with a Series of Highly-Finished Engravings, Exhibiting General and Particular Views, Ground Plans, and All the Architectural Features and Ornaments in the Various Styles of Building Used in Our Ecclesiastical Edifices*, pp. 9-23. The grouping of authors mentioned by Storer who attribute the origin of Gothic architecture to either Grecian/Roman; the East; to Pyramidal forms, to the Goths, to England; to the

Grecian or Roman architecture, and its origin has been the subject of much controversy."[134] He believes, rather, that Gothic forms are of "Eastern extraction […] imported by crusaders."[135] Storer continues his defense of the origin of Gothic architecture, saying,

> All eastern buildings, as far back as they go (and we cannot tell how far), have pointed arches, and are in the same style; is it not fair to suppose that some of these are older than the twelfth century, or that the same style existed before that time? Is it at all probably that the dark ages of the west should have given a mode of the architecture to the east?[136]

According to Storer, it seems implausible that Gothic architecture could have emerged in the West of its own volition. He continues,

> […] we conceive, therefore, that the crusaders introduced the fashion of the pointed arch, and the first ornaments of this style, which are few and simple; but the richness is gathered in the process of time, and the improvements and alterations we observe in it from its first rise in the twelfth century to its extinction in the fifteenth century, are owing to the munificent encouragement of the church.[137]

Thus, while Storer emphases that Gothic may have originated in the East, he also believes that its growth and flourishing are largely owed to the appropriation of the style for religious ecclesiastical architecture in Great Britain.

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influence of the Church; or to Nature can be sorted in the following way – Mr. Barry (Grecian/ Roman); Sir Christopher Wren, Mr. Payne Knight, James Storer, and David Hume (East); Mr. Murphy, James Storer, Dr. Durcarel (Pyramidal); Bishop Warburton, David Hume (Goths); James Bentham, Rev. J. Milner, Rev. G. D. Wittington, Mr. Wilkins, Mr. Taylor, Mr. Smirke (England); Lord Orford, Horace Walpole (Church); Sir James Hall, James Storer; Mr. Murphy; and Mr. R. Mitchell (Nature).

[134] Ibid., p.12.

[135] Ibid., pp. 12-13.

[136] Ibid., p.13.

[137] Ibid., p. 13. Storer also states, "About the commencement of the twelfth century some of the characteristic forms of the pointed style appeared in this country, whether originating here, or borrowed from edifices on the continent, has not hitherto been satisfactorily decided. Sir Christopher Wren derived this style from Arabia, and believes it to have been introduced to this country by the Crusaders." And, in a footnote, Storer comments on Wren's observation, saying, "Wren calls this style Saracenic; and an elegant modern writer supposes the Saracenic to be formed out of a combination of the Grecian and Roman, with a mixture of Moorish or Saracenic, Egyptian, Persian, and Hindoo," p. 10.

What is more apparent from the four volumes, however, is that the selection of frontispiece for each book illumines Storer's thinking about architectural succession. Each full-page frontispiece represents an entryway into the cathedral that is listed first in the grouping of ecclesiastical structures contained within that volume: Canterbury in Vol. 1; Ely, Vol. 2; Litchfield, Vol. 3; and York, Vol. 4. These four doorways serve as a kind of symbolic or metaphorical *entry* into their respective volume. Examining each plate individually and then collectively, the following sections demonstrate that the arrangement of these four entryways points to Storer's own idea about chronology and the visualization of his idea about the *process of time*.

## 3.8 HISTORY AND THE PROCESS OF TIME

The inscription for each frontispiece gently follows the contours of the architectural element that it portrays, and reads, "*Graphic & Historical Description of the Cathedrals of Great Britain,* followed by a description of the architectural element below the image, in this case, *A Door in the Cloister, Canterbury Cathedral* (**figure 8**). Illustrated at an angle, showing a three-quarter-perspective view through a rounded barrel vault into the darkened cloister space, the viewer is confronted by the decrepit state of the doorway. A pile of rubble flows out of the rounded arch. Stones of different shapes and sizes lie in the dirt at intervals. Set into a thick wall, the doorway itself also shows signs of decay. A finely decorated pilaster with intricate Celtic patterning has been decapitated of its capital and no longer reaches to the springing of the arch. A piece of the beaded moulding has fallen out, leaving a gap in the decorative outline of the doorframe, and a series of stones making up the wall to the right of the doorway appear to be damaged and falling

out of place. What remains intact, however, is the iconic chevron moulding attributed to Saxon decoration.[138]

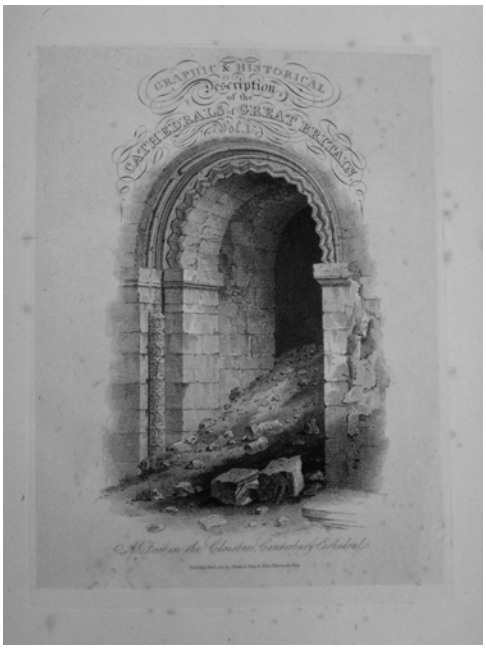


**Figure 8: Storer, "*A Door in the Cloister, Canterbury Cathedral.*" London: 1812-19.**

One might ask: Why out of all the working entrances at Canterbury cathedral would Storer choose a doorway that is impassable as the first frontispiece to his four volume work? Storer explains that the image,

> Represents the shattered remains of a most admirably sculptured Saxon archway, leading to the great dormitory, which was safely preserved, under a coat of mortar, during several centuries, 'till August 1818, when it was determined to open the place but, unfortunately, the execution of this laudable design was entrusted to a rude mechanic, whose sacrilegious hands, with a few separate blows, soon broke in pieces one of the finest specimens of ancient art.[139]

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[138] Storer offers seventy references to Saxon things: arches, ornaments, windows, bishops, churches, rulers, etc. He attributes the arch-work and decoration to Saxon churches in areas that are known to have had Saxon rulers.

[139] Storer, *History and Antiquities of the Cathedral Churches of Great Britain : Illustrated with a Series of Highly-Finished Engravings, Exhibiting General and Particular Views, Ground Plans, and All the Architectural Features and Ornaments in the Various Styles of Building Used in Our Ecclesiastical Edifices,* p.17.

Canterbury is one of the oldest ecclesiastical sites in Great Britain. Founded in the sixth century, the cathedral went through several stages of remodeling; the first taking place at the end of the eleventh century. It was then gradually enlarged over the course of the twelfth century with the final major modification is dated to 1834 when Sir George Gilbert Scott (1811-1878) redesigned the misericords in the choir.

Knowing this very basic timeline of construction helps to understand why Storer might place Canterbury first on his list of twenty-seven cathedrals, as well as why he highlights the careless treatment of one of Great Britain's first medieval architectural sites as a means to preserve its memory and advocate for its protection. The other seventeen plates corresponding to the history of Canterbury feature seven images showing interior views, nine exterior views, and in the final plate, the cathedral's floor plan. While Storer does include a list of dimensions for the cathedral, he does not offer any measured drawings suggesting that his text is not geared toward architects, but rather aimed at those interested in the aesthetic history of medieval British ecclesiastical architecture. Storer concludes his written documentation of Canterbury Cathedral with a list of Archbishops, deans, and priors in order to chronicle the ecclesiastical authority at Canterbury from the arrival of Saint Augustine in 597 to the appointment of S. G. Andrews as dean in 1809.

The format that Storer applies to the study of Canterbury Cathedral is reminiscent of late eighteenth-century antiquarian cathedral monographs that documented a building's history according to a selection of topographical views. Storer repeats this approach for each of the cathedrals examined in his four-volume book though he does not illustrate each cathedral with the same number or type of views. Storer's presentation is relatively standardized in the way that he offers perspectival views and topographical scenes showing different parts of the cathedral set

into the surrounding landscape. Yet, none of Storer's images are arranged in a way to allow the reader/viewer to compare specific elements or ornaments in the way that the diagrams provided by Warton et al. did. Because of this, I think it important to examine the frontispiece for each volume because it is in the sequence of books that a chronological presentation of change over time can also be seen.

The frontispiece to volume 2 representing the *West door, Ely Cathedral* (**figure 9**) shows a single pointed arch with double-lancet entryway. A delicate trumeau column separates the two pointed lancets and supports the glazed tympanum with tracery suggestive of the Early English period above. Standing in the narthex aligned with the center aisle, the viewer looks at the backlit entrance from an interior perspective out onto the grassy yard in front of the cathedral. The artist has delicately outlined the shapes of five slender columns supporting ribbed arches and the beginnings of a ribbed groin vault in the ceiling. Storer describes the work simply, "The vignette to the second volume – this view is taken from within the west porch, and shews the Grand Entrance to the cathedral. The building seen without is the Episcopal Palace."[140] Begun in 1083 and expanded into the late fourteenth century, Ely Cathedral represents several phases of construction and is an example of how Gothic architecture developed in Great Britain over a five hundred year period. The other eight plates corresponding to the history of Ely similarly show six exterior views, two interiors, and one floor plan. Like the ones ascribed to Canterbury, Storer uses these images to highlight the points of historical transition and remodeling under the guidance of the clergy in charge at the time.

[140] Ibid., Vol. II, Ely Cathedral.


**Figure 9: Storer, "*West door, Ely Cathedral.*" London: 1812-19.**

The frontispiece to Volume 3 showing the *West door, Lichfield Cathedral* (**figure 10**) is a highly elaborate portal, and "exhibits the principal west entrance, which is a vestibule richly ornamented with statues under canopies, &c., &c."[141] A single pointed arch leads into a shallow narthex, which has its own double-lancet portal with trumeau (center, supporting post) supporting a sculpted tympanum. Four sculpted, life-size, figures stand watch – three as jamb statues and one as part of the trumeau. Slender double pillars support sculpted archivolts and scallop-like decoration hanging from the pointed arches. Finally, roundels with quatrefoil decoration fill the wall space between the sequence of arches along the façade between the central and side aisle entrances to the cathedral. Like the frontispiece to volume 1, the viewer stands outside the space looking in. Large doors stand open inviting the viewer to examine the interior arcade composed of compound piers and pointed arches. The shadowy contrast between the enclosed narthex divides the illumined space beyond from the exterior foreground,

[141] Ibid., Vol. III, Lichfiled Cathedral.

suggesting to the viewer that the interior space is lit to a similar degree as if one was standing outside. Built between c. 1195 and 1340, Lichfield is the only English medieval cathedral to support three towers, two flanking the west front and one over the crossing. Storer uses five of the seven plates to illustrate these three towers from several different exterior vantages and perspectives.

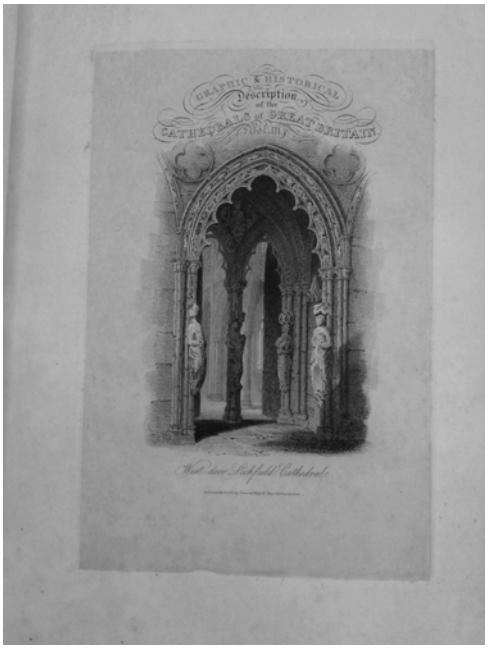


**Figure 10: Storer, "*West door, Lichfield Cathedral.*" London: 1812-19.**

The final frontispiece, showing the *Entrance to the Chapter House, York Cathedral* (**figure 11**), is not described by Storer in his commentary of the other eight plates associated with the cathedral. I think it is here that Storer's history of the cathedral, and Gothic in general, begins to collapse. At the time of its publication in 1814, British historians were grappling with the desire to unify the study of Gothic architecture under a concrete, definable set of terms and dates. Thomas Rickman's (1776-1841) anonymous publication of *An Attempt to Discriminate the Styles of English Architecture from the Conquest to the Reformation* in 1815, proposed a subdivision of Gothic architecture into four distinct periods: Norman, Early English, Decorated,

and Perpendicular. Saxon, Norman and Early English were already part of the standard terminology for describing Gothic architecture, and we see Storer ascribing certain buildings to these three phases, but he does not use the terms Decorated and Perpendicular suggesting that he was not familiar with Rickman's text at the time *History and Antiquities of the Cathedral Churches of Great Britain* was fully published in 1819. Yet, it is clear from the chronological ordering of these four frontispieces that Storer was aware of the visible transitions taking place in Gothic architecture even if he could not name them.

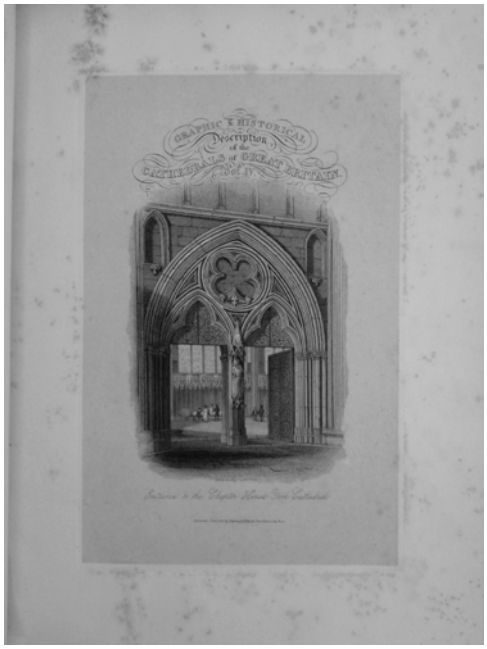

**Figure 11: Storer, "*Entrance to the Chapter House, York Cathedral.*" London: 1812-19.**

The entryway into York cathedral is a large double arch doorway under a single massive pointed arch with decorative tracery filling the tympanum. A single tremeau figure supports the springing of this elaborate tracery that spans to slender columns on either side of the doorframe. Looking through the portal from an exterior vantage, the viewer can see six figures standing in the Chapter House. Their size in comparison to the chapter stalls and portion of windows visible above indicate that the space is large and luminous. Again, Storer contrasts the interior and

exterior by casting a dark shadow in the foreground to make clear that the interior light is as luminous, if not more so, than the light outside the cathedral – a reference, perhaps, to the notion of "heavenly light" filling the sacred space.

The portion of York Cathedral has since been dated to the Decorated and Perpendicular phases of Gothic architecture, a phase beginning around 1250 and lasting roughly a hundred years. Knowing this, I would like to suggest that Storer arranged his four frontispieces to show the decorative progression of English ecclesiastical architecture from the Saxons to, roughly, 1296 when the Chapter House at York Cathedral was completed. While lacking a standardized history in which to place his selected buildings, Storer was able, however, to mark these four buildings on a timeline constructed from the journals held in the cathedral archives. His annals of each cathedral provided a reference point for future historians to compare their own dating standards and, later, group buildings according to their shared characteristics – whether it be Saxon, Norman, Early English, Decorated, or Perpendicular, etc.

Storer's work, while not a complete history of British medieval architecture, does grapple with some of the key issues that many of the authors selected for this study faced. Storer, like Taylor, like Bentham, Milner, Gross, and Warton, sought to understand where Gothic architecture originated, how to describe its characteristic traits as more than *circular* or *pointed*, and how it became apart of Great Britain's national architectural landscape. Storer acknowledges that, "the object of this work is to place in a striking point of view the ornament with their arrangement peculiar to the pointed style; to attain its purity, a scrupulous attention is necessary to those principles observable in the formation of moulding and enrichments, as well as their general combination."[142] He continues, "In this work simplicity of arrangement has been

[142] Ibid., vol. I, p. 21.

attempted, and only the peculiar forms noticed, that all attempts in the pointed style may preserve their purity, and prevent that assimilation with the Grecian or Roman manner, often producing structures really belonging to no system of architecture whatever."[143] In this way, Storer disassociates himself from those theories that attributed the emergence of Gothic forms as an outgrowth of Ancient Greece and Rome. Rather, he promotes the originality of the style's application in Great Britain, concluding that Gothic forms reached their perfection at the hands of British masons.

Taken together, the entryways into Canterbury, Ely, Lichfield, and York show four distinct, chronological phases of Gothic decoration in Great Britain. Not only can they be differentiated by their ornaments, but also by their size and location into the various sections of the cathedral complex. Storer captures the essence of the medieval period in Great Britain through his selection of these moments of change, highlighting his own idea about the "process of time" through the arrangement of individual buildings. Thus, Storer offers an alternative to the way that Taylor and Warton et al. visualized the chronological phases of British medieval architecture from the eleventh to the sixteenth century.

## 3.9 JOHN BRITTON'S *CHRONOLOGICAL HISTORY*

While still in his early thirties, John Britton (1771-1857) was known as an entrepreneur of published illustrations of English medieval architecture,[144] and he has been cited as being "one

[143] Ibid., p. 22.
[144] Pevsner, *Some Architectural Writers of the Nineteenth Century*, p. 24.

of the most prolific publishers of topographical and antiquarian collections.[145] In 1801 Britton turned to publishing and produced *The Beauties of Wiltshire* followed by *The Beauties of England and Wales*, the latter text published in twenty volumes between 1801 and 1814.[146] In the course of producing *The Beauties*, Britton also ventured a sequence of books for architectural antiquarians, scholars, and historians, but as we shall see, unlike Storer, he was also interested in engaging architects in his subjects. *The Architectural Antiquities of Great Britain* (1807) and *Cathedral Antiquities of England* (1814), for instance, afforded detailed architectural observations from which one could study or copy.[147] Britton's efforts to contribute to the search for accurate representation of medieval buildings within public dissertations came to fruition when he published *Specimens of Gothic Architecture* for Augustus Charles Pugin (1762-1832) and Edward James Willson (1787-1854) around 1823.[148]

Britton's greatest contribution to architectural empiricism, however, is his detailed investigation on the *Chronological History and Graphic Illustrations of Christian Architecture in England, Embracing a Critical Inquiry into the Rise, Progress, and Perfection of this Species of Architectur*e (1827). It is here that one finds one of the most constructive compilations of text and illustration for the study of English medieval architecture. The title-page alone indicates that his book is a comprehensive examination that is supported by, "Eighty-six plates of plans, sections, elevations, and views; with historical and descriptive accounts of each edifice and subject; an alphabetical list of architects of the middle ages; and, chronological lists of ancient

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[145] Pearce and Society of Antiquaries of London, eds., *Visions of Antiquity: The Society of Antiquaries of London, 1707-2007*, p. 129.
[146] Pevsner, *Some Architectural Writers of the Nineteenth Century*, p. 25.
[147] Ibid.
[148] Ibid., p. 25. Pevsner states that Britton's name does not appear on the title-page of *Specimens of Gothic Architecture* (1823-25) but that he is generally known to have been the publisher. See also, A. C. Pugin, A. W. N. Pugin, and Edward James Willson, *Specimens of Gothic Architecture*, (London: Henry George Bohn, 1823).

churches; sepulchral monuments; pulpits, fonts, stone crosses, etc.; a dictionary of architectural terms, and copious indexes."[149] Britton's text is in large part a broad survey of previous writings on the subject, as well as a detailed investigation of specific buildings exemplifying certain details of medieval structures that were previously defined by Rickman's four-part categorization, but otherwise left uninvestigated.

Britton testifies to the validity of his own text as a compilation and "concise review" of the earlier written works, indicating in Chapter 1 that,

> […] we find that the Society of Antiquities of London have expended several thousands of pounds in publishing accounts and illustrations of some of the English cathedrals. Hence almost every variety, and nearly every style or feature of building, has been described and delineated, and we are thus furnished with a mass of material for analysis, comparison, and elucidation.[150]

Accordingly, Britton not only seeks to expand the body of research presented thus far, but also desires to synthesize an amalgamation of knowledge for systematic organization and examination. The rest of the chapter is dedicated to the "progress" and "influence" of ecclesiastical architecture in Great Britain, how it had "gradual…effects" on the inhabitant community, which increasingly exposed itself through the emergence and continual construction of "Christian Architecture."[151] While Britton says that he uses this "generic term to imply the architecture of the middle ages, i.e. the various species or styles that were invented and adopted

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[149] Britton, *The Architectural Antiquities of Great Britain: Represented and Illustrated in a Series of Views, Elevations, Plans, Sections, and Details, of Ancient English Edifices: With Historical and Descriptive Accounts of Each*, opening page.

[150] Ibid., p. 25. Books such as this one required a great deal of work and Sam Smiles notes in Pearce and Society of Antiquaries of London. eds., *Visions of Antiquity: The Society of Antiquaries of London, 1707-2007*, that Britton employed a great number of artists to aid in the production of his topographical illustrations, see, p. 129.

[151] Britton, *The Architectural Antiquities of Great Britain: Represented and Illustrated in a Series of Views, Elevations, Plans, Sections, and Details, of Ancient English Edifices: With Historical and Descriptive Accounts of Each*, p. 24.

for ecclesiastical edifices, after the establishment of Christianity,"[152] it must also be noted that he seems to be responding to contemporary political controversies surrounding the emancipation of Catholics in Great Britain, an Act that was finally realized in 1829. Some scholars have argued that the application of the word "Christian" to describe medieval ecclesiastical architecture was really in reference to their original use as Catholic religious spaces. Britton selected the less controversial word *Christian* to describe British medieval architecture, unlike his contemporary A. W. N. Pugin who explicitly stated that he was writing in support of the revival of *Catholic* architecture.[153] As a result, the understanding of "Christian Architecture" crystallized for Britton from knowledge of religious practice that he understood to be the driving influence behind the development of ecclesiastical architecture in Great Britain during the middle ages.

Britton's work emerged in 1801 from a strain of historical writing that sought to document the history of English Gothic ecclesiastical architecture as a whole. Paul Frankl describes Britton's *Chronological History* as "the first attempt at a coherent history of English Gothic,"[154] and attributes Britton's enterprise to complete such a work to the increased public demand for systematic histories of architecture. Britton himself alluded to this demand and his intention to meet the needs of scholars in the fourth volume of *Cathedral Antiquities of England* (1814) where he states,

> […] as many architects and men of science have expressed a wish to possess a more systematic display of the rise, progress and characteristics of the ancient Architecture of England, it is my intention to publish such a work. It will consist of Plans, Elevations, Sections, details and views of various buildings and or

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[152] Ibid., p. 24.
[153] Rosemary Hill, *God's Architect: Pugin and the Building of Romantic Britain* (London: Allen Lane, 2007).
[154] Paul Frankl, *Gothic Architecture*, The Pelican History of Art Series, (Baltimore, MD: Penguin Books, 1962), p. 498.

> proportions of others. These will be arranged in chronological order and will comprise all the component parts of an edifice.[155]

It took Britton twelve years to produce this work.

Notable precursors to Britton's topographical studies include, James Storer's four-volume *Graphic and Historical Description of the Cathedrals of Great Britain*, (1812-1819); and Rev. J Bentham's and Rev. J. Milner's cathedral monographs on *Ely*, (1771) and *Winchester*, (1793), respectively. Britton's work also influenced the later writings by Thomas Rickman, who is commonly remembered for his categorization of British medieval architecture into four distinct groups. I have placed Britton in this chapter because his written presentation of architectural history closely follows the tradition of eighteenth-century antiquarian cathedral monographs. Yet, I have also placed him at the end of this chapter because the images included in his text bridge the gap between turn-of-the-nineteenth-century guides to aid in categorizing architecture, like the one that Taylor and Warton et al. produced, and the presentation of architectural history as a progressive series of ever-improving forms. The following section dissects the frontispiece to Britton's text, which appears to offer another approach to ordering architecture using a *visual taxonomy*.

## 3.10 GROUPING SPECIMENS

When Britton's *Chronological History* was published in 1827 and again in 1835 it was as an amended volume to his pre-existing five-volume series on the *Architectural Antiquities of Great*

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[155] John Britton, *Cathedral Antiquities of England*, 13 vols. (London: M. A. Nattali, 1814). See vol. IV; and Frankl, *Gothic Architecture*, p. 498.

*Britain* (1807-1827).[156] This earlier work is similar to Storer's four-volume, *Graphic and Historical Description of the Cathedrals of Great Britain* (1812-1819), and John Carter's *Cathedral Series* (1795), in that each examined British Gothic architecture in a topographical way. What sets Britton's two later editions of volume five apart from these earlier compilations, however, is the way in which he moves away from the practiced method of presenting the history of medieval ecclesiastical architecture as a series of cathedral monographs to creating a comparative diagram to visualize the variety of forms as they developed over time.

