

Cambridge University Press

978-1-108-06209-1 - Treatise on Architecture: Including the Arts of Construction, Building, Stone-Masonry, Arch, Carpentry, Roof, Joinery, and Strength of Materials

Edited by Arthur Ashpitel

Frontmatter

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From the middle of the eighteenth century, with the growth of travel at home and abroad and the increase in leisure for the wealthier classes, the arts became the subject of more widespread appreciation and discussion. The rapid expansion of book and periodical publishing in this area both reflected and encouraged interest in art and art history among the wider reading public. This series throws light on the development of visual culture and aesthetics. It covers topics from the Grand Tour to the great exhibitions of the nineteenth century, and includes art criticism and biography.

Treatise on Architecture

The architect Arthur Ashpitel (1807–69) worked on a wide variety of projects, including churches, houses and schools, and wrote widely on architecture, literature and politics. He became a fellow of the Institute of British Architects in 1841 and the Society of Antiquaries of London in 1847. This 1867 work comprises his compilation and revision of notable tracts on architecture from the *Encyclopædia Britannica*. It includes entries by William Hosking (1800–61) on classical, Gothic and modern architecture, building and construction; Thomas Tredgold (1788–1829) on joinery and stonemasonry; Thomas Young (1773–1829) on carpentry; and John Robison (1739–1805) on roofs, arches and the strength of materials. Intended to be of practical use to architects, craftsmen and ‘the building trade’, Ashpitel’s synthesis remains a valuable resource for scholars interested in nineteenth-century thought on architectural history, practice and technology.

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INCLUDING

THE ARTS OF CONSTRUCTION,
BUILDING, STONE-MASONRY, ARCH, CARPENTRY, ROOF, JOINERY,
AND STRENGTH OF MATERIALS.

EDITED BY

ARTHUR ASHPITEL, Esq.

F.S.A., F.R.I.B.A., &c.

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P R E F A C E .

THE proprietors of the *Encyclopædia Britannica* having been advised that the treatises on ARCHITECTURE and the arts connected with it in that work, if published in a separate volume, would be useful to those engaged in the building trade, have selected the following for that purpose:—

ARCHITECTURE, BUILDING, AND CONSTRUCTION, written by William Hosking, F.S.A., a distinguished architect and engineer. When young, he was apprenticed to a surveyor and general builder in Sydney, New South Wales. There the business of the surveyor was of the most general nature, and gave Mr Hosking an opportunity of acquiring a practical knowledge of the rough as well as of the finer operations of the constructor. His preliminary training was thus of the kind to which Telford in his autobiography refers, when he says the young engineer must descend if he would excel.

On his return home, having qualified himself by previous studies in the higher branches of his profession, he spent a year in Italy and Sicily previous to establishing himself in London as an architect. A course of lectures, which he delivered at the Western Literary and Scientific Institution in 1829, and several works on Architecture, which he published about the same time, brought him into very favourable notice.

In 1834, he became Engineer of the West London Railway, for which he designed and executed the curious work near Kensal Green, by which the Paddington Canal is passed over the railway, and a public carriage-way over both the canal and railway. In 1842, he was appointed Professor of Construction in connection with Civil Engineering and Architecture in King's College, London, to which was afterwards added the Professorship of the Principles and Practice of Architecture. He was appointed one of the Official Referees under the Building Act, and held other honorary and official offices, the duties of which he discharged with great benefit to the public and credit to himself.

In 1846, he published his *Treatises on Architecture and Building* along with those of *Masonry, Joinery, and Carpentry*, in one volume, which met with such a favourable

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reception, that it was resolved to revise and republish them with additional articles; and he was engaged in the preparation of these when he was seized with an illness which ended fatally in August 1861.

JOINERY AND STONE-MASONRY were contributed by Thomas Tredgold, one of the ablest engineers of his day; and it is remarkable that his original training greatly resembled that of Mr Hosking. Apprenticed to a carpenter in his native village of Brandon, near Durham, he served for six years, and for five years afterwards he worked as a journeyman in Scotland. He then proceeded to London, where he obtained employment for ten years in the office of Mr Atkinson, an architect. His education in youth was only of that scanty description intended to fit him for a mechanical trade; but instead of wasting his fragments of spare time in listlessness or dissipation, he devoted himself to improvement in his profession. Under circumstances as little favourable for such pursuits as can well be imagined, he applied himself to the study of chemistry, geology, and mathematics, and with such success, that his published works have been received with great approbation by men of science both in his own country and in France, where translations of many of them have been published.

It was not till he was thirty-five years of age that he began to practise as a civil engineer; and it was during the period when he was so engaged that he published the scientific treatises which have entitled him to an honourable place among those who have made important and successful exertions for the advancement of the useful arts.

CARPENTRY was written by Thomas Young, one of the most distinguished men of the present century. He was educated for the medical profession, and was one of the most learned of the physicians of his time; but his attainments and disquisitions on science and literature, on antiquities and the most abstruse inquiries, range over so extensive a field that we can only glance at them, and wonder that a philosopher, distinguished by his works on the medical sciences,—celestial mechanics,—motion of waves and sounds,—on tides,—on Egyptian language and hieroglyphics, and on the most abstruse subjects, should have occupied himself in writing a treatise on Carpentry; but everything that his attention was directed to he followed earnestly and scientifically; and such was the industry and patience with which he pursued every inquiry in which he was engaged, that he could not desist till he had mastered it.

At the time of his death he was preparing an Egyptian Dictionary; and to a friend who expostulated with him on the danger of fatiguing himself while under the pressure of

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PREFACE.

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severe illness, he replied it would be a satisfaction to him to have finished the work ; but if it were otherwise, and which seemed most probable, it would still be a great satisfaction to him never to have spent one idle day in his life.

THE TREATISES ON ROOF, ARCH, AND STRENGTH OF MATERIALS were contributed by John Robison, Professor of Natural Philosophy in the University of Edinburgh. It was comparatively late in life that he assumed the character of an author. His first papers, which were on astronomical subjects, were communicated to the Royal Society of Edinburgh ; but his chief writings were contributed to the Encyclopædia Britannica. Of these there were above forty valuable articles on philosophy, science, and mechanical arts, which exhibit a more complete view of the modern improvements in physical science than had been ever given before. Important additions have been made to those included in the present volume by Robert Stephenson, the Editor, and others.

The Editor of the present publication, besides revising the different Treatises and introducing improvements and additions where necessary, has availed himself of the late discoveries in the East to supplement the articles on Egyptian, Jewish, and Assyrian Architecture, and to add a chapter on Indian and Chinese Architecture. He has also written an entirely new Glossary of the terms in Mediæval Architecture, with explanations and sixteen new plates containing nearly 300 subjects, many of which have never been published before, illustrating the Arabic, the Romanesque, and the Pointed styles. He has also given illustrations of Modern French Architecture, and added a chapter on Acoustics, with the view of securing an object of essential importance to Churches, Halls, and Lecture Rooms, where, unless the speaker be distinctly heard, every other accommodation will be of little avail. He has also supplemented the articles, Joinery, Roof, Stone-Masonry, &c., bringing the information down to the present time.

It is hoped that with this volume, embracing the Principles of Architecture and Treatises on the different sections of art connected with Building, written by men of great scientific and practical knowledge, and profusely illustrated with plates and illustrations, those who are engaged in any department of architectural work, from the cottage to the temple, and from the foundation to the roof, will be furnished with such information as will enable them to finish their undertaking with safety and credit.

ARTHUR ASHPITEL.

March 1867.