

Introduction

The architectural writings of Sir Christopher Wren, although limited in number and extent, have always been of interest to his biographers, beginning with his own son Christopher Jr. He preserved almost all of them in *Parentalia*, a history of the Wren family published in 1750. Since that time, historians have been aware that these writings can provide a glimpse into the mind of Wren – his particular intellectual orientation in relationship to architecture – and hence give greater insight into the nature of his building designs. By revealing his intellectual basis, Wren's writings can be used to gain an understanding of the unique relationship between his training as a scientist and his work as an architect. Furthermore, these writings can provide evidence of an important, but generally unexplored, period in the history of architectural theory, when principles established since the Renaissance were seriously challenged on the basis of seventeenth-century science. For these reasons, and because earlier publications are flawed or not easily accessible, Wren's architectural writings are now presented in a single volume. In addition, they are accompanied by a series of essays that explore their relationship to Renaissance architectural theory, seventeenth-century scientific thought, and Wren's production of architecture.

By writing on architecture, Wren was continuing a long tradition, followed by many architects since the mid-fifteenth century in Italy, of consciously attempting to articulate a theory of architecture. By presenting in written form definitions of architecture and methods of design, supported by philosophical arguments, architects were able not only to explain and justify their own designs but also to disseminate their theories. The enormous impact of these published treatises, as well as some that remained in manuscript, indicates that in architecture the writing of theory could have a significance equal to the making of buildings.

In contrast to the majority of these earlier works, Wren's literary production in architecture does not take the form of a finished treatise. Instead of the precepts of a successful practitioner looking back on a long career, most of his writings suggest the hastily noted cogitations of a recent, but enthusiastic, initiate into architecture. They suggest the ongoing struggle of someone trained in another discipline who is trying to record newly acquired information, to make sense out of the established rules and traditions, and to work out specific problems. Even though Wren

Cambridge University Press

978-0-521-04424-0 - Wren's "Tracts" on Architecture and Other Writings

Lydia M. Soo

Copyright Information

[More information](#)*Wren's "Tracts" on Architecture and Other Writings*

had the opportunity to revise many of the texts up to his death, most remain in the form of fragmentary personal notes and raw reports on work-in-progress, retaining an immediacy that suggests either that he never intended them for publication or, if that had been his goal, never had the time and opportunity to rework them. Only the two latest texts of known date, the "Letter to a Friend on the Commission for Building Fifty New City Churches" of 1711 and the "Report on Westminster Abbey" of 1713, read as if they were composed in the leisure of retirement, as the summations of many years of observation and experience.

The texts found in this volume are presented in several groups in order to lend some coherence to their diverse subject matter. They begin with his notes on the antiquities of London, two excerpts from *Parentalia* on archaeological finds in London, written by Christopher Jr. using information from his father. Wren's notes and reports on Gothic churches include another *Parentalia* text by Christopher Jr. on the antiquities his father discovered at St. Paul's, followed by Wren's four reports on Gothic churches – Old St. Paul's before and after the Great Fire, Salisbury Cathedral, and Westminster Abbey. Next there are two letters written by Wren: his "Letter to a Friend from Paris," containing his observations on French architecture and other matters, and his letter on building churches, containing his precepts for church design. The final group contains the five "Tracts" on architecture, Tracts I through IV, printed in *Parentalia*, and Tract V, surviving in manuscript. The first presents a definition of beauty in architecture, followed by a discussion of the origin of the classical orders. This subject is continued in the second tract, which also treats the origin of temples and fora, as well as the structure of arches and vaults. Tract III returns to the subject of the orders. Tract IV presents a history of architecture, beginning with biblical buildings followed by separate sections on four classical monuments. Some of the same material is repeated in the fifth tract, with the addition of a few other biblical and classical examples.

