SUPERSTRUCTURES.
THE NEW
ARCHITECTURE 1960-1990

24 March – 2 September 2018

Large Print Text
This exhibition tells the story of architecture’s revived fascination with engineering and technology in the second half of the 20th century. Architects experimented with industrial processes, assembly methods and materials in order to create a system of building that was both flexible and adaptive. This echoed the technological call at the heart of the early Modern movement.

They developed a distinctive architectural language: exposed steel frames, girders and cross-bracing; glass panels, metal and plastic skins, tensile roofs and membrane canopies; brightly painted duct work, external escalators and lifts. They mixed the utopian and experimental ideas of 1960s modernism with the long tradition of structural engineering. By the late 1970s, it had become known as ‘High Tech’ – a term which has been contested by critics and the architects ever since.

The architects most closely associated with the new architecture were British: Norman Foster, Richard Rogers, Nicholas Grimshaw and Michael and Patty Hopkins. They found inspiration in the industrial construction methods of the United States of America, the advanced engineering of the automotive and aerospace industries and through collaboration with structural engineers. Together, they created new typologies of building for work, culture and leisure, transport and living.
From early experiments in the prefabricated assembly of houses and factories, to international commissions for new museums, office buildings, airports, and research facilities, the new architecture represented an ‘alternative modernism,’ at odds with the prevailing postmodern style of the 1980s. Yet these buildings also embodied the characteristics of our late-industrial, postmodern experience: its accelerated, information-laden nature; the global flows of culture, business and high finance. Their influence can be seen all around us today.

**HOW MUCH DOES YOUR BUILDING WEIGH, MR FOSTER?**

The Sainsbury Centre for Visual Arts opened in 1978. It was the first public building designed by Norman Foster and, together with the Centre Pompidou in Paris by Rogers and Piano (completed the previous year in 1977), embodied a different conception of museum as a place of leisure and learning. Working with the structural engineer Anthony Hunt and the team of Foster Associates, Foster’s proposition was for a lightweight, single-span building which could be extendable at its ends. The enormous and adaptable interior space was achieved by placing all the building’s services inside a double-walled skin. During its construction, the visionary American engineer Richard Buckminster Fuller posed the question ‘How much does your building weigh?’ Foster’s reply demonstrated the innovative quality of his
‘superstructure’: the above-ground weight of the building was only 1/5 of the total, which Foster calculated as 5,618.6 tonnes. The rest lay underground in the concrete substructure (4,507 tonnes). Eventually the building was extended in 1991; this time, extension to gallery and office space was made underground, lit by a crescent wing of glass and steel.

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Central plinth

Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Architectural model
2018
Model maker: Foster + Partners
Metal, acrylic, plastic

Foster + Partners

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Letter from Norman Foster to Richard Buckminster Fuller
4th July, 1978

Courtesy of the Norman Foster Foundation
On wall

Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Covered external terrace
Undated
Draughtsman: Birkin Haward
Ink and marker on cardboard
Facsimile

Courtesy of the Norman Foster Foundation

Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

View from mezzanine
Undated
Draughtsman: Birkin Haward
Ink and marker on cardboard
Facsimile

Courtesy of the Norman Foster Foundation
Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Large Section
Undated
 Unsigned
Ink and marker on cardboard
Facsimile

Courtesy of the Norman Foster Foundation

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Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Drawing of the Sainsbury Centre for Visual Arts
Undated
Maker: Foster Associates
Ink on Paper

The Sainsbury Centre’s design was conceived with flexibility and extendibility at its heart. Interchangeable panels bolt on to a steel skeleton frame, creating a sleek cladding system that flows from the walls to the roof.
The expansive glazing offers a sense of lightness and generous views of the landscape beyond.

Sainsbury Centre for Visual Arts

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Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Cross section through aluminium cladding panels and neoprene gasket
Undated
Maker: Foster Associates
Ink on Paper
Inscribed: ‘To Bob – Happy Birthday – from everyone at Fosters’

This is a cross-section through the neoprene rubber gasket which seals the aluminium panels cladding the building, as well as acting as the gutter. The entire gasket lattice formed the largest known neoprene net in the world, weighing around 26 tonnes. The drawing was given to Sir Robert Sainsbury on the occasion of his birthday.

Sainsbury Centre for Visual Arts

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Beyond the Yellow Bicycle
Undated (c.1985)
Unsigned
Poster announcing lecture

Reyner Banham was one of the 20th century’s most important writers on art, architecture, design and culture. His fusion of diverse topics such as car styling, science fiction and mobile homes revealed a fascination with modern technology that made him an ideal commentator on Foster’s architecture.

Art History Collection, University of East Anglia

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**Projection**

Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Slideshow
2018
Duration: 5 minutes

These photographs document the building of the Sainsbury Centre for Visual Arts, from its site preparation to interior fit out. Sir Robert and Lady Sainsbury were intimately involved with the design and
development of their project. Although the construction process began 3 years before the opening, in 1975, the erection of the steel frame itself only took 3 weeks to complete.

Images courtesy of The School of Art History, University of East Anglia; Foster + Partners; The Norman Foster Foundation

LINK BAY 1

THE ART OF ENGINEERING

The role of the structural engineer was fundamental to the development of the new architecture. During and after the Second World War, military and industrial investment in the accelerated growth of advanced technologies and the development of materials also fuelled new architectural possibilities. Engineering achieved a visionary capacity. The structural and technological innovations developed by architects and engineers such as Richard Buckminster Fuller, Konrad Wachsmann and Frei Otto were adopted by many experimental architects in the 1960s. Flexible, large-span and lightweight structures could be deployed in a wide variety of new building uses. They could be prefabricated and erected quickly even in extreme locations, and adapted for self-assembly.
These methods had their precedent in earlier forms of engineering, too. The ‘superstructures’ of the 19th century, made from iron and glass, had shown how large-scale building systems could be prefabricated and assembled quickly. Innovations such as Joseph Paxton’s Crystal Palace in London (1851), as well as cast-iron wide-span railway sheds and industrial and commercial buildings, were, in the 1960s and 70s, celebrated as precursors of the new ‘High Tech’.

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On wall

Forth Bridge, Scotland, UK
Project date: 1882
Construction: 1882–1889
Architects: Sir John Fowler (1817–1898) and Sir Benjamin Baker (1840–1907). Approaches designed by James Carswell (c.1832–1897)
Structural Engineers: Sir Thomas Tancred (1840–1910), Travers H. Falkiner (1829–1897), Joseph Philips and Sir William Arrol (1839–1913) and Co.

Queensferry cantilever as seen from the south approach viaduct
1887–1888
Photographer: Evelyn George Carey (1858–1932)
Cyanotype with applied colour

This was the first major structure in Britain to be made of steel. It once boasted the longest bridge span in the
world – 541 metres, roughly the length of five football pitches. Its dizzying array of unadorned engineering components produced an industrial aesthetic that would prove influential decades later.

Canadian Centre for Architecture

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Hungerford Market, London, UK
Project date: 1830
Construction: 1831–1833
Demolition: 1862
Architect: Charles Fowler (1792–1867)
Structural Engineers: Grissell and Peto

Plan and view of the metal roof in the centre of the fish market
1835
Draughtsman: Charles Fowler
Ink on paper with pencil annotations

Elevation and section of part of the roof of the fish market
1835
Draughtsman: Charles Fowler
Ink on paper

Plan and view of the metal roof in the centre of the fish market
1835
Draughtsman: Charles Fowler
Ink and wash on paper
Fowler was celebrated for his innovative market buildings, including Covent Garden Market. The freestanding cantilever (counterbalanced) iron roof at Hungerford Market was an early pioneer of open, lightweight structures. His 1826 conservatory at Syon House was the first major building made from metal and glass, and inspired the Crystal Palace.

