



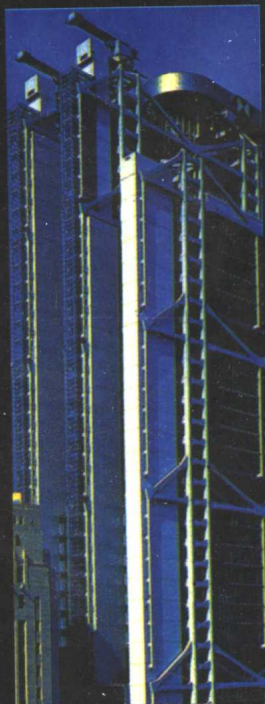
企鹅分类词典

建筑学

THE PENGUIN

DICTIONARY OF ARCHITECTURE

JOHN FLEMING, HUGH HONOUR,
NIKOLAUS PEVSNER



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THE PENGUIN DICTIONARY OF
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DAVID ETHERTON

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THE PENGUIN DICTIONARY OF ARCHITECTURE

John Fleming was born in 1919 and was educated at Rugby School and Trinity College, Cambridge. His main interests are eighteenth-century art and architecture, especially British and Italian. In 1961 he published *Robert Adam and His Circle in Edinburgh and Rome*, which was awarded the Bannister Fletcher Prize and the Alice Davis Hitchcock Medal. He is a FRSL.

Hugh Honour was born in 1927 and was educated at the King's School, Canterbury, and St Catherine's College, Cambridge. Since 1954 he has lived in Italy. He published *Chinoiserie: The Vision of Cathay* in 1961 and *The Companion Guide to Venice* in 1965. His *Neo-Classicism* (1968) and *Romanticism* (1979) have been published in the *Penguin Style and Civilization* series, of which he and John Fleming are the editors. For *The Image of the Black in Western Art, from the American Revolution to World War I* he received the Anisfield-Wolf Book Award in Race Relations 1990. He is a FBA and a FRSL.

John Fleming and Hugh Honour have collaborated on the *Penguin Dictionary of Decorative Arts* (1977) and *A World History of Art* (1982, 1991, published as *The Visual Arts: A History* in the USA, 1982, 1986, 1991), which was awarded the Mitchell Prize.

Sir Nikolaus Pevsner was born in 1902 and educated at Leipzig. From 1949 to 1955 he was Slade Professor of Fine Art and a Fellow of St John's College, Cambridge. In 1959 he became Professor of the History of Art at Birkbeck College, University of London, and he remained there until his retirement in 1969 when he became Emeritus Professor. He was a Royal Gold Medallist of the RIBA and honorary doctor of Leicester, York, Leeds, Oxford, Cambridge, East Anglia, Zagreb, Keele, Heriot-Watt, Edinburgh and Pennsylvania universities, an honorary fellow of St John's College, Cambridge, FSA and FBA. He was awarded the CBE in 1953 and received a knighthood in 1969. He was a member of the Historic Buildings Council and the Advisory Board on Redundant Churches.

From its inception he edited the *Pelican History of Art and Architecture* and wrote most of *The Buildings of England* by counties, as well as editing the whole series. He published many other books including *An Outline of European Architecture*, *Pioneers of Modern Design*, and *The Englishness of English Art* (Reith Lectures, 1955), which are also published by Penguin.

Sir Nikolaus died in 1983.

Foreword to the Fourth Edition

This is the first edition to be published since the death of Nikolaus Pevsner, whose loss we acutely feel. From the book's inception, now more than twenty-five years ago, he was the guiding spirit and it was only at his repeated insistence that his name appears last on the title-page – 'alphabetical order, please! That is correct,' he would say. He wrote the entries for medieval and nineteenth- and twentieth-century architects, as well as the European and American national entries and most of the stylistic ones. He was assisted by Sabrina Longland in connection with definitions of medieval terms and by Enid Caldecott in connection with modern technical terms. We wrote the rest of the book. But for the third edition specialists contributed entries for Australian, Byzantine, Canadian, Russian and South African architecture and also for the entry on windows, all being signed by their authors, to whom we are most grateful. Sarah Pearson revised and in some instances re-wrote entries for the techniques of roof-construction.

For this fourth edition we have made additions to the national entries to take account of recent developments and have also re-written the Chinese, Indian, Japanese and other Far Eastern entries. Its increased size is, however, due mainly to the addition of entries for many contemporary architects, some of whom had not even begun their careers when the first edition went to press. We have also revised many entries in the light of the increased and more accurate knowledge of the history of architecture published in recent years. And we have appended very brief bibliographies to most of the biographical entries as well as some others (for those cited in abbreviated form full titles are given on pp. 493–8). Over the years we have received much help and advice and we should like to acknowledge that given us by Bruce Boucher, Adrian Edwards, Eileen and John Harris, Ruth Kamen, Alastair Laing, Renato Pedio, Rupert Scott, John Shearman and Sir John Summerson. We are also grateful to the Royal Commission on Historical Monuments (England) for permission to reproduce the cruck drawing (Fig. 34).