The provenance of Wren's texts and the associated illustrations will be examined at the end of this introduction. The texts themselves will be treated in thematic groups in the ensuing chapters. At present they need to be considered as a totality, embodying a common set of ideas that reflects Wren's intellectual foundation in two traditionally separate, but for him interrelated, spheres: science and architecture. Wren adopted an established body of architectural knowledge, represented by past buildings and accepted theories, which he went on to test and reformulate based on the values and methods of seventeenth-century science, as well as on the new architectural data they generated.

Wren's writings are composed of two interrelated subjects. There are the investigations into past and present architecture – ancient, Gothic, and contemporary; and there are the general theoretical statements, on beauty, the origin of classical architecture, and structure. The first provides, in essence, the architectural data upon which Wren formed the second: his particular theory and method of architecture.

Given the topics that are treated, it is evident that Wren was responding to a two-hundred-year-old system of architectural beliefs that was first established by Leon Battista Alberti in his *De re aedificatoria*, written around 1450 and published in 1485. Using the treatise of the ancient Roman Vitruvius, dating from the first century B.C. and “rediscovered” in 1414, as well as the evidence of the antiquities of Rome, Alberti established the theoretical basis for Renaissance architecture, which continued through the seventeenth century: the universal laws of architecture – beauty, utility, and strength – found in nature and providing the rationale for the forms and rules of the Classical style. Furthermore, he described how these principles had been applied in the architecture of antiquity and how they could be applied once more in the building types of his own time.

Subsequent writers, fully embracing Alberti's theoretical principles, went on to demonstrate his theory in use by means of illustrated treatises, with drawings of geometrical methods, ancient buildings of all periods and places, and contemporary designs, often by the author himself. Most prominent of this genre were the publications of Sebastiano Serlio (from 1537) and Andrea Palladio (1570), which were extremely popular outside of Italy where they were used as handbooks of design by the ordinary practitioner. In England up to Wren's time, the architect depended upon these and other foreign publications for his knowledge of the Classical style and its theoretical basis. Apart from Henry Wotton's *Elements of Architecture* of 1624, a summary of Italian theory, the few architectural books that were published in England focused only on the five orders. The most popular were John Shute's *First and Chiefe Groundes of Architecture* (1563), the first English architectural publication, and the English editions of works by the German Hans Blum (1601), and by the Italians Giovanni Paolo Lomazzo (1598) and Giacomo Barozzi da Vignola (1655).¹

Wren's writings indicate that he had made a close study of the treatises of Vitruvius, Alberti, Serlio, and Palladio, all of which can be found in the inventory of his library.² Although he treats many of the same subjects addressed by these and other Renaissance authors, Wren also challenges traditional notions by using new sources and interpreta-

Wren's "Tracts" on Architecture and Other Writings

tions. His studies of past and present architecture are of a kind unprecedented in the history of theory. In the notes on London antiquities, he was responsible for creating one of the earliest archaeological records of material remains in the area, which he used to speculate on the layout of Roman London, the history of building on the site of St. Paul's, as well as the geographic prehistory of this site and nearby areas. In his reports on Gothic churches, based on accurate surveys of the existing structures and used as preliminaries to repairs, Wren began to characterize the different forms of English medieval architecture, presented a new explanation for the origin of the Gothic, and attempted to analyze its structure. In his observations on contemporary French architecture, written in a letter from Paris, Wren recorded the sixteenth- and seventeenth-century French buildings that influenced his subsequent development, and went further to postulate the existence of a French national style, based on custom and fashion. Wren formulated for the first time, in a letter to a church commissioner, general principles for the siting, planning, and construction of Protestant churches that were derived from his over forty years of experience in the design and construction of the City churches.

