



Historic England

Education Buildings

Listing Selection Guide



Summary

Historic England's twenty listing selection guides help to define which historic buildings are likely to meet the relevant tests for national designation and be included on the National Heritage List for England. Listing has been in place since 1947 and operates under the Planning (Listed Buildings and Conservation Areas) Act 1990. If a building is felt to meet the necessary standards, it is added to the List. This decision is taken by the Government's Department for Digital, Culture, Media and Sport (DCMS). These selection guides were originally produced by English Heritage in 2011: slightly revised versions are now being published by its successor body, Historic England.

Each guide falls into two halves. The first defines the types of structures included in it, before going on to give a brisk overview of their characteristics and how these developed through time, with notice of the main architects and representative examples of buildings. The second half of the guide sets out the particular tests in terms of its architectural or historic interest a building has to meet if it is to be listed. A select bibliography gives suggestions for further reading.

This guide looks at buildings of all types provided to facilitate education, from the Middle Ages to the twentieth century. Education stimulated some of the country's finest architecture, ranging from the medieval universities to post-war primary schools. Many schools were built in response to the successive Education Acts of 1870 and later, and embody in physical form developing ideas on education, and child welfare more generally. At times, such as in the years after the Second World War, it was school building which earned Britain greatest international acclaim, and its universities contain some of the best works of the leading architects of the day.

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Front cover

'The Beehives', North Quad, St John's College, the first significant building at Oxford in a thoroughly

modern style. It was built in 1958-9 to the designs of the Architects' Co-Partnership. Listed Grade II.

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Introduction

Education stimulated some of the country's finest architecture, ranging from the medieval universities to post-war primary schools. Although some schools are so modest that they are easily overlooked, many more are striking local landmarks designed to inculcate pride in learning. At times, such as in the years after the Second World War, it was school building which earned Britain greatest international acclaim, and its universities contain some of the best works of the leading architects of the day. Schools are especially vulnerable to conversion and demolition, and there is widespread public interest in the future of these distinctive historic buildings. For many, schools are formative buildings and much valued elements of the public realm. They are an emotive category, which makes proper assessment all the more important.

In 2010 English Heritage published an authoritative overview in its Informed Conservation series of the history of school buildings in the context of evolving educational provision: Elain Harwood, *England's Schools: History, Architecture and Adaptation* (2010).

That provides a fuller and more extensively illustrated treatment of the topic than is possible here. What follows below is a brief historical overview of some of the principal developments in the history of education buildings, and an explanation of our approach in assessing such buildings for designation.

1 Historical Summary

1.1 Schools

Before 1800

The earliest schools were monastic but some parish clergy taught younger boys, usually in the parish church. By the later Middle Ages, wealthy patrons endowed schools: there were more than 80 in England on the eve of the Reformation. Survivals are fragmentary in the main but include (in each case the original buildings being listed Grade I) Bishop Wykeham's impressive Winchester College (Hampshire, 1382) and the Countess of Suffolk's school at Ewelme (Oxfordshire, 1437); royal foundations include Eton (Berkshire, 1440). Each continues to flourish. The larger schools were modelled on Oxford and Cambridge colleges; smaller schools might be one- or two-storey buildings with the schoolmaster's house attached. Post-Reformation schools continued to depend on private philanthropy and ranged widely in style, from the late Gothic of Shrewsbury School (Shropshire, 1595-1607, enlarged 1627-30; listed Grade I) to the simple classicism of Sir John Moore's School, Appleby (Leicestershire, 1693-7; listed Grade I, Fig 1): school endowment was an important aspect of Protestant philanthropy. The early eighteenth century saw the building of the first Blue Coat charitable schools in urban areas, and a few village schools on the estates of wealthy landowners, often associated with almshouses. Later that century, dissenting schools appear: these were usually small halls of little architectural pretension, placed close to, abutting or even underneath a chapel, but also included large and impressive buildings such as the Society of Friends Boarding School at Ackworth, near Wakefield (West Yorkshire, 1776; listed Grade I, Fig 2).

Public education 1800-1870

The rate of school building increased dramatically during this period, fuelled by competition between the dissenting and Anglican churches. Two school-building bodies were particularly prominent: the nonconformist Society for Promoting the Lancastrian System for the Education of the Poor (set up in 1808, and in 1814 renamed as the British and Foreign School Society), followed swiftly by the Church of England's National Society for Promoting Religious Education, set up in 1811. They gave their name to the two most common late



Figure 1

Shrewsbury School, now the public library. Founded by leading townsmen in 1552. New Grinshill stone ranges either side of a stair tower were built in two campaigns between 1595 and 1630. Shrewsbury, according to William Camden, was 'the largest school in all England'; only Winchester and Eton had such extensive and lavish premises. Listed Grade I.



Figure 2
Society of Friends Boarding School, Ackworth, West Yorkshire. Built in 1758 as a provincial branch of London's Foundling Hospital, this impressive building was taken over in 1778 by the Society of Friends as a boarding school, demonstrating the determination of the new dissenting communities to advance education. Listed Grade I.