a

Aalto, Hugo Alvar Henrik (1898–1976). Among the most important modern architects, and certainly pre-eminent in his native Finland. Started neo-classically, in a typically Scandinavian idiom, c. 1923–5, and turned to the INTERNATIONAL MODERN with his excellent Library at Viipuri (1927, 1930–35), Convalescent Home at Paimio (1929–33), and factory with workers' housing at Sumila (1936–9, with large additions of 1951–7). He possessed a strong feeling for materials and their characters, which, Finland being a country of forests, inspired him to use timber widely. He also invented bent plywood furniture (1932). Timber figured prominently in his Finnish Pavilion at the Paris Exhibition of 1937 and in the Villa Mairea at Noor-markku (1938). Aalto's most original works date from after the Second World War. By then he had evolved a language entirely his own, quite unconcerned with current clichés, yet in its vigorous display of curved walls and single-pitched roofs, in its play with brick and timber, entirely in harmony with the international trend towards plastically more expressive *ensembles*. The principal works are a Hall of Residence at the Massachusetts Institute of Technology, Cambridge, Mass. (1947–9), with a curved front and staircases projecting out of the wall

and climbing up diagonally; the Village Hall at Säynätsalo (1951); the Pensions Institute at Helsinki (1952–7), a more straightforward job; the church at Imatra (1952–8), on a completely free plan; and the Finlandia Concert Hall, Helsinki (1971), his last and perhaps his finest building.

K. Flieg, *A.A. (1922–62)*, (1963–70), (1971–6), Zürich 1963, 1971, 1978; D. Porphyrios, *Sources of Modern Eclecticism: Studies on A.A.*, London 1982; G. Schildt, *A.A. The Early Years*, New York 1984, and *A.A. The Decisive Years*, New York 1986.

Abacus. The flat slab on the top of a CAPITAL: in Greek Doric a thick square slab; in Greek Ionic, Tuscan, Roman Doric and Ionic, square with the lower edge moulded; in Corinthian and Composite with concave sides and the corners cut off. *See* Fig. 66.

Abadie, Paul (1812–84), *see* VAUDREMER, Joseph-Auguste-Émile.

Abbey. A MONASTERY governed by an abbot or abbess.

Abramovitz, Max (b. 1908). American architect, a partner of Wallace K. HARRISON from the late 1930s until 1976. He designed the Philharmonic Hall for Harrison's Lincoln Center, New York (1962). His Assembly Hall (1963) and Krannert Center, Univer-

Abutment

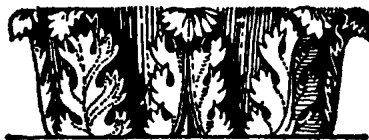


FIG. 1. *Acanthus*

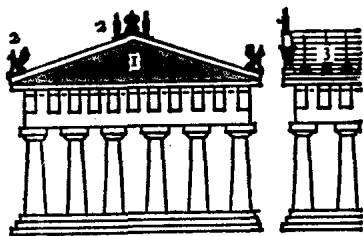
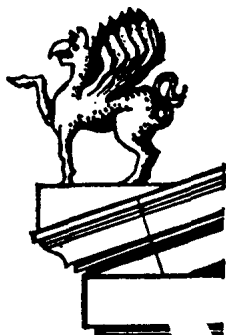


FIG. 2. *Acroterion, antefixa and general view*

KEY:

1. *Pediment* 2. *Acroterion* 3. *Antefixa*

sity of Illinois, Urbana (1969), are notable.

The Architecture of M.A., Cham-paign, Urbana 1963.

Abutment. Solid masonry placed to counteract the lateral thrust of a VAULT or ARCH. See Fig. 4.

Abyssinian architecture, see ETHIOPIAN ARCHITECTURE.

Acanthus. A plant with thick, fleshy, scalloped leaves used on carved ornament of Corinthian and Composite CAPITALS and on other mouldings. See Fig. 1.

Achaemenid architecture, see PERSIAN ARCHITECTURE.

Acropolis. The citadel of a Greek city, built at its highest point and containing the chief temples and public buildings, as at Athens.

Acroteria. Plinths for statues or ornaments placed at the apex and ends of a PEDIMENT; also, more loosely, both the plinths and what stands on them. See Fig. 2.