RIBA Collections

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On plinth

Messe-Leipzig Glass Hall, Leipzig, Germany
Project date: 1993
Architects: Ian Ritchie and Volkwin Marg
Structural engineers: Mero Raumstruktur GmbH & Co. and Glasbau Seele

Architectural model
1994
Model maker: Richard Threadgill Associates
Etched stainless steel, acrylic, painted MDF (medium-density fibreboard)

Enclosing a mammoth 350,000 cubic metres, this ‘winter garden’ is the largest glass hall in the world. The crisply detailed exoskeleton provides attachment points for suspended glass panels that form an uninterrupted glazed interior skin. As an International Exhibition
Centre, the hall evokes the vision for London’s 1851 Crystal Palace.

Ian Ritchie Architects

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**On wall**

Crystal Palace, London, UK
Project date: 1850
Construction: 1851
Dismantled: 1851
Rebuilt: 1854
Destroyed: 1936
Architect: Joseph Paxton (1803–1865)
Structural Engineer: Fox, Henderson and Co.

Panoramic watercolour painting of the Crystal Palace, south elevation
Undated (c.1851)
Unsigned
Drawing/painting on paper

Great Exhibition Building 1851. Plan of ground floor, plan of gallery
26 February 1851
Lithographers: Day & Son
Hand-coloured on paper

Designed for the Great Exhibition of 1851, the Crystal Palace could be considered the world’s first large-scale pre-fabricated building. Its requirements for rapid
assembly, standardised components and a flexible modular plan echo many of the features of High Tech projects that emerged during the following century.

Royal Commission for the Exhibition of 1851

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The Great Victorian Way, London, UK
Project Date: 1855
Unbuilt
Architect: Joseph Paxton (1803–1865)

Design for the Great Victorian Way
1855
Pencil, pen and ink and watercolour

Perhaps the most ambitious unbuilt architectural project of 19th century Britain, this 10-mile iron-and-glass transport loop roughly followed the path of today’s Circle Line. Sealed off from London’s pollution, this vast, continuous structure allowed for pedestrians and carriages, an elevated railway, and even luxury residences and high-end shops.

Victoria and Albert Museum

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Case

Upper Shelf
Crystal Palace, London, UK
Project date: 1850
Construction: 1851
Dismantled: 1851
Rebuilt: 1854
Destroyed: 1936
Architect: Joseph Paxton (1803–1865)
Structural Engineer: Fox, Henderson and Co.

Crystal Palace South Elevation
1851
Draughtsman: Charles Downes
Printed book, paper

Royal Commission for the Exhibition of 1851

Bottom Shelf
Crystal Palace, London, UK
Project date: 1850
Construction: 1851
Dismantled: 1851
Rebuilt: 1854
Destroyed: 1936
Architect: Joseph Paxton (1803–1865)
Structural Engineer: Fox, Henderson and Co.

Transept Roof
1851
Draughtsman: Charles Downes
Crystal Palace, London, UK
Project date: 1850
Construction: 1851
Dismantled: 1851
Rebuilt: 1854
Destroyed: 1936
Architect: Joseph Paxton (1803–1865)
Structural Engineer: Fox, Henderson and Co.

Main Gutters and Rainwater Connections
1851
Draughtsman: Charles Downes
Printed book, paper

Royal Commission for the Exhibition of 1851

Please note that this page will only be on display for the first 2.5 months of the exhibition.

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Structural Engineer: Fox, Henderson and Co.

Details of Vertical, Diagonal Bracing Between Columns 1851
Draughtsman: Charles Downes
Printed book, paper

Royal Commission for the Exhibition of 1851

Please note that this page will only be on display for the last 2,5 months of the exhibition.

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Whole Earth Catalog
California, United States of America
Fall 1969
Published by Portola Institute Inc.

The Whole Earth Catalog was published in the United States of America between 1968 and 1972. It featured information on products to support an ecologically aware, self-sufficient and alternative lifestyle, including prefabricated structures such as domes. The magazine was founded by countercultural guru Stewart Brand, an admirer of Buckminster Fuller.

Private Collection

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On wall

Motor Vehicle, Dymaxion Car
Patent Granted 1937
Signed copy by R. Buckminster Fuller and Norman Foster (4/100)
Facsimile

The Dymaxion concept (DYnamic, MAXimum, tensION) advocated ‘doing the most with the least’. Buckminster Fuller was a visionary inventor whose theories on structural and energy efficiency were well ahead of their time. His Dymaxion cars achieved fuel efficiency through aerodynamic bodywork, and his Dymaxion house kits could be rapidly assembled using industrial materials and factory production techniques.

Courtesy of the Norman Foster Foundation

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Laminar Geodesic Dome
Patent Granted 1965
Designer: R. Buckminster Fuller (1895–1983), Sadao & Zung Architects
Signed copy by R. Buckminster Fuller, Shoji Sadao (b.1927) and Thomas T.K. Zung (4/100)
Facsimile
Geodesic structures are perfect for covering the maximum enclosed volume with the minimal surface area. Additionally, the triangular elements distribute structural stress efficiently, allowing a seemingly lightweight dome to bear surprisingly heavy loads. Fuller popularised the use of ‘geodomes’. Famous examples include his Montreal Biosphere and Disney World’s Epcot Centre.

Courtesy of the Norman Foster Foundation
Image credit: © Ralph Roletschek, Wikimedia Commons

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Climatroffice
Project date: 1971
Unbuilt
Architect: Foster Associates in collaboration with Buckminster Fuller

Section
c.1971
Draughtsman: Birkin Haward
Ink on translucent paper
Facsimile

Foster’s Climatroffice adapted the geodesic dome that Fuller designed for the United States of America Pavilion at Expo 67 in Montreal (now the Biosphere). It reimagines the work environment as a planted landscape of open-plan trays connected by multi-level escalators, all sealed within a glass enclosure. Foster
and Fuller would also collaborate later on their Hammersmith Interchange project.

Courtesy of the Norman Foster Foundation

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Eden Project, Bodelva, UK
Project date: c.1999
Construction: 2001
Architects: Nicholas Grimshaw & Partners
Structural Engineer: Anthony Hunt Associates

Section through the Biomes
1990
Unsigned
Printed CAD drawing

The Eden Project is the largest plant enclosure in the world. Grimshaw, whose student thesis examined Buckminster Fuller’s geodesic structures, proposed interlinked ‘biomes’ that resemble giant soap bubbles landing in the Cornish landscape. The cladding uses double-walled pillows of ETFE, a tough plastic that is a hundred times lighter than glass.

RIBA Collections
Image credit: © Hufton + Crow

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Oxford Ice Rink, Oxford, UK
Project date: 1983
Faced with difficult ground conditions, the architects designed a lightweight suspended structure, avoiding the heavy load of a conventional wide-span roof. The 30-metre tall masts enable the required column-free space inside, while also acting as beacons for the city. Tailored to the ice rink’s function, the cladding utilises industrial cold store panels.