Georgian kinds of schools: the British schools and the National schools. Joseph Lancaster (1778-1838) was an influential Quaker educationalist who was the greatest developer of the 'monitor' system, whereby one teacher would supervise young assistants who each taught a small group; this prevailed until about 1880. Limited budgets kept schools modest and they rarely comprised more than a single classroom, or at the most two or three schoolrooms where numbers warranted segregation between boys, girls and infants. Schools with individual classrooms and a central assembly hall are rare; the British School at Hitchin, Hertfordshire (listed Grade II*; now a museum), Fig 3, is a special survival.

Educational provision was patchy. A few benevolent industrialists set up schools for the children they employed. These buildings are rare, and so utilitarian in form that they are hard to identify. The first purpose-built Sunday school was erected in Hoxton, London Borough of Hackney, by the Methodist church in 1802 to teach children to read. Under the 1857 Industrial

Schools Act, larger workhouse unions were empowered to build special boarding schools, sometimes known as industrial schools or 'barrack homes', to prepare the most impoverished children for domestic service or a useful trade. Such fragments of these buildings as survive are also rare but can be impressive, for instance the administrative centrepiece of the former Central London District School in Hanwell (London Borough of Ealing, 1856-7; listed Grade II).

State education 1870-1914

Politicians first tackled public school reform to improve the quality of public administration (see below) and then turned their attention to elementary education to create a more numerate and literate workforce. The passing of the 1867 Reform Bill and its extension of universal male suffrage made it a priority 'to educate our masters', referring to the newly-enfranchised male population at large. The 1870 Education Act, steered by the Liberal MP William Forster (and hence known as the Forster Education Act) permitted school boards within local authorities to finance school building from a local rate and elementary schooling became compulsory in 1880. The voluntary societies redoubled their efforts to provide schools to thwart the need for a board. There was a massive expansion in denominational school building, board schools being concentrated in the larger cities where provision was worst. Arthur Conan Doyle's 1894 story *The Naval Treaty* included the celebrated summary of their aspirations: 'Lighthouses my boy! Beacons of the future! Capsules, with hundreds of bright little seeds in each, out of which will spring the wiser, better England of the future.' Survival of early board schools is uneven, being poor in Manchester, but very good in Bradford, Sheffield, Birmingham and parts of London. Collectively they amount to one of the most important campaigns of public building ever undertaken in this country.

While funding was always an issue, the best board schools display architectural ambition, and made their mark on the street scene through picturesque compositions, careful detailing and the sparing deployment of decoration. Design



Figure 3
British School, Queen Street, Hitchin, Hertfordshire. An early British School (1837 and 1857) founded by Nonconformists (so-called National Schools of the same period being founded by the Church of England).

The larger of the two buildings incorporated steps into the classroom to create a small theatre-like space for teaching large classes together. Listed Grade II*.

practice varied. Some boards did not employ an architect; others made permanent appointments or held competitions. The resulting designs show a striking variety of styles and quality. Some architects produced exceptional buildings, for instance, the fifteen by Innocent and Brown in Sheffield with their distinctive arched ‘play-sheds’ where children could exercise in bad weather, or the 50 or so by Martin and Chamberlain in Birmingham with their patent ‘plenum’ or forced air heating systems and impressive ventilation towers. This gradual specialisation by particular firms together with the publication of designs led to some standardisation, but it was the School Board for London, the first to be founded under the 1870 Act, that proved to be the most influential. Its architect, E R Robson, built in Gothic but also promoted a cheap, secular, alternative considered appropriate for the non-

denominational board schools with echoes of the fashionable Queen Anne style. His 1874 book *School Architecture* was highly influential. From Robson’s office emerged the standard board school plan, with a central assembly hall and classrooms to three sides; in the Birmingham schools the clustered classrooms were deployed to create asymmetrical Gothic exteriors. Where space was limited, infants, girls and boys (carefully separated) were each accommodated in a hall and classrooms on three successive floors. Rooftop playgrounds were provided on particularly cramped sites. This type dominated London from 1880 under Robinson’s successor T J Bailey, and was widely adopted on urban sites elsewhere. Some 3,400 pre-1919 primary schools were estimated to survive in 2006 of a total of around 17,000 primary schools currently in use.

State secondary schools

From their beginnings in the late nineteenth century, state secondary schools were sited close to the centres of cities and towns so that they could serve a wide area. They were built on a larger scale, with smaller classrooms and specialist facilities such as a gymnasium, machine room or chemical and physical laboratories. County councils, created in 1889, provided the impetus towards further specialist training for industry and they established higher education colleges, polytechnics, and 'monotechnics' (relating to a single specific trade). The 1902 Education Act transferred responsibility for former board schools and the voluntary denominational schools to county and borough councils. The new authorities rapidly expanded secondary education from 272 schools in 1902 to 1000 by

1912, a process aided by the fall in birth rate that stemmed demand for elementary schools.