Adam, Robert (1728–92), the greatest British architect of the later C18, was equally if not more brilliant as a decorator, furniture designer, etc., for which his name is still a household word. He is comparable in his chaste and rather epigone elegance with his French contemporary SOUFFLOT, but without Soufflot's chilly solemnity. He was a typically hard-headed Scot, canny and remorselessly ambitious, yet with a tender, romantic side to his character as well. Both facets were reflected in his work, which oscillates between a picturesque version of neo-classicism and a classicizing version of neo-Gothic. His work has an air of

unceremonious good manners, unpedantic erudition, and unostentatious opulence which perfectly reflects the civilized world of his patrons. Appreciating that it would be bad manners, and bad business, to make any violent break with established traditions, he devised a neo-classical style lighter and more gaily elegant than that of the Palladians who preceded or the Greek Revivalists who succeeded him. He avoided startling innovations such as the Greek Doric for classical buildings or the picturesquely asymmetrical for Gothic ones. He answered the current demand for a new classicism by enlarging the repertory of decorative motifs and by a more imaginative use of contrasting room plans derived largely from Imperial Roman Baths. In his cunning variation of room shapes and in his predilection for columned screens and apses to give a sense of spatial mystery, no less than in his neo-Gothic castles – so massively romantic outside and so comfortably classical within – he answered the taste for the picturesque. He became the architect *par excellence* to the Age of Sensibility, as BURLINGTON had been to the English Augustan period. His influence spread rapidly all over England and beyond, as far as Russia and America. His output was enormous, and only the unlucky Adelphi speculation robbed him of the fortune he would otherwise have made.

His father William Adam (1689–1748) was the leading architect of his day in Scotland and developed a robust, personal style based on VANBRUGH, GIBBS, and the English Palladians, e.g. Hopetoun House, near Edinburgh (1723–42), and Duff House, Banff (1735–9). His brothers John (1721–92) and James (1732–94)

were also architects, and all three trained in their father's Edinburgh office: Robert and James attended Edinburgh University as well. Robert Adam's early work is no more than competent, e.g. Dumfries House (designed 1750–54). His genius emerged only after his Grand Tour (1754–8), most of which was spent in Rome studying Imperial Roman architecture under CLÉRISSEAU, with whom he also surveyed Diocletian's palace at Split in Dalmatia (later published by him as *Ruins of Spalatro*, 1764).

In 1758 he settled in London, where he was joined by his brother James after a similar Grand Tour with Clérissseau (1760–63). The columnar Admiralty Screen, London (1759–60), gave immediate proof of his ability and originality, but all his other early commissions were for the internal transformation of old houses or the completion of houses already begun by other architects. Nevertheless, his style rapidly matured, and the interiors of Harewood House (1758–71), Kedleston Hall (1760–61), Syon House (1760–69), Osterley Park (1761–80), Luton Hoo (1766–70), Newby Hall (1767–85), and Kenwood (1767–9) are perhaps his masterpieces of interior design. His meticulous attention to detail is revealed no less in the jewel-like finish of the painted decorations and very shallow stucco work than in the care he lavished on every part of each room from the carpets to the keyhole guards. No previous architect had attempted such comprehensive schemes of interior decoration. Although individual decorative motifs are often small in scale they are woven together with such skill that the general effect is rarely finicking, and although

Addorsed

the same artistic personality is evident in each room the effect of a series is never monotonous. They perfectly illustrate those qualities for which he and James expressed their admiration in the introduction to their *Works in Architecture* (1773; 2nd vol. 1779; 3rd vol. 1822): movement or 'rise and fall, the advance and recess and other diversity of forms' and 'a variety of light mouldings'. His neo-classicism is most evident in the planning of Syon, with its varied geometric shapes (basilican hall, rotunda, projected central Pantheon, etc.), and on the south front of Kedleston, modelled on a Roman TRIUMPHAL ARCH.

His originality and ingenuity in planning culminated in his London houses of the 1770s – e.g. 20 St James's Square, 20 Portman Square – in which, however, the decoration became increasingly shallow and linear, tending towards the flippancy and frippery for which he was much criticized towards the end of his life.

Between 1768 and 1772 he and James embarked on their most ambitious enterprise, the Adelphi, a vast palatial group of houses on the banks of the Thames (now destroyed). Unfortunately the speculation failed and they were saved from bankruptcy only by the expedient of a lottery and by loans from their elder brother John in Edinburgh.

Partly as a result of the Adelphi fiasco the quality of Robert Adam's work declined sharply after 1775. But it recovered amazingly during the last decade of his life under the stimulus of large commissions in Edinburgh – the General Register House (begun 1774 and completed, with modifications, after his death), the University (begun 1789, completed by W. H. PLAYFAIR

to modified designs 1817–34, the dome added by Rowand Anderson (1834–1921) in 1887), and Charlotte Square (designed 1791). The entrance front to the University is his most monumental building and perhaps his masterpiece as an architect. To the same period belong most of his sham castles, e.g. Culzean Castle (1777–92) and Seton Castle (1789–91), which were much in advance of their date. His earlier neo-Gothic style, e.g. the interiors of Alnwick Castle (c. 1770, now destroyed), had been similar in its sophisticated elegance to his neo-classical style. Now he developed a much bolder manner. At Culzean he took full advantage of a dramatic site on the Ayrshire coast for a martial display of round towers and battlements embracing rooms of feminine delicacy inside. The charm of the place lies in this contrast, which would have been greatly relished by the 18th Man of Sensibility, who could here enjoy the chilling horror of storms at sea from an eminently safe and civilized interior.