Victoria and Albert Museum. Given by Grimshaw
Image credit: © Ove Arup & Partners

Monitor

Modelling with Soap
Undated (c.1960s)
Director: Frei Otto (1925–2015)
Duration: 1 minute 56 seconds

Frei Otto’s research into tensile structures proved to be hugely influential. In the late 1950s and 1960s he used soap bubbles to experiment with the idea of pneumatically stretched skins as coverings for buildings.
In 1964 he set up the Institute for Lightweight Structures to continue this research, while pioneering the use of masted structures with thin membranes. The undulating acrylic canopies that he draped from steel cables at the 1972 Munich Olympics resembled space-age spider webs.

Courtesy of the ILEK, Institute for Lightweight Structures and Conceptual Design, University of Stuttgart, Germany

On small plinth and side wall

Dynamic Earth Centre, Edinburgh, UK
Project date: 1990
Construction: 1999
Architects: Hopkins Architects
Structural Engineer: Ove Arup & Partners

Architectural model
1998
Model Maker: Hopkins Architects
Timber veneer and metal

Section and Plan
2000
Draughtsman: Hopkins Architects
Paper
Michael and Patty Hopkins have become famous for their innovative tensile structures (fabric membranes stretched under tension between fixed points). Tensile structures enable large uninterrupted internal spaces, and are suitable for lightweight buildings that require flexibility and quick, efficient construction. Everyday examples include tent canopies, or the webbing of umbrellas.

Hopkins Architects
Image credit: © Keith Hunter
**Left wall**

Dome of Discovery, London, UK
Project date: 1950
Construction: 1950–1951
Dismantled: 1952
Architects: Ralph Tubbs (1912–1996)
Structural Engineer: Freeman Fox & Partners

Presentation drawing of the South Bank with the Dome of Discovery
1951
Draughtsman: Douglas Stephens
Pen and ink, wax resist, coloured ink wash and wax crayon on artist’s board; red and black stamped ink and blue manuscript ink

On loan from The National Archives, UK

Festival of Britain Exhibition Complex, London, UK
Project date: 1950–1951
Construction: 1951
Demolition: 1952

Unexecuted design for the Festival of Britain exhibition complex, South Bank, London: aerial perspective showing a large proposed riverside structure in the form of a giant glazed spiral ramp
1950–1951
Marking the centenary of the 1851 Great Exhibition, the Festival of Britain offered a ‘tonic for the nation’ during the post-war years. It showcased examples of British creativity and ingenuity, such as the gleaming aluminium cladding of the Dome of Discovery. Misha Black’s ‘mega-structural’ proposal for the Festival complex, shown here, was unbuilt.

Image credit: © heyday44, flickr.com

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**Front wall**

The Skylon, London, UK
Project date: 1951
Construction: 1951
Dismantled: 1952
Architects: Sir Philip Powell (1921–2003) and Hidalgo Moya (1920–1994)
Structural Engineers: F. J. Samuely and Partners Ltd

Presentation drawing of the Vertical Feature, The Skylon 1951
Designer: James Gowan (1923–2015)
The Skylon, a rocket-like symbol of post-war optimism, was a centrepiece of the Festival of Britain. Combining principles of compression and tension, a system of cables and pylons held the tower in place, giving it the appearance of floating. The twelve-sided steel framework glowed at night, lit internally by tungsten lamps.

On loan from The National Archives, UK
Image credit: Wikimedia Commons © Peter Benton

**PROJECTIONS FOR THE FUTURE**

The engineering and technological innovations of the post-war world were not the only drivers of a new experimental architecture. Set against the social anxieties and challenges of the Cold War, and dissatisfied with the orthodoxy of mainstream modern architecture, a younger generation envisaged how technology and design could be harnessed to create new ways of living and working. These experiments took many practical and imaginative forms.

In 1951, the Festival of Britain celebrated a bright vision of a new age of progress, fuelled by what Prime Minister Harold Wilson would later describe as ‘the white heat of the technological revolution’. By the 1960s, the technologies of the space race and of new media and
communications infected popular as well as architectural imaginings. Others saw in this the potential for greater social change. The critic Reyner Banham argued for an ‘architecture of the well-tempered environment’ in which mechanised services and environmental controls took precedence. The idea of a building that could extend, adapt and be reconfigured by plug-in services and components was imagined on a mega-structural scale by groups like the Metabolists in Japan and Archigram in Britain. The architect Cedric Price, a seminal influence on the new generation of architects, imagined how urban landscapes could be reshaped as networks of knowledge and social interaction.

Image caption: Archigram, Walking City, 1964 © Ron Herron Archive, All Rights Reserved, DACS/Artimage 2018

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Clusters in the Air, Tokyo, Japan
Project date: 1960–1963
Unbuilt
Architect: Arata Isozaki (b.1931)

Grouping of trees (upper left)
c.1960–1962
Draughtsman: Arata Isozaki
Black ball-point pen on wove paper

General view (bottom left)
c.1960–1962
Izozaki was one of the Japanese Metabolists, a group of experimental architects who promoted the design possibilities of ‘megastructures’. His seminal Clusters in the Air project arranged housing units like leaves on a tree, with passageways acting as branches, and trees multiplying to generate an urban ‘forest’.

Canadian Centre for Architecture

*****

Potteries Thinkbelt, North Staffordshire, UK
Project date: c.1963–1967
Unbuilt

Master diagram
c.1963–1967
Draughtsman: Cedric Price
Housing types: crate housing
1963–1967
Draughtsman: Cedric Price
Black ink on tracing paper

Sketch of arrival by rail bus at a faculty siding and moving walkways at Pitts Head transfer area
5 July 1966
Draughtsman: Cedric Price
Ink, graphite and ink stamp on pre-printed translucent paper

The Thinkbelt project was a radical revitalisation of England’s neglected Potteries district. Price proposed a new educational hub for engineering and technology that could re-employ abandoned infrastructure. He envisaged train cars as mobile lecture rooms, gantry cranes servicing temporary enclosures, and industrial containers ‘plugged-in’ as housing pods. It remained unbuilt.

Cedric Price fonds, CCA

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**Right wall**

The Great Vienna Auto-Expander, Vienna, Austria
Project date: 1969
Unbuilt
This utopian proposal imagines the entrance to a parking garage as a giant pinball machine. Industrial imagery dominates, with the exposed steel frame supports and gigantic fragments of muscle car engines ‘clipped on’. The project offers a commentary on the consumer culture and car fetishism of the period.

Victoria and Albert Museum
KIT OF PARTS
The idea of a building as a prefabricated ‘kit of parts’ arose from necessity as well as vision. The ‘mass’ production of homes using materials and assembly techniques adapted from the aircraft and automotive industries was seen as a means to alleviate the war-time housing crisis and to spearhead rapid post-war reconstruction. Designers and engineers such as Jean Prouve in France and Buckminster Fuller in the United States of America were held up as exemplars for their experiments in the 1940s. Other influential projects from this period originated in Southern California and had a profound effect upon British architects in later years: the Case-Study Houses of Craig Ellwood and Charles and Ray Eames, and Ezra Ehrenkrantz’s School Construction Systems Development project. The ‘kit of parts’ idea is a challenge to the contentious definition of ‘High-Tech’, as this approach to building was usually low tech. Architects and designers experimented by improvising: using off-the-shelf industrial materials and components in new configurations. Others sought to design their own systems based on modular and factory principles, although in reality these projects tended to be highly bespoke, and did not progress to mass production. In the 1970s, Michael and Patty Hopkins developed their own ‘Patera’ patented building system for a client, which they then used in the construction of their own office in London.
Front wall

Façade panels for various projects
c.1952
Designers: Jean Prouvé (1901–1984); Ateliers Jean Prouvé, Nancy
Publisher: Société Technique d’Utilisation d’Alliages Légers, Paris
Galerie Patrick Seguin

Vantoux Commune, Metz, France
Project date: c.1950
Construction: c.1950
Architects: Henri and Jean Prouvé (1901–1984)

Main façade sections of the 1st degree school with one class project
c.1950
Draughtsman: Henri Prouvé (1915–2012)
Drawing on paper

Prouvé began experimenting with lightweight, demountable structures during the 1930s. He borrowed
techniques from the emerging automobile and aeronautical industries, using modern materials such as extruded aluminium and sheet steel. He applied these principles to a series of prototype school buildings that required flexible assembly and mass reproduction.