Britton includes two frontispieces to his *Chronological History*; I will be focusing on the second, entitled, "Specimens of Circular Windows, &c." (**figure 12**). This image fills the page and illustrates thirteen different windows of the circular type, from eleven different locations, constructed between 1107 and 1400. The windows are numbered and include examples from, 1. Patrixbourne; 2. Canterbury; 3. St David's; 4. Salisbury; 5. York; 6. Norwich; 7. Beverley Minster; 8. and 9. Gloucester; 10. St John Hospital; 11. Bishop of Winchester's palace; 12. Westminster Abbey; 13. York. Each window is arranged within an individual block, yet there are clear groupings of three windows across the top and down the sides that are then mirrored by a parallel grouping on the opposite side. At the center of the composite image, however, is situated a large square that breaks the strict grid and features an arched window that includes roundels within its overall construction. At the center of the primary roundel the words making up the title of Britton's book may be seen inscribed behind the tracery.

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[156] Rosemary Sweet, *Antiquaries: The Discovery of the Past in Eighteenth-Century Britain* (New York, NY: Palgrave Macmillan, 2004), p. 267.

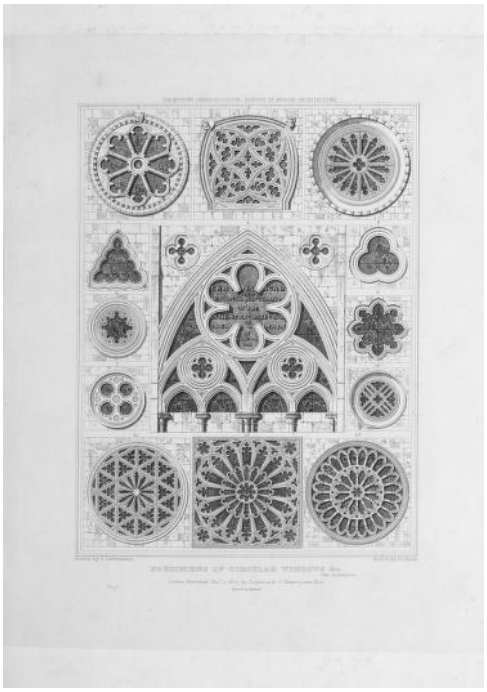

**Figure 12: Britton, "Specimens of Circular Windows, &c." London: 1827.**

Britton's arrangement of windows is both historical and artful. Historical in the sense that he draws from real specimens of circular windows found in Great Britain; artful because of the manner in which he arranges his material. From the composition, it is apparent that Britton wanted his readers to draw certain comparisons between the examples. One can find these juxtapositions by looking at the image in many different ways: clockwise, beginning in the upper left hand corner; laterally, examining the two larger rows of window that border the upper and lower edges of the center image and then the two side panels; or starting in the center and radiating outward. In all of these potential paths of examination, however, there is not one path through this image that correlates to a chronological examination of the development of circular windows in Great Britain. Another treatment of change over time can be seen in Britton's comparative plates showing "A Chronological Series of Windows" situated at the end of his book (**figure 13**). I want to remain focused on the frontispiece, however, because it is in this visual presentation that I think Britton needs to be reconsidered as straddling the divide between

the group of authors (Milner, Bentham, Grose, Warton, and Storer) and those historians (starting with Rickman and concluding with Willis, Sharp and Ruskin) who approached the study of Gothic forms by *showing* their diachronic relationship across space and time.

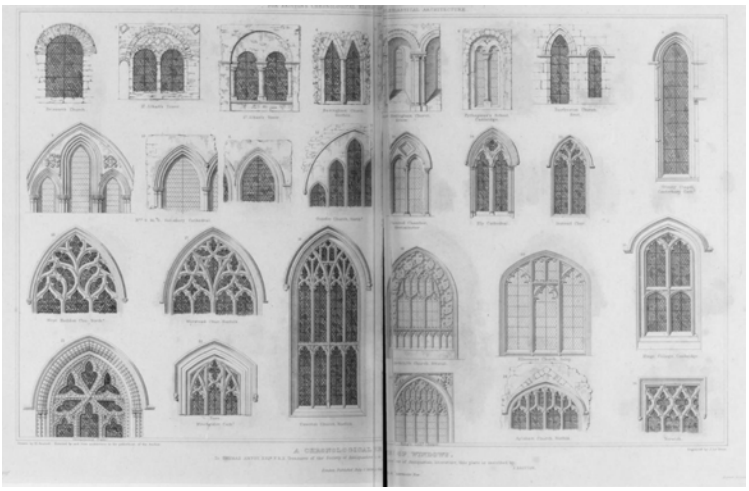

**Figure 13: Britton, "A Chronological Series of Windows." London: 1827.**

In the preface to his book, Britton describes his activity as being "occupied in illustrating the features and developing the history of the English Cathedrals," which he saw as "combining all the essence, the varieties, and the beauties of Christian Architecture."[157] Is seems, then, that for Britton, architectural history-writing is rooted in showing those elements that define a building's character, as well as illustrating the diversifications of its form. It is for this reason that Britton arranges the group of thirteen rounded windows in the frontispiece to *Chronological History*. Britton states that the windows "serve to exemplify the fanciful adaptation of forms and ornamental detail which the Christian Architects employed to decorate glazed apertures," and that through their diversity of appearance and variety of form the windows indicate, "the inventive faculties [that were] constantly exercised" by architects. Britton emphasizes that each

[157] Britton, *The Architectural Antiquities of Great Britain: Represented and Illustrated in a Series of Views, Elevations, Plans, Sections, and Details, of Ancient English Edifices: With Historical and Descriptive Accounts of Each*, p. iii.

window is *new*, that none is an *imitation* and that all show the *inventive mind* of the architect.[158] This is important because Britton's statement and his image are a plea to contemporary architects to diversify their own work and reinstate the trajectory of British architectural development from the medieval period. Britton concludes his discussion of the frontispiece saying, "It is singular and lamentable to observe the great deficiency of modern architects in the attempts they have made to design new buildings in this style."[159] It is evident that Britton fears a decline in architectural practice and seeks to educate his readers and viewers to the grandeur and genius that was achieved by British architects only a few centuries before.

The arrangement of these windows served to show diversity and variety to categorize the range of invention from 1107 to 1400. As an example of a *visual taxonomy*, this image offers a pictorial compilation of systematic analysis that provides the reader and architect with a collage of architectural members from which to compare and contrast specific elements of Gothic style. Britton hoped that by picturing a variety of specimens from one form he could reinvigorate and encourage contemporary architectural thought to continue the development of Christian architecture that he feared was in sharp decline.[160] Britton's arrangement at the front of his book provided his readers with a new way to look at a wide-range of material, but he also championed his new edition (Vol. 5) as a reinvented, "supplementary volume, which aims at more science, system, and originality."[161]

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[158] ibid., p. xviii, italics added.
[159] Ibid., p. xviii.
[160] Reflects Britton's relationship with A. W. N. Pugin who shared similar sentiments in his writings, *Contrasts: Or, a Parallel between the Noble Edifices of the Middle Ages, and Corresponding Buildings of the Present Day, Shewing the Present Decay of Taste. Accompanied by Appropriate Text* (London: C. Dolman, 1841); *The True Principles of Pointed or Christian Architecture* (London: J. Weale, 1841).
[161] Britton, *The Architectural Antiquities of Great Britain: Represented and Illustrated in a Series of Views, Elevations, Plans, Sections, and Details, of Ancient English Edifices: With Historical and Descriptive Accounts of Each*, p. iv.

Britton's presentation of window types offers another example of nineteenth-century thinking about architecture in a scientific way. His arrangement of circular forms according to their similarity of size and shape, and not by date, is unique in relation to the texts and images that have been examined thus far. Britton's *visual taxonomy* provides a different kind of continuity to the study of architectural practice that was not pictured in the work of Taylor and Warton et al., or by Storer. Instead, Britton's composite image aligns with Linnaeus's classification of leaves on a single page according to their shape as pictured in *Hortus Cliffortianus*. But Britton, like Leroy and Durand, goes further than Linnaeus could by organizing variety within a type across time on a single page. In this way, Britton offered yet another way in which British historians of architecture could organize and chronicle the history of medieval forms in a visual way.

## 3.11 CONCLUSION

What I hope was uncovered from the three early nineteenth century authors examined in this chapter is a new awareness of the visual methods for constructing categories of architecture in use in the early 1800s. The modes of visual representation found in Taylor and Warton et al.'s encyclopedic-like diagrams, to Storer's monographic, "big picture" landscape views, to Britton's *visual taxonomy* of architectural specimens emphasizes that a standardized system for visually documenting the chronology of British medieval architecture did not yet exist. The field of architectural history, as a whole, was in flux as antiquarians and historians worked to find a method to stabilize their investigations. The broad examination of architectural development that Taylor, Storer, and Britton offered to document architectural knowledge enabled the

reader/viewer to actively participate in the process of documenting history. Through the exchange of text and image the reader/viewer was invited to examine fragments of buildings and contextualize them through their own experience of the built environment around them. In this way, the authors presented in this chapter allowed the reader to form their own empirical judgment about the relationship between the representations of architectural elements on a page to those examples of medieval buildings dotting the English countryside.

Taylor and Warton et al. thought of building development in terms of categorical phases: circular vs. pointed. Storer focused on a linear history showing four distinct stages that offered to visualize the range of circular and pointed forms. Britton conceived a system that removed the simple idea of two or four stages and instead presented a *visual taxonomy* to help his reader/viewer understanding of variety within a single type: circular windows. Overall, the combination of these three authors in this chapter conveys the nuances within the modes of investigation and methods of presentation in the early nineteenth century. More importantly, this chapter brings into greater focus the multiple ways that images were employed to illustrate and visualize the history of medieval British ecclesiastical architecture in the early nineteenth century. As we shall see in the next chapter, the process of visualizing architectural history remained under continuous revision as authors narrowed their focus on a specific type to document the chronological development of medieval forms – namely, through diagrams of windows. As a scientific endeavor, the history of medieval architecture was proposed through a collection of window specimens as empirical evidence through which to arrange and date all medieval buildings. By focusing attention on the discrete similarities and differences between medieval windows, the authors examined in this dissertation were able to arrange and discuss

their own *visual taxonomies* of windows as a means to chart the slow yet continuous process of change over time in medieval ecclesiastical architecture.

The scientification of architectural history, therefore, emerges as the standardization of visual practice becomes more and more defined. With this standardization came a trustworthiness of the image as an empirical and objective tool to understand the chronological transformation of medieval monument between the eleventh and the sixteenth centuries. Having defined architectural specimens as tools for enabling accurate classification systems, the images associated with these classifications became increasingly necessary for visualizing history. What began as a conversation about the use of terms at the beginning of the nineteenth century emerges in the 1840s as an inquiry into the appropriate use of images to convey the process of change over time. As greater emphasis and importance was placed on the use of images, this dissertation will continue to demonstrate that the practice of architectural history and of science comes closer together through the creation of pictorial aides to visualize history. In this way, the study of architecture affords current scholarship with a new way to understand the nineteenth century and the merging of architectural history with scientific practice.

## 4.0 VISUAL SCIENCE AND THE MUTABILITY OF SPECIES

> The state in which we now see all the animals is on the one hand a product of the increasing *composition* of organization, which tends to form a *regular gradation*, and on the other hand that of the influences of a multitude of very different circumstances that continually tend to destroy the regularity in the gradation of the increasing composition of organization.[162] – J. B. Lamarck

In 1809 Jean-Baptiste Lamarck (1744-1829) published *Philosophie Zoologique*[163] in an attempt to explain his theory on the process of organic change and the inheritance of acquired characteristics in successive species over time. Without using the words "evolution" or "transformism," Lamarck set out to chart the origin and development of organic beings linearly through an idea known today as the "mutability of species."[164] Drawing from historian Richard W. Burkhardt's description, Lamarck's theory of organic progress can be summarized according to three central principles: 1. the simplest forms of life at the base of the plant and animal kingdoms emerged spontaneously, 2. the successive development of these organisms grew from simple to complex, and 3. in the case of a form's lack of development, certain "circumstances"

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[162] Jean Baptiste Pierre Antoine de Monet de Lamarck, *Philosophie Zoologique, Ou, Exposition Des Considérations Relatives À L'histoire Naturelle Des Animaux*, 2 vols. (Paris: 1809); see first English translation, *Zoological Philosophy: An Exposition with Regard to the Natural History of Animals*, trans. Huge Elliot (London: Macmillin & Co., 1914), p. 107. For discussion of the text see Richard W. Burkhardt Jr.'s essay in, *Zoological Philosophy: An Exposition with Regard to the Natural History of Animals* (Chicago: University of Chicago Press, 1984).

[163] The first English translation of Lamarck's work did not appear until 1914. *Zoological Philosophy: An Exposition with Regard to the Natural History of Animals*.

[164] *Zoological Philosophy: An Exposition with Regard to the Natural History of Animals*, p. xxii.

had prevented the organism from moving toward a state of increasing complexity.[165] Burkhardt notes that the central point of Lamarck's theory is the "notion that within each of nature's kingdoms, the production of nature could be arranged linearly"[166] to include all species and, as therefore, explained "how the simplest forms of life originated, how the organization of animals had become increasingly complex over time, how the higher animal faculties had emerged with the increasing perfection of organization, and how the influence of particular environmental circumstances had led to special habits and structures in animals."[167]

Prior to Lamarck's publication, the idea of "organic evolution," as Michael Ruse describes it, emerged from a long-standing theory dating back to Aristotle on the development of organisms along a climbing scale – otherwise referred to as the Great Chain of Being.[168] Many notable eighteenth-century European naturalists, biologists, and zoologists ascribed to the idea that generations of organisms originated from the same point but held distinct positions within a rank-based hierarchical system along the Chain.[169] Lamarck's thinking emerged from the Chain of Being theory, but he believed, as Ruse notes, that the Chain allowed for the progress of organic species to "climb up a main path," particularly "in animals from monad (the most primitive form) to man,"[170] Lamarck's idea differed from general opinion in that he also observed that not all species developed at the same rate or on the same scale. For instance, Lamarck proposed that plants should have their own separate chain from the one linking humans.[171] Lamarck's belief in the inheritance of acquired characteristics ultimately allowed him to produce a theory considering how organisms might diverge from their central branches,

[165] Ibid., p. xxiii.
[166] Ibid., p. xxv.
[167] Ibid., p. xxxvii.
[168] Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology*, p. 43.
[169] Ibid., p. 45.
[170] Ibid., p. 47.
[171] Ibid., pp. 47-8.

indeed from any central unifier, over time.[172] This was a key difference from the standard belief shared among naturalists at the time.

It must be stated, therefore, that following the publication of *Philosophie Zoologique*, Lamarck's ideas were strongly contested by nineteenth-century European and British naturalists. Publications and lectures by comparative anatomist, Georges Cuvier (1769-1832)[173] and geologist, Charles Lyell (1797-1875)[174] expressly rejected in their written works the notion that species experienced any progressive or divergent change in any way. Cuvier's writings on the subject, for instance, emerged in his well-known 1817 publication, *Le règne animal*, where he stated that "none of these parts," referring to the different parts of each creature, "can change their forms without a corresponding change on the other parts of the same animal, and consequently each of these parts taken separately, indicates all the other parts to which it has belonged."[175] Similarly, Lyell offered a "uniformitarian" observation of the development of species in his 1830 publication, *Principles of Geology*. David Hull noted that Lyell's program "was in denial of any direction to terrestrial change, especially progressive change."[176] Hull continues, "Lyell agreed that new species were introduced sequentially in time as other species

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[172] Ibid., p. 49.
[173] Georges Cuvier and P. A. Latreille, *Le Règne Animal Distribué D'après Son Organisation, Pour Servir De Base à L'histoire Naturelle Des Animaux Et D'introduction à L'anatomie Comparée*, 4 vols. (Paris: Deterville, 1817); Georges Cuvier, *Discours Sur Les Ré-Volutions De La Surface Du Globe, Et Sur Les Changemens Qu'elles Ont Produits Dans Le RèGne Animal* (Paris: G. Dufour et E. d'Ocagne, 1826). See also, Lamarck, *Zoological Philosophy: An Exposition with Regard to the Natural History of Animals*, and the essay by David L. Hull, "Lamarck among the Anglos," p. XLV.
[174] Lyell, *Principles of Geology; Being an Attempt to Explain the Former Changes of the Earth's Surface, by Reference to Causes Now in Operation*.
[175] Quoted in Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology*, p. 85. Georges Cuvier, *Le Règne Animal Distribué D'après Son Organisation*, (Paris: Deterville, 1817).
[176] Lamarck, *Zoological Philosophy: An Exposition with Regard to the Natural History of Animals*, see essay by David L. Hull, "Lamarck among the Anglos," p. XLIII.

became extinct, but he disagreed that such a sequence of events indicated any clearly defined direction or that the process was necessarily miraculous."[177]

Similarly, when the Scottish journalist, publisher, and geologist, Robert Chambers anonymously circulated his text *Vestiges of the Natural History of Creation* in 1844, he proposed that, "In pursuing the progress of the development of both plants and animals upon the globe, we have seen an advance in both cases, along the line leading to the higher forms of organization."[178] Chambers noted that "It is only in recent times that physiologists have observed that each animal passes, in the course of its germinal history, through a series of changes resembling the permanent forms of the various orders of animals inferior to it in the scale."[179] Describing his own work and examinations, Chambers noted that, "I take existing natural means, and shew them to have been capable of producing all the existing organisms, with the simple and easily conceivable aid of a higher generative law, which we perhaps still see operating upon a limited scale." As Yanni suggested in her recent contribution to the edited volume, *Evolution and Victorian Culture* it would seem that through Chambers' statements he "popularized the idea of gradual progression over time"[180] and allowed for "theorists to conclude that transitional periods, like the Byzantine or the Romanesque, held value."[181] I would contend, however, that it is not simply in the "transitional periods" defined by Byzantine or Romanesque architecture that one can see the influence of Lamarck or Chambers' work – in fact, as this chapter shows, the nuances

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[177] Ibid., see essay by David L. Hull, "Lamarck among the Anglos," p. XLIII.
[178] Robert Chambers, *Vestiges of the Natural History of Creation* (London: J. Churchill, 1844), p. 148.
[179] Ibid., p. 198.
[180] Yanni, "Development and Display: Progressive Evolution in British Victorian Architecture and Architectural History," p. 236 – Yanni also notes in a footnote that "James Secord's research on the reading and popular understanding of *Vestiges* has made use of this extraordinary book much easier for non-experts, but much more work remains to be done on *Vestiges'* relation to architecture," p. 256; see also, James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation* (Chicago: University of Chicago Press, 2000), p. 124.
[181] Yanni, "Development and Display: Progressive Evolution in British Victorian Architecture and Architectural History," p. 237.

of architectural change over time made visible *within periods*, rather than as distinct or whole periods, is what makes the current study of particular significance for future scholarship. Furthermore, Lamarck's theory is important for this dissertation precisely because of its controversial nature. *Philosophie Zoologique*'s contested reception, repudiation, and debate by authors such as Georges Cuvier, Charles Lyell, and Robert Chambers, to name a few, motivated an increased interest in understanding, explaining, and visualizing the idea of *Progress* and *Development* in early nineteenth-century publications on natural history and the history of architecture.

The inclusion of Lamarck's theory is offered here as a means to highlight the shifting ideas about the static and flexible nature of organisms and phenomena in studies of natural history between the 1730s and early to mid-1800s. Linnaeus's visual taxonomy of static forms, discussed in Chapter 3, differs greatly from Lamarck's attempt to visually represent his idea concerning the flexibility and changefulness of forms over time. Michel Foucault notes the distinction between the idea of "static" and "flexible" forms as being an understanding of visible traits of "*historical* knowledge" in the tradition of Linnaeus on the one hand, and the shift to "*philosophical* knowledge" and the search for that which is invisible following the school of Georges-Louis Leclerc, Comte de Buffon (1707-1788), of which Lamarck was a follower, on the other.[182] Foucault describes this transition as an intellectual shift in the way that natural history was perceived and written about through the "substituting of anatomy for classification, organism for structure, internal subordination for visible character, the series for tabulation."[183] How this was investigated pictorially seems to be found in the unbinding of isolated forms

[182] Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences*, World of Man (London: Tavistock Publications, 1970), p. 138.
[183] Ibid.

(clusters of leaves, for example) to searching for relationships among and between forms across space and time – as seen in Lamarck's *tableau*.[184] Evolutionary theorists, of whom Lamarck was one of the earliest but not the first, were concerned with the idea that all species are "in motion towards a future point."[185] This chapter confronts how these shifting theories about species' organization and chronology in natural history were confronted in the pictorial representations of successive change in medieval forms showing the development of architectural history in Great Britain between 1815 and 1849.

Peter Collins discussed his observation that a biological analogy can be drawn between natural history and architectural history in his book on architecture and theory, *Changing Ideals in Modern Architecture (1750-1950)*, first published in 1965.[186] In his text, Collins, like Foucault, notes the dichotomy between Linnaean taxonomy and the belief in the immutability of species to the theory developed by Lamarck that all species develop progressively toward increasingly complex forms. The idea of Progress as a theory of life was also a theory applied to the study of architecture beginning in the eighteenth century when it was believed that the "moderns had improved on the Romans, just as the Romans improved on the Greeks."[187] This theory of succession and progression through the development of increasingly complex architectural forms is one that, as Collins observes, can be applied to the whole history of architecture, as it appears to move through improving and diverging styles.[188]

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[184] Ibid., p. 145.
[185] Ibid., p. 151.
[186] Collins, *Changing Ideals in Modern Architecture, 1750-1950*, see chapter 14, pp. 149-158.
[187] Ibid., p. 152. See also Pelt and Westfall, *Architectural Principles in the Age of Historicism*, p. 62 – where Pelt and Westfall sate that the classical idea of progress, is "an idea which stands in sharp contrast to the modernist one which sees each current moment as inferior to what is yet to come and see the future as superior to any present or past."
[188] See discussion of architectural history painting in the work of Joseph Gandy and the Royal Academy, as well as the chapter on "Toward a Mythography of Architecture" in Brian Lukacher, *Joseph Gandy: An Architectural Visionary in Georgian England* (New York: Thames & Hudson, 2006).

Several British artists attempted to visualize a progressive history of architecture in paintings and published illustrations. Selected pictorial contributions include: Humphrey Repton's (1752-1818) "Changes in Architecture" published in 1808 (**figure 14**), and Joseph Michael Gandy's (1771-1843) unpublished "Comparative Architecture" from 1836.[189] Yet, the way these images document a historical narrative of architecture is through an allegorical presentation of the sequence of Time set in a picturesque landscape (Repton) or built upwards as if a multi-storied building (Gandy), suggesting nothing more than a fantastical blending of the successive architectural changes over time in one environment or building.[190] The illustrated books analyzed in this chapter focus on visualizing the process of Time, but their architectural examples are drawn from existing, observable elements, environments, and conditions as a means to create accurate pictorial systems to understand the progress of architecture and contribute to the making of architectural knowledge as an empirical scientific practice.

[189] See discussion in Crook, *The Dilemma of Style: Architectural Ideas from the Picturesque to the Post Modern*, pp. 13-42; and Lukacher, *Joseph Gandy: An Architectural Visionary in Georgian England*; and Humphrey Repton, *Designs for the pavilion at Brighton: humbly inscribed to His Royal Highness the Prince of Wales*. (London: T. Bensley, 1808), p. 15.
[190] Crook, *The Dilemma of Style: Architectural Ideas from the Picturesque to the Post Modern*, pp. 26, 38.

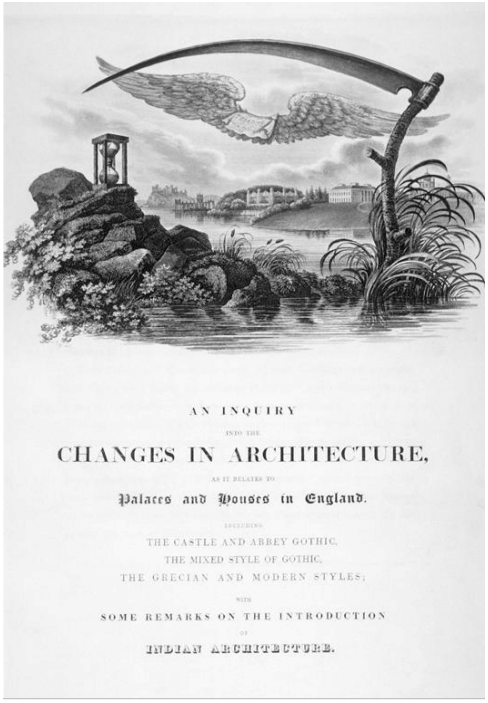


**Figure 14: Repton, "Changes in Architecture." London: 1808.**

This chapter engages some of the ways that British architectural historians adopted a theory of *mutability of species* through the idea of *transitional specimens* to document the process of change over time in medieval architecture. Analyzing the work of Thomas Rickman, Robert Willis, and Edmund Sharpe, this chapter discusses the pictorial revisions that each author made in order to visualize history as a series of architectural developments from mutating simple to complex forms. The architectural diagrams examined in this chapter show the adaptation and mutation of the pointed window form as a method for documenting the changeability of Gothic architecture between the eleventh and the sixteenth century. Examining the idea of change, these nineteenth-century diagrams of windows offer an alternative visualization to the method provided by the authors examined in Chapter 3. At a time when architects, historians, naturalists, and scholars were still searching for a way to systematize the pictorial representation of successive changes in natural and architectural history, the diagrams of windows presented here

function both as *visual taxonomies* of medieval forms and chart their *chronological* transition toward increasing stages of complexity.