Colvin 1978; Summerson 1983; J. Gifford, *W. A. (1689–1748)*, Edinburgh 1989.

Addorsed. Term applied to two figures, usually animals, placed symmetrically back to back; often found on CAPITALS.

Adler, Dankmar (1844–1900), see SULLIVAN, Louis Henry.

Adobe. Unbaked mud brick dried in the sun, commonly used for building in Spain and Latin America, also in New Mexico, e.g. Santa Fé.

Adyton or Adytum. The inner sanctuary of a Greek temple whence oracles were delivered; also, more loosely, any private chamber or sanctuary.

Aedicule. Properly a shrine framed by two columns supporting an ENTABLATURE and PEDIMENT, set in a temple and containing a statue; but also, more loosely, the framing of a door, window or other opening with two columns, piers or pilasters supporting a gable, lintel, plaque, or an entablature and pediment.

Aegricane, *see* BUCRANE.

Aeolic capital, *see* ORDER.

Aesthetic Movement. A late C19 English and American artistic movement in reaction against 'Philistine' taste. It derived from the 'art for art's sake' theories of Gautier, Baudelaire and, in England, Walter Pater, though it had no counterpart in France or elsewhere in continental Europe. The opening of the Grosvenor Gallery, London, in 1877 marked its apogee with Whistler and Oscar Wilde to the fore. Its chief influence was on painting and the decorative arts; in architecture its leading exponent was GODWIN. Other architects associated with it, notably ASHBEE and LETHABY, more properly belong to the ARTS AND CRAFTS. The two movements overlapped and had something in common. In the USA it had much less influence on architecture than on interior design and decoration.

J. D. Kornwolf in *In Pursuit of Beauty. Americans and the Aesthetic Movement*, New York 1986; E. Aslin, *The Aesthetic Movement*, London 1969.

Affronted. Term applied to two figures, usually animals, placed symmetrically facing each other; often found on CAPITALS.

Afghanistan architecture, *see* INDIAN AND PAKISTANI ARCHITECTURE.

African architecture, *see* EGYPTIAN ARCHITECTURE; ISLAMIC ARCHITECTURE; SOUTH AFRICAN ARCHITECTURE.

Agger. Latin term for the built-up foundations of Roman roads; also sometimes applied to the banks of hill-forts or other earthworks.

Agora. The open space in a Greek or Roman town used as a market-place or general meeting-place, usually surrounded by porticos as in a FORUM.

Agostino di Duccio (1418-81). Primarily a sculptor but worked with ALBERTI on the Tempio Malatestiano at Rimini, where his extremely individual and exquisitely refined relief sculpture is best seen. Equally sculptural and equally masterly is the façade he designed for the oratory of S. Bernardino at Perugia (1457-61). Very different in feeling is his monumental Porta S. Pietro or Porta delle Due Porte at Perugia (1473-81).

Heydenreich and Lotz 1974.

Ahmad Ustad or Ustad Ahmad Lahori (1580?-1649), known as Ahmad Mi'mar. He was chief architect to Shah Jahan at the vast Red Fort palace complex in Delhi and also at Agra (*see* INDIAN ARCHITECTURE).

Aichel, Jan Blazej Santini (1667-1723), *see* SANTINI-AICHEL, Jan Blazej.

Aida, Takefumi (b. 1927), *see* JAPANESE ARCHITECTURE.

Aillaud, Émile (b. 1902). French architect notable for his (intentionally) eccentric housing estates outside Paris, e.g. Les Courtilières, formed of huge serpentine curves (1955-60), and La Grande-Borne, Grigny (1964-71).

J.-F. Dhuy, *L'Architecture selon É.A.*, Paris 1983.

Aisle. Part of a church, hall or other building, parallel to the main span and divided from it by an ARCADE of piers or columns or in rare cases by a screen wall. See Fig. 10.

Akkadian architecture, see SUMERIAN AND AKKADIAN ARCHITECTURE.

Alabaster. A fine-grained form of gypsum or limestone, white or reddish or yellowish white and translucent. It was used, cut into thin laminae, for church windows in the Middle Ages, notably in Italy, e.g. San Vitale, Ravenna.

Alan of Walsingham. Sacrist of Ely Cathedral at the time when the new Lady Chapel was begun (1321) and the tower over the Norman crossing collapsed (1322) and was replaced by the celebrated octagon. From the documents it is almost certain that the bold idea of replacing the square crossing tower by a larger octagon was his.

Harvey 1984.

Álava, Juan de (d. 1537), see JUAN DE ÁLAVA.