Galerie Patrick Seguin

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View illustrating the construction process for Westville Road School, now Greenside School, Westville Road, Hammersmith & Fulham: the fourth stage of construction, UK
Project date: c.1949–1952
Construction: 1952
Structural Engineer: Unknown

Drawing showing prefabricated construction system for London County Council
1950
Draughtsman: Erno Goldfinger
Ink, crayon, paint on transparent paper

In the years immediately after the war, émigré architect Erno Goldfinger was one of many architects advocating for better school design. He developed a compact, economic construction system using pre-fabricated reinforced concrete frames that could be assembled efficiently.

RIBA Collections
Patera Building System
Project date: 1980
Construction: 1982
Architects: Hopkins Architects
Structural Engineer: Anthony Hunt Associates

Axonometric of panel construction
1982
Draughtsman: Hopkins Architects
Paper

Junction of structure and cladding at base
1982
Draughtsman: Hopkins Architects
Paper

Patera was conceived as a factory-produced building system, assembling off-the-peg workshop buildings in a matter of days from prefabricated components. The cladding provided structural stability and, like the Sainsbury Centre for Visual Arts, was applied to both the walls and the roof. These steel panels were corrugated in the centre, which increased their strength.

Hopkins Architects
On plinth

Patera Building System
Project date: 1980
Construction: 1982
Architects: Hopkins Architects
Structural Engineer: Anthony Hunt Associates

Architectural model
2014
Model maker: Hopkins Architects
Metal etchings and plastic
Hopkins Architects

*****

Left wall

Patera Building System
Project date: 1980
Construction: 1982
Architects: Hopkins Architects
Structural Engineer: Anthony Hunt Associates

Axonometric showing building components
1982
Draughtsman: Hopkins Architects
Paper
Hopkins Architects

*****
Window

From left to centre:
Cafétéria no. 300 demountable chair
c.1950
Designer: Jean Prouvé (1901–1984)
Maker: Ateliers Jean Prouvé
Bent sheet steel, steel tube and molded plywood

Demountable wooden chair CB 22, variation
1947
Designer: Jean Prouvé (1901–1984)
Maker: Ateliers Jean Prouvé
Wood, aluminium and steel

Jean Prouvé’s furniture designs conveyed simplicity of assembly, with forms derived from structural efficiency rather than decorative bravado. Prouvé favoured industrial materials such as sheet steel and aluminium. His innovative engineering solutions and ‘kit of parts’ strategies could be as easily applied to chairs as they could be to houses.

Cité scolaire de La Dullague, Béziers, France
Project date: c.1962
Construction: 1962–1965
Structural Engineer: Unknown

Sun-shutter
1962–1965
Architecture: Jean Prouvé (1901–1984)
Manufacturer: Unknown
Aluminium
Galerie Patrick Seguin

*****

From right to centre:

Lower left rear wing panel Citroën 2CV AK350 van
C.1963–1970
Manufacturer: Unknown (after market part)
Galvanised Steel

During the early 20th century, architects looked for inspiration in other industries such as automobile manufacturing and aeronautical design. This ‘technology transfer’ enabled the use of modern high-performance materials such as galvanised steel and extruded aluminium, and the adoption of efficient factory assembly methods.

Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Original Panel from the Sainsbury Centre for Visual Arts building skin
C.1978
The Sainsbury Centre’s prefabricated modular structure utilises a highly effective inventory of components. The steel framework is clad with panels vacuum-formed from flat sheets, and featuring strengthening ribs. Like Prouvé’s sun-shutter (displayed nearby), these visual textures arise from practical requirements but also contribute complexity and dynamism to the building’s façade.

Sainsbury Centre for Visual Arts
CONTAINERS FOR CULTURE

The 1970s and 1980s marked a new departure in the conception of the museum as a public amenity for the arts and culture. The Centre Pompidou in Paris, completed in 1977, was imagined by its architects as a ‘live centre of information, entertainment and culture’ which would encourage participation, playfulness and learning. Inspired in part by the 1960s visions of Cedric Price and Archigram, the building was conceived as an ‘activity container’ for its multidisciplinary functions. The exoskeletal structure of the building emphasised the idea of mobility and change – the visible movement of its visitors through open plan interiors and external escalators; the facade as a giant, multimedia information screen. As Richard Rogers said, the centre was intended to be ‘not a monument, but a festival.’

Like the Sainsbury Centre, the architectural conception of the Pompidou as a flexible container relied upon the openness of its structural frame and the adaptability of its interiors. The visual impact of the two buildings, however, was markedly different. The commissioning of new arts and exhibition spaces provided many opportunities for architects and engineers to experiment with different forms of container and, in doing so, rethink the social space of culture.

Image caption: Piano + Rogers/Ove Arup & Partners (structural engineers), Centre Georges Pompidou, Paris,
Right wall

Hammersmith Interchange, London, UK
Project date: 1977
Unbuilt
Architect: Foster Associates

North-West South-East Section
Undated
Unsigned
Adhesive screens, ink and pencil on translucent paper
Facsimile

This transport infrastructure hub expanded the earlier ‘Climatroffice’ collaboration with Buckminster Fuller. The ambitious proposal combined a bus and tube station with offices, retail units, restaurants, cinemas, exhibition halls, and an ice rink – all sealed with a cablenet membrane roof. Although public opinion was favourable, the project remained unbuilt.

Courtesy of the Norman Foster Foundation

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Sainsbury Centre for Visual Arts,
Norwich, UK
Project date: 1974
Extension date: 1988
Extension construction: 1991
By the late 1980s, the Sainsbury Centre had outgrown its original 1978 building, and an underground extension was proposed. Using the sloping contours of the surrounding site, the new wing emerges organically into the open, with a curved, glazed frontage offering natural daylight for the internal office circulation.

Southampton City Art Gallery

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**Left Wall**

Fun Palace, London, UK
Project date: 1960–1964
Unbuilt

Helicopter view. Drawing, presentation panel c.1964
Unsigned
Gelatin silver print with applique lettering laid down on hardboard

Cedric Price fonds, CCA
Fun Palace, London, UK
Project date: 1960–1964
Unbuilt

Interior perspective
c.1960–1965
Draughtsman: Cedric Price
Diazotype

Presentation model
c.1964
Model maker: Christopher Woodward
Wood, metal, glass, plastic, paint

This highly influential proposal was for an interactive, adaptable complex for culture and education. As a collaboration with improvisational theatre director Joan Littlewood, the project radiated qualities of experimentation and flexibility. The framework was equipped with information screens and ‘plug-in’ programmable spaces, providing a design roadmap for the Centre Pompidou. Cedric Price fonds, CCA

Inter-Action Centre, London, UK
Project date: 1971–1979
Construction: 1973–1977
This project incorporated many concepts from Price’s ambitious, yet unbuilt, Fun Palace. It provided community services and spaces for performance and relaxation, with ‘clip-on’ ‘Portakabins’ that reflected Price’s interest in flexible, transitory architecture. The building’s engineer, Frank Newby, had designed the Skylon, a structural marvel from the Festival of Britain.