## 4.1 DISCRIMINATION OF STYLES

As Chapter 3 demonstrated, the years leading up to the production of a scientific approach to the study of architecture was invigorated by a search for order that focused on producing a consistent and correct nomenclature. John Britton's work was offered as an example of one author whose written investigation straddled the divide between *naming* architecture according to shared traits and *comparing* architecture according to variety within characteristic groups. Britton's visualization of the diversity of forms created over the five-hundred-year development of medieval architecture was novel in its attempt to show similarity and difference in one architectural element (rounded windows) at the same time. The method for presenting architectural forms in his *Chronological History of Architecture* must now be situated, however, in the context of Thomas Rickman's *An Attempt to Discriminate the Styles of Architecture*.

Thomas Rickman (1776-1841), the son of a grocer and a chemist, practiced medicine during his early career, first in Lewes, and then in Liverpool from 1808-1813.[191] Paul Frankl

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[191] Pevsner, *Some Architectural Writers of the Nineteenth Century*, p. 28; Frankl pp. 506-508, describes how Rickman really went his own way in terms of being influenced, or in this case not, by French and English architectural historians. Repeatedly, Frankl claims that Rickman was "uninfluenced" – "took no notice" – "wrote without knowledge of" – which indicates a certain independence on his part to develop his own history of Gothic architecture that was unlike anything that had come before (accepting Aubrey, as already noted by Colvin). Other sources listed in the *Dictionary of Art Historians* include: Rickman and Thomas Miller, *Notes on the life and on the Several Imprints of the Work of Thomas Rickman, F. S. A., Architect*. (London: G. J. W. Pitman, 1901); Summerson, John. "Viollet-le-Duc and the Rational Point of View." *Heavenly Mansions and Other Essays on Architecture*. (New York: Norton, 1963), p 138; Aldrich, Megan Brewster. *Thomas Rickman (1776-1841) and Architectural Illustration of the Gothic Revival*. (Dissertation, University of Toronto, 1983); Baily, John. "Rickman, Thomas." *Dictionary of Art* 26: 361-

notes that Rickman's medical career was informed by his work as a doctor and apothecary, "then a clerk until 1811 [when] he started to concern himself with architecture as a self-taught amateur."[192] Perhaps it was because of his experience recognizing symptoms to treat illness that Rickman was later able to identify four distinct periods of classification for the un-broken history of medieval British ecclesiastical architecture. It was while he was living in Liverpool, however, that Rickman traveled the northern countryside, going as far as Lincolnshire, roughly 135 miles to the southeast, sketching medieval churches and documenting their various characteristics.[193] While making detailed observations, Rickman left the medical profession to become a scholar of buildings, refashioning himself as an architect and author of architectural history. Around 1812 he wrote an architectural history of Chester Cathedral (published posthumously in 1861), which prefigured his most famous work, "An Attempt to Discriminate the Styles of English Architecture from the Conquest to the Reformation" which first appeared as an illustrated essay in James Smith's *Panorama of Science and Art*, Liverpool, 1815.[194] It was not until Rickman expanded his essay to book-length, however, that he achieved lasting attention.

First published in 1817, Rickman's text, which maintained the same name, became so popular that it saw seven re-printings, the last edition printed as late as 1881.[195] Rickman's fame was in large part due to the fact that he was the first to assign four stylistic periods to medieval British ecclesiastical architecture: Norman (1066-1189), Early English (1189-1307), Decorated

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362; Colvin, Howard. *A Biographical Dictionary of British Architects*, 1600-1840. (New Haven: Yale University Press, 2008); Megan Brewster Aldrich. "Rickman, Thomas (1776–1841)." *Oxford Dictionary of National Biography*.

192 Frankl, *The Gothic*, p. 506.

193 Pevsner, *Some Architectural Writers of the Nineteenth Century*, p. 28.

194 Ibid.; James Smith, *The Panorama of Science and Art*, 2 vols. (Liverpool, UK: Printed at the Caxton press by Nuttall, 1815), p. 28.

195 Pevsner, *Some Architectural Writers of the Nineteenth Century*, p. 29.

English (1307-1377), and Perpendicular English (1377-1509).[196] The nomenclature that Rickman created allowed for the categorization of architectural elements (doors, windows, piers, capitals, ornaments, etc.) into distinct periods of construction. Through careful arrangement, these elements were classified within a chronological history of medieval British ecclesiastical architecture, mapping their place in time and relation to one another in a way that had not been done previously. Rickman stated that he attempted to subdivide the history of medieval British ecclesiastical architecture into discrete groups, as a means to consider, "in what climate, for what purposes, and under what circumstances [they] were erected."[197]

Rickman's work was the fruit of a long, though relatively uncharted, discourse on the development and origin of Gothic architecture, a conversation he elevated to a scientific practice through his method to both classify forms and show their sequential phases of development over time. Sir Howard Colvin, the twentieth-century architectural historian who influenced the writings of Sir John Summerson and Sir Nikolaus Pevsner, praised Rickman's work, saying, that he produced a "definitive classification of styles"[198] that was "to propound an evolutionary sequence of forms whose logic was so compelling that there could be no doubt as to its essential correctness."[199] Without Rickman's contribution to the stylistic and chronological study of medieval British ecclesiastical architecture, Colvin continued, "no medieval church could make

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[196] Ibid., p. 29. Rickman describes the dates of these periods according to end date. I have included the beginning date based on his observations of end date for the previous style. Rickman does not give a specific date for the end of Perpendicular, but says that it may have seen its last "complete building by the time of King Henry VIII, who came to the throne in 1509. Rickman does state, however, that the style may have persisted in sections of building until the 1630s.

[197] Rickman, *An Attempt to Discriminate the Styles of Architecture in England*, p. 1.

[198] Howard Colvin, *Essays in English Architectural History* (New Haven, CT: Published for the Paul Mellon Centre for Studies in British Art by Yale University Press, 1999), p. 208.

[199] Ibid., p. 208.

historical sense."[200] Similarly, Frankl observed that Rickman's work "became the ancestor of a great progeny" that continues, "even today, in the French and English schools of architectural history, the notion […] that a classification of this sort must be the foundation of genuine, scientific work."[201] In his own day, the bishop of Peterborough, Francis Jeune (1806-1868), described Rickman as,

> The father of modern architecture in the scientific sense […] he first discovered that one age built in a particular manner, and another age in another style […] and men of ability […] could tell from the slightest fragment, almost within a year, when the first part of a church was built and when the second was erected, by canons as certain as those which enabled Cuvier, from a single bone to reproduce the whole animal; for they had laws in their own minds as closely connected with the minds of builders of former ages, as laws upon which the Creator has constructed each wonderful fabric.[202]

The correlation between Rickman and the French natural historian, Georges Cuvier (1769-1832) is an interesting one because it situates Rickman's *An Attempt* in the context of the study of zoology and comparative anatomy in the early nineteenth century and marks, once again, the desire to equate the study of buildings with the study of animal species and living organisms. In her recent study on Robert Willis, Alexandrina Buchanan comments on the methods of nineteenth-century architectural history writing, that "just as commentators saw other fields of knowledge being transformed by innovatory methods, from Cuvier's functional analysis to Linnaean binomial nomenclature, so antiquarianism was believed to be in the process of

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[200] Ibid., p. 208. Colvin's primary contribution to the study of British architectural history, however, is through the little known, unpublished work of John Aubrey, who wrote a "treatise, which is nothing less than an attempt to establish the chronology of English medieval architecture. The enterprise was one in which (remembering that Aubrey was a Fellow of the Royal Society) we can recognize the influence of contemporary scientific thought. For its purpose was to classify and to compare, and classification and comparison were both features of the new 'experimental philosophy' to which the Royal Society was dedicated. The method was to find examples of window-tracery and other characteristic detains to which a date (210) could be attached, if possible by documentary evidence, to sketch them in diagrammatic fashion, and then to arrange the sketched in chronological order so as to establish a continuous sequence." pp. 209-210.

[201] Frankl, *The Gothic*, p. 507.

[202] See discussion in Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*, p. 77.

renovation which did not merely follow but could even form a model for other contemporary sciences."[203] Thus, the model that architectural historians offered for the study of contemporary sciences was through their continued effort to find an appropriate method to *visualize history*. This chapter examines how British architectural historians investigated, through visual processes, a systematic method of pictorial representation to show successive changes in medieval architectural history that contributed to, what Frankl describes as, a "progressive era in architectural research and writing."[204]

## 4.2 *AN ATTEMPT* AT CLASSIFICATION AND CHRONOLOGY

The notable difference in Rickman's work from those studied thus far (Taylor and Warton et al., Storer, and Britton) is found in the way that he deconstructs English Gothic architecture into four phases. Rickman does this by first separating the characteristic elements found at many different ecclesiastical buildings into groups. He then arranges them together, visually and by chapter. Through this ordering of knowledge, Rickman enables the reader to see the variety of ornament and decoration found within any one period. Not only does Rickman chart British medieval building by relative date, but also by those specific architectural elements that are representative of the era in which they were constructed. Doors, arches, piers, capitals, ornaments, and windows are integral components to Rickman's classification of medieval British ecclesiastical architecture. The most significant of these, however, are windows. Rickman believes that ecclesiastical fenestration is the key to dating England's medieval architecture. In his chapter

[203] Ibid., p. 77.
[204] Frankl, *The Gothic*, p. 206.

titled, “Miscellaneous Remarks of Buildings of English Architecture” at the end of *An Attempt*, Rickman states,

> It will be proper to add a few words on the alterations and additions which most ecclesiastical edifices have received, and some practical remarks as to judging of their age. The general alteration is that of windows, which is very frequent; very few churches are without some Perpendicular windows. We may therefore pretty safely conclude that a building is as old as its windows, or at least that part is to which contains the windows; but we can by no means say so with respect to doors, which are often left much older than the rest of the building.[205]

The difference between windows and doors, for Rickman, is that one suggests change, and the other does not. The ability to date a Gothic cathedral with accuracy according to visual cues is one of the strengths of Rickman’s work. His prioritization of windows as the primary element through which to date a building, as opposed to doors, creates an empirical architectural stratification for the easy classification of medieval British ecclesiastical architecture. The joining together of architectural elements outlining particular phases of building practice allowed Rickman to shape what he considered to be the “science of architecture.”[206] Including diagrams alongside the text for the study of architecture was nothing new, as we have seen. Yet Rickman’s diagrams present a new way to visualize chronology for the production of scientific knowledge that his predecessors had not been able to master.

Already aware of general divisions within architectural styles, Rickman realized that the broad categories, or “modes” as he calls them, such as “Antique” or “Gothic,” could not accurately convey the nuances of architectural change observable under these headings. Rickman states, “The science of Architecture may be considered, in its most extended applications, to comprehend building of every kind” and that “Architecture may be said to treat of the planning and erection of edifices, which are composed and embellished after two principal modes, 1st the

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[205] Rickman, *An Attempt to Discriminate the Styles of Architecture in England*, pp. 234-235.
[206] Ibid., p. 1.

Antique, or Grecian and Roman; 2nd the English Gothic."[207] But, he also states that these modes need to be considered as "distinct dissertations."[208] Thus, Rickman provides, through text and illustration, systematic empirical tools to aid scholars and architects to observe the visible changes within the overarching style termed "English Gothic" – a feat in the production of standardized, objective images for the study of medieval British architectural history. Between 1817, when Rickman published the book-length version of his text, and the fifth edition published posthumously in 1848 by John Henry Parker,[209] the pictorial display of Rickman's theory experiences several iterations. I will discuss the window diagram from the first edition before moving on to a more detailed investigation of the pictorial representation of chronology in the fifth edition.

In the first edition (1817), Rickman isolated types of pointed Gothic window forms along three horizontal rows at the top of the page and pier forms along two vertical rows down the left and right sides of the page (**figure 15**). In the upper portion of Plate V, Rickman demonstrates the geometry of window ornamentation by diagraming the divisions of window decoration according to radial lines. In discussing the plate, Rickman makes no note about how he arranged these window and pier specimens. The labeling of the elements in the "Description of Plate V" does indicate, however, that piers "p" and "q" are Norman, "r" and "s" are Early English ("s" is identified as being an element from Salisbury), "t" and "u" are Decorated English (from Chester and York, respectively), and letter "x" represents two Perpendicular piers. From this description

[207] Ibid., p. 1.
[208] Ibid., p. 1.
[209] John Henry Parker was a prominent Publisher of architectural works, some of which include: John Henry Parker, *A Glossary of Terms Used in Grecian, Roman, Italian, and Gothic Architecture*, The 2nd ed. (London: C. Tilt, 1838); *An Introduction to the Study of Gothic Architecture* (Oxford: John Henry Parker, 1849). Parker was the editor of Rickman's posthumous 5th edition of *An Attempt*.

we can then understand that there is a chronological ordering of the piers, top to bottom, on either side of the central window element. Rickman describes the central window saying,

> […] no letters of reference are employed, that the student may the more completely acquire the knowledge of parts by mere description. It consists of a portion of wall, in which is a Perpendicular window of three lights and a transom. The transom heads of the lights are cinquefoiled in an ogee arch, and the upper lights in a plain arch; the secondary divisions above are trefoiled. This window has a dripstone with plain returns. There are three buttresses; two are square-set corner buttresses, (one seen in front and one in flank;) and one diagonal one, which is seen at its angle. These buttresses have each three stages, and three set-offs, and die under the cornice, which is flowered. The battlement is of equal intervals, and the capping runs only horizontally. Under the window is a tablet, which runs round the square buttresses, and stops against, or dies into, the diagonal one. The base consists of two tablets; one an ogee and hollow, and the other a plain slope.[210]

Rickman's detailed description of the central window element is meant, he continues, "to be so fully comprehended, that if measures were added, the student should be able to draw the design from the description, being furnished with sections, or some other mode of determining the mouldings." Unlike the work of Taylor and Warton et al. and Storer who wrote for antiquarians and scholars, Rickman's text is aimed at an audience of architectural students and architects. The visualization of Gothic window forms, as seen in Plate V from 1817, offers the architect/student the opportunity to learn about form and construction. As it relates to the idea of progress and developing forms to increasingly complexity, it would seem that Rickman's text, like the later comments made by John Britton in 1827 examined in Chapter 3, was meant to afford the architectural student with the necessary tools to understand the construction of forms on the one hand and aid in the continued production and development of those forms into the contemporary age on the other. This is not to suggest a correlation with Lamarck's idea of the *mutability of*

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[210] Thomas Rickman, William Radclyffe, and Thomas Rickman, *An Attempt to Discriminate the Styles of English Architecture, from the Conquest to the Reformation: Preceded by a Sketch of the Grecian and Roman Orders: With Notices of Nearly Five Hundred English Buildings* (London: Longman, Hurst, Rees, Orme, and Brown, 1817), p. 113.

*species* as yet, but it does seem to respond to the underlying interest in an idea about Progress in natural history in the nineteenth century.

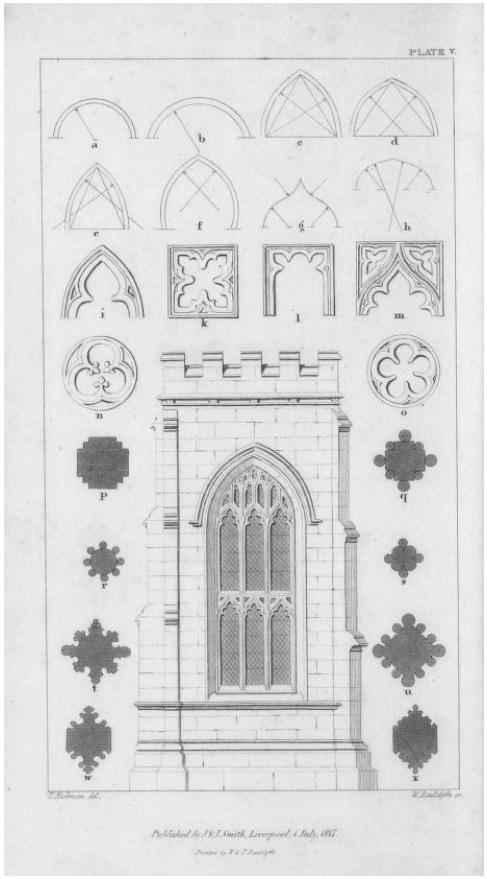


**Figure 15: Rickman, "Plate V." London: 1817.**

The fifth edition (1848) of Rickman's text has been selected for careful study here because it is in this edition that the number of images included to show order and chronology increased in number from fourteen to 347.[211] Rickman's 1848 edition is important because of its emphasis on the necessity of images for the empirical study of stylistic chronology in medieval British architectural elements. Parker's edition of Rickman's text includes upwards of 300 images; about two-dozen of these were made using a steel plate technique, while the rest were

[211] In the 1817 edition, Rickman illustrates his text with fourteen plates none of which reflect his current categorization or grouping system. Block-printing is also excluded from the text, and most of the images are relegated to the end of the text.

created using wood-blocks set into the text. In his recent discussion of Viollet-le-Duc's *Dictionnaire raisonné de l'architecture française du XIe au XVIe siècle* (published between 1854-68), Martin Bressani draws attention to the effectiveness of woodcuts in the nineteenth century, noting their key characteristic of fitting "seamlessly […] within the space of the text, their line weight kept identical to the tone value of the typography so as to ensure perfect continuity between images and words."[212] Bressani also describes how woodcuts allowed for the juxtaposition of "text image on the same page,"[213] offering a unique advantage over steel engraving for the opportunity to glance at an image while also reading about what it represented without turning a page. The sheer volume of visual material in the 1848 edition of Rickman's text announces the need to educate the sight of the reader in order to enable one to form his or her own accurate judgment of a medieval building's style and, therefore, date. Illustrations of ornaments from different periods and, of course, windows are given the most visual weight in Rickman's text, indicating that it is from these elements that he finds the most interest, variety, and dating reliability. In general, however, Rickman's description of these images is meant to explain the character of the era and situate the architectural element within a greater visual, chronological context.

In the pages on windows for "The Norman Style," Rickman describes how, "The existing Norman windows are mostly in buildings retaining still the entire character of that style; for in most they have been taken out, and others of later styles put in, as at Durham, and many other cathedrals."[214] The challenge for Rickman, then, was to find Norman window specimens to

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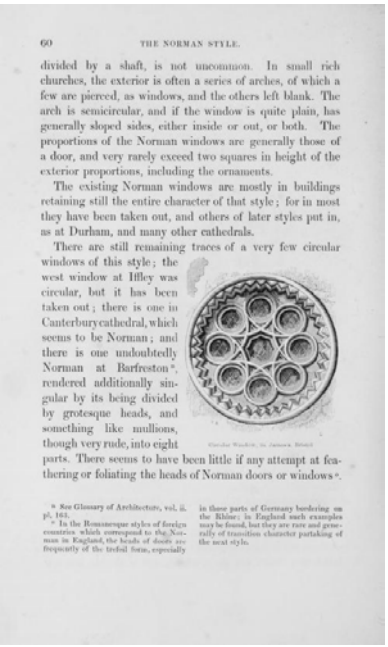
[212] Martin Bressani, *Architecture and the Historical Imagination: Eugène-Emmanuel Viollet-Le-Duc, 1814-1879*, p. 241.
[213] Ibid., p. 242.
[214] Rickman, p. 60.

convey the spirit of the style and the period to his readers.[215] To do this, four windows were selected, one round and three with semi-circular arch lancets. The oculus window example is placed within a block of text, while the three arches are arranged on a single page (**figure 16** and **17**). These three examples of arched Norman windows are arranged one window over two with a line of text under each window identifying where they originated. This configuration of elements set against the clean white space of the page around each object is consistent in all of the images included alongside Rickman's text and suggests the earlier visual method used by Taylor and Warton et al. to present architectural ornaments according to a grid-like arrangement. The presentation of architectural elements in Rickman's text, however, is clean, clear, and unobstructed, focusing the viewers' attention on the forms of the objects themselves. All but a few references to wall construction are eliminated from sight, forcing the viewer to focus on the three examples of Norman windows, noting their similarity in size and shape, as well as their difference in decoration. As in Linnaeus's plate of leaves, Rickman's creation of a *visual taxonomy* of Gothic fenestration follows a similar trend in natural history of organizing elements according to their shared traits and similarity of form. Yet, what makes Rickman's approach different is his categorization of these forms into periods of construction, marking the *transitions* of time as a series of developmental phases. An observation that, as Armstrong noted in relation to the chronological arrangement of architectural plans by Leroy, Linnaeus was not able to do.

[215] Rickman conducted all of his own empirical research. The only author that he cites from the works examined in this dissertation is John Britton.



60 THE NORMAN STYLE.

divided by a shaft, is not uncommon. In small rich churches, the exterior is often a series of arches, of which a few are pierced, as windows, and the others left blank. The arch is semicircular, and if the window is quite plain, has generally sloped sides, either inside or out, or both. The proportions of the Norman windows are generally those of a door, and very rarely exceed two squares in height of the exterior proportions, including the ornaments.

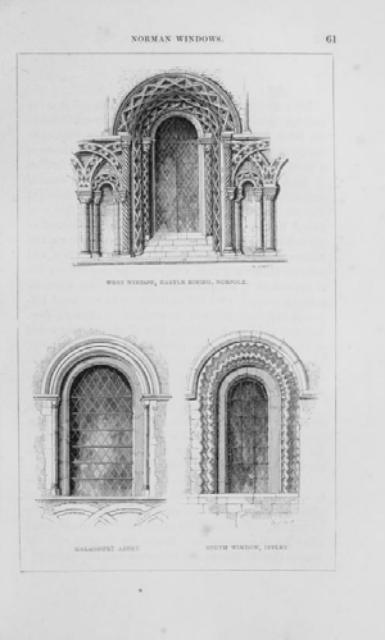
The existing Norman windows are mostly in buildings retaining still the entire character of that style; for in most they have been taken out, and others of later styles put in, as at Durham, and many other cathedrals.

There are still remaining traces of a very few circular windows of this style; the west window at Iffley was circular, but it has been taken out; there is one in Canterbury cathedral, which seems to be Norman; and there is one undoubtedly Norman at Barfreston[a], rendered additionally singular by its being divided by grotesque heads, and something like mullions, though very rude, into eight parts. There seems to have been little if any attempt at feathering or foliating the heads of Norman doors or windows[b].

[a] See Glossary of Architecture, vol. ii. p. 163.

[b] In the Romanesque styles of foreign countries which correspond to the Norman in England, the heads of doors are frequently of the trefoil form, especially in those parts of Germany bordering on the Rhine; in England such examples may be found, but they are rare and generally of transition character partaking of the next style.

**Figure 16: Rickman, "The Norman Style: Circular window." London: 1848.**



NORMAN WINDOWS. 61

**Figure 17: Rickman, "The Norman Windows." London: 1848.**

Significantly, at the end of each section Rickman uses the key word "*transition*" to discuss the shift from one period to the next. In this case, "the transition from Norman to Early English was gradual," he states, "and it is sometimes very difficult to decide on the character of

some remains."[216] As one reads *An Attempt*, one finds that Rickman does not simply write a classification table to mark the historical traits of specific medieval building periods. Rather, he offers a *chronological* document to understand the *transitional* phases of medieval British architectural change over time as if the buildings themselves were mutable species as new theories in natural history, developed since Linnaeus, suggested.[217] Similarly, in pointing out the challenge of dating building specimens according to their character, as Taylor and Warton et al. and Britton tried to do, Rickman offers his book as a practical solution. By providing empirical evidence, stating that Temple Church, London; Lincolnshire buildings; and the front of the hospital of St. Leonard, Stamford; and Ketton Church could all pass as either Norman or Early English examples, Rickman justifies the dating of buildings according to visible transitions by indicating that: 1. many later Norman buildings have pointed arches; and 2. mouldings of later Norman works approach very near to Early English.[218] Thus, by pointing to specific examples and defining the primary differences between the two styles, Rickman intends to educate all of his readers to the art of classifying, as well as to the art of being attentive to the discernable moments of transition in constructions of medieval British ecclesiastical architecture.

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[216] Rickman, An Attempt to Discriminate the Styles of Architecture in England., p. 85.
[217] I am thinking here of Lamarck's writings, specifically. I would also like to indicate, however, that the architect Julien-David Leroy also considered the mutability of species in his 1764 *Tableau* showing the development of the domed church type. For further discussion on this, see: Armstrong, *Julien-David Leroy and the Making of Architectural History*, Chapter 6, pp. 156-182.
[218] Rickman, *An Attempt to Discriminate the Styles of Architecture in England*, p. 85.