Alberti, Leone Battista (1404-72). Playwright, musician, painter, mathematician, scientist, and athlete as well as architect and architectural theorist, he came nearer than anyone to the Renaissance ideal of a 'complete man'. Aristocratic by temperament, he was the first great dilettante architect. He confined himself to designing, and had nothing to do with the actual building of his works. But his few buildings are masterpieces and his *De re aedificatoria* (1452, fully published 1485) is the first architectural treatise of the Renaissance. It crystallized current ideas on

proportion, the orders, and ideal (symbolic) town planning. (English translation by J. Rykwent, *On the Art of Building in Ten Books*, Cambridge Mass., 1988.) But though he began with theory his buildings are surprisingly unpedantic and undogmatic. They progressed from the nostalgically archaeological to the boldly experimental. Perhaps his dilettante status allowed him greater freedom than his professional contemporaries. He designed only six buildings and saw only three of them completed. To some extent, he was indebted to BRUNELLESCHI, to whom (among others) he dedicated his treatise *Della pittura* (1436), but whereas Brunelleschi's buildings were elegantly linear his were massively plastic. Architectural beauty he defined as 'the harmony and concord of all the parts achieved in such a manner that nothing could be added, or taken away, or altered except for the worse' and ornament as 'a kind of additional brightness and improvement of Beauty'. By ornament he meant the classical vocabulary of orders, columns, pilasters, and architraves which he always used correctly and grammatically but frequently out of context, e.g. his columns always support architraves (not arches), but are frequently merely decorative and without real structural purpose. His most notable and influential achievement was the adaptation of classical elements to the wall architecture of the Renaissance.

The illegitimate son of a Florentine exile, he was probably born in Genoa. Educated in the humanist atmosphere of Padua, he later studied law at Bologna University and visited Florence for the first time in 1428. In 1431 he went to Rome, where he joined

the Papal civil service which apparently allowed him ample time for both travel and the cultivation of his various talents. He became Papal adviser for the restoration of Rome (1447-55) and may have collaborated there with Bernardo ROSSELLINO. In 1450 he was commissioned to transform the Gothic church of S. Francesco, Rimini, into a memorial to the local tyrant, Sigismondo Malatesta, his wife, and courtiers. It was subsequently called the Tempio Malatestiano. He designed a marble shell to encase the old building, the front freely based on a Roman triumphal arch (symbolizing the triumph over death), the side walls pierced by deep arched niches each containing a sarcophagus. The front was never finished, and it is now difficult to visualize how he intended to mask the upper part of the old Gothic façade. As it stands it is a magnificent fragment, one of the noblest and most poignant evocations of the grandeur, *gravitas*, and decorum of Roman architecture. His next work was another addition to a Gothic church, the completion of the façade of S. Maria Novella, Florence (1456-70). Entirely coated with an inlay of different coloured marbles, it owes as much to the C11-12 church of S. Miniato, Florence, as to any Roman building, though the central doorway is derived from the Pantheon. But the whole design is based on a complex geometrical arrangement of squares, and is thus the first instance of the use of HARMONIC PROPORTIONS in the Renaissance. The upper part of the façade is in the form of a pedimented temple front linked to the sides by great scrolls which were to be much copied in later periods. It was commissioned by Giovanni Rucellai, whose name is inscribed across the top

with typical Renaissance confidence. For the same patron he designed the façade of Palazzo Rucellai, Florence (completed by 1460, under Rossellino's supervision), the exquisite, casket-like little marble-clad shrine of the Holy Sepulchre (1467) and perhaps also the Cappella Rucellai, Florence, in which it stands. The Palazzo Rucellai, with its rusticated walls articulated by three superimposed orders of pilasters (Ionic and Corinthian very freely interpreted), is indebted to Brunelleschi's Palazzo di Parte Guelfa. But it has certain novelties, e.g. square-headed door-cases, a vast cornice instead of eaves, and double windows with pilasters and a central column supporting an architrave beneath the rounded cap. The exquisite adjustment of the proportions distinguishes it from the palace designed in emulation of it at Pienza by Rossellino.

S. Sebastiano (1460 onwards) and S. Andrea (1470), both at Mantua, are the only buildings which Alberti designed entire, though neither was completed during his lifetime. For S. Sebastiano he chose a centralized Greek cross plan and designed a massively austere façade as a pilastered temple front, perhaps to be approached up a wide flight of steps. The entablature is broken with a rounded-headed window (derived from the Roman arch of Tiberius at Orange), which increased its severity by reducing the pilasters from six to four. This alteration and his complete rejection of columns marks his increasing tendency to stray from correct classical usage in the creation of a more logical wall architecture. The church was completed, with further alterations, after his death. At S. Andrea his plans were carried out more faithfully, though the dome he designed to cover the crossing was

Albini

never executed. The façade is a combination of a pedimented temple front and a triumphal arch, with shallow pilasters in place of columns and a deep central recess framing the main door. Inside he abandoned the traditional aisle structure for a barrel-vaulted nave flanked by side chapels. Interior and exterior are carefully integrated. The sides of the nave, with pilastered solids and arched recesses alternating, repeat the rhythmical pattern and the triumphal arch of the façade on exactly the same scale. These two buildings herald a new and less archaeological attitude to antiquity. They reach forward from the Early to the High Renaissance and beyond.