The simple classical style used for schools until the 1820s was replaced first by neo-Tudor, and then by more elaborate Gothic Revival designs, reflecting the religious drivers behind much early nineteenth-century education. E R Robson favoured a light and airy Queen Anne revival for London board schools, which was widely imitated. By the Edwardian period the neo-Georgian style was seen by some authorities to possess the dignity and timelessness appropriate to a secondary school, and it was also the style being adopted by the older foundations, which the local authorities sought to emulate. By the turn of the century too, limitations in funding meant that school design had often become more



Figure 4
Summerfield School, Dudley Road, Birmingham. Commissioned by a local School Board and designed by Martin and Chamberlain, one of Birmingham's most innovative architectural firms, Summerfield School of 1885 reflects the sea-change in education

brought about by the 1870 Education Act. The resulting national building programme created some of our finest Victorian schools in a variety of Gothic Revival (as here) and Queen Anne styles. Listed Grade II.

austere and formulaic. Some, exceptionally, experimented with Art Nouveau motifs. Neo-Georgian became the common model for secondary schools after 1902, in imitation of older public schools. As education moved away from instruction by rote, so the more ambitious authorities began to consider school buildings from the point of view of the child, with issues of health and mental stimulation to the fore.

The opening of schools to regular medical inspections in 1907 prompted a dramatic change in school planning, pioneered by George Reid, medical officer to Staffordshire County Council, working with the county architect John Hutchings. A pioneer in the building of well-ventilated and less utilitarian schools was George Widdows, architect to Derbyshire Education Committee from 1904. His innovative designs, in a neo-vernacular style, with cross ventilation and a 'marching corridor' for exercise, proved lastingly influential. Surviving experimental institutions are rare, for instance, open air schools for delicate children following a strict regime of lessons, exercise, healthy meals and afternoon rest spent largely out of doors: these featured unglazed huts resembling band stands, with a larger unit serving as a dining and afternoon rest hall.

State education 1914-45

The 1918 Education Act raised the school leaving age to fourteen but failed to provide sufficient funding for an adequate programme of secondary schools. Nevertheless, the period was dominated by the building of grammar and secondary schools often modelled, if space and funds permitted, on public schools with quadrangles and playing fields. Economies were sought and some authorities turned in the 1930s to steel framing, which also provided greater flexibility. Here, neo-Georgian was jettisoned in favour of more modernist designs, often inspired by the much-emulated work of the Dutch architect, Willem Dudok. Long horizontal glazing for classrooms was countered by cubic massing and offset by the vertical accent of glazed stair towers. A simpler architecture and a freeing of lessons towards more imaginative teaching programmes came together in the nursery movement with



Figure 5 Derbyshire County Council built some of England's most advanced schools. The former Ilkeston Grammar School of 1911-14, by George Widdows, architect to the Education Department and later the county architect, had a large central hall and well-lit classrooms entered from open-air verandahs that (unusually) survive. Thoughtful planning improved both children's education and their health. Listed Grade II*.

informal, lightweight, highly-glazed buildings intended to stimulate young minds. Architectural competitions encouraged innovation in the use of materials (especially prefabricated systems of construction, used for the first time in 1936), lighting and ventilation. These, together with the concept of village colleges that served also as community centres (for instance, those in Cambridgeshire including Impington – listed Grade I – 1939 from a design by Walter Gropius, Fig 6), paved the way for major advances after the 1939-45 war.

Post-war schools

Twenty per cent of schools in England and Wales were destroyed or badly damaged in the war, and were high priorities for post-war reconstruction. Britain's birth rate, which had fallen since 1901, rose sharply between 1943 and 1948, and again from the early 1950s. The new towns created a particular demand for primary schools and Hertfordshire alone needed ten



Figure 6

Impington College, Cambridgeshire (1938-39), designed for Cambridgeshire County Council by Walter Gropius – the founder of the Dessau Bauhaus, who had fled Hitler’s Germany – and E Maxwell Fry. Cambridgeshire pioneered the idea of community colleges as social

centres with four new schools in rural locations that included facilities for adult education and leisure activities, intended to bolster rural communities against emigration to towns. Listed Grade I.

new schools every year. Following on from pre-war experiments, systems of school-building using standardised prefabricated elements were commonly used to meet the pace of demand. Some were sponsored by public authorities, notably Hertfordshire County Council, while others were privately owned. Schools using traditional modes of construction continued to be built, but increasingly reflected the rationalization associated with the prefabricated systems and with stringent cost limits. In the best schools, educational organization and architecture were closely linked. Primary school planning received much attention. Windows were made low so that the smallest child could see out; there were areas for paints and glue; little desks, chairs, sinks, toilets, and coat pegs were purpose-designed; and bright colour schemes and murals gave stimulus and pleasure.

The first prefabricated systems were only suited to single-storey building, and were inappropriate for large secondary schools. In the 1950s more flexible and resilient framing systems emerged,

usually in steel but sometimes in concrete. Local authorities now banded together to form joint ‘consortia’ using common techniques of construction across hundreds of schools. The first and most famous was CLASP (the Consortium of Local Authorities Special Programme,) which was specially designed for areas prone to mining subsidence.