## 4.3 VARIETY AND COMPLEXITY

One of the ways Rickman helps his reader distinguish Early English specimens is by looking for a "Semicircular arch with pure Norman mouldings [square], but the shafts are in two rows and stand free, and have round abacus of several mouldings." Rickman continues, "As the Norman doors may be said to be all of semicircular arches, these [Early English ones] may be said to be all pointed."[219] Rickman's challenge in presenting material to help his readers and viewers differentiate between types of architecture was based on finding a balance between *description* and *illustration*. The text/image relationship found in the 5th edition is not a case of simple compare/contrast – both must often be analyzed in order to fully understand the narrative that Rickman is trying to convey about the transitions in medieval British ecclesiastical architecture.

Under the designated title of "Early English Windows" Rickman states, "These are, almost universally, long, narrow, and lancet-headed, generally without feathering, but in some instances trefoiled"[220] and that, "A variety of appearance results from the combination of this single shape of window."[221] At once, Rickman describes the Early English style of window as pertaining to an entire group, used *universally*; and that this specific type of window varies only in so far as its form is duplicated, multiplied, or *combined* within a set opening. Rickman uses the cathedral of Salisbury (1220-1258)[222] as an example, saying, "one of the earliest complete buildings remaining, there are combinations of two, three, five, and seven [lancets]."[223] Rickman continues to observe that,

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[219] Ibid., p. 86.
[220] Ibid., p. 90.
[221] Ibid., p. 90.
[222] Date provided by Marilyn Stokstad, *Medieval Art*, 2nd ed. (Oxford, UK: Westview Press, 2004), p. 228.
[223] Rickman, *An Attempt to Discriminate the Styles of Architecture in England*, p. 91.

> Where there are two [lancets] there is often a trefoil or quatrefoil between the heads; and in large buildings, where there are three or more, the division is often so small that they seem to be the lights of the large window, but they are really separate windows, having their heads formed from individual centers. […] It appears that the double window, with a circle over it, sometimes pierced and sometimes not, began to be used early in the style, for we find it at Salisbury; and this continues the ornamented window till the latest period of the style.[224]

The ornamental continuation that Rickman speaks of here in regards to a 'double window, with a circle over it,' is not simply an illustration of uninterrupted style that has been copied and repeated through the ages. Rather, Rickman's use of the word "continues" highlights the forms' development and use in later variations and mutations of this particular element.

On one of the pages illustrating Early English Windows (**figure 18**), four examples are arranged on a grid: two side-by-side on the top plane, and two side-by-side on the bottom plane. The white space neatly forms the invisible grid lines separating each example from the one above or below, or to the side. Three of the windows are portrayed from an exterior vantage, while the fourth window in the upper right hand corner is seen from an interior view. Again, the viewer's attention is focused on the window itself. Minimal reference is given to the surrounding façade, except for a few wall stones, moldings, dripstones, and framing shafts and capitals. This combination of four windows on a single page emphasizes Rickman's observations about the changefulness of fenestration during the Early English period and how the openings develop to include more than one lancet, suggesting again the progress of medieval forms toward increasing complexity.

[224] Ibid., p. 92.

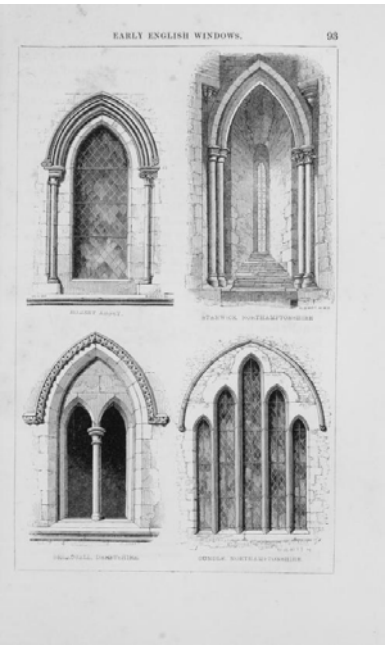


**Figure 18: Rickman, "Early English Windows." London: 1848.**

"If the transition from Norman to Early English was gradual, much more so was that from Early English to Decorated," says Rickman.[225] He continues, "we have several curious examples of this transition on a large scale."[226] Citing Westminster Abbey, Ely cathedral, the cathedral at Litchfield, and Lincoln cathedral, Rickman highlights particular elements within each structure that represent moments of adaptation and change. Rickman points to Westminster as an example of ecclesiastical architecture that maintained a certain continuity within the Early English style, while at Ely he perceives elements that point to phases of construction across several periods, including Norman to "almost Decorated." In the case of Lincoln, Rickman states that the Lady Chapel is "evidently Decorated, but executed so beautifully as to harmonize with

[225] Ibid., p. 133. See also, Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*, p. 91 - Buchanan notes in her section dedicated to an "Explanation of Architectural Change" in her excellent book on Robert Willis that Rickman's classification provided no explanation for architectural change and therefore fell short of the provision of general laws demanded by 'scientific' method." While Buchanan is correct in realizing that Rickman provides no causality for the changes to medieval architecture in Great Britain, he does provide a useful scientific, *visual taxonomy* for architects, students, theorists, and historians to *see change* and therefore, perhaps, consider causality from empirical investigation.

[226] Rickman, *An Attempt to Discriminate the Styles of Architecture in England*, p. 133.

the work about it,"[227] indicating that it is possible to chart the work executed during different periods within a single building based on the development of the specimen's windows.

According to Rickman, "the general appearance of Decorated buildings is at once simple and magnificent; simple from the small number of parts, and magnificent from the size of the windows, and easy flow of the lines of tracery."[228] This can be seen in the arrangement of four Decorated English windows (**figure 19**). Rickman, again, shows variety and difference, particularly in the presentation of four types of tracery configurations used during the Decorated English period. "In these the oldest marks of the style are to be found, and they are very various, yet all [formed] on one principal."[229] Compared together, Rickman observes that, "The varieties of the last style [Early English] were in the disposition of the principal lines of the tracery; in this, they are rather in the disposition of the minute parts."[230] The minute parts, for Rickman, constitute how the tracery in the peak of the arched window is formed. It is the variation of this tracery that defines the period of Decorated English ecclesiastical architecture. Rickman educates his reader about the varieties of tracery found within the Decorated style by pointing to specific differences of fenestration – quatrefoiled to cinquefoiled, the delicacy of mullion mouldings, and the size and shape of the framing arch[231] – again, suggesting the variability of forms and their sequential developments toward increasing complexity.

[227] Ibid.
[228] Ibid., p. 189.
[229] Ibid., p. 142.
[230] Ibid., p. 197.
[231] Ibid., p. 200.

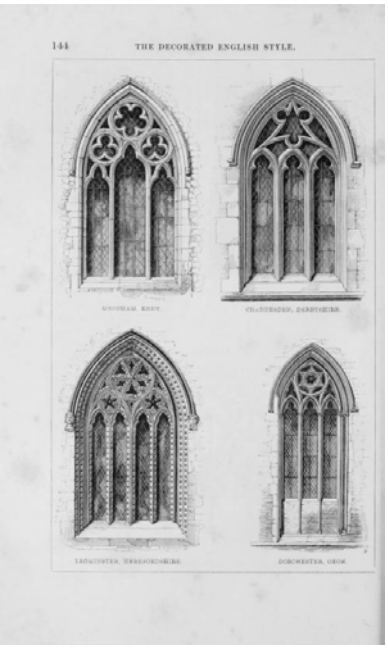


**Figure 19: Rickman, "Decorated English Windows." London: 1848.**

The page highlighting Decorated windows shows four kinds of fenestration used during the period. Three of the four windows are formed of triple lancets, while the fourth (bottom left) is composed of four lancets. The configuration of the lancets, their height and width within the overall window frame, define how the ornamental tracery is arranged in the peek of the arch. The uniform width of the mouldings making up the tracery enables the viewer to clearly distinguish the different geometric shapes ornamenting each window. "In imitations of this style, great delicacy is required to prevent its running into the next, which, from its straight perpendicular and horizontal lines, is so much easier worked; whatever ornaments are used, should be very clearly executed, and highly finished," Rickman explains.[232] It is important to note here that Rickman's use of the word "imitations" suggests that his readers are not just architectural historians, but also architects who are seeking to learn the characteristics of the style to not only incorporate into their work, but also to expand upon the trajectory of English Gothic architecture

[232] Ibid., p. 192.

as they perceived its growth and development. This is especially relevant for the readers of Rickman's 1848 edition as this audience would have been affected by the 1818 Church Reform Act, which commissioned the construction of new churches in order to seat all parishioners within each region or city district – this Act may be considered similar to the Commission for Building of Fifty New Churches in London and Westminster from 1710.[233]

The final phase of English Gothic architecture that Rickman defined and treated is Perpendicular (**figure 20**). Here he points to the choir at York cathedral as the space most cited for its clear example of the transition from Decorated to Perpendicular, "the piers and arches retain the same form as in the Decorated work in the nave, but the windows, the screens, and above all the east end, are clearly perpendicular, and of very excellent character and execution."[234] In these four (transitional) Perpendicular windows, Rickman shows three examples from an exterior vantage with darkened interiors as a means to provide greater contrast between the darkened panes and the light mullions forming the tracery. In the fourth example, bottom right, the windowpanes have been left the color of the page allowing the viewer to focus on the detail of the meticulously drafted tracery. Vertical and horizontal lines are described by Rickman to be the characteristic features defining the Perpendicular style. To this point, Rickman states that Perpendicular windows are "distinguished by their mullions running in perpendicular lines, and the transoms which are now general"[235] do not carry as much ornamental variety as those examples created during the Decorated Period.

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[233] "New churches were also of contemporary significance, with an Act passed in 1818 to promote the erection of (eventually) 600 Anglican churches in newly populous areas." See Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*, p. 71, and footnote 29.
[234] Rickman, *An Attempt to Discriminate the Styles of Architecture in England*, p. 192.
[235] Ibid., p. 197.

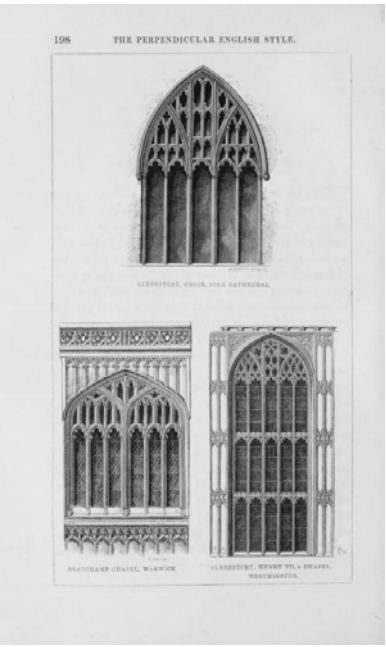


**Figure 20: Rickman, "The Perpendicular English Style." London: 1848.**

Rickman's detailed observation of windows is mirrored in his discussion of other elements, doors, piers, ornaments, etc. Yet, it is the window element that defines Rickman's whole typology and dating strategy – a point that is never made in the contemporary historiographies reviewing his work. As previously mentioned, windows provided clues into trends and building phases, more so than doors, or vaults, or flying buttresses, or other elements, largely because windows carried definable visible characteristics that could be mapped by both place and date. As an empirical scientific endeavor, the window is Rickman's type specimen through which he arranges the chronology of increasing complexity in all other British medieval buildings. This is a crucial argument for the study of medieval British ecclesiastical architecture because from this point in 1817 onwards, windows are featured as the primary element in all major publications that seek to chronicle the history of Great Britain's medieval architectural history. Rickman's text and corresponding images lay the groundwork for the authors following in his wake to begin the observations of architectural history through an examination of windows

in a new way. Furthermore, Rickman's attention to the discrete similarities and differences of a wide-range of Gothic elements, beginning in 1817, built the foundation for subsequent authors, such as Britton, Willis, and Sharpe to form and discuss their own observations of building chronology and variety through the continuous development of window forms toward increasing complexity of construction in medieval British ecclesiastical architecture. The next section will focus on Robert Willis whose work was published between Rickman's 1815 article and the fifth edition of *An Attempt to Discriminate the Styles of English Architecture, from the Conquest to the Reformation* in 1848.

## 4.4 *REMARKS* ON ARCHIECTURE

Robert Willis (1800-1875) was a professed engineer and architectural historian who gained wide attention through his membership at a variety of societies, including the Royal Society, the Geological Society, and the Society for the Diffusion of Useful Knowledge, as well as through his distinguished position at Cambridge as the Jacksonian Professor of Natural Philosophy.[236] Willis poses as one of the most eclectic intellectuals among the group of nineteenth century scholars examined in this dissertation. As Willis settled into his profession as engineer and architectural historian he oscillated between writing about mechanisms of engineering and structures of architecture. Willis spent much of his twenties and thirties positioning himself within the realm of scientific scholars and thinkers. By the 1830s, however, Willis was firmly

[236] Ben Marsden, "Willis, Robert (1800-1875)," in *Oxford Dictionary of National Bibliography* (Oxford: Oxford University Press, 2004); Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*; Whewell and Thornton were also fellows at the Royal Society.

identified with the study of Gothic architecture.[237] It is generally acknowledged that, "Contemporaries could not ignore Willis's profile as a philosopher of mechanism but they championed him most fervently as the creator of a mature science of architectural history."[238]

Willis's real notoriety comes from the publication of his book, *Remarks on Architecture of the Middle Ages, especially of Italy*, which, when it was published in 1835, was so well received that Willis was made an honorary member of the recently formed Institute of British Architects (now known as the Royal Institute of British Architects) that same year.[239] The general stir that ensued from the publication of *Remarks* made Willis famous and enabled him to present his findings on the "progress of Gothic architecture, on tracery, and on decorative construction in vaults" through a series of illustrated lectures for the Cambridge Philosophical Society.[240] Paul Frankl describes Willis's work as "distinguishing between 'Mechanical' and 'Decorative' construction."[241] He states, "Mechanical construction pertains to how the loads are *actually* supported, compared to how they *seem* to be. With this differentiation in mind [Willis] turns to the description of the individual parts" and remarks on the presence or absence of either of these two methods in examples of foliation, tracery, and vaulting.[242]

In the following pages it will be important to remember that Willis, like the other authors included here, was interested in the origin of the pointed arch and in devising a systematic approach to understanding the progress of Gothic architecture. Unlike certain authors, such as Britton and Storer, however, Willis was not interested in the antiquarian tradition of picturesque descriptions of buildings, nor did he provide his reader with an itinerary for visiting local

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[237] *Robert Willis (1800-1875) and the Foundation of Architectural History*, p. 71.
[238] Marsden, "Willis, Robert (1800-1875)."
[239] Ibid.
[240] Ibid.
[241] Frankl, *The Gothic*, p. 529.
[242] Ibid., p. 530.

attractions in nearby cathedral villages as late eighteenth-century travel guides tended to do. Frankl notes that Willis's contribution via a historical study of Italian architecture was that he provided a "supplement to topography."[243] In this way, *Remarks* provides its readers with a "synthesis of existing knowledge and a reformulation of the study of medieval architecture," as well as offers, "a dissection of the typical medieval church into a number of architectural elements, described both theoretically and historically."[244]

In her thorough monograph on Willis, his life, writings, and influence, Alexandrina Buchanan states,

> *Remarks* […] was at once an idiosyncratic guide to Italian buildings of the period and a disquisition on the Gothic style in general, though the later took priority. Tourists setting out with Willis's little book in hand would have been surprised to have found none of the lyrical descriptions of picturesque buildings and scenery, nor even the itinerary structure customary in travel guides. Instead, the main body of the text offered a dissection of the typical medieval church into a number of architectural elements, described both theoretically and historically.[245]

Willis's approach to the study of Gothic architecture is similar to Rickman's discrimination of styles in the way that he dissects buildings by individual elements. The dissection of parts to understand the whole is carried over by Willis to a more generalized examination of the origins of Gothic architecture, an interest not shared by Rickman. Buchanan notes that Willis had three hypotheses about the roots of Gothic architecture. Firstly, he theorized that the formation of Gothic architecture could have emerged in England, noting how every step associated with the

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[243] Ibid.

[244] Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*, p. 80.

[245] Ibid., p. 80. Buchanan's discussion below is relevant for this conversation – "Willis's book thus problematized the concept of transition. As he wrote, 'it can never be imagined that the same changes were going on simultaneously in countries independent of each other, in different states of prosperity, and often at variance' (*Remarks*, p. 7). Thus he divided 'transition specimens' (his term) into those erected in a country in which the successive steps form the previous style can be readily identified and are thus indigenous (regular transitions) and those in which the new style appears suddenly and is thereafter copied either wholesale, or mixed with the old (imitations)," pp. 91-92.

development of the style can be discovered and mapped in a local context.[246] Secondly, Willis suggests "that the origins of Gothic might be found in a single building, or evaded by asserting its introduction from the East; or, thirdly," following the suggestion of Whewell, that Gothic architecture was the production of "gradual transition from Classicism occurring simultaneously in all the countries in which complete Gothic is found."[247] It is this last hypothesis regarding the sequential and continuous development of medieval forms that Willis believed to be the most concrete and the one that led him to explore Gothic buildings in Italy as a means to chart the transitions of the style in that particular environment.

In *Remarks*, Willis charts the variation and development of Gothic architecture by examining a series of elements in isolated chapters. These chapters focus the reader's attention on particular architectural elements including: imposts, shafts, foliation, tracery, vaulting, doorways, and the general arrangement and decoration of architecture in the Middle Ages. Willis set out to produce a program of architectural history that would include a more diverse set of data not limited to examples found in Great Britain alone. Willis's work in examining Italian architecture could perhaps be attributed to the interest of his contemporary and colleague at Cambridge, William Whewell, who focused on German medieval architecture. The interest in architecture outside of Great Britain in the 1830s seems to correspond to a renewal of Continental European travel, long halted by the uncertainty surrounding the French Revolution and Napoleonic Wars. Texts such as Rickman's and Willis's continue the long history of British architectural history writing about medieval architecture since the 1750s. Buchanan describes these publications of architectural knowledge as being produced in four often-overlapping categories: travel writing, topographical description, books on architectural details, and, what she

[246] Ibid., p. 91.
[247] Ibid., pp. 91, 94.

terms, "scientific antiquarianism."[248] Furthermore, Buchanan defines the last category as including "those works of antiquarian scholarship which sought to move beyond the dry-as-dust particularism of traditional antiquarian writing as it had developed from the seventeenth century, to establish more general insights, even underlying 'laws.'[249] Buchanan includes Rickman's *An Attempt* within this category. But, as I demonstrated earlier, Rickman's contribution to the study of British medieval architecture was more *scientific* than *antiquarian* in its presentation of a systematic approach to the study of chronology and architectural knowledge. Willis's book, too, moved beyond the traditional presentation of architectural knowledge in travel guides and topographical views. *Remarks* was, as Buchanan also notes, an attempt to synthesize existing architectural knowledge by re-organizing (or in some cases organizing for the first time) architectural elements according to a method of visualizing shared traits and characteristics that could also be studied according to a diagrammatic presentation of transitions over time.[250]

In his suggestions about examining the variations of the Italian style, Willis proposes that future architectural historians consider the following,

> Our task then, if we hope to make out completely the history of architecture, must be; to examine and describe all the different styles of each country, with their dates and periods; to compare the specimens of each in one country with those of a similar style in others, in order to discover in which the style arose, and into which it was merely introduced; the mode of its introduction; the way in which it affected the previously existing style; the modifications it suffered from chance of material, local peculiarities of arrangement and the habits of working; and lastly, when, and how it was superseded.[251]

Following his own suggestion, Willis set out to mark how medieval Gothic architecture changed over time in different climates. He does this, in part, by accompanying his text with three

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[248] Ibid., pp. 76-77.
[249] Ibid., p. 77.
[250] Ibid., p. 80.
[251] Willis, *Remarks on the Architecture of the Middle Ages, Especially of Italy*, p. 12-13.

appendices that list “the principle buildings of the Middle Ages in Italy,” the “Dimensions of the principal Italian campaniles,” and a “list of illustrated works on the Middle Age architecture in Italy;” as well as fifteen plates, two of which will be discussed here. The range of fifteen images covers a vast array of material from isometric drawings of Roman baths to diagrams of vaults, shafts, arches, piers, foliation, tracery, and doorways. The two plates IX and X (**figures 21** and **22**) that correspond to Willis’s theory of mechanical versus decorative foliation and tracery will be examined next.

**Figure 21: Willis, “Plate IX.” London: 1835.**

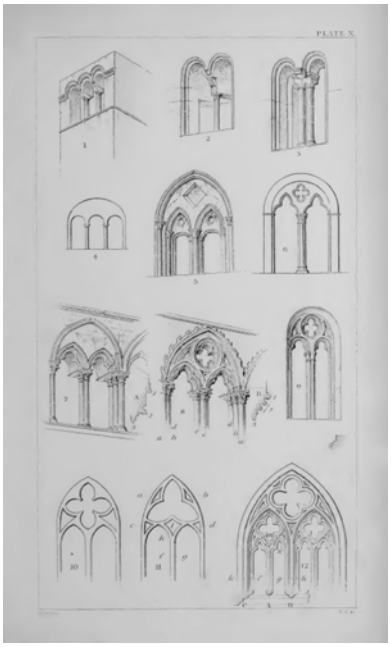

**Figure 22: Willis, "Plate X." London: 1835.**

## 4.5 TRANSITIONAL SPECIMENS

In Willis's chapter on "Foliation" he describes a turning point in the construction of Gothic architecture. It is a subtle comment – even he does not overly emphasize the profundity of his words, but what he says allows for one to begin to understand the transition from rounded to pointed architecture as moving through stages of increasing complexity. Willis begins the chapter by talking about compound arches saying that until this time they had all been consecutive, of similar form, and concentric, "differing from each other only, by being successively smaller."[252] Willis considers this to be a "rule" for looking at and understanding the construction of medieval arches. Yet, in the next paragraph he states that this understanding

[252] Ibid., p. 40.

"may be departed from in two ways; the arches may be of different forms, … or the inferior orders may have two or more apertures." Willis points to Plate IX and Plate X to highlight this shift, indicating that the defining characteristics of Gothic architecture can no longer be understood based on their shared forms. Rather, Willis suggests that Gothic architecture has *phases* of ordering and that Plate IX and X highlight the style's changefulness toward increasing complexity by bringing into focus those openings that are pointed and trefoiled, and where single arches begin to develop through subdivisions of two and three and five lancets. Buchanan observes that in Willis' Plate IX he "noted that arch orders in separate planes could use different forms of arch, or could contain different numbers of arches, from which he derived the origin of tracery, whose sequential development from what he would later distinguish as 'plate' to 'bar' tracery was carefully traced."[253] It is from "these two varieties" that Willis believed that he would "be able to shew that two essential characteristics of the Gothic style arose; namely, foliation and tracery."[254]

In Plate IX Willis illustrates eighteen examples of the treatment of decorative mullions resembling natural branches, otherwise referred to as *foliation*, found in Italy, Germany, and France. His arrangement of windows is not based on date or location, as he neither includes a date for the specific examples, nor lists them according to their region. Rather, the window

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[253] Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*, p. 94.

[254] Willis, *Remarks on the Architecture of the Middle Ages, Especially of Italy*, p. 40. See also, Buchanan, p. 92 – "Willis chose to focus on Gothic decoration, which articulated the mechanical construction but, according to his schema, was neither identical with nor subservient to it. […] Willis provided a detailed classification of shafts and arches depending on their position and inter-relationship; although supremely logical, it was nevertheless too complex for ready adoption and those terms which have survived, such as nook-shaft and sub-arch, are those which can be related to position, rather than apparent structural function. The next principle related to the 'planes of construction' already implied by successive orders of arches. He noted that arch orders in separate planes could use different forms of arch, or could contain different numbers of arches, from which he derived the origin of tracery, whose sequential development from what he would later distinguish as 'plate' to 'bar' tracery was carefully traced." And, Buchanan, p. 98 – "Early followers of Willis in this respect included Fredrick Apthorp Paley (1815-88), who wrote on mouldings, and Edmund Sharpe (1809-77), George Ayliffe Poole and Edward Augustus Freeman (1823-92), who all wrote on tracery, Sharpe dedicating his 1849 book on the subject to Willis."

openings are arranged according to Willis's own perceived advancement, as he stated above, from the grouping of concentric arches to those openings that are pointed, trefoiled or, as seen in Plate X, develop multiple apertures under a single, unifying arch. From these two plates, Willis charts the change in window construction and openings, as well as the development of tracery over time. In this way, Willis's grouping is not a linear history, or a diagram of local or regional specimens. Rather, Willis creates a visual tableau charting the mutability of medieval European window specimens from rounded to pointed forms, showing their increasing complexity across space and time. Though Willis's discussion of this material might harmonize more closely with a binomial classification system in the vein of Linnaean taxonomy, the plates that Willis provides allude to that other underlying, though controversial, nineteenth-century theory of species mutation through successive change over time.[255]

Willis's contribution to an understanding of architectural knowledge of the Middle Ages in the nineteenth century was both empirical and theoretical, advancing a scientific approach to the study of architecture that had not been seen before. In this way, Willis helped to define the parameters for the accurate and advanced study of medieval buildings through a written taxonomy and visual chronology of transitional specimens moving toward increasing complexity. He both defined typological examples needed to situate new specimens and provided a method for describing their characteristics.