Wren's original contribution consists, furthermore, of his radically different viewpoint in addressing the theoretical themes discussed by Vitruvius and Alberti, and accepted by all theorists from the late fifteenth to the mid-seventeenth centuries. Wren postulated a relativistic definition of beauty based on perception and custom that challenged the Renaissance conception of absolute beauty. He established a new hypothesis of the origin of architecture and the Classical orders that broke with the traditional Vitruvian myth. In Tracts IV and V he used reliable literary and material evidence to write the first history of architecture, creating a single chronology of biblical and classical buildings that went far beyond the undifferentiated catalog of classical antiquities found in the treatises of Serlio, Palladio, and others. Finally, taking his cue from mathematical treatises, he introduced new methods based on statics for designing the form and abutment of the arch and various types of vaults, superseding the geometrical constructions employed to determine the size of structural elements and their relative placement during the Renaissance.

The particular nature and content of Wren's architectural writings can be better understood when considered in terms of his training as a natural philosopher and the milieu in which his scientific work took place – the Royal Society. "That miracle of a youth," as Evelyn described him,³ Wren at a young age had already received recognition for his talents in mathematics and mechanics, subjects that invigorated his otherwise conservative High Church upbringing and humanist education at Westmin-

ster School. He went on to conduct significant research in mathematics, astronomy, and experimental philosophy during his tenure as an undergraduate at Wadham College at Oxford, fellow of All Souls, and professor of astronomy at Gresham College in London. In 1660, the year of the Restoration, Wren and a small group of colleagues from Oxford and London founded the Royal Society, the first English scientific institution, chartered by the king. During the next year Wren returned to Oxford as Savilian Professor of Astronomy, but also began to take on architectural work. After only eight years he was granted the most powerful post in his new profession – Surveyor General. As he had completed only three buildings by this time, his appointment probably represented a recognition less of his blossoming talent than of his family's steadfast loyalty to the royalist cause throughout the Civil War and protectorate. Nevertheless, through the rapid succession of designs and completed projects for the City churches, St. Paul's Cathedral, royal palaces, and other public works, Wren soon proved his exceptional abilities and continued as Surveyor General almost to the end of his long life. At no point, however, did his scientific activities cease. He remained an active participant in the Royal Society, serving a term as president, although his scientific contributions became more and more limited as his duties as Surveyor increased.

Wren's second career constituted more of a change in employment than in intellect. His skills in geometry and mechanics were directly applicable to solving technological problems in architecture, and because of them he was offered his first commissions in 1661: to supervise the construction of the fortification at Tangier, which he declined, and to repair Old St. Paul's Cathedral. His scientific training, however, did little to prepare him for solving problems of form and style in architecture. Although as a gentleman he would have been exposed to the subject since childhood, Wren was essentially self-taught as an architect, depending on two sources – buildings and books – many never before of interest to architects.

Wren's first designs testify that early on he must have made a close study of the buildings of Inigo Jones, gaining a direct knowledge of a Palladian mode of classicism that influenced him immediately. Soon, a visit to Paris in 1665/6 exposed him to sixteenth- and early seventeenth-century French architecture that was to influence him for years to come. From the beginning, however, and because he never traveled abroad again, Wren largely had to depend on books to teach himself about architecture, and it appears that they remained crucial resources even after he had attained mastery in the field. His extensive library indicates that he searched out every available source for guidance. These included stan-

Wren's "Tracts" on Architecture and Other Writings

dard architectural treatises, beginning with Perrault's 1684 edition of Vitruvius, which Wren probably already knew from one of many earlier editions, and the 1512 Paris edition of Alberti.⁴ Vitruvius and Alberti together presented the principles of classicism and described their implementation in ancient, as well as, in the case of Alberti, modern buildings. Editions of the illustrated treatises of Serlio (Venice, 1663) and Palladio (Venice, 1601)⁵ provided instruction on the orders, antiquities, and contemporary building designs. In addition, there were more up-to-date and detailed books on the orders, including the 1664 English edition by John Evelyn of Fréart de Chambray's *Parallèle* (1650)⁶ and Perrault's *Ordonnance* (1683).⁷ French treatises devoted to presenting the designs of the author alone, for example, Le Pautre's *Desseins de plusieurs palais* (1652), or in conjunction with recent works by others, for example, du Cerceau's *Les plus excellents bastiments de France* (1708 edition, original edition 1576–9),⁸ provided examples of how to design contemporary building types in the Classical style. Finally, Wren owned numerous works on Roman antiquities,⁹ the touchstone for all modern artistic production. Of those which discussed and illustrated buildings, the most important was Desgodets's *Edifices* (original edition 1682), containing the most accurate drawings of ancient buildings in Rome up to this time.¹⁰ Any gaps in visual information left by the published texts in Wren's library were filled by a large number of loose prints: "Miscellaneous Collection of Prints, of Palaces, Views, Ruins, &c.," "Collection of Prints of Roman Antiquities," "Collection of Prints and Drawings relating to antient Architecture, 79 in Number," and prints of "Antient and modern Rome."¹¹