R A Butler’s Education Act of 1944 organised secondary education into separate grammar, technical and modern schools. Comprehensive schools were introduced by a few progressive authorities from 1948, their design led by London, Birmingham and Coventry. A challenge for comprehensives was the size required to sustain a lively sixth form, and the Ministry of Education required that they should be for as many as 2000 pupils. Problems of scale were mitigated by creating smaller units, for instance, ‘houses’ in Coventry, each creating a close-knit environment for a cross-section of children; and lower, middle and senior schools in Birmingham. Elsewhere, a few schools receiving dramatic architectural



Figure 7

Smithdon School, Hunstanton, Norfolk (1950-54). Designed by Alison and Peter Smithson and regarded as a prototype of the New Brutalism. Its sparse design reflects the impact of the philosophy that 'less is

more', and makes a virtue of leaving materials and construction methods exposed to view. Listed Grade II*.

treatment, as with Alison and Peter Smithson's Smithdon School, Hunstanton, Norfolk (1950-54; listed Grade II*, Fig 7), which combined a modern welded steel frame and expressive use of materials with a formal, classical orthodoxy found controversial by their more functionalist contemporaries.

The first authority to challenge the established separation of primary and secondary schooling was Leicestershire, which pioneered an early form of middle school in 1957. From the early 1960s plans became more flexible and centralised with open teaching areas grouped round a library or resource centre: architects worked increasingly closely with educationalists as traditional classroom-based approaches to instruction began to be amended. Some schools were grouped with sports centres and reflect a growing ambition to create a more adult, college-like environment for older children.

The private sector: public and preparatory schools

Public schools rose from charitable foundations to become elite educational institutions. They were private, in that they were fee-paying and not state-provided, but were 'public' in that they were open to all, irrespective of religious affiliation or location. Many have a very long history: Repton, in Derbyshire, was founded in 1557; and Blundells, at Tiverton in Devon, was opened in 1604. The mid-Victorian state, conscious of its imperial mission, sought to improve the calibre of public administration and hone the country's competitive edge. Haileybury in Hertfordshire (listed Grade II*) had been set up as early as 1806 as the East India College; Wellington College (Grade II*) was opened in Berkshire in 1859 as the national (institutional) memorial to the Duke of Wellington. The Public Schools Act of 1868 placed certain long-established schools – Charterhouse, Eton, Harrow, Merchant Taylors', Rugby, Shrewsbury, St Paul's, Westminster and Winchester – on a new charitable footing. Others were boosted by the Endowed Schools Act of 1869.



Figure 8

Lancing College, West Sussex, was founded as a private school by Nathaniel Woodard in 1848 and aimed at the sons of ‘clergymen and other gentlemen’. One of about twenty new schools established during the nineteenth century to cater for the growing middle classes,

its Gothic Revival buildings look to the example of Oxbridge colleges for their inspiration. Mostly listed Grade II*, some Grade II, chapel Grade I.

This led to considerable expansion of premises, sometimes on more spacious new rural or suburban sites. Examples include Dulwich College (London Borough of Southwark, 1866-70; Grade II*), Charterhouse (Surrey, 1872-84; Grade II), Taunton (Somerset, 1867-70; Grade II) and Shrewsbury (Shropshire, 1882; chapel Grade II). Many of the older establishments contain buildings of high architectural significance, such as the medieval ranges at Eton and Winchester, or Lord Burlington’s work at Westminster. From the High Victorian period onwards, they were built on an increasingly monumental scale. Chapels became particularly important elements to public schools: that at Lancing (West Sussex), by R H Carpenter (finished in 1877 by Stephen Dykes Bower; listed Grade I), was surpassed in height only by Westminster Abbey and York Minster. Well-endowed institutions could commission leading architects such as William

Butterfield, who was responsible for many of Rugby’s buildings between the 1860s and 1880s, and Herbert Baker at Harrow (War Memorial Building 1921; listed Grade II) to lavish attention on specialist and sports buildings. The tradition of large dormitories in boarding schools waned as the nineteenth century progressed due to accusations of organized bullying, and was often replaced by a pastoral house system, in which a housemaster and his family would live in one part of the house and a group of boys in the other, in small dormitories or individual study-bedrooms. At several schools the housemasters were directly responsible for commissioning their own houses. Good examples from the mid nineteenth century to the early twentieth can be found at many schools, including those by William White at Shrewsbury, where three of the 1880s are listed at Grade II. Broadly speaking, however, with the exception of dormitories, the requirements

of state and public schools were similar; it is the level of investment on buildings and their architectural detailing that mark the latter out. War memorials can further enrich the ensembles, as at Winchester or Clifton (Bristol). After about 1900 and throughout the inter-war period most public schools adopted restrained and traditional styles, and these became a model for the more ambitious local authorities. Departures, from this traditionalism, are however, to be found, like the science lab at Marlborough (Wiltshire; listed Grade II), and a number of additional buildings designed in the International Style (by the American architect William Lescaze) at Dartington (Devon; listed Grade II* and II). The immediate post-war period, saw a continued commitment to traditional architecture, such as the additions at Repton School (Derbyshire) designed by Marshall Sisson in the 1950s; other schools, such as Bryanston (Dorset), have consistently commissioned eminent architectural practices to add to their facilities, from the Architects' Co-Partnership 1950s (which used the same system as for their state schools) in the 1950s to Campbell, Zogolovitch, Wilkinson and Gough in the 1980s.