In order to facilitate greater understanding of medieval architectural members, their origins, and their gradual change, Willis continued the advancement of architectural knowledge

[255] One could go so far as to say that Willis's text is the first English atlas of Gothic architecture to be produced in the first half of the nineteenth century; and, as such, contributes to the exploratory, empirical nature of British architectural historians examining their own specimens of insular medieval ecclesiastical architecture at that time.

in his later book, *Architectural Nomenclature of the Middle Ages*, published in 1844.[256] Here again, Willis examines medieval buildings by arranging whole chapters around the discussion of particular architectural elements, for example: imposts, shafts, tracery, windows, and vaulting.[257] Willis's text, unlike the other books examined in this dissertation, does not include illustrated evidence alongside his discussion. Instead, Willis focuses on extrapolations of linguistic forms from medieval building practices to demonstrate how descriptions of Gothic architecture, and the use of certain vocabulary, changed since the style's inception.

Willis introduces his book saying, "My object in the following pages has been to draw up an account of the medieval nomenclature of architecture, as far as it can be deduced from the remaining documents, and from the comparison of them with existing buildings."[258] In some ways, Willis is effectively trying to classify the styles of language, their dialectical change, as pertains to word variation in textual documents and verbal practice. He is most interested in the "language of workmen" and the "terms" that can be "picked out of the monastic churches and biographies."[259] In so saying, Willis acknowledges that he is not the first to undertake this endeavor, and that he is indebted to Edward James Willson's collection of terms appended to A. C. Pugin's 1823 *Specimens of Gothic Architecture*.[260]

Recognizing the immensity of this project, Willis restricts himself to the examination of "terms that belong to architectural members" specific to ecclesiastical buildings.[261] Therefore, *Architectural Nomenclature* can essentially be viewed as a glossary for the history of

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[256] Published by the same John Henry Parker of London who produced Rickman's *An Attempt*.
[257] Willis, *Remarks on the Architecture of the Middle Ages, Especially of Italy*, p. 53; *Architectural Nomenclature of the Middle Ages* (London: J. W. Parker, 1844).
[258] *Architectural Nomenclature of the Middle Ages*, p. 1.
[259] Ibid.
[260] Ibid.; A. C. Pugin, A. W. N. Pugin, and Edward James Willson, *Specimens of Gothic Architecture*, (London: Henry George Bohn, 1823).
[261] *Architectural Nomenclature of the Middle Ages*, p. 2.

descriptions of medieval building elements. Accordingly, Willis does not presume that his book is a definitive or complete work, but rather indicates that he would like to,

> […] illustrate these terms which were particular to the medieval styles, and which have either became obsolete, or have changed their meaning, or which modern writers have revived with a perversion of the original sense. Words that have become established in our language, so as to be found with a correct definition in the standard dictionaries, do not fall within my plan, although they would necessarily be included in an Architectural Glossary.[262]

In some ways, Willis constructs a narrative similar to Rickman. He attempts to discriminate the styles of *language*, dissecting their dialectical changes to convey the history of medieval architectural terminology, word variation and verbal usage. An example of this can been seen in Chapter Four of *Architectural Nomenclature*, "On Windows," where Willis outlines the proper terms for naming the elements within window casings,

> According to the nomenclature and orthography at present employed for the parts of windows in Gothic architecture, the upright sides are called *jambs*, the horizontal base is the *still*, the vertical bars of stone that divide the openings are *mullions*, and the horizontal bars, if there be any, are *transoms*. The openings or light-spaces between these are termed the *lights*, and the complicated frame-work above is *tracery*; when the window is square-headed the upper piece is called the *lintel*.[263]

Willis indicates that nearly all of these terms are medieval English words; and similar to a dictionary entry, he identifies the origin and usage of particular words in medieval England. Again, though devoted to chronicling the linguistic development of architectural terminology, Willis contributes to the eighteenth- and nineteenth-century preoccupation with classification. Without the organized methodology put forth by Rickman and Britton, it has been suggested that Willis could not have written his essay[264] or contributed to the aforementioned emergent discourse. Thus, Willis ensured that future historians, antiquarians, and architects were equipped

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[262] Ibid.
[263] Ibid., p. 46.
[264] Pevsner, *Some Architectural Writers of the Nineteenth Century*, pp. 52-53.

with the necessary tools to both understand their architectural past and shape their building future. As teacher, philosopher, and scientist, Willis's methodological approach to the study of architectural classification and transformation contributed in such a lasting way that one could go so far as to say that a whole school of architectural historians emerged from his influence.[265]

## 4.6 DEVELOPMENT OF WINDOW TRACERY

The last architectural historian to be considered before John Ruskin is examined in Chapter 5 is Edmund Sharpe (1809-1877). In recent years, Geoff Brandwood co-authored an English Heritage book discussing the *Architecture of Sharpe, Paley and Austin,*[266] which provides an introductory chronology to Sharpe's early life, his work, and the partnership that he developed with his pupils, and later relatives by marriage, Edward Graham Paley (1823-95) and Hubert James Austin (1841-1915).[267] Until Brandwood's book, published in 2012, very little discussion was available about Edmund Sharpe. In the appendix to Basil Clarke's *Church Builders of the Nineteenth Century* (1969) Sharpe is briefly mentioned in a short annals, which reads, "A pupil of Rickman. Practiced at Lancaster for fifteen years. Took up engineering in 1851. He designed about forty churches, many in the Romanesque style. Author of *Architectural Parallels*. Lever

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[265] See Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History,* p, 98 – "In his great study of Gothic historiography, Paul Frankl (1878-1962) repeated the analogy and, in this regard, classed Willis as one of the three 'keen thinkers who could explore the real nature and essential characteristics of the [Gothic] style', who established 'the study of Gothic as we [i.e. Frankl] like to think of it today.' […] Frankl was right that the identification and comparative study of individual features were vital to the subtle and nuanced reading of medieval buildings, for it is often in the minutiae noticeable only by masons and attentive architectural historians that connections between buildings may be drawn, on which arguments of dating, authorship or influence may be constructed."

[266] Geoffrey K. Brandwood and English Heritage, eds., *The Architecture of Sharpe, Paley and Austin* (Swindon: English Heritage, 2012).

[267] Ibid., x-xi.

Bridge (with E. G. Paley), Platt, Holy Trinity, Blackburn, etc."[268] Similarly, Sir Nikolaus Pevsner names Sharpe only a half-dozen times in his otherwise thorough investigation of *Some Architectural Writers of the Nineteenth Century*, the first two instances in the form of a footnote.[269]

During his own lifetime, Sharpe is mentioned in Volume III of *The Ecclesiologist*, an architectural periodical from the mid-nineteenth century, where he is listed in the debate about the preferred style of Gothic revival construction on the side of "Architects Approved."[270] He is also remembered for three written works, *Architectural Parallels* (1848), *A Treatise on the Rise and Progress of Decorated Window Tracery in England* (1849), and *The Seven Periods of English Architecture* (1851). It is because of these works that Sharpe received the highest honor possible in his profession by the Royal Institute for British Architects in 1875 when they bestowed upon him the Royal Gold Medal for his advancement of architectural history writing.[271]

While recognized for his writings during his lifetime, very little has been said, subsequently, about the nature of Sharpe's work, the visual methods he used, and the means through which he furthered the teaching and practice of architecture in Great Britain in the nineteenth century. It is in order to help fill this void in contemporary scholarship that I would like to turn to Sharpe's 1849 publication, *A Treatise on the Rise and Progress of Decorated Window Tracery in England*.

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[268] Basil Fulford Lowther Clarke, *Church Builders of the Nineteenth Century: A Study of the Gothic Revival in England*, 1st ed. (Newton Abbot: David & Charles, 1969), pp. 263-4.
[269] Nikolaus Pevsner, *Some Architectural Writers of the Nineteenth Century*. (Oxford: Clarendon Press, 1972).
[270] *Pevsner, Some Architectural Writers of the Nineteenth Century*, p. 133: other "Architects Approved" include: Butterfield, Carpenter, Derick, and Ferrey. While those under "Architect's Condemned" include: Barry, Blore, and Coltingham.
[271] Brandwood and English Heritage, eds., *The Architecture of Sharpe, Paley and Austin*, p. 7.

Sharpe's treatise is relatively small in size but extensive in scope; a pocket guide to the study of Great Britain's architectural development. The text is divided into two parts: Part I, "the classification of traceried windows and their several parts" and Part II, "chronological account of the principle traceried windows in England."[272] The illustrations accompanying the text include: six steel-engraved plates (Plate A and B showing the "origin of tracery" in a series of three and two light windows, respectively; Plate C – E showing "sections of Window-arch;" and Plate F showing "Outlines of Tracery") and ninety-seven woodcuts set within the text showing window examples from a variety of churches and cathedrals across England. For the purposes of this dissertation, the following pages will be dedicated to Sharpe's commentary on classification and the visual material included in Plates A, B, and F (**figures 23, 24,** and **25** respectfully).

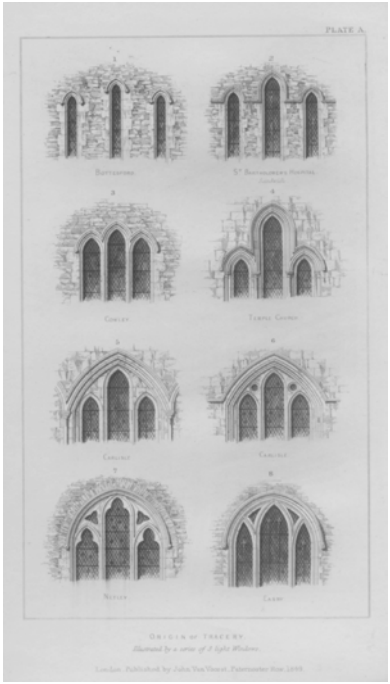


**Figure 23: Sharpe, "Plate A." London: 1849.**

[272] Sharpe, *A Treatise on the Rise and Progress of Decorated Window Tracery in England*, pp. vii-viii.

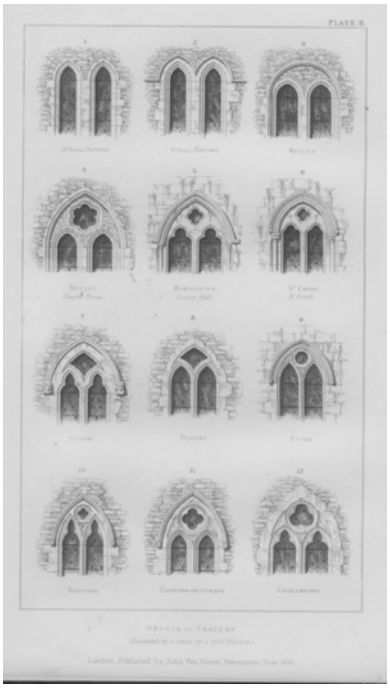

**Figure 24: Sharpe, "Plate B." London: 1849.**

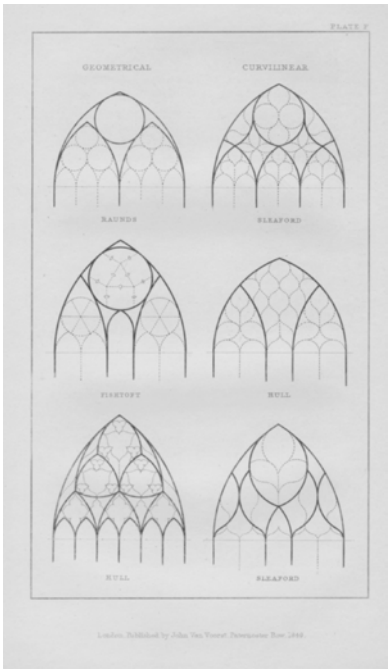


**Figure 25: Sharpe, "Plate F." London: 1849.**

Following Thomas Rickman and Robert Willis in his treatment of medieval architectural members, the dedication page of Sharpe's *Treatise* reads, "To the Rev. R. Willis, F.S.A., Jacksonian Professor in the University of Cambridge. The following pages are inscribed, in

token of the many services he has rendered to those engaged in the study of Church Architecture, by his friend, the author."[273] Once Willis is honorably acknowledged in the dedication page, however, he is only mentioned about a dozen times more, and always in reference to foliation, tracery, and window decoration. Yet in his introduction, Sharpe writes that, "It is to Mr. Rickman that we are indebted for that classification of the styles of English Architecture, and that system of Nomenclature which has been almost exclusively used by recent writers on the subject."[274] From the beginning of his text it is clear that Sharpe aligns himself with two of the most prominent architectural historians and demonstrates that his book is indebted to their work. In doing so, however, Sharpe also indicates that Rickman and Willis laid the foundation for further study, and that his text builds upon their observations in order to continue the conversation about the "rise and progress" of Gothic architecture in Great Britain.

The greatest difference that Sharpe points to between his work and the work of Rickman, is one that can be attributed to the passage of time and the learning of new knowledge. Sharpe states that Rickman must "have known, what is now beginning to be generally admitted, that our National Architecture, from its earliest infancy to the period of its entire debasement, was in a constant state of regular progression or transition, and that this progress was not only uniform and constant, but carried on in different parts of the country very nearly simultaneously."[275] From here, Sharpe states that he sees the "habit of classing our buildings according to their leading peculiarities, in one or other of these four styles" as problematic because it focuses attention on grouping and not on the *continuous* and "gradual development of our knowledge

[273] Ibid., from the dedication page.
[274] Ibid., p. 1.
[275] Ibid., p. 4.

upon the subject."[276] Through this awareness, Sharpe seems to apply a universal approach to the study of medieval ecclesiastical architecture in Great Britain, looking at the whole to understand the parts rather than the other way around as in the case of Rickman.

At the end of his introduction, Sharpe makes the grand pronouncement that,

> The time has *now* arrived for a more detailed division of the Church Architecture of this country, than that which has been bequeathed to us by Rickman. […] It has become, in fact, our legitimate task, now that the series of examples which have been periodically presented to our readers is completed, to consider how we shall classify them; to examine their points of contrast and resemblance; to inquire whether the peculiarities which distinguish some from others are not such, and so great, as to render it difficult and inconvenient, if not actually incorrect, to comprehend the whole of the Tracey of the so-called "Decorated" Period in one undivided class, and under one general denomination.[277]

Sharpe offers his text as the first treatise to actually begin the work that the authors before him set out to do – charting the continual transformation of forms progressing toward increasing complexity. Sharpe pays homage to the efforts of Rickman, and Rickman's predecessor, Milner, as well as Willis, yet in order to take into consideration the information and knowledge that they produced, Sharpe challenges his readers to begin the process of (re-)categorizing earlier examinations and inquiries from the vantage of knowledge-acquired over the last fifty years. It is necessary, for Sharpe, that the study of Great Britain's National Architecture continue now (after 1849) that the material that has been presented can be examined, according to him, as 'one undivided class.'

[276] Ibid.
[277] Ibid., pp. 4-5.

## 4.7 A SYSTEMATIC UNDIVIDED CLASS

Describing his text as an accurate and trustworthy dissertation, Sharpe indicates that earlier architectural writings demonstrate a lack of systematization because of their narrow concern to discover "distinctive marks" characteristic of a building's style.[278] Sharpe suggests that the "imaginary nature of these distinctions" limits the study of architectural progress because no two buildings employ the same exacting decorative elements.[279] The "imaginariness," or perhaps arbitrary representation, of these architectural members, however, is presented as a point of contention between early writers. Because of their inability to agree on a concise, organized, and systematic way to classify buildings, Sharpe believes that previous architectural historians have stalled the investigatory process of architectural classification and visualization of its chronological advancement. His criticism of previous writings centers on what he considers to be their "anxiety" to find a systematic means through which to organize and classify different buildings under one heading.[280] Sharpe suggests that architectural historians were lost in their own notions about how to find a precise and exact formula for the classification of "separate" structures such that they failed to consider the *continuous* nature of architectural progress.[281] Sharpe, however, disregards the limited observations of minute forms, looking instead to varieties of construction in order to distinguish where the greatest similarities or differences occur.

Of the texts considered thus far, Sharpe appears to be the first to use very exact terminology to describe the perceivable visual changes in medieval architecture. To define a

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[278] Ibid., p. 2.
[279] Ibid.
[280] Ibid.
[281] Ibid.

building, a style, or a period as "Circular" or "Gothic" or "Pointed" is not enough for him. A building, or a period of construction, is examined, rather, as part of a "constant state of regular progression or transition."[282] Sharpe acknowledges that previous architectural historians must have been aware of these changes because Gothic had already been identified as England's "National Architecture," noting that its rise from infancy was part of a "uniform," "constant," and "very nearly simultaneous" process across the county.[283] Therefore, Sharpe takes the opportunity in the opening pages of Chapter 2 to state that,

> No one who has paid much attention to the buildings of the Decorated Style, or who has consulted the descriptions of such buildings given in Mr. Rickman's Appendix, can fail to have observed that the windows of this style are divisible into two classes: one, in which the leading lines of the tracery are *geometrical;* and the other, in which they are of *flowing* character.[284]

In saying this, Sharpe then problematizes Rickman's work by inferring that two classes are not enough to separate the kinds of decoration and ornament produced in the Decorated Period. To punctuate this point still further, Sharpe concludes that, "Instead, therefore, of following Mr. Rickman's division of Traceried Windows into two classes, Decorated and Perpendicular, I propose to divide them into three; in the first and earliest of which the leading lines of the tracery are generally *circular*; in the second *flowing*; and in the third, *straight.*"[285] This division of the Decorated style into three distinct parts is the core of Sharpe's work. In a few short pages Sharpe quickly creates a new taxonomy of the previously defined Decorated Period into three sub categories that he now defines by name and date: Geometrical (1245-1315), Curvilinear (1315-

[282] Ibid., p. 4.
[283] Ibid.
[284] Ibid., p. 6.
[285] Ibid., p. 7.

1360), and Rectilinear (1360-1500) to correspond to those window types that appear in circular, flowing, or straight forms, respectively.[286]

The new taxonomy presented by Sharpe is meant to counter the tendency of architectural historians to produce histories of Gothic architecture according to "four large groups" rather than, as Sharpe says, to promote and advance a classification "not by *centuries*, but by *decades* of years."[287] In this way, Sharpe seeks to modify the taxonomies of architecture created before his book and instead present a theory that considers the continual and simultaneous transition of medieval forms through a series of ever-improving phases across a five-hundred-year period. No longer layered beneath Rickman's broad categories of Norman, Early English, Decorated English, and Perpendicular English, the study of Gothic architecture emerges from Sharpe's work as a highly nuanced medium deserving of further systematic study in order to produce, as Sharpe indicates, an accurate chronological dating system.

## 4.8 PROGRESS OF THE DECORATED WINDOW

Sharpe situates the study of Decorated window traceries, and its subcategories, within the discourse presented by Rickman, Britton, and Willis, but adds to the conversation by classifying the elements of fenestration, giving detailed visual and written examples of the classes of window tracery in order to define their *progress* and *transition*. In his chapter on the "Origin of Tracery," Sharpe focuses on two developmental aspects in the progress of medieval window construction and ornamentation that leads to traceried windows. First, the "Circle carried by two

[286] Ibid., p. 8.
[287] Ibid., p. 4.

arches" and second, the "combination of lancets under one arch."[288] Sharpe states that the first type is found throughout the Geometrical Period (1245-1315) and points to, roughly, seventeen, examples that vary in detail, but can easily be recognized by this "elemental principle" of form to belong to this class of design.[289] In the case of the second form, Sharpe states,

> There are few circumstances in the History of Architecture more deserving of attention then the rapid and remarkable changes of form through which the window passed between the 11th and the 14th centuries; and it is on this account that it may be taken more readily than any other prominent feature of a building to denote its age and character.[290]

Here Sharpe expresses that while the window experienced change at a rapid pace, it is from this speeding, four-century, progress that he believes one can form a timeline to slow the mutation process of medieval forms and chart the gradual transition of the Gothic style's age and character. This approach to the study of British medieval forms upends the standard classification of architectural forms as a static presentation of singular forms (circular vs. pointed) and transitions the study of architectural history as a ground-up-investigation into the sequential, chronological transitions of the style across its long duration and, indeed, continuation into the nineteenth century through its 'revival.'

Discussing Plate A, Sharpe is fascinated by the shift from the circle carried by two arches to the combination of lancets under one arch, to the seemingly "sudden" emergence of windows that joined many openings together. It is to this point that Sharpe provides Plate A in order to help his readers visualize the transition taking place from the eleventh to the sixteenth century in examples of window construction. Sharpe highlights how the forms of window changed to be

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[288] Ibid., p. vii.
[289] Ibid., pp. 9; 11.
[290] Ibid., p. 13. Note on the use of "14th century" here refers specifically to the combination of two lancets under one arch, Sharpe does, in fact, carry his history of medieval forms through to the sixteenth century and the start of the English Reformation.

narrower and taller, with joined together combinations of lancets under one mullion or arch. Arranged in two neat columns, eight windows are grouped from top to bottom on a page showing the transition from single lancets to combinatory lights. Each of the eight windows is numbered and labeled according to the cathedral or town in which the example may be found. These include: 1. Bottlsford, 2. St. Bartholomew's Hospital, 3. Cowley, 4. Temple Church, 5. and 6. Carlisle, 7. Netley, 8. Easby. This arrangement of windows shows, according to Shape, the "consummation of the change which had been thus gradually carried on, and the commencement of a new era in the art of constructing windows."[291]

In Plate B, Sharpe outlines twelve two-light windows in four rows of three. Each window is numbered sequentially across the top of the row and identified by its location below. On this page, Sharpe includes examples from: 1. and 2. St. Giles, Oxford, 3. and 4. Netley, 5. Winchester, 6. St. Cross, 7. Grasby, 8. Dowsby, 9. Etton. 10 Scotton, 11. Charlton-on-Otmoor, 12. Chiselbourne. Similar to Plate A, Sharpe points to the transition from individual lancets placed side-by-side, as seen in the first window example in the upper left, to the combination of double lancets arranged under a continuous hood-moulding, and finally to the placement of dual lancets combined under one arch.[292] Through the joining of lancets under one continuous arch and the puncturing of the space with a circle window, Sharpe notes an "anomaly" in the formation of window lights. This gradual change can be seen as one looks down the page at the groups of three windows. The shift is most notable between window 1 (St. Giles, Oxford) and window 12 (Chiselbourne) where the filling of the space above the two lancets is now complete. By diagraming the transition in the formation and combination of double lancet windows, Sharpe is able to visualize the process of change over time and show the gradual diminishing of

[291] Ibid., p. 17.
[292] Ibid., p. 19.

mouldings between lancets leading to the development of new forms of window tracery. Sharpe closes Chapter Three stating, "it was thus, then, by the joint operation of these two important results, namely, the *conversion of a group of Lancets into One Window of many lights*, and *the combination of a Circle and Two Lancets under One Arch*, that the way was prepared for the approaching change."[293]

Ultimately, what Sharpe charts here is the gradual diminishing, or extinction, of the single lancet window amidst the transition to a single, large, arched opening that is patterned by multiple openings through the development of increasingly complex decorative tracery. Sharpe states, "A Window cannot be said to contain *Tracery* unless the whole of the Window-head is pieced through to the plane of the glass, so as to leave no plain surface, or solid mass of stone, in the spandrels between the principal Tracery-bars and the Window-arch."[294] Sharpe cites Robert Willis and Sir James Hall, their influential work and thoughts, as first recognizing and developing this "rule" for this definition of tracery windows. Sharpe acknowledges Hall's work in Chapter Seven when he says that, "Sir James Hall was the first who noticed this subordination of Mouldings in Traceried Windows. Mr. Rickman alludes to it, and Professor Willis has enlarged upon it in the sixth chapter of his *Architecture of the Middle Ages*."[295]

The illustrations included in Sharpe's *Treatise* enable the reader to visualize the moments of transition and mutability of forms as Sharpe maps a timeline for development of increasingly

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[293] Ibid., p. 20.
[294] Ibid., p. 21 - This is a "rule" that Sharpe develops after the work of Willis and attributes his source to Willis's Remarks on the Architecture of the Middle Ages, chapter 6, where he says that Willis "contains a definition of Tracery that is at once simple and obvious, and enables us to class the Windows of this Period upon an intelligible principle.
[295] Ibid., p. 38 – See also, James Hall, *Essay on the Origin and Principles of Gothic Architecture* by Sir James Hall, Bart. ... From the "Transactions of the Royal Society of Edinburgh," Read April 6. 1797, (Edinburgh: 1797); and Rickman, *An Attempt to Discriminate the Styles of Architecture in England*, p. 74. See also, Allison A. Ksiazkiewicz, *Geology and Neoclassical Aesthetics: Visualizing the Structure of the Earth in Late Eighteenth- and Early Nineteenth-Century Britain*, (Cambridge, UK: Ph.D. diss., University of Cambridge, 2013).

complex forms of window tracery in England. Plate A and B, in their presentation of multiple windows on a page, show variety and gradual change; and allow the viewer to compare and contrast the examples through their grouping in one plate. Sharpe uses these two plates to ground his discussion for what he argues to be the visual clues to the change in window decoration between the eleventh and sixteenth centuries. Effective for its ability to show multiple examples on a page for the reader/viewer to compare and contrast, this type of visualization was adopted by later editions of Rickman's *Attempt* as a means to further emphasize his classification of periods and the stages of growth from one period to the next. It was Sharpe, however, who not only defined yet another system of classification for English ecclesiastical architecture from the eleventh to the sixteenth century, but also made a linear presentation of architectural history as the forms of British medieval architecture moved through increasing stages of complexity of ornament and construction. This process of showing change between lancets divided by mouldings to those divided by lines is highlighted in the way that Sharpe presents his visual material – the oldest window example placed in the upper left hand corner, with the newest form represented in the bottom right hand corner.