Wren's education in architecture did not stop with these traditional architectural sources. His writings indicate that he was interested in buildings that existed beyond the boundaries of ancient Rome and the Renaissance, and his library included a wide variety of texts that described and sometimes illustrated them. Wren studied the descriptions of biblical, Egyptian, Babylonian, Etruscan, and Greek buildings contained in the texts of Pliny the Younger and Herodotus, but also any discussed in the Bible and the writings of Josephus. In addition, he examined later interpretations, often supplemented by reconstructions, of these descriptions by scholars, exegetical writers, and travelers to the Levant. Wren's library contained numerous travel books of visitors to the Near and Far East, including Sandys (1670), Spon (1679), Wheler (1682), Grelot (1683), Chardin (1686), Thévenot (1687), de Bruyn (1702), and Maundrell (1703).¹² In addition to these were books of voyages to remote parts of the world.¹³ Wren would have known of others, particularly those in the prodigiously large library of his friend and collaborator Robert Hooke.¹⁴

These books provided him with more up-to-date information on classical antiquities and, in addition, introduced him to primitive dwellings, as well as Islamic and Chinese buildings, making him one of the earliest European architects to notice these forms of architecture.

At the same time, Wren turned his attention to buildings closer to home. His own direct study of local antiquities, such as stone circles, as well as Gothic churches, was supplemented by the descriptions and drawings contained in topographical and antiquarian works. His library included the county histories of Dugdale (1656), Plot (1677, 1686), and Leigh (1700), Dugdale's *St. Paul's* (1658) and *Monasticon Anglicanum* (1693 and 1718 editions), as well as books on Stonehenge by Webb (1655) and Sammes (1676).¹⁵

Throughout his life Wren sought knowledge of all forms of architecture, and in every instance, when examining literary and material sources, he applied the critical methods of the scientist. This point of view is reflected in his writings, where he adopts a long tradition of architectural ideas but also radically alters it, using the values and methods of the New Science as propounded by the Royal Society. The society in its early program established the means by which existing architectural principles could be reassessed and new kinds of evidence could be gathered. It rejected all received knowledge, particularly that of the ancients, in favor of a Baconian history of nature and the mechanical arts as the basis for formulating hypotheses.¹⁶ By gathering all kinds of facts relating to nature and man for this history, the society pursued investigations of matters not strictly scientific in the modern sense, including architecture.

Architecture fell within the scope of the history of the mechanical arts, or the history of trades, which dealt with nature formed by man. As a result, fellows pursued studies of the types and strengths of building materials, as well as the instruments and techniques of the building trades. As part of its interest in the practical applications of mathematics, there were discussions of architectural structures, such as Wren's roof truss used at the Sheldonian Theater, presented in 1663. Because the trades of foreign lands often utilized materials and techniques unknown in Europe, the society recorded building practices in the New World, Africa, and the Near East. The investigation of the mechanical arts at the society was also truly "historical," in that it included the mechanical arts of earlier times, including the architectural antiquities of Italy, Greece, and the Near East, as well as of Britain. In all of its work the society applied the methods of science: skepticism toward existing knowledge, emphasis on material evidence, accuracy in observation and recording, and the testing of hypotheses by experiment.