Centre Georges Pompidou, CCA
Centre Georges Pompidou, Paris, France
Project date: 1971
Construction: 1972–1977
Architects: Piano + Rogers
Structural Engineer: Ove Arup & Partners

Section with colour-coded key of parts and functions
1975
Draughtsman: The Practice
Black ink and colour letratone on paper

This multipurpose cultural complex was once described as ‘the British Museum crossed with Times Square’. The building’s expressive structure and colour-coded services were placed on the outside, allowing uninterrupted, flexible space internally. Movement is celebrated throughout, with diagonal escalators, external lifts and a transparent skin creating a dynamic, constantly shifting façade.

Piano + Rogers, courtesy of Rogers Stirk Harbour + Partners
Centre Georges Pompidou, Paris, France
Project date: 1971
Construction: 1972–1977
Architects: Piano + Rogers
Structural Engineer: Ove Arup & Partners

La Galerie Retrospective, Vue Generale (mobile display system)
February 1976
Draughtsman: Richard Soundy
Black ink photocollage and letratone on tracing paper

Piano + Rogers, courtesy of Rogers Stirk Harbour + Partners

*****

Centre Georges Pompidou, Paris, France
Project date: 1971
Construction: 1972–1977
Architects: Piano + Rogers
Structural Engineer: Ove Arup & Partners

Gerberette Bolt Fixing Detail 3
1982
Draughtsman: Shunji Ishida
Red and blue ink on tracing paper

Piano + Rogers, courtesy of Rogers Stirk Harbour + Partners

*****
Centre Georges Pompidou, Paris, France  
Project date: 1971  
Construction: 1972–1977  
Architects: Piano + Rogers  
Structural Engineer: Ove Arup & Partners

Perspective of Centre de Creation Industrielle  
1971–1977  
Draughtsman: The Practice  
Print with added blue letratone

Perspective of Forum entrance foyer  
1971–1977  
Draughtsman: The Practice  
Print with added yellow and blue letratone

Piano + Rogers, courtesy of Rogers Stirk Harbour + Partners

*****

**On smaller plinth in the middle of the space**

Centre Georges Pompidou, Paris, France  
Project date: 1971  
Construction: 1972–1977  
Architects: Piano + Rogers  
Structural Engineer: Ove Arup & Partners

Presentation model  
1971  
Model makers: The Practice
Beaubourq chair
1977
Designer: Piano + Rogers
Maker: Cadestin and Laurent
Wire mesh, steel-tube, perforated metal and natural hide

Neon Gerberette, scale model
2012
Model makers: Renzo Piano Building Workshop
Resin, wood

This is the winning presentation model for the Centre Pompidou design competition, which attracted 681 entrants from 49 countries. Jean Prouvé, an architect-engineer who pioneered the use of industrial materials and techniques, led the jury. The chair, shown alongside, was designed specifically for the Pompidou, and reflects Prouvé’s interests in unadorned components and structural clarity.

Piano + Rogers, courtesy of Rogers Stirk Harbour + Partners

*****

On bigger plinth in the middle of the space

IBM Exhibition Pavilion, multiple locations
Project date: 1983
Construction: 1983–1986
Dismantled: 1986
IBM Exhibition Pavilion, multiple locations
Project date: 1983
Construction: 1983–1986
Dismantled: 1986
Architects: Renzo Piano Building Workshop
Structural Engineer: Ove Arup & Partners

Architectural model
1983
Model maker: Renzo Piano Building Workshop
Wood, metal, plastic and paper

IBM commissioned this temporary pavilion to promote a vision of future technology. The nimble exhibition space was assembled, displayed for a month, then dismantled for the next site, for a total of twenty European venues.

*****

British Pavilion Expo 1992, Seville, Spain
Project date: 1989
Construction: 1992
Architect: Grimshaw
Structural Engineer: Ove Arup & Partners

British Pavilion architectural model
c.1992
Model maker: Unknown
Plastic, wood, metal wire, plexiglass

This temporary structure demonstrated the ‘kit of parts’ approach to quick assembly, using a pre-fabricated tubular frame and pin-jointed connections that avoided any on-site welding. The pavilion offered sun protection through a shield of freight containers and fabric stretched between steel masts and rigging, blending industrial and nautical aesthetics.

Grimshaw
Image credit: © Jo Reid & John Peck

*****
On plinths next to partition and on wall

Cartier Foundation, Paris, France
Project date: 1991
Architects: Jean Nouvel (b.1945) – Ateliers Jean Nouvel
Associated Architect: Emmanuel Cattani (1951–1997) and Partners
Structural Engineer: Ove Arup & Partners

West Façade
24 December 1991
Draughtsman: Ateliers Jean Nouvel
China ink and plastic film on tracing paper

Described as the ‘phantom in the park’, this contemporary art gallery is an exercise in architectural dematerialisation. Nouvel extends the sheet-glass façades and grids of finely tooled steel beyond the internal ‘box’, dissolving the relationship between inside and outside. Cascading staircases and internal activities are dramatically revealed as stages for performance.


Please note that this drawing will only be on display for the last 2,5 months of the exhibition.

******
Cartier Foundation, Paris, France
Project date: 1991
Architects: Jean Nouvel (b.1945) – Ateliers Jean Nouvel
Associated Architect: Emmanuel Cattani (1951–1997) and Partners
Structural Engineer: Ove Arup & Partners

Longitudinal Study
24 December 1991
Draughtsman: Ateliers Jean Nouvel
China ink and plastic film on tracing paper

Described as the ‘phantom in the park’, this contemporary art gallery is an exercise in architectural dematerialisation. Nouvel extends the sheet-glass façades and grids of finely tooled steel beyond the internal ‘box’, dissolving the relationship between inside and outside. Cascading staircases and internal activities are dramatically revealed as stages for performance.

Image credit: © Fondation Cartier

Please note that this drawing will only be on display for the first 2,5 months of the exhibition.

*****

Carré d’Art, Nîmes, France
Project date: 1984
SAINSBURY CENTRE
Architects: Foster Associates
Structural Engineer: Arup, OTH Mediterranée

Architectural model
1984
Model maker: Kandor Modelmakers
Plastic materials, brass and wood

This cultural centre exploits the transparency and lightness of modern materials to allow daylight to permeate every floor. The civic structure cleverly employs precise engineering and ordered repetition to create a finely tuned classical language that mirrors that of the preserved Roman temple alongside it.

Centre Pompidou, National Museum of Modern Art – Centre for Industrial Creation, Paris. Gifted by the Mayor of Nîmes in 1993
Image credit: © Foster + Partners

*****

National Gallery Extension, London, UK
Project date: 1982
Unbuilt
Architect: Richard Rogers Partnership

East Elevation
1982
Draughtsman: The Practice
Black ink on tracing paper
In 1980, the government launched a competition to design a mixed-use building combining a National Gallery extension with commercial retail units. The Rogers scheme incorporated a public plaza beneath gallery spaces above. Although unbuilt, some of the project’s modular elements would be seen in Rogers’ Lloyd’s building a few years later.