Plates A and B represent specific windows and show their situation in a façade by including sections of masonry outlines and portions of the wall. In Plate F, however, Sharpe eliminates any reference to masonry, or exterior or interior view, and solely focuses on the lines of tracery that fill examples of six windows. In Plate F, Sharpe arranges three examples of tracery from the Geometrical Period along side three examples from the Curvilinear Period. According to Sharpe, each example represents a different "class" from within the Gothic period.[296] In each of these side-by-side comparisons, the viewer is forced to consider how the

[296] Sharpe, *A Treatise on the Rise and Progress of Decorated Window Tracery in England*, p. 94.

form of the tracery has been modified using similar forms. “These are precisely the three classes into which the Windows of the Curvilinear Period most naturally arrange themselves, and the accompanying Plate [F] presents parallel examples of the two periods in each of their classes; the black lines representing the outline traced by the primary Mouldings; and the dotted lines that traced by the Mouldings of the second order.”[297] A design of this kind is similar to Willis’s Plate II illustrating the structure of vaults (**figure 26**) where he, too, eliminates the representation of masonry construction in favor of solid and dotted lines to define the structure of the form instead.

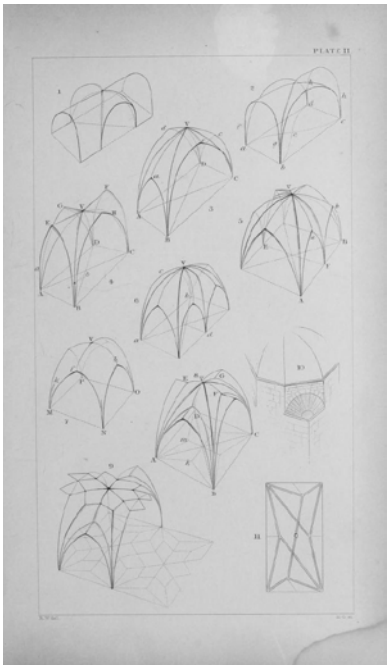

**Figure 26: Willis, “Plate II.” London: 1835.**

Together, what Sharpe’s three plates provide is a clear example of the advancement of a methodology for the visual presentation of change over time in a systematic way. Grouping together examples by period in order to show their transitions from simple to complex forms, as well as defining “classes” of window types within a set period, is the unique contribution of

[297] Ibid., pp. 93-94 – Sharpe mistakenly labels his own plate “Plate D” when he is clearly referring to the adjoining page, which is labeled “Plate F.”

Sharpe's work to the production of a history of Great Britain's medieval ecclesiastical architecture in the nineteenth century. Speaking of the Curvilinear Period, Sharpe concludes his *Treatise* in the following way:

> It is, indeed, impossible to prescribe any definite rule to the modern architect in either of these respects, or any particular limits within which to fetter his powers of invention, for, great as is the number of Curvilinear Windows, which are left to us, such is the variety of pattern, that it is difficult to find two in the kingdom which exactly resemble each other; and provided a design be carried out as formerly, in the spirit and feeling of the period to which it belongs, both as regards outline and detail, great is the license which the artist may take to himself, in the arrangement of his foliated openings, and the form and distribution of his Mouldings. […] The accompanying series, small as it is, and selected out of the many hundred of beautiful examples which exist, may still serve to illustrate this vital principle of variety, so inherent in the designs of these Periods.[298]

Like Thomas Rickman and John Britton, Sharpe seems to challenge the architects among his readers to use his text as a means to advance the progress of Gothic architecture, to see the variety it includes, and to develop their own patterns to increase its complexity for the future of Great Britain's National Architecture. By providing a systematic method for both classifying and arranging the chronology of those examples already in place, Sharpe enables his readers to situate themselves within that "rise and progress" of the development of Gothic architecture in Great Britain, and in so doing encourages that trajectory of increasing complexity by imagining the future from the stages of medieval architecture already in place.

[298] Ibid., pp. 110-111.

## 4.9 CONCLUSION

From the first *circular* vs. *pointed* comparisons that we looked at by Taylor and Warton et al., to the sequential arrangement of chronological doors in Storer's *Description of the Cathedrals,* to the comparative arrangements of "Specimens of Circular Windows" by Britton, to Rickman's categorization of *Norman, Early English, Decorated, and Perpendicular* window types, and, finally, to Willis's and Sharpe's divergent tracery divisions, we can see that each historian developed a system to arrange architectural species according to those similarities in family or type or character and sought to convey, as Naturalists did, the groupings and divisions within British medieval architecture. Yet, as the history of architecture, and the history of the history of architecture in Great Britain continues to unfold, one can also see that those scientific methods fashioned by Linnaeus, disrupted by Lamarck, and challenged by Cuvier, Lyell, and Chambers continue to have lasting effects on our contemporary understanding of ordering systems, progressive development, and the process of visual knowledge-making. Their work, whether directly or indirectly, informed the writing and visualizations created by the authors examined in this dissertation.

The three architectural historians presented in this chapter each lay claim to advancing a methodology, which would elevate the study of architecture to a science. Their works combine the thoughts of those authors who preceded them while also offering their own theories about the development and successive change of medieval architecture over time. As this chapter has shown, Rickman, Willis, and Sharpe were compelled to explain the observable fact that medieval buildings changed over time and that certain architectural ornaments of construction were no longer in use. This reality led to the additional observation that medieval forms improved, chronologically as time passed, leading to a theory about the mutability of structural forms

toward ever-improving stages of complexity as architecture continued to develop through successive phases. This observation challenged existing models of rational and empirical study as Rickman, Willis, and Sharpe tried to visualize the *transitional* nature of medieval forms through diagrams of different windows rather than just document them as static shapes on a page. As Buchanan proposed, nineteenth-century histories of architecture offered a method of organization of the visible world that scientists could learn from. This dissertation takes Buchanan's observation further by showing how the visualization of architecture as both *taxonomy* and *chronology* developed by British architectural historians in the first half of the nineteenth century aided in the advancement of scientific knowledge through the production of new kinds of pictorial displays to chart change over time in medieval ecclesiastical monuments.

For Rickman, Willis, and Sharpe, each Gothic window example presented in their texts marks a subtle, yet perceivable historical moment of transition within the history of medieval ecclesiastical architecture. These three authors present their window diagrams as visual, empirical evidence and invite their reader/viewer to participate in the practice of scientific observation by including the location of each monument as a means to encourage their reader/viewer to visit the actual specimen. In this way, their work can be defined as an objective presentation of the historical past and can be analyzed within the framework that Daston and Galison provide in order to discuss scientific atlases. The diagrammatic presentation of window forms offered by Rickman, Willis, and Sharpe is consistent with the types of diagrams that Daston and Galison present as representation to objective, scientific sight in the eighteenth and nineteenth centuries. By the mid-nineteenth-century several attempts to arrange architectural specimens had been developed by French and British authors to show both the similarities of

static forms and the differences between varieties of forms as they transitioned through successive stages of architectural progress and development.

The comparative analysis of architectural styles, going back to the examples offered in *Essays on Gothic Architecture*, in its own way, categorizes how architectural history continues to be written based on comparisons. Each of the nineteenth-century authors examined in this dissertation, whether they are naturalists or architectural historians, championed a view of history as comparative progress. The works by Rickman, Willis, and Sharpe perfected the systematic study of medieval architecture in the early to mid-nineteenth century. Yet, while their role in this process of making the study of architecture a scientific practice is alluded to in written debates among contemporary, twentieth- and twenty-first-century scholars, their contributions to the *visualization of science* through diagrams to *show* architectural history as a series of *chronological transitions* and *successive changes* has never been discussed. Finally, in examining the illustrations incorporated into the texts by Rickman, Willis, and Sharpe, it is my hope to bring the study of architectural diagrams to the forefront of contemporary understanding about *visualizing history* and science through nineteenth-century publications of *visual taxonomies*. Considering the importance of *the visual*, it must be remembered that the texts by Rickman, Willis, and Sharpe would not have been successful without their images; and it is precisely because of their images and the development of a systematic, scientific sight for the study of architecture that they should be remembered. Motivated by the knowledge that contemporary scholars and twentieth-century historiographers neglected to discuss the visual diagrams associated with the texts examined in this chapter, the next chapter moves forward to examine the work of John Ruskin and considers how he developed his own illustration of architectural change over time that is very different from the ones examined thus far.

## 5.0 VISUAL HISTORY AND ARCHITECTURAL DEVELOPMENT

> […] traceries had caught the eye of the architect. Up to that time, up to the very last instant in which the reduction and thinning of the intervening stone was consummated, his eye had been on the openings only, on the stars of light. He did not care about the stone; a rude border of moulding was all he needed, it was the penetrating shape which he was watching. But when that shape had received its last possible expansion, and when the stone-work became an arrangement of graceful and parallel lines, that arrangement, like some form in a picture, unseen and accidentally developed, struck suddenly, inevitably, on the sight. It had literally not been seen before.[299] - John Ruskin.

In the opening discussion of the "Lamp of Truth," the third lamp in *The Seven Lamps of Architecture* first published in 1849, the English critic of art, architecture, and society, John Ruskin (1819-1900) describes the act of observing medieval ecclesiastical architecture as an experience of looking at light streaming into darkened interiors through single lancet and traceried windows. This experience of seeing "stars of light" in medieval fenestration was captured in Ruskin's own Plate III (**figure 27**) where he illustrates six Gothic windows, three with paired lancets divided by thick stone mouldings (windows 1-3, bottom right to left), followed by an additional three subdivided by increasingly thin and delicately interwoven bars of tracery (windows 4-6, middle right to middle left to top). Ruskin's illustration of medieval windows arranged from bottom to top (an arrangement that reverses the order from the diagrams discussed in Chapter 2) on a single page shows their sequential development as if growing

[299] Ruskin, *The Seven Lamps of Architecture*, p. 55.

upward toward progressively detailed forms of masonry work. In this drawing, Ruskin takes a step that none of his predecessors had thought to take, which was to *visually* correlate the idea of architectural change with natural growth through the *pictorial* arrangement of different stages of medieval windows in an ascending, serial display to show the successive change in medieval fenestration over time. Ruskin's representation of the concept of growth is realized in Plate III through his ability to organize examples of fenestration as a means to observe their development in size, shape, and decoration by using tracery forms to mark a more ephemeral change – that of the amount of light let into darkened spaces.

**Figure 27: Ruskin, "Plate III." London: 1849.**

This chapter discusses Ruskin as a stand-alone-figure as a means to emphasize another, albeit different, nineteenth-century perspective on how to visualize the rise, progress, and development of medieval architecture as a chronological narrative. When this dissertation began just a few chapters ago, the motivation was to bring into focus the myriad ways that nineteenth-century historians of architecture constructed graphic representations to *visualize history.* Ruskin's contribution to visualizing architectural *chronology* is offered through his written work

on architectural theory and practice in his treatise *The Seven Lamps of Architecture* – a text that aims to establish a set of principles as a means to discuss and discern the "temper and moral feeling" produced by monuments characterized as "good" or virtuous architecture.[300] This chapter discusses Ruskin's attempt to communicate, both verbally and visually, his theory about architectural development and change over time in medieval forms through a close examination of his Plate III from the "Lamp of Truth." In order to emphasize Ruskin's singular approach to visualizing architectural change over time, the following pages investigate the relationship between Ruskin's text and image and situate them against the backdrop of the Gothic Revival movement in Great Britain. Ruskin's Plate III is also situated in relationship to the architectural diagrams examined earlier in this dissertation, showing how Ruskin's visualization of medieval architectural history participates in a relatively recent, early nineteenth-century exploration on the part of British historians of architecture to isolate the window type as the element through which to document the process of successive and continuous stylistic change over time in medieval buildings.

## 5.1 RUSKIN, THE ARCHITECTURAL SOCIETY, AND THE GOTHIC REVIVAL

In the literature published about Ruskin, he is often portrayed as a man driven by principles, motivated by cultural change, and impassioned by a search for truth.[301] The son of a wealthy

[300] Ibid., p. 9.
[301] Kenneth Clark, *The Gothic Revival, an Essay in the History of Taste* (London,: Constable & co., ltd., 1928); Pevsner, *Some Architectural Writers of the Nineteenth Century*; David Watkin, *English Architecture: A Concise History*, Rev. ed., World of Art Series (London: Thames & Hudson, 2001); Bergdoll, *European Architecture 1750-1890*; Brian Hanson, *Architects and the "Building World" from Chambers to Ruskin: Constructing Authority* (Cambridge: Cambridge University Press, 2003).

wine merchant and an educated, ever-watchful mother, Ruskin was brought up to be an intellectual force, destined for greatness. Following his early education at home, Ruskin attended Christ Church at Oxford from 1837 to 1843 – where he later founded a School for Drawing and served as the first Slade Professor of art.[302] This last point is important because contemporary scholarship on Ruskin's life and work has often preferred to discuss his accomplishments through an examination of his written, rather than pictorial or artistic, work. For instance, Ruskin is frequently remembered for his commentary on art in defense of Joseph Mallord William Turner in his *Modern Painters* (published in two volumes between 1843 and 1846); for his influential writings on architecture in *The Seven Lamps of Architecture* and *The Stones of Venice* (the latter published in three volumes between 1851 and 1853); and his series of *Lectures on Architecture* (delivered in Edinburgh beginning in 1854). Yet Ruskin's knowledge and virtuosity may also be found in his multi-disciplinary curiosity in art, architecture, and natural history, topics that, as this chapter shows, defined many of his personal relationships through shared interests.[303]

When Ruskin arrived at Oxford in 1837, the *Architectural Magazine* began to feature a chain of his articles on "The Poetry of Architecture," which were published under his pseudonym, Kata Phusin. A decade later, Ruskin expanded the thinking in these articles and prepared them for a book-length publication titled *The Seven Lamps of Architecture*. Ruskin's

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[302] The school was founded in 1871. Other notable scholars who served as Oxford Slade Professors after Ruskin include, Sir Kenneth Clark, Sir John Summerson, and Professor Pevsner, to name only the few who are also cited in this dissertation.

[303] Mark Swenarton, *Artisans and Architects: The Ruskinian Tradition in Architectural Thought* (New York: St. Martin's Press, 1988); Susan P. Casteras; Phoenix Art Museum; Indianapolis Museum of Art, eds., *John Ruskin and the Victorian Eye* (New York: Harry N. Abrams and Phoenix Art Museum, 1993); Hanson, *Architects and the "Building World" from Chambers to Ruskin : Constructing Authority*; Sharon Aronofsky Weltman, *Performing the Victorian: John Ruskin and Identity in Theater, Science, and Education*, Victorian Critical Interventions (Columbus, OH: Ohio State University Press, 2007); Christopher Newall et al., *John Ruskin: Artist and Observer* (Ottawa: National Gallery of Canada, 2014).

early work coincides with the emergence of an architectural club at Oxford, which originated from a small network of friends discussing architecture at Christ Church in 1838. The Oxford Society for promoting the Study of Gothic Architecture, as it was called, was inaugurated in February of 1839 and listed among its founding members was John Ruskin – honorary members included Professor William Whewell and Professor Robert Willis (both from Cambridge), as well as the notable architect and architectural historian, Thomas Rickman.[304] One of the secretaries for the society included the antiquary John Henry Parker, who, as we have seen, served as the publisher for Britton and Rickman, and who also held the position of Keeper at the Ashmolean Museum. And, Ruskin's geology instructor, William Buckland was also named among the Society's first members. Simply known as the "Architectural Society" prior to 1860, the group experienced several phases of redefinition over the years and is now known as The Oxford Architectural and Historical Society.[305]

From the beginning, Ruskin's interest in architecture was one that was rooted in a poetic understanding of the art. Influenced by Sir Walter Scott,[306] Ruskin was fascinated by crumbling ruins and the impact that the presence of a forlorn building could have on a weathered landscape. Michael Brooks, author of *John Ruskin and Victorian Architecture*, attributes Ruskin's architectural education to the Scottish botanist and cemetery designer John Claudius Loudon

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[304] See W. A. Pantin, "The Oxford Architectural and Historical Society, 1839-1939," *Oxoniensia* IV (1939), "the list of officers for 1840 gives as president the venerable President of Magdalen, Dr. M. J. Routh; as vice-presidents, the President of Trinity (Dr. J. Ingram), the Master of University College (Dr. F. C. Plumptre), the Rector of Exeter (Dr. J. L. Richards), and Dr. W. Buckland, Canon of Christ Church; a committee of 16, including R. W. Church, H. G. (later Dean) Liddell, and J. B. Mozley; 13 honorary members, including the Chevalier Bunsen, Sir Francis Palgrave, Thomas Willement, Professors Whewell and Willis of Cambridge, and a number of architects such as Blore, Ferrey, Rickman, Salvin (but not Pugin); and over a hundred ordinary members who included Dr. J. R. Bloxam of Magdalen, Sir Thomas Phillipps, and John Ruskin. The secretaries were the antiquary John Henry Parker (later Keeper of the Ashmolean Museum) and Thomas Combe; the treasurer, J. Parsons of the Old Bank," p. 2.

[305] Ibid.

[306] Michael W. Brooks, *John Ruskin and Victorian Architecture* (New Brunswick, NJ: Rutgers University Press, 1987), p. 1.

(1783-1841),[307] who it is said, "gave Ruskin a more practical acquaintance with architecture than he had experienced previously."[308] Ruskin's architectural education developed into a search for laws supporting real things.[309] It was at this point in Ruskin's education, Brook's notes, that his mentor at Oxford, Buckland, encouraged him to become one of the founding members of the Oxford Society. It was in this academic context that Ruskin began to investigate the nature of Gothic architecture, its origins, and its principles. What he discovered while at Oxford matured into his book, *The Seven Lamps of Architecture* and *The Stones of Venice*, and culminated in an unrivaled nineteenth-century knowledge of Gothic ornament.[310] Ruskin's training as an artist, first, and architectural historian, second, allowed him to present a unique approach of his understanding of Gothic architecture to his readers. As Brooks notes, "His drawing enabled him to see new truths about light and shade, about mass and line, about architectural color. His apprenticeship to the picturesque taught him lessons that young architects had been given only sporadic opportunities to learn."[311]

Historians have noted that the Oxford Society shared close similarity with the better-known Cambridge Camden Society, which was founded later in 1839 at Cambridge.[312] Both the

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[307] John Claudius Loudon, *An Encyclopædia of Cottage, Farm, and Villa Architecture and Furniture; Containing Numerous Designs for Dwellings, from the Cottage to the Villa, Including Farm Houses, Farmeries, and Other Agricultural Buildings; Several Designs for Country Inns, Public Houses, and Parochial Schools; with the Requisite Fittings-up, Fixtures and Furniture; and Appropriate Offices, Gardens, and Garden Scenery; Each Design Accompanied by Analytical and Critical Remarks, Illustrative of the Principles of Architectural Science and Taste on Which It Is Composed*, 2nd. ed. (London: Longman, Rees, Orme, Brown, Green & Longman, 1836); Melanie Louise Simo, *Loudon and the Landscape: From Country Seat to Metropolis, 1783-1843*, Yale Publications in the History of Art Series (New Haven: Yale University Press, 1988); Elizabeth Barlow Rogers, *Landscape Design: A Cultural and Architectural History* (New York: Harry N. Abrams, 2001).
[308] Brooks, *John Ruskin and Victorian Architecture*, p. 7.
[309] Ibid., p. 13.
[310] Ibid., p. 16.
[311] Ibid., p. 17.
[312] Like the Society at Oxford, the Cambridge Camden Society also went through a series of changes, the most notable being its new name "The Ecclesiological Society" and prominent new location in London

Oxford and Cambridge societies were formed to discuss the trends surrounding the emergence and proper use of the Gothic style in architecture and decorative art practice in the modern day.[313] Though there were definite similarities in terms of purpose and organization, it has been noted that the Oxford Society was "less rigid and doctrinaire, more comprehensive and adaptable" in its practices and, because of its formalized nature, it has been suggested that these differences enabled the Oxford Architectural and Historical Society to survive to the present day.[314] Noting this brief history of the prominent nineteenth-century architectural societies at Oxford and Cambridge is important because they provide a context in which to situate Ruskin as an intellectual, as an author, and as an artist, and enables a more complete understanding of the genesis of his ideas about the quality and character of medieval forms in relation to other architectural thinkers and historians. This point is important because some twentieth-century scholars debate Ruskin's involvement, and even interest, in the Gothic Revival movement, which was a key theme of discussion in both of the societies at Cambridge and Oxford.

In his discussion of Ruskin, Kenneth Clark states that "no man was less likely to accept without question the authority of his contemporaries" and that "when Ruskin wrote the *Seven Lamps* he was untouched by the Gothic Revival and had probably read very little of the literature which that movement had produced."[315] In contrast, David Watkin believes that Ruskin "lent immensely powerful support to the Gothic Revival" through his interest in "ornament, surface,

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beginning in 1848. This later version of the Cambridge Society ceased its regular meetings in 1863, but its journal, *The Ecclesiologist* remained in circulation until 1868.

[313] Pantin, "The Oxford Architectural and Historical Society, 1839-1939;" Clark, *The Gothic Revival: An Essay in the History of Taste*; Watkin, *English Architecture: A Concise History*; Eve Blau, *Ruskinian Gothic: The Architecture of Deane and Woodward, 1845-1861* (Princeton, NJ: Princeton University Press, 1982); Brooks, *John Ruskin and Victorian Architecture*; Casteras, *John Ruskin and the Victorian Eye*; Hanson, *Architects and the "Building World" from Chambers to Ruskin: Constructing Authority*; Mark Swenarton, *Artisans and Architects: The Ruskinian Tradition in Architectural Thought* (New York: St. Martin's Press, 1988).

[314] Pantin, "The Oxford Architectural and Historical Society, 1839-1939."

[315] Clark, *The Gothic Revival, an Essay in the History of Taste*, p. 255.

texture, color and light."[316] Ruskin's own thinking about the revival of medieval architecture in Great Britain can be seen in his criticism of new technologies and materials, which resulted from a debate about architectural style expressed through the liturgical reforms within the Anglican Church.[317] Using medieval forms for modern building construction gained increasing attention in the early nineteenth century as church officials required religious spaces to be as intricate and decorated as the celebration of the sacraments themselves. An overall desire for orthodoxy and a return to a Pre-Reformation liturgical practice was encouraged for architectural spaces and religious celebrations, which, in turn, motivated the use of medieval architectural forms and ornaments to exemplify the movement.

As a result of proposed church reforms in the 1830s, new Anglican parish churches sprang up in London and across the countryside.[318] The Whig Party proposed the installation of a number of new churches in order to meet the needs of a growing population in towns and industrial cities throughout Great Britain.[319] The Gothic style was proposed because it offered architects a variety of templates for ornamental decoration that could be applied to a building that was otherwise characterized by a straightforward architectural form – consisting of chancel, nave, and narthex. These new Anglican religious spaces were meant to convey the overall unity of the faith through a shared architectural style. The easily recognizable decoration of Gothic churches, their pointed arches, high steeples, and pitched roofs, allowed for a sense of religious unity to be communicated through architectural forms, while still providing for regional preferences through an array of decorative elements. The role of decorative forms applied to a

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[316] Watkin, *English Architecture: A Concise History*, pp. 166-7.
[317] See chapter "The Church and the Reforms of the 1830s," pp. 106-143 in William Gibson, *Church, State, and Society, 1760-1850*, British History in Perspective (New York: St. Martin's Press, 1994).
[318] Pevsner, *Some Architectural Writers of the Nineteenth Century*, pp. 32-33; Buchanan, *Robert Willis (1800-1875) and the Foundation of Architectural History*, p. 71, and footnote 29.
[319] Ibid.

standardized architectural plan was one of the key dissents put forward by Ruskin in response to the universal application of Gothic forms to Anglican churches.[320]

The role of decoration for buildings constructed in the Gothic style in nineteenth-century Great Britain is a theme that is carried throughout the century.[321] For the early parish churches constructed after the reforms of the 1830s, decoration was achieved in a variety of ways. Some preferred to use new technologies and materials provided by the Industrial Revolution, commissioning machine-cut stones or using cast-iron as the decoration for their buildings, while others applied decorative façades to their otherwise brick constructed building.[322] These measures were seen as economical and allowed for rapid expansion and growth of previously over-crowded parishes. While the primary function of churches was to provide a space for worship, what these new materials and methods of decoration did, however, was raise concerns about the integrity of ecclesiastical architectural spaces and the truthfulness of their forms.[323]

Ruskin contributed to this debate by chastising machine-cut stones and the use of cast-iron as a decorative element, considering their use to be a dishonor to the creativity and intellect of the craftsman. In *The Seven Lamps of Architecture,* Ruskin states that his book was written, "to show that certain right states of temper and moral feeling were the magic powers by which all good architecture has been produced."[324] Plate III is a visualization of this idea as it illustrates

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[320] Ruskin, *The Seven Lamps of Architecture*, p. 37; Jules Lubbock, *The Tyranny of Taste : The Politics of Architecture and Design in Britain 1550-1960* (New Haven, CT: Published for the Paul Mellon Centre for British Art by Yale University Press, 1995), pp. 279, 285; Crook, *The Dilemma of Style: Architectural Ideas from the Picturesque to the Post Modern*, pp. 63, 71; Pugin, *The True Principles of Pointed or Christian Architecture*.