1.2 Universities and other higher education establishments

Before 1800

Universities in England before 1800 can be summed up in one word: 'Oxbridge'. Colleges at Oxford and Cambridge retain very varying levels of early survivals. Some, such as Corpus Christi, Cambridge, have kept considerable amounts of medieval fabric; others, such as University College, Oxford, were substantially rebuilt in the eighteenth century. The accretive nature of these places is an important element of their special interest. Buildings centrally owned by the universities, such as Oxford's Sheldonian Theatre or Cambridge's Senate House, were few but highly distinguished. A few non-Anglican institutions deserve mention too: these include the notable mid eighteenth-century Nonconformist academy at Warrington, 'the cradle of Unitarianism' (listed Grade II, having been physically re-located), and the notable Catholic seminary at Oscott, north-

west of Birmingham in the West Midlands, opened in 1794, although its present buildings (designed by A W N Pugin and listed Grade II*) date from the 1830s onwards.

University buildings 1800-1945

Oxford and Cambridge universities expanded considerably during the nineteenth century, leading to considerable rebuilding and expansion of earlier college buildings. The Greek Revival, best seen at Downing College, Cambridge by William Wilkins (Grade I, started in 1807), was rivalled by the Gothic and Tudor revivals early in the nineteenth century, to be supplanted by more eclectic historical revivalist styles later on: this approach is particularly well represented by Alfred Waterhouse's additions to Gonville and Caius College, Cambridge of the 1860s (listed Grade II*). Colleges continued to form the basis of much of university life, but central university buildings such as libraries, lecture theatres and, rather later, laboratories steadily increased in number. A notable development was the foundation of the first residential college for women: Girton College, Cambridge (listed Grade II*, by Alfred Waterhouse) was opened in 1869. Basil Champneys' buildings for Newnham, Cambridge (1875 onwards; listed Grade II*) are perhaps the finest.

Outside Oxbridge, there was gradual growth and diversification. As with schools, so with colleges: religious diversity provided a stimulus to higher education foundations. University College, London was opened in 1826 as a non-Anglican place of learning: the Church of England opened King's College as a riposte in 1828. Both occupied fine neo-classical premises, designed by Wilkins and Smirke respectively. The University of London was founded in 1836 as an umbrella examining institution bringing together these rivals, along with the capital's many autonomous colleges and its medical schools (mostly subsumed in teaching hospitals, for which see the [Health and Welfare selection guide](#)). Other colleges such as the Royal Naval School (1843-45, later Goldsmiths' College) were later incorporated into the university. Outside London, 'university colleges' were established which later formed the basis of the so-called 'red brick' universities: Manchester (1851),



Figure 9

Birmingham University is one of the quintessential civic universities of England that were founded in the late nineteenth and early twentieth century. Here the main buildings, designed by Sir Aston Webb and

Ingress Bell (1900-9) in a rich Byzantine Revival style, show how such institutions earned the then derisory nickname of 'red brick universities'. Listed Grade II*.

Leeds and Nottingham (1874), Bristol (1876), Sheffield (1879), Birmingham (1880), Liverpool (1881) and Reading (1892). These offered evening classes and teacher training as their core activities but degrees were offered through extension courses, usually granting London qualifications but occasionally, as at Reading and Nottingham, those of Oxford or Cambridge. Full university status came only gradually. Most of these institutions have a grand centrepiece, demonstrating both architectural and historic/ or cultural interest, but were subsequently greatly (and sometimes cheaply) extended.

Private benefactors could make a major impact on a university or university college campus, as did the Cadbury and Wills families at Birmingham and Bristol respectively and Jesse Boot (Lord Trent) at Nottingham, who commissioned notable

works from leading architects that underscored the growth of higher education across the country and graced many cities with some of their most important public buildings. At Birmingham, a gift of £50,000 from Andrew Carnegie, and another of 25 acres from Lord Calthorpe, allowed the former Mason College to relocate in 1900 as Birmingham University to the first campus site in England with buildings designed by Aston Webb and Ingress Bell (listed Grade II*) Fig 9. The Royal Charter elevating Mason's College established a form of university government which was generally adopted elsewhere. At Bristol, Sir George Oatley's Wills Memorial Building (1915-25; Grade II*) is one of the city's most prominent buildings and one of the last great Gothic buildings in England. Halls of residence, which sometimes incorporate earlier villas, are an important specialist building type. Reading led the way, opening its first hall in 1908,

and the practice pioneered there of single-study bedrooms, with a dining hall, common rooms and a small body of tutors offering pastoral care rather than specialist teaching, became a general model. Most early halls of residence were for women, for whom lodgings or ‘digs’ were widely thought unsuitable, and for whom closer supervision was believed necessary.