Richard Rogers Partnership, courtesy of Rogers Stirk Harbour + Partners

*****

Tomigaya Exhibition Building, Tokyo, Japan
Project date: 1990–1992
Unbuilt
Architect: Richard Rogers Partnership
Co-Architect: Architect 5
Structural Engineer: Umezawa Design Office

Location plan
1990–1992
Draughtsman: The Practice
Black ink and dry transfer (letraset) on tracing paper

Yellow Meccano model
1990
Model maker: Modelshop
Responding to a tight, awkwardly shaped site, this project explored the potential of a vertical, transparent exhibition space with flexible ceiling heights. The attached crane would reposition floors, and could also hoist a mobile display space. The Meccano study model (displayed nearby), exemplifies the project’s adaptable nature and industrial language.

Richard Rogers Partnership, courtesy of Rogers Stirk Harbour + Partners

*****

Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Extension date: 1988
Extension construction: 1991
Architect: Foster + Partners
Structural Engineer: Anthony Hunt Associates

Crescent Wing cross section
2018
Paulina Gottesman
Wall graphic produced from a computer generated architectural drawing

The graphic covering this wall was created by Foster + Partners in 2018 from original design sources to represent the relationship between structure, services and space.
FACTORIES AND SUPERSHEDS

The design of large-span, flexible buildings afforded many opportunities for architects to approach the logistical and organisational demands of industrial change. The seminal Reliance Controls Factory, designed by Team 4 and completed in 1967, set a precedent for the so-called ‘advanced’ factory solutions of coming years. These adaptive, clean workspaces eschewed the image of heavy industry and instead provided environments for precision engineering and assembly for new industries, such as electronics. Many industrial buildings of the period explored the idea of architecture as product design, using prefabrication and ‘dry’ construction techniques. This utilitarian approach also produced a defined aesthetic; coloured plastic or ribbed aluminium cladding, expansive glazed surfaces, structural masts and bracing, and tented canopies.

Production and research facilities and distribution centres were built in this way, across the world. Whilst some buildings were highly bespoke and tailored to the immediate needs of their clients, others anticipated a future of constant renewal and change.

Image caption: Team 4 (Norman Foster, Wendy Foster, Richard Rogers, Georgie Wolton)/Anthony Hunt
On partitions behind section panel

Reliance Controls Factory, Swindon, UK
Project date: 1965
Construction: 1965–1966
Demolition date: 1991
Architect: Team 4 (Norman Foster, Wendy Foster, Richard Rogers, Georgie Wolton)
Structural Engineer: Anthony Hunt Associates

Sectional perspective
Original drawing date: 1965
Print date: 2018
Pen and paper

This project heralded a new age for the modern factory. Emerging industries such as electronics and microprocessors required clean workspaces and shunned heavy manufacturing traditions. The steel structure and services were integrated, allowing for a single fluid space with moveable partitions that could blur boundaries between factory workers, researchers and managers.

Foster + Partners

*****
Herman Miller Factory, Bath, UK  
Project date: 1976  
Construction: 1976  
Architects: Farrell/Grimshaw Partnership  
Structural Engineer: Peter Brett Associates

Elevation  
c.1975  
Unsigned  
Black and green ink pen

Architectural model  
1976  
Model maker: Unknown  
Plywood, plastic, paper model

This building received critical acclaim for its flexible combination of large-span internal spaces and an innovative system of demountable cladding panels. Designed for simplicity, fibreglass, glass and louvred (slatted) panels can be swapped in and out by non-specialist personnel, accommodating the factory’s evolving needs for office, work and break spaces.

Victoria and Albert Museum  
Image credit: © Jo Reid & John Peck

*****

Financial Times Printworks, London, UK  
Project date: 1987  
Architectural model
c.1987
Model maker: Unknown
Plexiglas, wood, metal, paper, 110v electric light

This newspaper production facility uses a frameless structural glazing system to reveal its inner workings. A clear statement of function, it is organised in a linear arrangement that mirrors the activity of the two vast printing presses within. The building was converted later to an internet switching centre, proving its internal flexibility.

Grimshaw
Image credit: © Jo Reid & John Peck

*****

Schlumberger Cambridge Research Centre, Cambridge, UK
Project date: 1982
Construction: 1985
Architects: Hopkins Architects
Structural Engineer: Anthony Hunt
Associates; Ove Arup & Partners (membrane and cables)

Longitudinal section
1985
Draughtsman: Hopkins Architects

58
The soaring masts and billowing fabric roof of this research centre offer both visual poetry and practical solutions for the building’s varied functions. The roof, made of Teflon-coated glass fibre, provides the required height for the drilling-rig test station, and the appropriate character and weather protection for the communal winter garden.

Hopkins Architects
Image credit: © Dave Bower

*****

Greene King Brewery Draught Beer Cellars,
Bury St. Edmunds, UK
Project date: 1976
Architects: Hopkins Architects
Structural Engineer: Anthony Hunt Associates

Cutaway Axonometric Showing Production Process
1980
Draughtsman: Hopkins Architects
Paper

Sectional Perspective
1980
Draughtsman: Hopkins Architects
Paper
The growing popularity of draught beer and the inadequacy of older cellars prompted this new processing plant. The steel superstructure of lattice trusses enables a span of over 3000 square metres. This vast, open shed is ideal for ‘racking’, where casks are cleaned, filled with beer and stored for delivery.

Hopkins Architects
Image credit: © Ken Kirkwood

On opposite wall from the above

Inmos Microprocessor Factory, Newport, UK
Project date: 1982
Construction: 1982–1987
Architect: Richard Rogers Partnership
Structural Engineer: Anthony Hunt Associates

Construction sequence drawing
1980
Draughtsman: Mike Davies
Black ink on tracing paper with letratone

This facility was designed for the delicate assembly of microchips, requiring clean and controlled spaces devoid of dust and vibration. The solution was to move the services outside the building. This external spine was suspended from a steel exoskeleton of masts and cables, allowing for a column-free interior.

Richard Rogers Partnership, courtesy of Rogers Stirk
PATMOS, Patscentre, Princeton, USA
Project date: 1982
Construction: 1982–1985
Architect: Richard Rogers Partnership
Co-Architect: Kelbaugh and Lee Architects
Structural Engineer: Ove Arup & Partners / Robert Silman Associates

Section and perspective
1982–1985
Draughtsman: Mike Davies
Red ink on yellow paper mounted on board

Like the Inmos Microprocessor Factory (shown nearby), this technology research centre uses its brightly coloured exposed structure, and dramatic masts and cables, to communicate an image of its technically advanced work. Both projects were constructed using prefabricated parts, and were conceived as flexible models for a series of repeatable, adaptable factory buildings.

Richard Rogers Partnership, courtesy of Rogers Stirk Harbour + Partners
Image credit: © Otto Baitz / Esto, courtesy of Rogers Stirk Harbour + Partners
Inmos Microprocessor Factory, Newport, UK
Project date: 1982
Construction: 1982–1987
Architect: Richard Rogers Partnership
Structural Engineer: Anthony Hunt Associates

Perspective of steel structural components
1982
Draughtsman: Mike Davies
Coloured inks and red crayon on tracing paper

Perspectival section with annotation and sketches
1980
Draughtsman: Mike Davies
Black ink on print with additions

Richard Rogers Partnership, courtesy of Rogers Stirk Harbour + Partners

Fleetguard, Quimper, France
Project date: 1979
Architect: Richard Rogers Partnership
Structural Engineer: Ove Arup & Partners

Interior perspective of reception area
1980
Draughtsman: David R. Reddick
Black ink on tracing paper
This factory, specialising in engine filters, optimises its materials and maximises its internal flexibility. The masted suspension structure on the exterior of the steel shed allows for thinner, lighter construction materials, simpler fabrication and assembly, and free-flowing interior spaces that can be configured as needed for production, storage and offices.