Wittkower 1988; Heydenreich and Lotz 1974; F. Borsi, *L.B.A.*, Oxford 1977.

Albini, Franco (1905–77). Studied and lived in Milan. His interior of the Palazzo Bianco Museum, Genoa, and of the treasury of Genoa Cathedral (1951 and 1954) established him as a display architect. His principal buildings were the municipal office, Genoa (1952–61), and the Rinascente department store, Rome (with Franca Helg, 1957–62). His stations for the Milan Metropolitana (1962 onwards) are also notable.

F. Moschini, *F.A.*, London 1979; S. Leet, *F.A.*, Princeton 1989.

Alcázar. A Spanish fortified palace, the most notable examples being those of Segovia, Seville and Toledo (see SPANISH ARCHITECTURE).

Alcove. 1. A recess or niche in a wall or an extension or recess (sometimes vaulted) to a room, e.g. for a bed. 2. A secluded bower or summerhouse in a garden.

Aldrich, Henry (1648–1710). Dean of Christ Church, Oxford, he was a virtuoso and architect of distinction. Only two buildings are certainly by him, or largely by him: All Saints', Oxford (1701–10, steeple revised 1717–20 by Hawksmoor, whom Aldrich knew), and Peckwater Quad, Christ Church (built by William Townsend 1707–14). Peckwater Quad is a remarkable early example of PALLADIANISM. Aldrich also designed Christ Church Library (built 1717–38) but his designs were completely recast by George Clarke (1661–1736) after Aldrich's death. The Fellows' Building, Corpus Christi College (1706–12), has been attributed to Aldrich; also, with less probability, Trinity College Chapel (1691–4) and Queen's College Library (1693–4). He wrote a Vitruvian–Palladian treatise which was posthumously published in 1789 as *Elementa architecturae civilis*.

Colvin 1978; Summerson 1983; Harris 1990.

Aleijadinho, António Francisco Lisboa (1730 or 1738–1814). The greatest Brazilian sculptor and architect. A mulatto (illegitimate son of a Portuguese architect), he worked in the rich gold-mining province of Minas Gerais, and combined barbarically rich and contorted sculptural decoration with the more dignified architectural forms of traditional Lusitanian church design. His masterpieces are São Francisco, Ouro Preto (1766–94), and the monumental scenic staircase in front of Bom Jesus de Matozinhos, Congonhas do Campo (1800–1805).

Kubler and Soria 1959.

Aleotti, Giovanni Battista (1546–1636), see SCAMOZZI, Vincenzo.

Alessi, Galeazzo (1512–72). The lead-

ing High Renaissance architect in Genoa. Born in Perugia and trained in Rome where he was much influenced by MICHELANGELO, he settled in Genoa by 1548. He was adept at turning difficult sloping sites to advantage, and made great play with monumental staircases, colonnades, and courtyards on different levels. His several palaces, notably Villa Cambiaso (1548), Palazzo Cambiaso (1565, now Banco d'Italia), and Palazzo Parodi (1567), set the pattern for Genoese domestic architecture. He also built the imposing S. Maria di Carignano, Genoa (1549-52), based on BRAMANTE's design for St Peter's. In Milan he designed Palazzo Marino (1557), now the Municipio, of which the courtyard is an outstanding example of MANNERIST architecture. The *salone maggiore* is also remarkable but was damaged in 1943 and is heavily restored. (The façade facing Piazza della Scala is by Luca Beltrami, 1889.) Other works by him in Milan include SS. Paolo e Barnaba (1561-7) and the façade of S. Maria presso S. Celso (completed by Martino BASSI after he left Milan in 1569).

Heydenreich and Lotz 1974; N. A. H. Brown, *The Milanese Architecture of G.A.*, New York 1980.

Alexander, Christopher (b. 1936). English architect and theorist, he founded the Center for Environmental Structures (CES), Berkeley, California, in 1967, where his experiments have been influential. In 1977 he published *A Pattern Language* consisting of 253 design precepts. A protagonist of low-tech self-built housing (see COMMUNITY ARCHITECTURE), his most notable projects have been for user-designed apartment buildings at St Quentin-en-Yvelines near Versailles,

France (1974), and for housing at Mexicali, Mexico (1976). His New Eishin Gakuen High School, Eishin University, Japan, dates from 1985-7.

Alfieri, Benedetto (1699-1767), Piedmontese nobleman (uncle of the poet), began as a lawyer, turned to architecture, and succeeded JUVARRA as royal architect in Turin (1739). He was largely employed in completing Juvarras work in Palazzo Reale, Turin, and elsewhere. The Teatro Regio, Turin, was begun by Juvarra but is largely by Alfieri (1736-40). His main independent building is the vast parish church at Carignano (1757-64), with a severe façade and very rich interior on a peculiar kidney-shaped plan. He also designed the noble west portico of Geneva Cathedral in a surprisingly radical classicizing style (1752-6).