[321] Bergdoll, *European Architecture 1750-1890*; Pevsner, *Some Architectural Writers of the Nineteenth Century*.

[322] Crook, *The Dilemma of Style: Architectural Ideas from the Picturesque to the Post Modern*, pp. 63, 71; Pevsner, *Some Architectural Writers of the Nineteenth Century*, pp. 32-33.

[323] Pugin, *Contrasts: Or, a Parallel between the Noble Edifices of the Middle Ages, and Corresponding Buildings of the Present Day, Shewing the Present Decay of Taste. Accompanied by Appropriate Text*; *The True Principles of Pointed or Christian Architecture.*

[324] Clark, *The Gothic Revival, an Essay in the History of Taste*, p. 253.

through the arrangement of ascending windows Ruskin's idea of "moral feeling" – which is an idea about more than just architectural development and expresses Ruskin's desire for the "moral" condition of the artist/craftsman/architect to strive toward "right," to use Ruskin's word, behavior. One of the primary goals of Ruskin's book, therefore, was to help his audience, who were comprised of gentleman scholars, theorists, and architects, shape the conversation about the revival of Gothic architecture, and to focus on those qualities of moral virtue embodied by cut stones. Ruskin concluded,

> […] every idea respecting size, proportion, decoration, or construction, on which we are at present in the habit of acting or judging, depends on presupposition of such materials: […] it may be perhaps permitted to me to assume that true architecture does not admit iron as a constructive material […] If, however, we would not fall into the old sophistry of the grains of corn and the heap, we must find a rule which may enable us to stop somewhere. This rule is, I think, that metals may be used as a cement but not as a support.[325]

Ruskin's concern here is for the proper judgment of architecture according to its visible materials. As the opening quote to this chapter states, Ruskin's attention to the architect's ability to cut and arrange stones that were once seen as a "rude border of moulding[s]" into "graceful and parallel lines"[326] denotes an interest in the progress of architecture, which can also be observed in Plate III, as it relates to showing the architect's mastery of construction and not to the technology and use of new materials. The advancement of new technologies and materials for the construction of buildings was, for Ruskin, a sign of "the degradation of our national feeling for beauty," specifically through "the constant use of cast-iron ornaments."[327]

Kenneth Clark describes how Ruskin, like A. W. N. Pugin and members of the Oxford and Cambridge Camden Society, discerned the quality of medieval monuments by measuring the

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[325] Ruskin, *The Seven Lamps of Architecture*, p. 37.
[326] Ibid., p. 55.
[327] Ibid., p. 51.

merit, skill, and virtue of its builder – again suggesting the desire for an improved "moral feeling" and behavior in architecture and its architects. Ruskin was deeply affected by the social and moral issues surrounding the construction of architecture in the nineteenth century and voiced his belief that the architectural environment affects society. Ruskin's moral dilemma, therefore, was grounded in the way in which architecture was constructed in the wake of the Industrial Revolution. He saw modern buildings as dishonest, exemplified by their quick construction to meet the rapid expansion of industry and society. For Ruskin, nineteenth-century architecture[328] lacked the fundamental element that made medieval monuments so noteworthy: the use of the builder's creativity and imagination to construct ecclesiastical buildings as both a direct reflection of God's presence in nature and a perpetual gift in thanksgiving for that same creative and imaginative process. The loss of traditional masonry practices in favor of constructing buildings using mechanically cut stones and cast-iron ornaments offended Ruskin's sensibility of what he considered to be true and good architecture. He saw these machine-cut stones as falsely decorative elements devoid of any creativity or originality. In order to combat architectural debasements of this kind, Ruskin looked to the laws of Nature, divinely laid down by God, as the true and moral guides of architectural forms and decoration. The next section focuses on Ruskin's philosophy of nature and how that translated into his discussions of art and architecture in the middle of the nineteenth century.

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[328] Ruskin also saw Gothic as something more than simply a style for Church architecture, and sought to secularize its use by advocating for Gothic architecture in the public sphere. Brooks, *John Ruskin and Victorian Architecture*, pp. 45, and 129, describes how "Ruskin was unwilling to grant heavenward aspiration to the shaping of Gothic cathedral. If they had soaring roofs, it was because their builders […] went on to develop the theme of steepness in a spirit of play: […] get a sublime mass, but one which has no more principle of religious aspiration in it than a child's tower of cards." This statement seems opposed to his other concern that, "All art is employed in decoration and should be informative, conveying truthful statements about natural facts, if it convey any statement at all."

In response to Clark's earlier statement, therefore, it seems evident that even if it were true that Ruskin "read very little" on the movement, he was certainly embedded in the very heart of the conversation through his own writings and interactions with other notable nineteenth-century scholars, historians, and members of the Oxford Society who, as it has already been observed, wrote substantially on the origins of Gothic architecture, the scientification of architectural practice in the medieval and modern period, and the role of contemporary construction in continuing the development of Gothic architecture as a process toward increasingly complex forms into present-day, nineteenth-century Great Britain.

The following sections consider some of the multifaceted ways that the notion of *development* was discussed and theorized as an idea about both continuous and sequential change by mid-nineteenth-century theologians, historians, scholars, and architects as a means to understand the past and to contemplate the future. As it will be shown, Ruskin stands at the intersection of these competing ideas about development. On the one hand, his visualization of architectural succession over time in Plate III communicates a desire to show the continuous nature of architectural change. Yet, Plate III also represents, through its illustration of six distinct window forms a suggestion that architectural construction follows phases as pointed forms are repeated over and over, on the other. As the next two sections demonstrate, these two themes about the continuous and developmental nature of architecture also refer to the two spheres of influence in Ruskin's life – the theological, from John Henry Newman, and the geological, from William Buckland.

## 5.2 "DEVELOPMENT" IN ARCHITECTURAL THOUGHT AND THEORY

One important theme that emerged from the meetings at the Oxford Society in the early 1840s was due, in part, to the writing, thinking, and preaching of one of its members, the Anglican priest and convert to Roman Catholicism, John Henry Newman (1801-1890). In 1843, the same year that Ruskin graduated from Oxford, Newman delivered a sermon on "The Theory and Development in Religious Doctrine," where he described the teachings by early Church fathers as continuous – i.e. not static – referring to the notion that Church teachings may become more precise over time, but once clarified cannot change.[329] Newman considered the writings by the early Church fathers to mark the beginning of doctrine, not the end;[330] noting, for instance, that, "This process, whether it be longer or shorter in point of time, by which the aspects of an idea are brought into consistency and form, I call it development, being the germination and maturation of some truth or apparent truth on a large mental field."[331]

Newman is significant here for several reasons. First, because twentieth-century scholars, such as David B. Brownlee, Michal Hall, and Yanni have all attributed the investigation of architectural history as a theory about development to Newman's sermon, which was later published as a book titled, *Essay on the Development of Christian Doctrine* in 1845.[332] Second, because Newman was an active member of the Oxford Society in the early years of its formation

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[329] John Henry Newman, *An Essay on the Development of Christian Doctrine*, 2nd ed. (London: J. Toovey, 1846); *An Essay on the Development of Christian Doctrine* 4th impression ed. (39 Paternoster Row, London: Longmans, Green, and Co., 1909).

[330] See discussion in Yanni, "Development and Display: Progressive Evolution in British Victorian Architecture and Architectural History," Yanni equates Newman's theory to the idea that "Medieval architecture was not the end of style; it was a starting point," p. 234.

[331] Newman, *An Essay on the Development of Christian Doctrine*, p. 38; for an extended discussion, see pp. 36-40.

[332] Brownlee, "The First High Victorians: British Architectural Theory in the 1840s;" Hall, "What Do Victorian Churches Mean? Symbolism and Sacramentalism in Anglican Church Architecture, 1850-1870;" Yanni, "Development and Display: Progressive Evolution in British Victorian Architecture and Architectural History."

offering him a more direct exchange of these thoughts and theories with his fellow members.[333] It is because of Newman's ideas and his association with the Oxford Society that David B. Brownlee and Michael Hall determined that "Development was a religious idea before it became an architectural one." In their essays, Brownlee and Hall both equate the introduction of the idea of development into architectural thinking through Newman's friendship with fellow Oxford Society member, architect, and historian, Edward Augustus Freeman (1823-1892), and through Freeman's connection to the historian, politician, and son of the author and art collector, Thomas Hope, Alexander Beresford Hope (1820-1887).[334] Hall notes that the writings by Freeman and Beresford Hope emerged not only from Newman's theory, but also from "current ideas that the study of history revealed a progressive sequence of ever-ascending cycles of birth and decay, culminating in the modern age, which, Freeman argues, showed 'a fuller development of the human race, a richer combination of its most remarkable elements'."[335]

Owing to these emerging beliefs about development as a theory applied to the perceived improvement of medieval architectural styles during the High Victorian period of the Gothic Revival Movement (1840s-50s), Yanni has explained that the idea of "Development was a philosophy that authorized innovation, experimentation and changefulness within the bounds of medieval precedents," which, in turn, was also a "philosophy that allowed architects to conceive of Christianity as an historical entity capable of change over time."[336] Architects could therefore

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[333] Brownlee, "The First High Victorians: British Architectural Theory in the 1840s," p. 35.
[334] Ibid.; Hall, "What Do Victorian Churches Mean? Symbolism and Sacramentalism in Anglican Church Architecture, 1850-1870."
[335] "What Do Victorian Churches Mean? Symbolism and Sacramentalism in Anglican Church Architecture, 1850-1870," p. 80. See also, Peter J. Bowler, *The Invention of Progress: The Victorians and the Past* (Oxford, UK: B. Blackwell, 1989), p. 445.
[336] Yanni, "Development and Display: Progressive Evolution in British Victorian Architecture and Architectural History," p. 234.

"employ an historical approach to revive medieval principles without copying forms exactly."[337] As one can see from the series of case studies presented here, there are several ways in which to understand the idea of development in architecture – the most important for the current study emerging from natural history and biological studies. Yanni and Hall examine how the word "development" came to hold "great significance in the intellectual life in the 1840s" as it linked "architectural changes with both religious and scientific thought."[338] Yet, Hall also observes that, "ecclesiastical architecture had, through its new emphasis on development, attempted to embody ideas not just of modernity and progress, but also, to some degree, even of scientific thought through its acceptance of new concepts of time and change."[339] Hall's statement on architectural development is not incorrect, but he severely limits his investigation of this material by only focusing on the architectural debates, publications, and influences circulating between 1850 and 1870 in Great Britain.

Though he refers to the texts by Georges Cuvier, William Paley, William Buckland, Charles Lyell, and Robert Chambers, Hall mentions these works only as a means to justify architectural thought about progress and development, specifically in relation to ideas about geology, in the 1850s. This is problematic because, as this dissertation has shown, the idea of development in architecture was already being carefully considered in France, in the texts and images produced by Leroy and Durand, as well as in Great Britain in the works already examined in earlier chapters. Hall's observations are useful, however, in his description on the intersection between natural history, namely the study of geology, and that of architectural

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[337] Ibid. p. 234.
[338] Ibid., p. 235 and Michael Hall, ""Our Own:" Thomas Hope, A. J. B. Beresford Hope and the Creation of the High Victorian Style," *The Victorian Society: Studies in Victorian Architecture and Design* 1 (2008), p. 63.
[339] Hall, "What Do Victorian Churches Mean? Symbolism and Sacramentalism in Anglican Church Architecture, 1850-1870," p. 81.

materials and practice. In this area, Hall emphasizes William Buckland's influence on Ruskin's thinking about architectural design, decoration, and material-use as noted in Ruskin's text, *The Stones of Venice* (1851).[340] Again, because Hall narrowly confines his investigation to the period between 1850 and 1870, he says nothing about Ruskin's thoughts on development in the 1849 text, *The Seven Lamps of Architecture*, nor does he offer illustrations to *show* development in pictorial arrangements of architectural change over time in architectural publications before Ruskin. As this dissertation has shown through numerous examples, the concept of *development* in architectural thought in Great Britain in the early- to mid-nineteenth-century was already a topic much debated and discussed. Because of this, it is my intention to move beyond the observations made by Brownlee and Hall in order to reclaim the emergence of architectural development as more than just a "religious idea," focusing instead on the idea of architectural development as an empirical investigation emanating from a conscious nineteenth-century desire to understand and *visualize* history as a continuous process of change over time.[341]

## 5.3 RUSKIN AND NATURAL THEOLOGY

Ruskin's interest in natural theology and geology while a student at Oxford propelled his thinking about the relationship between nature and architecture, Christianity and Gothic ornament, and the relationship between God and man.[342] In his book *Artisans and Architects:*

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[340] Ibid., p. 82; John Ruskin, *The Stones of Venice*, 3 vols. (London: Smith, Elder, and Co., 1851).
[341] Bowler, *The Invention of Progress: The Victorians and the Past*.
[342] Thinking here of Swenarton, *Artisans and Architects: The Ruskinian Tradition in Architectural Thought*, where he discusses that "Nature" was for Ruskin a theological as well as physical construct, made by God. Swenarton discusses that Ruskin believed that it was the Christian duty to observe nature, and to portray nature as it really was.

*The Ruskinian Tradition in Architectural Thought*, Mark Swenarton notes that Ruskin believed that it is the Christian duty to observe nature and portray it as it really is.[343] Several naturalists and philosophers helped shape Ruskin's thoughts on the relationship between nature and architecture while he was a student at Oxford (1837-1843), some of these include: William Buckland (1784-1856),[344] Henry Acland (1815-1900), and Thomas Carlyle (1795-1881). Buckland was Ruskin's natural history instructor at Oxford,[345] Acland was Ruskin's close friend from Christ Church who went on to become a doctor and secretary for the committee sponsoring the building of the Oxford Museum of Natural History,[346] and Carlyle wrote about the "Conditions of England" in his 1839 and 1843 text, *Chartism* and *Past and Present*, respectively, two texts that Swenarton believes Ruskin read while at University.[347] Buckland, it would appear, however, provided the most influence on Ruskin's thinking about natural history.

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[343] Swenarton, *Artisans and Architects: The Ruskinian Tradition in Architectural Thought*.

[344] William Buckland, *Geology and Mineralogy Considered with Reference to Natural Theology*, 2 vols., *The Bridgewater Treatises on the Power, Wisdom and Goodness of God, as Manifested in the Creation Treatise* (London: W. Pickering, 1836); Nicolaas A. Rupke, *The Great Chain of History: William Buckland and the English School of Geology (1814-1849)*, (Oxford: Oxford University Press, 1983); Melvin Van Akin Burd, "Ruskin and His "Good Master" William Buckland," *Victorian Literature and Culture* 36 (2008); Bernard V. Lightman, Bennett Zon, and Cannon Schmitt, eds., *Evolution and Victorian Culture*, Cambridge Studies in Nineteenth-Century Literature and Culture (Cambridge: Cambridge University Press, 2014); James A. Secord, *Controversy in Victorian Geology: The Cambrian-Silurian Dispute* (Princeton, NJ: Princeton University Press, 1986) and *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation*; M. J. S. Rudwick, *The Great Devonian Controversy: The Shaping of Scientific Knowledge among Gentlemanly Specialists*, Science and Its Conceptual Foundations Series (Chicago: University of Chicago Press, 1985) and *Bursting the Limits of Time: The Reconstruction of Geohistory in the Age of Revolution* (Chicago: University of Chicago Press, 2005); Richard Drayton, *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World*, with an introduction by Mahesh Rangarajan (New Haven, CT: Yale University Press, 2000).

[345] Van Akin Burd, "Ruskin and His "Good Master" William Buckland."

[346] Henry W. Acland, John Ruskin, and John Phillips, *The Oxford Museum. Remarks Addressed to a Meeting of Architectural Societies*, 2nd ed. (Oxford: J.H. and J. Parker etc., 1860).

[347] Thomas Carlyle wrote about the "Condition of England" in *Chartism* (1839) and *Past & Present* (1843), which Ruskin would have read, saying that Carlyle asked the question about how England could be wealthier than ever before, yet its people suffering in poverty, both material and spiritual. This relates to A. W. N. Pugin's earlier *Contrasts* and to Ruskin's own social criticism toward commercialism and the Lorded system where rich and poor were tied together by obligation – this leads to Ruskin's ideas in the "Nature of Gothic" from *Stones of Venice* where he states that Gothic architecture is directly involved in the liberty of the workman, and to the fact that every soul has value. Ruskin saw the Industrial system as

Only a month into his Classical Studies program at Oxford, Ruskin enrolled in Buckland's lectures devoted to mineralogy and geology given in the Clarendon building next to the Ashmolean Museum. Being outside of his intended line of study, Ruskin's father was required to pay extra for these courses, an expense that he would have to endure for the entirety of Ruskin's time at Oxford. According to Melvin Van Akin Burd's article, "Ruskin and his 'Good Master' William Buckland," Ruskin often visited the Ashmolean Museum after his afternoon lectures to view the display of Buckland's collection of specimens.[348] After only a month of lectures, Ruskin had his own collection of minerals delivered to Oxford from home so that he could share his specimens with his instructor.[349] This exchange between teacher and student highlights a mutual pursuit of knowledge that was rooted in a desire to collect and organize specimens in order to capture examples of the Divine Hand at work. Finding the Divine in nature was a key component of Ruskin's upbringing and Buckland's teaching.

Growing up, Ruskin was influenced by his parents' religious education, which taught him that the account of the Great Flood, or the Deluge, in the Biblical Book of Genesis served as an explanation for certain examples of geological phenomena. Buckland, too, taught that the study of geology confirmed a Divine design in nature that, as Van Atkin Burd notes, appeared "with some latitude in interpreting the chronology of Genesis does not contradict the 'Sacred Volume' as Buckland describes the Bible."[350] Yet, in the nineteenth century several discoveries emerged to contradict Ruskin and Buckland's belief in natural theology. The geologist, Charles Lyell (1797-1875), author of *Principles of Geology* (1830), for instance, was a student of Buckland

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un-Christian because it reduced the labor process to mindless repetition of mechanical tasks; and turned worker from free-creator to slave.

[348] Van Akin Burd, "Ruskin and His "Good Master" William Buckland."

[349] Ibid., p. 301.

[350] Ibid., p. 306.

while at Oxford, but went on to disagree with his mentor suggesting that the age of the earth could be charted by "forces still in action."[351] Debates of this kind persisted at Oxford. Through Buckland's academic affiliation and professional connections, Ruskin was able to be present at many of these discussions. For instance, as early as April 1837, at the end of his first term at Oxford, Ruskin was invited by Buckland to visit with the rising professional geologist just returned from a voyage aboard the *H.M.S. Beagle*, Charles Darwin (1809-1882).[352]

When Buckland began lecturing at Oxford in 1814 he focused his first discussion on "the structure of the earth."[353] Martin Rudwick has carefully pointed out that Buckland was one of the first instructors to break with Oxford's tradition of teaching with words and texts and instead introduced the use of visual aids, including "maps, sections, and drawings of fossils, and solid specimens," into his classroom in the tradition begun by Georges Cuvier, the French schools, such as the Faculté des Sciences, and the London societies, such as the Royal Institution and the Geological Society.[354] The significance of this in relation to Ruskin may be found in Van Atkin Burd's notation that "when Buckland learned of Ruskin's skill in drawing, he asked him to make diagrams for use in his lectures."[355] Van Atkin Burd suggests that Ruskin may have learned "the value of illustrations for his own lectures [on architecture] of later years"[356] by helping Buckland with the diagrams for his lecture.

The significance of Buckland's influence on Ruskin's own thinking, however, may be found in the way in which he discussed and wrote about geology and the earth's history. Buckland is frequently remembered as one of the contributing authors, along with William

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[351] Ibid., p. 300.
[352] Ibid., p. 304.
[353] Rudwick, *Bursting the Limits of Time: The Reconstruction of Geohistory in the Age of Revolution*., p. 358.
[354] Ibid., pp. 358-9.
[355] Van Akin Burd, "Ruskin and His "Good Master" William Buckland.", p. 304.
[356] Ibid., p. 304.

Whewell, among others, to the *Bridgewater Treatises on the Power, Wisdom, and Goodness of God, as manifested in the Creation*, published and widely circulated between 1833-1836.[357] Responsible for "Treatise VI," Buckland wrote on the "Geology and Mineralogy Considered with Reference to Natural Theology," and commented on the idea of origins and development of the earth's history, stating,

> […] in the consideration of other strata, we find abundant evidence in the presence of organic remains, in proof of the exercise of creative power, and wisdom, and goodness, attending the progress of life, through all its stages of advancement upon the surface of the globe; so, from the absence of organic remains in the primary strata, we may derive an important argument, showing that there was a point of time in the history of our planet, […] antecedent to the beginning of either animal or vegetable life.[358]

Van Atkin Burd suggests that Buckland's lectures at Oxford drew from his recent writings for the *Bridgewater Treatises* and that when Ruskin enrolled in Buckland's courses in 1837, he would have learned about Geology as it "extends its researches into regions more vast and remote, than come within the scope of any other physical science except Astronomy." Geology, Buckland continues in his text,

> […] not only comprehends the entire range of the mineral kingdom, but includes also the history of innumerable extinct races of animals and vegetables; in each of which it exhibits evidences of design and contrivance, and of adaptations to the varying condition of the lands and waters on which they were placed; […] Evidences like these make up a history of a high and ancient order, unfolding records of the operations of the Almighty Author of the Universe, written by the finger of God himself, upon the foundations of the everlasting hills.[359]

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[357] Jonathan Topham, "Science and Popular Education in the 1830s: The Role of the 'Bridgewater Treatises'," *The British Society for the History of Science* 25, no. 4 (1992), pp. 397, 403; and Richard J. Helmstadter and Bernard V. Lightman, eds., *Victorian Faith in Crisis: Essays on Continuity and Change in Nineteenth-Century Religious Belief* (Stanford, CA: Stanford University Press, 1990).
[358] Buckland, *Geology and Mineralogy Considered with Reference to Natural Theology*, p. 53.
[359] Quoted in part in Van Akin Burd, "Ruskin and His "Good Master" William Buckland," p. 304; see also, Buckland, *Geology and Mineralogy Considered with Reference to Natural Theology*, pp. 7-8.

In the following pages Buckland deliberately opposes "some speculative philosophers," citing "Mr. Lyell" and his "shifting hypothesis,"[360] for their reference to "the origin of existing organizations, either to an eternal succession of the same species, or to the formation of more recent from more ancient species, by successive developments, without the interposition of direct and repeated acts of creation"[361] – where the use of the word "creation" here seems to stand for the "Almighty Author." It was from this, what we might call "Creationist" ideology put forward by Buckland, that Ruskin learned his "natural theology"[362] and perhaps decided to consider medieval architecture as the visible sign of the Almighty Author conjuring up cathedral foundations across Great Britain and Continental Europe.

Buckland concludes his *Bridgewater Treatise* on "Geology and Mineralogy" stating that,

> We conceive it undeniable, that we see, in the transition from an Earth peopled by one set of animals to the same Earth swarming with entirely new forms of organic life, a distinct manifestation of creative power transcending the operation of known laws of nature: and, it appears to us, that Geology has thus lighted a new lamp along the path of Natural Theology.[363]

As the next section shows, Buckland's "lamp" of Natural Theology does not seem all that different from Ruskin's "lamps" of architecture – each sought to communicate a way of seeing the Almighty Author manifesting His creative hand through the shaping, or cutting, of earth and rock. From his encounters at Oxford – both with Newman and Buckland – it would seem that Ruskin began to see the intersection of Gothic architecture and the natural world in a different light. As discussed earlier in this chapter, Ruskin viewed Gothic forms as tools to communicate Christian principles and he found those principles to have close ties between man and nature. In

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[360] Quoted in Van Akin Burd, "Ruskin and His "Good Master" William Buckland," p. 309.
[361] Buckland, *Geology and Mineralogy Considered with Reference to Natural Theology*, p. 54.
[362] Van Akin Burd, "Ruskin and His "Good Master" William Buckland," p. 312.
[363] Buckland, *Geology and Mineralogy Considered with Reference to Natural Theology*, p. 586; also quoted in part in Van Akin Burd, "Ruskin and His "Good Master" William Buckland," p. 312.

his attempt to capture the overall spirit of a divinely-inspired, organized architecture, Ruskin looked to decorative Gothic elements that mirrored natural forms (i.e. foliation resembling the twists and turns found in geological and botanical specimens and pointed arches like tree branches bending in the wind) as indicators of the connection between man and nature; God and man; and man and architecture.