Richard Rogers Partnership, courtesy of Rogers Stirk Harbour + Partners
Image credit: © Ken Kirkwood, courtesy of Rogers Stirk Harbour + Partners

On plinth

Renault Distribution Centre, Swindon, UK
Project date: 1980
Architect: Foster + Partners
Structural Engineer: Ove Arup & Partners

Architectural model
1980–1983
Model maker: Foster + Partners
Plastic and metal
Centre Pompidou, National Museum of Modern Art – Centre for Industrial Creation, Paris. Gifted by the Artist in 1992

Architectural model, detail of structure
1998
Model maker: Student intern at Foster + Partners
Acrylic, plastic

Foster + Partners

This car warehouse and showroom, notable for its vibrant Renault-yellow skeleton, is a bold example of architectural corporate branding. The brightly coloured tubular masts and arched steel beams form a modular unit that is designed to extend in any direction, creating a flexible structural system that supports the undulating PVC membrane roof.

Image credit: © Richard Davies

*****

On wall, to the right of the door

Renault Distribution Centre, Swindon, UK
Project date: 1980
Architect: Foster + Partners
Structural Engineer: Ove Arup & Partners
SAINSBURY
CENTRE
East Mast with Gridline Beams and Outriggers
1986
Ben Johnson (b.1946)
Oil on canvas

Bollaert/Pettit, Plus One Gallery, London

*****

On wall, to the left of the door

Inmos Microprocessor Factory, Newport, UK
Project date: 1982
Construction: 1982–1987
Architect: Richard Rogers Partnership
Structural Engineer: Anthony Hunt Associates

Inmos Central Spine
1985
Ben Johnson (b.1946)
Acrylic on canvas

The deliberate control and precision of Johnson’s paintings seems ideally suited for capturing the geometric harmonies and patterns of colour within ‘High Tech’ buildings. He uses large format photography as part of his research process, heightening contrasts and sharpening details, and seeking poetry within beams, masts, steel trusses and cross bracing.

Private Collection
The mass movement of people and goods across vast distances shaped the development of architecture and engineering in the 19th century. This produced remarkable feats of large-span construction intended for railway stations, passenger terminals, bridges and ports. These exhilarating and inventive structures were regarded as exemplars for the new architecture.

A century later, the global expansion of air travel, high-speed international rail networks and containerised shipping demanded infrastructure projects of immense complexity, which would often take many years to develop and construct. The architecture of steel and glass provided visual clarity for new air and rail terminals, aiming to create an exciting experience for the traveller whilst at the same time providing for the needs of transit and security. Grimshaw’s International Railway Terminal at Waterloo, for example, was devised to create a ‘sense of wonderment’. Stansted Airport, the third air terminal in London, was designed by Foster bearing in mind the uninterrupted flow of people, from check-in to embarkation.


******
On large plinth

Stansted Airport, Stansted, UK
Project date: 1981
Construction: 1991
Architect: Foster + Partners
Structural engineer: Ove Arup & Partners

Architectural model (original as built scheme)
1982
Maker: Foster Associates
Timber and acrylic

Stansted’s one-level passenger experience has become a model for airports worldwide. The design recaptures the clarity of the route from landside to airside. Turning the building ‘upside down’, services are banished from the roof area to an undercroft. Structural ‘trees’ support a delicate roof canopy, creating a sense of volume and lightness.

Foster + Partners
Image credit: © Nigel Young/Foster + Partners

*****

On grey wall

Stansted Airport, Stansted, UK
Project date: 1981
Construction: 1991
Architect: Foster + Partners
Fred Olsen Amenity Building, London, UK
Project date: 1968
Demolition: 1988
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Cross section
Undated
Unsigned
Ink on translucent paper
Facsimile

Cutaway section
Undated
Unsigned
Ink on translucent paper
Facsimile

This was the first British building to be wrapped in a glass skin with no visible means of support. It was slotted between two warehouses, and the roof spanned
a single column-free space. Internal divisions were flexible, allowing a restaurant, a café and recreational areas to be shared by the Olsen shipping lines’s dockers and office staff.

Courtesy of the Norman Foster Foundation

*****

Corner section

International Terminal Waterloo, London, UK
Project date: 1990
Architect: Grimshaw
Structural Engineer: Anthony Hunt Associates; Cass Hayward & Partners; Tony Gee & Partners; Red de Ferrocarriles Británicos

Waterloo Mould 1 (Structural Component)
c.1991
Model maker: Unknown
Painted wood

Waterloo Mould 2 (Structural Component)
c.1991
Model maker: Unknown
Painted metal

Waterloo Mould 3 (Structural Component)
c.1991
Model maker: Unknown
Painted wood
These moulds and models were used in the fabrication of structural components for the terminal’s train shed. A series of tubular steel structures support the complex array of stainless steel cladding and glazing panels that define the roof of the building.

Grimshaw

*****

**On yellow wall and on smaller plinth**

International Terminal Waterloo, London, UK
Project date: 1990
Architect: Grimshaw
Structural Engineer: Anthony Hunt Associates; Cass Hayward & Partners; Tony Gee & Partners; Red de Ferrocarriles Británicos

Detail elevation
20 October 1989
Unsigned
Print

Victoria and Albert Museum. Given by Grimshaw

Panel armature
c.1988–1993
Unsigned
Ink, pen
Architectural model
c.1991
Model maker: Unknown
Plexiglas, wood, metal, 110v electric light

Grimshaw

This superstructure of glass and steel encloses all the functions required for international train travel. The organic curvature of the terminal’s roof took shape early in the design process. This required an innovative system of struts and glass panel armatures that were standardised and mass reproducible, yet adjustable for their specific position and angle.
CORPORATE CAMPUS

As the recession of the 1970s faded, an increasing number of ambitious commercial developments were led by British architects. During the 1980s, business practices were reshaped by both the property ‘boom’ and the ‘big bang’ in financial operations and information technology. Companies demanded new kinds of working spaces, resulting in some of the most iconic and expressive structures understood as ‘High Tech’.

In meeting this challenge, architects often had to marry the competing needs of tradition and modernity. Rogers’ Lloyd’s of London building, for example, had to accommodate the historic associations of a venerable institution with the fast-pace of technological change affecting global business. Not only that, but it had to do so on a complex, historic site in the heart of London’s financial district. Foster’s HSBC building famously had to incorporate the principles of feng shui in the design for a global bank.

Offices are social as well as work places. Foster’s Willis Faber & Dumas insurance office in Ipswich is widely held to be one of the most innovative corporate spaces of the 1970s. With open plan spaces, a swimming pool, a rooftop restaurant and a garden, it was intended as a democratic environment fostering a sense of community.

Image caption: Foster Associates/Anthony Hunt Associates (structural engineers), Willis Faber & Dumas
On left wall

Willis Faber & Dumas Limited, Ipswich, UK
Project date: 1971
Construction: 1973–1975
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Poolside Reflection
1984
Ben Johnson (b.1946)
Acrylic on canvas

In his painting of the Willis Building’s swimming pool, Johnson’s skill at distilling architectural geometries comes to the fore. Using the reflective surface of the water as an illusionary device, he exaggerates the arrangement of servicing units to generate a dizzying composition of seemingly infinite pipes, ducts and storage tanks.