University buildings from the earlier twentieth century include some notable additions: Giles Gilbert Scott’s Memorial Court for Clare College, Cambridge (1923-34; listed Grade II*) and his towering University Library beyond it (1931-34; listed Grade II) demonstrate a rare monumentality in an area generally associated with smaller-scale interventions. This tendency reached its climax with Charles Holden’s University of London Senate House (1932-37; listed Grade II*), and Lanchester and Lodge’s Parkinson Building (1926-51; listed Grade II) in Leeds. Percy Morley Horder’s buildings for University College, Nottingham, of 1922-32 (listed Grade II) range from a monumental teaching building to a gentle Arts and Crafts for its female hall of residence. Expanding curricula required better facilities, especially for the sciences.

Other higher education institutions

There was a range of other colleges. A number of diocesan training colleges for schoolmasters – two early examples are Culham (Oxfordshire, 1852) and St Luke’s Exeter (1852-54) – are collegiate in layout but adorned appropriately with cloisters. Medical schools developed separately but were slowly absorbed into the university colleges. Mechanics’ Institutes, originating in Scotland in the 1820s, led the way for colleges of technology, polytechnics and other local-authority institutions that gained autonomous university status in 1992. Technical subjects were taught in the mechanics’ halls and technical colleges, and in London Quintin Hogg founded The Polytechnic in 1882 and the London County Council supported a series of monotecnics devoted to specific trades, such as Bolt Court School of Photo-Engraving and Lithography, founded in 1894. Concern at the poor state of young men’s physical fitness led some institutions to build sport into

the curriculum and provide a gymnasium (as at Woolwich Polytechnic, founded by the London County Council in 1890, where a gymnasium opened the next year). The Royal College of Art (in the City of Westminster) was founded in 1837 as the Government School of Design, and a national system of art schools received state aid from 1841 in order to improve the quality of design in Britain’s manufactures. They were boosted by the Great Exhibition of 1851 and more schools opened in the 1850s and 1860s. Later buildings were often embellished with a rich decorative display, for instance, the terracotta detailing at the School of Science and Art at Weston-Super-Mare, Somerset (1893; listed Grade II) Fig 10, or adopted an avant-garde style as at W.R. Letharby’s Central School of Arts and Crafts College (now the London Institute, 1905-08, in Holborn; listed Grade II*). Art colleges may contain interesting exhibition spaces or, as at the Bury School of Arts and Crafts, Lancashire (1891; listed Grade II), and many others, top-lit studios and weaving sheds.



Figure 10

The former School of Science and Art, Weston-super-Mare, Somerset. Established following the mid-century reforms of Sir Henry Cole and others, schools such as this were created to train the pool of skilled technicians and designers necessary to maintain the country’s industrial dominance. This spirited and architecturally eclectic example was designed by local architect Hans Price in 1893. Listed Grade II.



Figure 11
Churchill College, Cambridge. One of the first Cambridge colleges to do away with the centuries-old tradition of enclosing the buildings within a solid perimeter wall. Nevertheless, Churchill still has a formal entrance, albeit flanked by squash courts and

boiler house. The 1958 design by William Mullins of Richard Sheppard, Robson and Partners sought to maintain the traditions of a Cambridge college in modern dress. Listed Grade II.

Post-war universities

Regular government spending on university building projects via the University Grants Committee began in the 1940s and the introduction of maintenance grants led to a huge increase in student numbers, which more than doubled between 1961 and 1977. The first wholly new university of the post-war period was Keele, in Staffordshire (1950); although unpretentious architecturally, the choice of a country house campus and an emphasis on joint courses was influential. Later university buildings experimented with teaching spines where different disciplines could be taught in adjacent accommodation, and lecture theatres could be shared. Seven new universities followed: Sussex, York, East Anglia, Essex, Kent, Warwick and Lancaster, and there was expansion both in 'Oxbridge' and in 'red brick' universities. The result was a major programme of public building which included some of the finest post-war buildings of all.

The first buildings of the 1950s, generally for science and engineering or halls of residence, mostly adopted a restrained neo-Georgian style, but there were distinguished exceptions found, for instance, in the seventeenth-century revival and gentle modernism of Durham or the traditional styles used for the halls of residence at Nottingham. From the late 1950s a stronger modernism appeared. Oxford and Cambridge vied with each other in the building of new colleges, or the extension of old ones, and had the money to give the best post-war architects the opportunity to build some of their finest work. Cambridge had its own School of Architecture, and therefore in-house designers (notably David Roberts, Leslie Martin and Colin St John Wilson) but it also held competitions, for instance, for the new arts faculty buildings (won in 1952 by Casson and Conder) and the prestigious Churchill College won in 1959 by Richard Sheppard, Robson and Partners; listed Grade II, Fig 11). Oxford, with no architecture

school to advise it, followed the enthusiasm of its surveyor Jack Lankester for Danish architecture and selected Arne Jacobsen for the new St Catherine's College (1961-6, Grade I). Young British talent was also encouraged. For instance, the Architects' Co-Partnership at St John's (Grade II); Powell and Moya at Brasenose (Grade II*); and Howell, Killick, Partridge and Amis at St Anne's (Grade II). These practices were to dominate university building in the 1960s, along with more assertive talents such as Stirling and Gowan (at Leicester and Cambridge); Chamberlin, Powell and Bon (at Leeds and Cambridge); and Denys Lasdun (in London and East Anglia). The Stirling and Gowan engineering building at Leicester of 1961-63 (listed Grade II*, Fig 12) embodies the rejection of stylistic caution and the sheer boldness of

vision that characterises the best university buildings of the period. Many institutions turned for master-planning advice to such architects as Leslie Martin or Hugh Casson, leading to a greater uniformity in post-war university building than was found previously, save in part at Liverpool which had its own strong architectural school.