Wren's "Tracts" on Architecture and Other Writings

The Royal Society's research into the technological, mathematical, and historical aspects of architecture was carried out primarily by Wren and his close circle of friends and collaborators: John Evelyn (1620–1706), Robert Hooke (1635–1703), and John Aubrey (1626–97). Among their contributions to the society's history program can be included Wren's writings on architecture. By applying the values and methods of science to the discipline of architecture, Wren created new data on past and present architecture that contradicted a long tradition of beliefs. Using this data, he created a version of the origin and history of architecture and a definition of beauty, which, while not completely abandoning it, constituted one of the first serious challenges to Renaissance theory.

The eleven texts on architecture by Wren included in this volume have been preserved in a variety of states. Eight of them, with their associated illustrations, owe their survival to the publication of *Parentalia* in 1750. In it the editor, Christopher Jr. (1675–1747), was able to present his father's writings in one of three possible states: (1) as a transcript of original and complete material that once existed in Wren's hand, (2) as a transcript of lost fragmentary material in Wren's hand, or (3) as a text written by Christopher Jr. using information transmitted to him by his father. Of the remaining three texts, two survive as manuscripts written by Wren, and one as a manuscript in the hand of Wren's son. The latter, the so-called Tract V with one drawing, is located in the Royal Institute of British Architects (RIBA) "Heirloom" copy of *Parentalia* once owned by the Wren family, along with a large number of architectural engravings, which may or may not be the work of Wren. Because almost all of the original material in Wren's hand is lost, an inquiry needs to be made into Christopher Jr.'s treatment of his father's documents, as well as the authenticity and reliability of the texts and illustrations that survive.

A few years before Wren's death in 1723, his son began to compile his writings, which were ultimately published in 1750 by Wren's grandson Stephen as *Parentalia, or Memoirs of the Family of Wrens*.¹⁷ *Parentalia* is a history of the Wren family, focusing on the lives of Bishop Matthew Wren (Sir Christopher's uncle), Dean Christopher Wren (his father), and Sir Christopher himself (Fig. 1). Within each of these sections material transcribed from primary sources is interspersed as well as attached in an appendix. It is evident that Christopher Jr. made changes and additions to the original texts, but exactly to what extent cannot be determined because so little of his father's original manuscript material is extant.

Some insight into the level of authenticity and accuracy of this material can be gained from the three manuscript volumes of *Parentalia*