Turning now to Ruskin's 1849 publication, *The Seven Lamps of Architecture*, the following section will situate Plate III in the context of the nineteenth-century architectural histories already examined and in relation to Ruskin's own thinking about visualizing history as a continuous process of change over time.

## 5.4 THE SEVEN LAMPS OF ARCHITECTURE

Introducing the use of images, the preface to the first edition of *The Seven Lamps of Architecture* from 1849, states that the following illustrations are based on "personal observation." John Ruskin's comment here is significant because of the attention that this dissertation has given to the importance of scientific visual practice and the use of images to create taxonomies of architecture. Ruskin's use of images is no less significant than the authors previously examined. Yet, it is the way that Ruskin organized his images and the emphasis that he placed on the consequence of their visual impact that makes Ruskin's images relevant for this study. Ruskin's preface reads more like an apology for his illustrations than a declarative statement on the principles of architecture. He notes that the pictorial renderings are "hasty" and "imperfect," but "valuable." They are valuable for Ruskin because they were "made on the spot" from, as just stated, personal observation, as well as from memoranda and the assistance of the

Daguerreotype.[364] Ruskin affirms that *he* executed the creation of the plates by overseeing the making of the Daguerreotype, and that *he* made the copies illustrated from memoranda on location. Thus, Ruskin indicates that while he utilized the assistance of the Daguerreotype and memoranda, they were just visual aids to the production of his own images.

For the purposes of his argument regarding the character and nature of architecture, which will be discussed in greater detail below, it was necessary for Ruskin to authenticate the images as his own, saying,

> Every apology is, however, due to the reader for the hasty and imperfect execution of the plates. Having much more serious work in hand, and desiring merely to render them illustrative of my meaning, I have sometimes very completely failed even of that humble aim; and the text, being generally written before the illustration was completed, sometimes naïvely described as sublime or beautiful, features which the plate represents by a blot. I shall be grateful if the reader will in such cases refer the expressions of praise to the Architecture, and not to the illustration.[365]

Ruskin then discusses the purpose of his book and notes that the reader may be surprised to find that he only references a small number of buildings to represent his system for outlining the principles of architecture. Unlike the authors examined earlier, Ruskin is not interested in providing an array of structures and elements to the curious, untrained observer. Rather, he focuses the reader's attention on a few elements that he considers to be highly important and necessary for the study of the character of Architecture.[366]

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[364] Ruskin, *The Seven Lamps of Architecture*, p. x.
[365] Ibid., p. x.
[366] Ibid.; Newall et al., *John Ruskin: Artist and Observer*, p.18 – "From the mid-1840s Ruskin's understanding of the possibilities of pictorial realism was led by his new appreciation of daguerreotypes. This technology of image-making, first introduced by French photographers in 1839, allowed unique records of places and things to be seen on the highly polished surface of silver plate sensitized by iodine fumes and shown with a microscopic detail previously unimaginable. […] Ruskin looked at the daguerreotype plates that he acquired – the first to enter his possession were a group of Venetian architectural subjects bought in 1845. […] To him, their example was – at least in the first instance – a spur to achieve ever-greater degrees of minutely observed factual information in his drawings. It is clear that certain traits in his draftsmanship in the periods were deliberate or unconscious adoptions of the way things

Ruskin never intended to write, as he says, an "Essay on European Architecture." Instead, he arranges his text according to those buildings that he believes have gone unnoticed, or "from schools of architecture which […] have been less carefully described than they deserved."[367] Here again, Ruskin moves away from the works of earlier authors. The groundwork provided by architectural historians such as Rickman, Britton, Willis, and Sharpe offered a platform for Ruskin to concentrate on the broad-sweeping gestures, the overall character, and the points of maturation along the continuous path of development of Gothic architecture. It is, perhaps, surprising, then, that Ruskin should select for his study of the underlying principles of all medieval architecture a series of medieval buildings less documented. Defending his choices, Ruskin states, "my affections, as well as my experience, led me to that line of richly varied and magnificently intellectual schools, which reaches, like a high watershed of Christian Architecture, from the Adriatic to the Northumbrian Seas, bordered by the impure schools of Spain on the one hand, and of Germany on the other."[368]

Another difference found between Ruskin and the authors examined earlier, is that Ruskin does not limit his selection of buildings to those created in Great Britain. In fact, of the fourteen plates included with his text, only Plate X (**figure 28**) showing the "traceries and Mouldings from Rouen and Salisbury" includes a British work. Ruskin comments on the lack of visual representation of British ecclesiastical structures, saying, "I could have wished to have given more examples from our Early English Gothic; but I have always found it impossible to

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look in daguerreotypes – in for example the tendency that early lenses had to flatten perspective and in the way the heightened effect of contrast in photographs made shadows appear especially dark and the forms of building to be seen as relief patterns of light and shadow."

[367] Ruskin, *The Seven Lamps of Architecture*, p. xi.

[368] Ibid., pp. xi-xii.

work in the cold interiors of our churches."[369] Because of his aversion to frigid British interiors, Ruskin selects instead from a range of buildings found in France and Italy that he believes to be situated along a "chain" of "culminating points" that define that slow, yet continuous process of change over time among Gothic structures as a whole.[370] Ruskin highlights three points along this chain in the following ways. First, he selected Val d'Arno represent "pure" Italian Gothic specimen. Second, he chose Venice and Verona as two cities representative of the Italian Gothic style, "colored by Byzantine elements." And finally, the French cathedral at Rouen is included, along with other cathedrals found in the Norman cities such as Caen, Bayeux, and Coutances, as emblematic of the "entire range of Northern architecture from the Romanesque to Flamboyant."[371] Similar to the work of Willis and Whewell, Ruskin examines medieval Gothic forms outside of the British Isles as a means to consider their similarities and differences in different climates.

[369] Ibid., p. xii.
[370] Ibid.
[371] Ibid., p. xii.

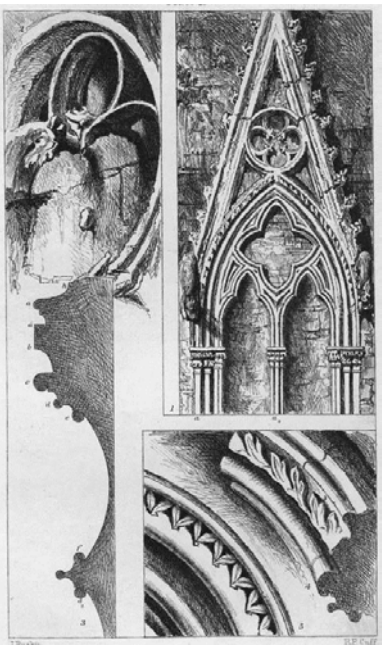

**Figure 28: Ruskin, "Plate X." London: 1849.**

The matrix that Ruskin creates here to study the principles of architecture seems at first glance unpredictable. Yet, at the core of his work, Ruskin aims to provide a system for architectural study that can be utilized in order to both understand the past and effect change for the future. Discussing the development of architecture into the modern age, Ruskin states,

> I have long felt convinced of the necessity, in order to [Architecture's] progress, of some determined effort to extricate from the confused mass of partial traditions and dogmata with which it has become encumbered during imperfect or restricted practice, those large principles of right which are applicable to every stage and style of it. Uniting the technical and imaginative elements as essentially as humanity does soul and body, it shows the same infirmly balanced liability to the prevalence of the lower part over the higher, to the interference of the constructive, with the purity and simplicity of the reflective, element.[372]

The "uniting of technical and imaginative elements,"[373] Ruskin notes, "like every other form of materialism, is increasing with the advance of the age"[374] and suggests that no direct laws of principle or practice are in place to combat the direct dissolution of all that humanity has built.

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[372] Ibid., pp. 2-3.
[373] Ibid., p. 3.
[374] Ibid.

The concern here, for Ruskin, is that "there is no law, no principle, based on past practice, which may not be overthrown in a moment, by the arising of a new condition, or the invention of a new material."[375] He believes that the only way of adverting such a danger to all that is "systematic and consistent in our practice" is to pause awhile and develop guidelines that will enable "every effort" by means of "laws" – laws, which are "based upon man's nature, not upon his knowledge"[376] – to create new and good architecture. Examining the "entire horizon of man's actions," Ruskin aims to situate the continuous and sequential modification of architectural forms over time according to specific human pursuits – sacrifice, truth, power, beauty, life, memory, and obedience.[377] Ruskin deems to call these pursuits "Lamps" of architecture because from light comes truth, and he fears that the truth of Architecture's "light has been too often distorted or overpowered"[378] by the forces of uneducated architects and unfeeling machines.

In endeavoring to formulate essays centered on the characteristics of architecture, Ruskin notes that he is indebted to the already defined "branches of inquiry" that have shaped the field and that because of those prior works Ruskin now finds himself engaged in the present project.[379] While acknowledging his predecessors, however, Ruskin also describes his frustration at the methods of investigation presently in use by contemporary, nineteenth-century scholars,

> Both arrangement and nomenclature are those of convenience rather than of system; the one is arbitrary and the other illogical: nor is it pretended that all, or even the greater number of, the principles necessary to the well being of the art, are included in the inquiry. Many, however, of considerable importance will be found to develop themselves incidentally from those more especially brought forward.[380]

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[375] Ibid., p. 3.
[376] Ibid.
[377] Ibid., pp. 3-4.
[378] Ibid., p. 4.
[379] Ibid.
[380] Ibid.

Ruskin focuses on the moral implications of architecture. While he demands a "system" Ruskin is also critical of the scientific study methods currently in use, finding them both arbitrary and illogical in defining the core, moral truths associated with the development of architecture. Thus, Ruskin concludes his introduction stating that one has a "choice of two separate lines of argument" for the study of architectural development – "one based on representation of the expediency or inherent value of the work, which is often small, and always disputable" or "on the proofs of its relations to the higher orders of human virtue, and of its acceptableness, so far as it goes to Him who is the origin of virtue."[381] Yet, in endeavoring to determine the character and nature of Architecture as it develops over time, Ruskin proclaims that it is to God, and God alone as the "finite authority," that he wishes to honor with his study as he sets out to underscore those "sacred principles of faith, truth, and obedience, for which it has become the occupation of his [the author's] life to contend."[382]

## 5.5 DEVELOPMENT AND THE LAMP OF TRUTH

Ruskin illustrates *The Seven Lamps of Architecture* with fourteen steel-plate etchings made from his original drawings. As previously stated, these illustrations are meant to provide an understanding of the principles of architecture through examples of Gothic ornament in Italy, France, and England. Three of the fourteen plates are dedicated to window traceries, while the other illustrations highlight ornaments, mouldings, capitals, arches, sections of buildings, and

[381] Ibid., pp. 5-6.
[382] Ibid., p. 7.

pieces of sculpture. For the purposes of this dissertation, the following pages will focus on the single plate of window traceries situated within the "Lamp of Truth."

In Plate III Ruskin shows six different window openings from an interior viewpoint on the same page. Immediately, one notices the dramatic difference in the presentation of objects compared to those pictorial representations of windows associated with the texts of Britton, Rickman, Willis, and Sharpe. The arrangement of Ruskin's windows demonstrates that he is thinking differently about the organization and development of medieval monuments from his predecessors. Beginning in the lower right-hand corner of the page, Ruskin numbers his windows in ascending order: three across the bottom, two filling the mid-third of the page, and the final window, or hemicycle of windows, covers the entire upper right-hand corner of the page. Compared to the earlier discussion about how authors visualized progress in architecture through grid-like arrangements of Gothic windows showing their similarity in shape, form, and decoration, Ruskin does not illustrate any of these features. His image is not focused on the kind of stone used to outline the window cavity. It is not focused on the comparison of oculi or mouldings. It is not focused on the comparison of types. Rather, Ruskin portrays a series of windows that express an idea about continuous development as *upwards* change over time – an idea expressed *visually* and not seen before in the architectural diagrams previously discussed.

Instead of classifying windows according to their taxonomic groups or showing the variety within a single type, Ruskin conveys how six different, individual windows represent specific periods of construction by suggesting that each window captures the defining moment(s) of (continuous) change along an historical chain that grows upward toward increasingly complex forms. Ruskin's windows, arranged from bottom to top, convey the development of lancets as an architectural phenomena that transitions upward and, as it grows, changes the development of the

entire structure. These successive changes are realized in Ruskin's image as he visualizes the fact that with each transition in form there is a physical change to the interior architectural environment – as the lancets become taller and the space between them becomes narrower, the masonry walls slowly disappear, almost completely, allowing for more light to filter into darkened interior spaces.

The window and its tracery, for Ruskin, present the greatest means through which to mark the gradual and continuous development of architectural elements over time. Chronologically arranged, Ruskin's six windows not only illuminate the stages of different forms of traceries, but also expose the apparent ability of architects to generate new species of windows while still categorizing them under the same taxonomic group: *Gothic*. Each of these lancet windows seems to represent, what Ruskin calls, a "great pause."[383] They denote a moment of recognizable architectural change, a shift in thought and understanding on the part of the builder. What becomes apparent from the discussion of the texts and images examined thus far in this dissertation is that Ruskin's Plate III stands apart as it conveys the slow process of sequential change over time, moving upward, by highlighting select moments along a continuous historical chain.

Ruskin is effective at showing this change through his sequential arrangement of the windows themselves, but also through his inventive presentation of lancets and traceries surrounded, not by large sections of white page, but by deep shadows detailed by heavy layers of vigorous crosshatching. Ruskin conveys the sense of luminosity by contrasting the dark, cross-hatched pencil lines with the white of the paper, depicting the literal play of light and shadow inherent to windowed, interior spaces. Ruskin describes his drawing, "All the grace of the

[383] Ibid., p. 61.

window is in the outline of its light; and I have drawn all these traceries as seen from within, in order to show the effect of the light thus treated."[384] Completely aware of the previously discussed texts, Ruskin speaks of the "gradual enlarging" of the illustrated windows, their "great, pure, and perfect form" showing how "light had expanded to its fullest."[385] Interestingly, Ruskin's use of terminology is reflective of his knowledge of contemporary British ideas about architectural progress,[386] but instead of representing British windows for his discussion, Ruskin turns to the French monuments at 1) Abbaye aux Hommes, in Caen; 2) elements found at Eu, Lisieux, and Rouen; 3) a quatrefoil at Countances; 4) a nave chapel from Rouen and 5) Bayeux; and 6) the clerestory at Beauvais as the representative elements of change over time. Regardless of this fact, however, it is apparent that it is not the nationality of the building that matters to Ruskin. Rather, it is how the window, and all of its ornaments, develops from a state of infancy and grows to one of maturity.

Prior to Ruskin's Plate III, illustrations in architectural history books were displayed as distinct 'marks' alluding to the idea of simultaneous change. Sharpe, for instance, while he admonished earlier architectural treatises and their illustrations, also inadequately represented an idea of architectural morphology. It was Ruskin, who, through his decision to look at light and window tracery from an interior vantage, was able to show the sequential and continuous process of time through the blackening of mass around clear, unimpeded portions of clean page. These sections of light literally and figuratively allowed the process of continuous and repetitive change to be made visible. As a theoretical culmination of the systematic, empirical investigations published by Britton, Rickman, Willis, and Sharpe, Ruskin's idea about the

[384] Ibid., p. 59.
[385] Ibid.,
[386] Ibid.

development of architecture is exemplified by his illustration of French Gothic tracery. The shaded page itself conveys a sense that each window or negative space is unified by the darkness and that each window is part of one, continual, and complete form – one category, one species of being. Thus, Ruskin's drawing can be viewed as illustrating an architectural lineage, a family tree, showing the genealogy of a particular architectural type over time.

It would seem that only someone like Ruskin, who found himself at the heart of pivotal discussions about architecture and geology in the middle of the nineteenth century, could think about changes in architecture as a sensorial experience. Focusing on the idea of change over time, Ruskin speaks of how "light expanded to its fullest" through the "gradual enlarging" of lancets. On one page alone, Ruskin visualizes how each window signifies a "great pause" found within the transition of window traceries from the eleventh to fifteenth century. Ruskin describes these pauses of decided and deliberate change as "The change of which I speak, is expressible in few words; but one more important, more radically influential, could not be. It was the substitution of the *line* for the *mass*, as the element of decoration."[387] Ruskin, like Willis, like Sharpe, articulates in poetic fashion the loss of heavy stone mullions in favor of a delicate intertwining of stone tracery that belied the material's strong character.

Attributing the refinement of this practice to the architects' creativity, Ruskin tells of the birth of tracery by narrating the invention of a "novel source of beauty"[388] that became a universal feature of medieval architecture after its creation. Yet, while Ruskin praised the architect's creativity in crafting beautiful tracery that masterfully illumined Gothic interiors, he also showed how Truth was ruptured by the loss of honest material forms, stating that,

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[387] Ibid., p. 60.
[388] Ibid., p. 61.

> The architect was pleased with this his new fancy, and set himself to carry it out; and in a little time, the bars of tracery were caused to appear to the eye as if they had been woven together like a net. This was a change which sacrificed great truth; it sacrificed the expression of the qualities of the material; and, however delightful its results in their first development, it was ultimately ruinous.[389]

Ruskin's concern for the truthfulness of architecture through the appropriate use of materials and honest communication of construction practices was all laid at the feet of the architect as the person responsible for preserving the moral status of good architecture. Freedom of creativity should never take precedence over truthfulness of form, Ruskin suggests; and deception of the eye is never permissible. Speaking about the apparent elasticity of tracery, Ruskin asserts that,

> […] when the tracery is assumed to be a yielding as a silken cord; when the whole fragility, elasticity, and weight of the material are to the eye, if not in terms, denied; when all the art of the architect is applied to disprove the first conditions of his working, and the first attributes of his materials; *this* is a deliberate treachery, only redeemed from the charge of direct falsehood by the visibility of the stone surface, and degrading all the traceries it affects exactly in the degree of its presence.[390]

In suggesting that the integrity of the window is lost when the materials used for its creation cease to be communicated, Ruskin forces his readers to acknowledge that there are downfalls to progress. The architectural chain of being that Ruskin presents in Plate III, therefore, communicates his own sampling of the continuous and developmental shifts that he envisioned to be taking place in the medieval period. Highlighting that these perceivable, successive shifts suggest a perfected use of materials and ornament, Ruskin concludes that this perfection in building construction should motivate the intellect and creativity of the modern-day architect to form new architectural ideas and creative improvements.

Through the inclusion of Plate III in his *The Seven Lamps of Architecture*, Ruskin acknowledges that these developments did not take place at once, but were rather parts, or

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[389] Ibid., p. 62.
[390] Ibid., p. 63.

moments, within a broader range of continuous improvement. Indebted to the published discourse between Britton, Rickman, Willis and Sharpe, Ruskin rejects their system and radically alters the mode of visual presentation of windows through the invention of a compelling means to represent a *visual history* as an upward-leading, continuous progression of sequential changes. Looking back, the nineteenth-century architectural treatises examined here not only demonstrate the process of classifying medieval ecclesiastical architecture, but also provide the contemporary scholar with a means to reconstruct the thinking by these intellectuals in their search to understand architectural development over time.

## 5.6 CONCLUSION

Ruskin's Oxford education exposed him to ideas about successive change found in nature. Though not a supporter of evolution, as suggested by his Biblical upbringing and close relationship with William Buckland, it is evident that Ruskin was in dialog with those influential and controversial figures shaping the conversation about organic development in the mid-nineteenth century. It is even more evident from the arrangement of windows in Plate III that Ruskin's own thinking about continuous change over time was rooted in an understanding of development according to a belief that species climbed upward in a successive path toward increasing states of perfection.

Through his new approach to the empiricist view of architecture,[391] Ruskin's Plate III redefines how the reader/viewer should examine windows and study architectural change over

[391] Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*, p. 9; Crary argues "that some of the most pervasive means of producing "realistic" effects in mass visual culture, such

time.[392] In this way, Ruskin deviates from the standardized method of visualizing the progress of medieval monuments that his predecessors had so carefully sought to capture in their own *visual taxonomies* of ecclesiastical architecture. By not following the newly standardized method of examining medieval buildings through representations of window elements from the exterior of the building, Plate III heightens the fact that Ruskin expresses a different view of architectural history through a more expressive presentation of the character, nature, and function of medieval windows – to allow light to cut through the darkness of an interior space. Thus, Ruskin captures change over time as an idea of organic growth in medieval ecclesiastical environments through the ordering of windows from bottom to top showing the gradual enlarging of lancets and the continuous reduction of wall and mass to allow for more light to enter into the interiors of ecclesiastical structures.

The fact that Ruskin's window types are arranged in a linear and sequential order from bottom to top, instead of top to bottom following the tradition established by Rickman, Willis, and Sharpe, suggests that Ruskin's thinking about change over time in architecture is rooted in an organic understanding of species growth. This is an idea that goes beyond empirical classifications of forms, however, and into the realm of scientific theory about the continuous or sequential development of organisms or phenomena in Nature. The focus of the nineteenth-century British authors examined in this dissertation highlight some of the successive shifts in

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as the stereoscope, were in fact based on a radical abstraction and reconstruction of optical experiences, thus demanding a reconsideration of what "realism" means in the nineteenth century. […] A certain notion of "subjective vision" has long been a part of discussions of nineteenth-century culture, most often in the context of Romanticism, for example in mapping out a shift in "the role played by the mind in perception," from conceptions of imitation to ones of expression, from metaphor of the mirror to that of the lamp. But central to such explanations is again the idea of vision or perception that was somehow unique to artists and poets, that was distinct from a vision shaped by empiricist or positivist ideas and practices."

[392] It seems that Ruskin's image is at once a seeming grand statement on the role of optics for creating visual representations of architecture, as well as a profound assertion on the appropriate way to view architecture.

thinking and illustrating the history of medieval British, or Continental European, ecclesiastical architecture from first, an attention to the naming and dating of Gothic forms, to second, organizations of specimens according to their similarity, or variety, of forms, and, finally, to a presentation of forms according to their stages of increasing perfection. With each new written presentation offering to document the history of medieval ecclesiastical architecture in the nineteenth century, one can also find a shift in the system of pictorial representation to illustrate history and visualize change over time.

From the first *circular* vs. *pointed* comparisons examined by Taylor and Warton et al., to the chronological arrangement of doors in Storer's *Description of the Cathedrals,* to the comparative groupings of "Specimens of Circular Windows" by Britton, to Rickman's categorization of *Norman, Early English, Decorated, and Perpendicular* window types, to Willis's and Sharpe's variety of tracery divisions, and finally to Ruskin's upward-leading growth of medieval windows in Plate III, one can see that each historian of architecture offered a unique visual system to pictorially arrange architectural elements according to those similarities in family or type or character and sought to convey, as Naturalists did, similarities and differences within the medieval architectural world.

Yet, as the history of architecture, and the history of the history of architecture in Great Britain continues to unfold, one can see that those scientific methods fashioned by Linnaeus, problematized by Lamarck, challenged by Cuvier, Buckland, Chambers and Lyell, and rewritten by Darwin, continue to have lasting effects on our contemporary understanding of ordering systems, progressive development, and visual knowledge-making.[393] Their works, whether

[393] See discussion in Linda Nochlin and Martha Lucy, "The Darwin Effect: Evolution and Nineteenth-Century Visual Culture," *Nineteenth-Century Art Worldwide* no. 2.2 (2003); Lauren Golden, "Science,

directly or indirectly, informed the writing and visualizations created by the seven authors examined in this dissertation. As Chapter 3 conveyed, those first classification systems produced by Taylor and Warton et al. provided the initial framework for Rickman and Sharpe to order and discuss the continuous history of medieval British ecclesiastical architecture from the Anglo-Saxons to the Tudors.

With the incremental shifts in thinking about progress and change over time in architectural history, one can also see that the methods of visualization adapted in order to show the successive and continuous ordering of medieval ecclesiastical monuments. The upward-leading stages of development implied by natural historians was adopted, as seen in Plate III, by Ruskin as a means to define the contours of continuous change in medieval ecclesiastical architecture. Nineteenth-century historians of architecture confronted the necessity to develop a visual method to systematically represent change over time and, as we have seen in this study, their own ideas went through a series of transformations and re-visualizations. Using natural history as a kind of metronome to mark time for the changing visualizations of architectural historical thought, we can see how the exchange between architectural history and natural science performed a syncopated dance in the production of visual representations. I do not see these science-architecture influences as a one-to-one correlation – where for every new theory there is a new mode of illustration. Rather, what I would like to suggest is that the relationships between natural history and architectural history as they were written and published in the nineteenth century had a far greater connectivity than has been shown before.

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