The new universities were, effectively, new towns. Sussex University (from 1959 onwards, by Basil Spence; listed Grade I and II*) was an integrated complex on a rural site near Brighton. It set a pattern that was developed at the University of East Anglia (where Lasdun was appointed in 1962), containing early examples of residential blocks designed as flats (the 'ziggurats'; listed Grade II*, Fig 13) and reached its ultimate development at



Figure 12
The Engineering Building (1961-3), University of Leicester. Designed by James Stirling and James Gowan and a landmark post-war building. With its clear references to Le Corbusier's Maisons Jaoul and the

architecture of Russian Constructivism the building has laboratories, offices, and a main well-lit block for heavy engineering. Listed Grade II*

Essex University, intended for 20,000 students and where the teaching buildings were set in quadrangles on a raised deck and surrounded by twenty-storey student flats. Sussex's Arts Building (listed Grade II*) also pioneered the concept of placing arts and social science subjects with similar teaching needs in one building with the aim of cross-fertilising ideas. York, Kent and Lancaster secured a still closer integration of residential and teaching spaces.

As in earlier periods, higher and further education colleges have often been regarded as poor relations to the universities, yet there are some notable buildings, designed across a wide stylistic spectrum, ranging from H S Goodhart-Rendel's

idiosyncratic and historicist Westminster College, in Pimlico in the City of Westminster (1952-53; Grade II*) to the Hollings Building at Manchester Metropolitan University (1957-60, Leonard Howitt; Grade II) with its hyperbolic parabolic-arched frame that gives it the nickname 'The Toast Rack'. Another prominent example is the Newton Building at Nottingham Trent University (1956-58, Charles Hyde of T Cecil Howitt and Partners; Grade II*), an imposing landmark building which continued the monumental tradition while demonstrating that city's commitment to higher education. In recent years also, a number of higher education projects by leading architectural practices has continued the tradition of prestigious buildings for study.



Figure 13
The striking sculptural forms of the Norfolk and Suffolk Terraces of the University of East Anglia, known as the Ziggurats due to their shape, were a radical departure from the tradition of university architecture. Designed by Denys Lasdun in 1964-68 as student and resident

tutor accommodation, complex intersecting levels disguised their bulk, and their shape hugged the adjoining teaching spine so that no student need take more than five minutes to get from bed to lectures. Listed Grade II*

2 Specific Considerations

Education buildings are particularly sensitive ones. It needs to be clearly stated that designation and the positive management of these places are in no way incompatible with aspirations for educational improvement. Historic interest and architectural distinction often combine to create inspirational places of learning. Change and re-use are very often appropriate too. School and higher education buildings also contribute greatly to the richness of the local scene.

Individual buildings must be assessed on their own merits. However, it is important to consider the wider context and where a building forms part of a functional group with one or more listed (or listable) structures this is likely to add to its own interest. Examples might include janitor's houses or play-shelters, playground sculptures or free-standing specialist blocks. Key considerations are the relative dates of the structures, and the degree to which they were functionally inter-dependent when in their original uses.

The major issues which will determine whether Education buildings will be designated may be summarised thus:

2.1 Schools

In general it should be remembered that large numbers of schools survive and rigorous selection is required when assessing them for designation. Although their plans became increasingly standardised across the country, some school boards and (later) local authorities provided signature features such as impressive massing and innovative planning that raise them well above the average. In some exceptional cases this might mean listing almost all the surviving schools of the most progressive bodies or councils, but more often than not it should be possible to make a

careful selection of the best or, in some cases, the most typical, local examples. Schools are often, along with churches, notable landmarks and were designed as such: their contribution to the character of historic neighbourhoods should be taken into account as well.

Schools before 1870

School buildings from before 1840 that survive in their original form will normally be already protected, and sometimes at high grades. After this date schools have to be well preserved and of good architectural quality to be listed. Some innovatory examples will be eligible for high grades, as will be the most architecturally sophisticated, as well as those designed by leading architects. The rarest survivals can be very humble, especially pauper and factory schools, and may be easily overlooked because

they are plain and have no distinctive plan form. Their very humility lends them significance, and they should not be judged against grander schools. The survival of internal fittings is likely to add interest.