Pommer 1967; A. Bellini, *B.A.*, Milan 1978; C. Cancro, *B.A.* (1699-1767) *L'opera completa*, Milan 1980.

Algardi, Alessandro (1595-1654). Born in Bologna but settled in Rome, best known as a sculptor, representing the sobriety of Bolognese classicism in opposition to BERNINI. His reputation as an architect rests on the Villa Doria-Pamphili in Rome, of which he had the general direction. (The attribution of the design to his assistant Giovanni Francesco Grimaldi (1606-90) is now not accepted.)

J. Montagu, *A.A.*, London 1985.

Alicatado. Spanish term meaning 'cut work' applied to wall decorations composed of mosaics of variously coloured geometrically shaped pieces of glazed pottery in use from the C12 (e.g. Alhambra, Granada, and Alcázar, Seville) but soon superseded by uniformly shaped TILES. By the C15 it was used only to surround tilework.

Allio

Allio, Domenico dell' (d. 1563), *see* AUSTRIAN ARCHITECTURE.

Allio, Donato Felice (c. 1680-1770), *see* AUSTRIAN ARCHITECTURE.

Alliprandi, Giovanni Battista (1665-c. 1720), *see* CZECHOSLOVAK ARCHITECTURE.

Almonry. The room in a MONASTERY in which alms are distributed.

Almqvist, Osvald (1884-1950). With Gunnar ASPLUND a pioneer of modern functionalist architecture in Sweden, e.g. his hydro-electric power plants near Hammersfors and Kragfors (1925-8).

B. Linn, *O.A. Ein Arkitekt och Hans Arbete*, Stockholm 1967.

Almshouse. A house or, more usually, a group of houses built and endowed by private charity for the aged and poor - replacing, after the dissolution of the monasteries in England, monastic houses where alms and hospitality were dispensed. Many were built in Elizabethan and Stuart times, often as personal memorials to their founders. In type they range from those built round a courtyard with hall and chapel, to a simple row of cottages. The larger ones often have a gables over the street front. The Penrose Almshouses, Barnstaple (1627), have a gabled gatehouse. The more splendid and conspicuous foundations were often those of bishops and archbishops, e.g. Abbot's Hospital, Guildford (begun 1619). John NASH's Blaise Hamlet (1811) consists of ten almshouses.

W. H. Godfrey, *The English Almshouse with Some Account of its Predecessor, the Medieval Almshouse*, London 1955; B. Bailey, *Almshouses*, London 1988.

Altana. A covered terrace or loggia raised above the roof, like a BELVEDERE. Venetian in origin and usually of wood, it was intended for drying clothes and is still so used in Venice. It later became a feature of 15-16 domestic architecture in Rome.

Altar. A structure on which to place or sacrifice offerings to a deity. In Greece and Rome altars took many different forms. The Christian altar is a table or slab on supports consecrated for celebration of the sacrament; usually of stone. In the Middle Ages portable altars could be of metal. After the Reformation communion tables of wood replaced altars in England.

Altar frontal, *see* ANTEPENDIUM.

Altar-tomb. A post-medieval term for a tomb resembling an altar with solid sides but not used as one. *See* TOMB-CHEST.

Alure. An alley or place to walk in, especially behind a parapet or round the roof of a church.

Álvares, Afonso (fl. 1551-75), *see* PORTUGUESE ARCHITECTURE.

Álvares, Baltasar (fl. 1570-1620), *see* PORTUGUESE ARCHITECTURE.

Amadeo or Omodeo, Giovanni Antonio (1447-1522). Born in Pavia, and primarily a sculptor, he was working at the Certosa there by 1466; then he worked in Milan (MICHELOZZO's Portinari Chapel in S. Eustorgio), where he encountered the Early Renaissance style. The immediate result was the Colleoni Chapel (1470-73) attached to S. Maria Maggiore, Bergamo - based on the Portinari Chapel but entrusted with Renaissance ornamentation in

Gothic profusion. He designed the elaborate façade of the Certosa outside Pavia (1491 onwards). The Gothic dome over the crossing of Milan Cathedral was built after designs by Amadeo and Dolcebuono, with advice from FRANCESCO DI GIORGIO.

Heydenreich and Lotz 1974.

Ambo. A stand raised on two or more steps, for the reading of the Epistle and the Gospel; a prominent feature in early medieval Italian churches. Sometimes two were built, one for the Epistle and one for the Gospel, on the south and north sides respectively. After the 13th the ambo was replaced by the PULPIT.

Ambry, *see* AUMBRY.

Ambulatory. A semicircular or polygonal aisle enclosing an APSE or a straight-ended sanctuary; originally used for processional purposes.

Ambulatory church. In Early Christian and Byzantine architecture a church in which a domed centre bay is enveloped on three sides by AISLES. *See also* CROSS-DOMED CHURCH.