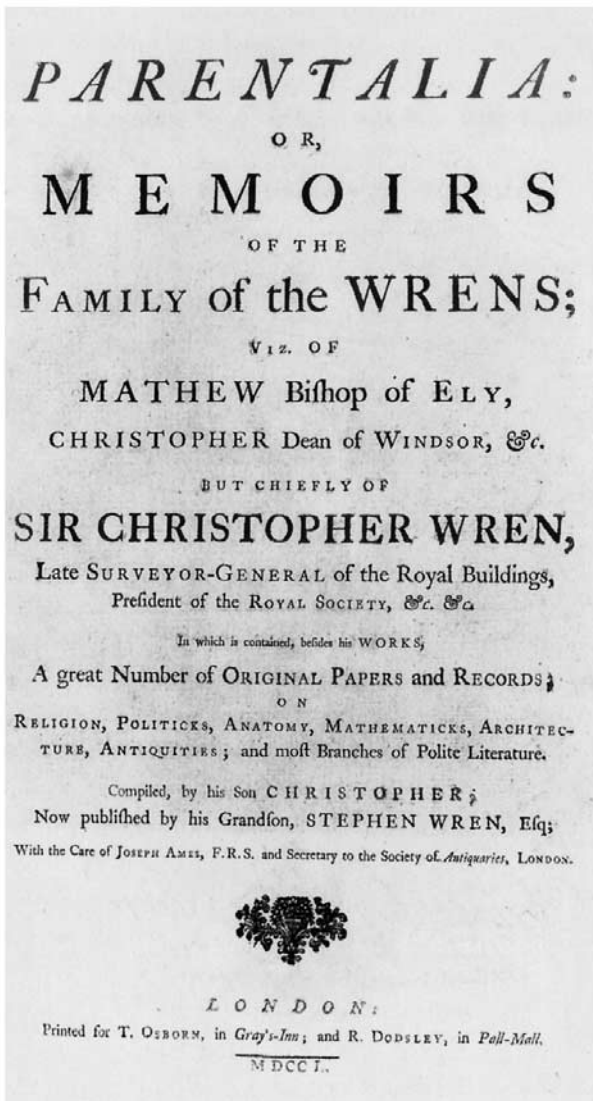


FIGURE 1. Title page of Christopher Wren, Jr., *Parentalia: or Memoirs of the Family of the Wrens* (London, 1750). The Ohio State University Libraries, Rare Book and Manuscripts.

that survive, two in Christopher Jr.'s hand and one in the hand of a scribe. In his study of these manuscripts, J. A. Bennett determined their relative dates.¹⁸ The earliest, British Library MS Additional 25,071, predominantly in Christopher Jr.'s hand and containing unpublished primary material, was begun in 1719, before Wren's death. It is composed of only a small portion of the material found in the final publication and does not include Wren's writings on architecture. In contrast, Royal Society MS 249, begun around 1728, has the full contents of the printed work. For the most part in Christopher Jr.'s hand, it was a working manuscript, altered and

Wren's "Tracts" on Architecture and Other Writings

added to over a number of years. All Souls MS 313, in the hand of a copyist, was made some time after 1734 as a fair copy of the Royal Society manuscript at that particular time. The versions of Wren's writings on architecture in the later two manuscripts are virtually identical to the final published state, leaving aside orthography and punctuation.

As a whole, based on Bennett's checks for internal consistency, comparisons among the three manuscript volumes, and comparisons with the available original texts and other reprints or copies, the texts published in *Parentalia* as primary material can be accepted as having a high level of accuracy. It is clear that, when he began his work, Christopher Jr. possessed many important manuscripts in Wren's hand. For example, although the British Library manuscript does not contain Tracts I through IV, Christopher Jr. must have collected some of them in their original form by this time, around 1719, as is indicated by several catalogs of his father's writings and drawings then in his possession. One catalog lists "Of Architecture in general," "Observations on the most Magnificent of the Antient Roman Temples, Templum Pacis," "Observations on the Temple of Mars Ultor";¹⁹ another, "*Divers Discourses of Architecture Ancient and Modern.*"²⁰ These items correspond to the collective title for the four tracts in *Parentalia*: "Of ARCHITECTURE; and Observations on *Antique Temples, &c.*" and to the published accounts of the temples of Diana at Ephesus, of Peace, and of Mars Ultor, as well as of the Mausoleum of Halicarnassus, all of which are contained in Tract IV under separate headings. The wording of these entries also suggests that they might have included Tract V, which is entitled "Discourse on Architecture." Christopher Jr. also had in his possession "An Historical and Architectonical Account of the old Abbey Church of St. Peter in Westminster."²¹

Despite his lapses in biographical accuracy,²² Christopher Jr. was personally concerned with preserving his father's memory and attempted to transcribe Wren's writings as accurately as possible, without revisions. In a catalog in the British Library manuscript he wrote, "This is a short Retail of such Tracts and Experiments as at present occur, what have not been published in the Philosophical Transactions, are here quoted from the Original Drafts."²³ Christopher Jr. apparently felt that posterity would be best served if he simply made an accurate transcription, with no additions, of his father's unpublished writings.

In some cases this was an easy task, because the original writings in Wren's hand were in his son's possession as finished, intact pieces. These include the letter from Paris, the letter on building churches, and the "Report on St. Paul's before the Fire," which is printed in *Parentalia*