1870-1914

1870 is a seminal date for assessing schools, with the introduction of school boards and substantial state funding following in the wake of the 1870 Education Act. Large numbers of board schools still survive, which demands care in their assessment. Preservation and degree of survival will be relevant, alongside architectural interest, planning, earliness of date, and the rarity of the type of school in question. External architectural quality is usually the most striking feature of schools of this period, and is a fundamental criterion for listing. Some school boards (especially in the major cities) consistently produced designs of great interest, but a school does not necessarily have to attain these high standards for designation to be warranted: regard should be given to the local context, and the sort of school that is being considered. Interiors matter too: fixtures were generally plain and most plans were formulaic and increasingly standardised: exceptions are thus of interest. Completeness can be most important, and the extent of alteration needs to be determined: losses and ill-proportioned additions can reduce designation-worthiness. Many schools were built piecemeal, and initial compositions were often not completed as intended. Ancillary structures such as carefully designed walls, railings, gates and teacher's houses; specialist units such as domestic science blocks; and unusual features such as covered or rooftop playgrounds and plenum towers will enhance the case for designation. So too can lettering and sculptural embellishment. Some local authorities, notably Derbyshire, instituted designs in the 1900s that were concerned with good ventilation to promote children's health, and where combined with architectural quality and degree of survival can be worthy of designation.

1914-45

Few schools were built during either world war. After 1918 they tended to be on a much larger scale than previously, with more specialist teaching rooms. The assessment of schools of this date must, as before, balance architectural quality with degree of survival. Design standards could sometimes be high, but could equally veer towards the bland. Many schools were in a standardised neo-Georgian idiom; many lack the special interest required for designation at a national level, but there are those with particularly thoughtful design (as manifested in overall composition, good quality brickwork and stone detailing, for instance) which stand out and meet the test of special interest. Internal features can sometimes make all the difference. Examples of pioneering Modern Movement architecture are likely to be small in scale, but they are rare: many are already listed. There were many Dudok-inspired modernist schools built on the cheap in the later 1930s, but only the most boldly massed and complete will be eligible for designation. Detailed internal inspections will reveal the extent of special features (such as panelling in the principal spaces and head teacher's room, of fitted furnishings and the survival of libraries, science laboratories and specialised facilities). For primary schools in particular, an eye should be kept open for features of functional interest, such as evidence of cross-ventilation or some form of open-air planning like fully opening walls, as well as plans that reflect new ideas in child-centred and more creative education. The first nursery schools date from this period. Careful selection is required for open-air and other experimental schools, as their interest is likely to be historical rather than architectural: earliness of date, influence and intactness are likely to be key considerations.

Post-war

To date, relatively few post-war schools have been listed despite it having been a most innovative period, and strict selection will be necessary because so many were built. The main questions to ask are: is it a system-built school that compares well with examples already listed?

Does it use traditional construction in a novel way? Is the planning innovatory, for instance in encouraging constructive play or group working? Is it centred on a library resource or sports facility in a notable way? Is it enriched with significant art? For secondary schools, are distinctions such as grammar, technical, secondary modern or comprehensive expressed imaginatively in their plans and provision? Is it a major work by a significant architect, or a good example of a work by a progressive authority? A secondary school will generally have an overall architectural stylishness as well as being innovative in its construction or plan for listing to be warranted.

2.2 Universities

Most of the older university buildings will already be listed, although grading might sometimes warrant revision. Early twentieth-century university buildings will be judged largely on their architectural quality, and degree of survival may be a factor. Historic interest can also be an issue, as early examples of certain sorts of buildings will have an extra claim to recognition. Degree of survival, group value and internal factors will be key determinants too.

Higher education buildings of the post-1945 period include some of the most exciting buildings of their day, and can be of international importance. Architectural interest will be determined sometimes by questions of successful functionality, as well as by consideration of design quality. Until the 1960s, campuses developed piecemeal but certain groups of buildings, such as those disposed around the central university administrative and governance block, often including the library, emerge as coherent ensembles of overall listable quality. Many universities deliberately sought work by a range of leading architects, following the examples of Yale and MIT at this time. Post-war integrated campuses may justify (if practicable) a holistic approach to designation that takes in the entire site, perhaps including registration of

the landscape setting too. University campuses or other areas where there is a concentration of educational buildings of mixed quality might be amenable to other forms of designation (notably as conservation areas), or a combination of area designation with specific listings.

2.3 Extent of listing

Amendment to the Planning (Listed Buildings and Conservation Areas) Act 1990 provides two potential ways to be more precise about what is listed.

The empowerments, found in section 1 (5A) (a) and (b) of the 1990 Act, allow the List entry to say definitively whether attached or curtilage structures are protected; and/or to exclude from the listing specified objects fixed to the building, features or parts of the structure. These changes do not apply retrospectively, but New listings and substantial amendments from 2013 will provide this clarification when appropriate.

Clarification on the extent of listing for older lists may be obtained through the Local Planning Authority or through the Historic England's Enhanced Advisory Service, see www.HistoricEngland.org.uk/EAS.

3 Select Bibliography

Elain Harwood's *England's Schools: History, Architecture and Adaptation* (English Heritage, 2010) includes a chapter on the designation of schools and is a useful starting point for understanding both the history and significance of school buildings.

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Acknowledgements

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