American architecture, *see* BRAZILIAN, MESO-AMERICAN, MEXICAN, PERUVIAN and UNITED STATES ARCHITECTURE.

Ammanati, Bartolomeo (1511-92), was primarily a MANNERIST sculptor. His architectural masterpiece is the very graceful Ponte S. Trinità, Florence (1558-70, destroyed 1944 but rebuilt). With VIGNOLA and VASARI he played some part in designing Villa Giulia, Rome (1551-5). He enlarged and altered Palazzo Pitti, Florence (1558-70), building the almost grotesquely over-rusticated garden façade (begun 1560). He completed Palazzo

Grifoni, Florence (1557), and supervised the building of MICHELANGELO's vestibule stairway in the Laurenziana, Florence. Outside Florence, he designed the Tempietto della Vittoria, near Arezzo (1572). In Lucca he designed part of the Palazzo Provinciale (1578) with a handsome SERLIAN loggia.

Heydenreich and Lotz 1974.

Amphiprostyle. Term applied to a temple with porticos at each end, but without columns along the sides.

Amphitheatre. An elliptical or circular space surrounded by rising tiers of seats, as used by the Romans for gladiatorial contests, e.g. the Colosseum, Rome.

Amsterdam School, *see* DUTCH ARCHITECTURE; EXPRESSIONISM; KLERK, Michel de.

Anathyrosis. The smooth marginal dressing of the outer contact band of a masonry joint, the central portion being left roughened and sunk so as to avoid contact.

Ancones. 1. Brackets or CONSOLES on either side of a doorway, supporting a CORNICE. 2. The projections left on blocks of stone, such as the drums of a column, to hoist them into position.

Anderson, Sir Robert Rowand (1834-1921), *see* ADAM, Robert.

Ando, Tadao (b. 1941). Japanese 'new wave' architect, a leading exponent of 'Critical Regionalism' in reaction against METABOLISM. His revival of traditional materials and vernacular styles is combined with modern techniques. He has been influential both in his prolific writings and his buildings which are mainly domestic and small-

Andrea di Cione

scale, e.g. Matsumoto house, Wakayama (1980), Koshino house, Osaka (1981), Rokko housing, Hyogo (1983), in which great refinement is achieved without any loss of vigour.

Y. Futagawa, *T.A.*, Tokyo 1981; Kunihiro and Eiserman, *T.A. The Yale Studio and Current Works*, New York 1989.

Andrea di Cione (fl. 1343-68), see ORCAGNA.

Andrea Pisano (d. 1348/9), see PISANO, Andrea.

Andrews, John (b. 1933). Australian architect, trained in Sydney and under J. L. SERT at Harvard. He made his name with Scarborough College, University of Toronto, Canada (1962-9), a pioneer MEGASTRUCTURE designed to accommodate 5,000 people in a self-sufficient institution. This was followed by students' housing at Guelph University, Canada (1965-8), Seaport Passenger Terminal, Miami, USA (1967), and the Gund Hall Graduate School of Design, Harvard University, USA (1968), which Philip JOHNSON called 'one of the six greatest buildings of the 20th'. Of his recent buildings the American Express Tower, Sydney, Australia (1976), and the Canadian National Tower, Toronto, Canada (1977), should be mentioned.

P. Drew, *The Third Generation. The Changing Meaning of Architecture*, New York 1972.

Ang. In Chinese roof construction a long transverse bracket arm with the function of a lever. An *ang ton* is placed directly under a roof sloping downwards to the eaves.

Anglo-Saxon architecture, see ENGLISH ARCHITECTURE.

Angular capital. An IONIC capital with all four sides alike, and the volutes turned outwards as in a Corinthian capital. A C16 innovation, probably due to SCAMOZZI and frequently employed until the late C18, when rejected as incorrect.

Annular. Ring-shaped, as in an annular barrel vault or annular passage.

Annulet, see SHAFT-RING.

Anreith, Anton (1754-1822), see SOUTH AFRICAN ARCHITECTURE.

Anse de panier, see ARCH.

Anta. A PILASTER of which the base and CAPITAL do not conform with the ORDER used elsewhere on the building; it is usually placed at the ends of the projecting walls of a temple PORTICO or PRONAOS. If there are columns between the *antae* they are called columns *in antis*; the portico and temple itself may also be called *in antis*, as distinct from being PROSTYLE.

Antechurch or forechurch. An appendix to the west end of a church, resembling a porch or a NARTHEX, but several bays deep and usually consisting of nave and aisles.

Antefixae. Ornamental blocks on the edge of a roof to conceal the ends of the tiles. See Fig. 2.

Antelami, Benedetto (active 1177-1233), a sculptor and probably an architect also. Attributed to him are the Baptistry, Parma (1196-1216, completed 1270), the cathedral of Borgo San Donnino, now Fidenza (1179-96 and 1214-18), and S. Andrea at Vercelli (1219-25/6). This church already has features pointing in the direction of French Gothic. The transition from Romanesque to Gothic is obvious in his sculpture.