RIBA Collections

******
IBM Pilot Headquarters
Project date: 1970
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Details
Undated (c.1970)
Unsigned
Adhesive screens and ink on translucent paper
Facsimile

Axonometric
Undated (c.1970)
Unsigned
Medium Ink on translucent paper
Facsimile

Rapidly expanding, IBM commissioned this temporary building while awaiting completion of a permanent office alongside. To accommodate almost 1000 staff within 18 months, the architects devised a quick-assembly structural system using lightweight components and seamless glazing panels. Reflecting IBM’s progressive attitude, internal flexibility enabled the integration of a computer room within the office spaces.

Courtesy of the Norman Foster Foundation
Image credit: © Ken Kirkwood
Olivetti Training School, Haslemere, UK  
Project date: 1969  
Structural Engineer: Unknown  

Architectural drawing  
1969  
Draughtsman: Sir James Stirling  
Pencil, pen and ink on tracing paper  
Victoria and Albert Museum

On plinth

Olivetti Headquarters, Milton Keynes, UK  
Project date: 1970–1974  
Unbuilt  
Architects: Sir James Stirling (1926–1992)  

Presentation model  
1970–1974  
Model maker: John Piper Limited  
Wood, cork, plant material, clear plastic and painted plastic  

Technologically progressive clients such as IBM and Olivetti were keen to engage architects with similar forward-thinking attitudes. Both of Stirling’s projects for Olivetti focussed on flexibility. His training centre was
slotted into an Edwardian manor house, providing separate classrooms for technicians and sales staff. These two splayed wings offered future extendibility due to their structural cladding. His unbuilt headquarters project consisted of a modular flexible-plan ‘supershed’ production facility flanked by a curved glazed office building.

James Stirling/Michael Wilford fonds, CCA

*****

Willis Faber & Dumas Limited, Ipswich, UK
Project date: 1971
Construction: 1973–1975
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Architectural model
1985
Model maker: Foster + Partners
Acrylic, plastic, timber

Set in a historic market town, this corporate headquarters maintains continuity with its urban context. Low-rise, with a free-form plan, it matches the scale of the surrounding buildings. Its curving facade responds to the town’s irregular medieval street pattern, flowing to the edges of its site like a pancake in a pan.

Foster + Partners

*****
On right wall

Willis Faber & Dumas Limited, Ipswich, UK
Project date: 1971
Construction: 1973–1975
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Design for glass retention system (section detail)
1973
Draughtsman: Foster Associates (signed P.B.)
Ink, letraset on polyester drafting film

Designs for the head office of insurance firm
Willis Faber & Dumas Limited
1973
Draughtsman: Foster Associates (signed J.A.H.)
Ink, letraset on polyester drafting film

RIBA Collections

*****

Willis Faber & Dumas Limited, Ipswich, UK
Project date: 1971
Construction: 1973–1975
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

Exterior perspective
1971
The sheath-like frameless glass facade of this building pushed the technology of its day to the very limits. By day, the glass appears almost black, reflecting a fragmented collage of Ipswich’s historic buildings. At night, it dissolves dramatically to reveal activity within. The open plan of the interior floors, linked by central escalators, was designed for maximum flexibility.
Lloyd’s of London, London, UK
Project date: 1978
Architect: Richard Rogers Partnership
Structural Engineer: Ove Arup & Partners

Storyboard of roof plans, plans, sections and elevations for detailed planning submission
1978–1986
Draughtsman: The Practice
Black ink on tracing paper

Captain’s room showing grandfather clock: section 1979
Draughtsman: Andrew Morris
Black ink and collage on tracing paper

The Lloyd’s building was innovative for its in-built flexibility, enabling the dealer room to adapt to the changing needs of the insurance marketplace, and to radical changes in technology and communications. Flexible galleries – arranged around a soaring glazed atrium, criss-crossed with escalators – combine to form a dramatic, uninterrupted trading space.

Richard Rogers Partnership, courtesy of Rogers Stirk Harbour + Partners
On wall next/over plinth and on plinth

Lloyd’s of London, London, UK
Project date: 1978
Architect: Richard Rogers Partnership
Structural Engineer: Ove Arup & Partners

Perspective of ‘Lloyd’s Room’
April 1985
Draughtsman: Mike Davies
Black ink on tracing paper

Axonometric
1978–1986
Draughtsman: Kieran Breen
Black ink on tracing paper

Presentation model (silver early scheme)
1978
Model maker: Philip Wood and Tetra
Acrylic, Styrene, metal etchings, MDF (medium-density fibreboard)

To maximise internal space and flexibility, ‘servant zones’ (stairs, lifts, bathrooms, mechanical services) stand freely in concentrated tower bundles outside the mass of the building. The resulting ‘megastructural’ form
SAINSBURY CENTRE

is sculptural, yet legible, and uses its grammar of functional modules to convey a sense of order and hierarchy.

Richard Rogers Partnership, courtesy of Rogers Stirk Harbour + Partners

******

On right wall

New Square, Bedfont Lakes, London, UK
Project date: 1989
Construction: 1992
Architects: Hopkins Architects
Structural Engineer: BuroHappold Engineering

Sectional elevation of square
1982
Draughtsman: Hopkins Architects
Paper

IBM commissioned a series of three office buildings to form a new campus near Heathrow Airport. The structures consist of exposed steel frames infilled with glass and painted aluminium panels. The central building wraps around a spacious atrium, providing a quasi-external space for office workers, using stretched fabric sunshades suspended from a steel lattice structure.

Hopkins Architects
Image credit: © Paul Harmer
Central square plinth

HSBC, Hongkong and Shanghai Bank Headquarters, Hong Kong
Project date: 1979
Construction: 1983–1986
Architect: Foster Associates
Structural Engineer: Ove Arup & Partners

Architectural model
1983
Model maker: Kandor Modelmakers
Acrylic, plastic, timber

Borrowing techniques from oil-rig construction, this project relied on precision prefabrication and factory-produced modules. The aluminium-clad steel exoskeleton owes much of its conception to bridge design. Entire structural floors hang from suspension trusses (the ‘bridges’) that resemble giant coat hangers. Tubular steel columns provide anchors for these trusses while also neatly packaging the services.

Foster + Partners
Image credit: © Ian Lambot
Central round plinth

Nomos Table for Tecno
Project date: 1986
Designer: Foster + Partners

Nomos Table
Undated
Maker: Tecno
Metal, glass

Sainsbury Centre for Visual Arts

*****

On central partition wall, left to right

Sainsbury Centre for Visual Arts, Norwich, UK
Project date: 1974
Architect: Foster Associates
Structural Engineer: Anthony Hunt Associates

The Sainsbury Centre – Living Area Blinds
1978
Ben Johnson (b.1946)
Ink on paper

Johnson is a painter renowned for his precisionist architectural abstractions. Here, he captures the texture and luminosity of the precision-engineered window shutters that control the environment of the Sainsbury
Sainsbury Centre for Visual Arts

******

Century Tower, Tokyo, Japan
Project date: 1987
Architect: Foster Associates
Structural Engineer: Ove Arup & Partners

Architectural model
1988
Model maker: Foster + Partners
Acrylic, plastic

Responding to complex Tokyo zoning regulations, the architects divided this office tower into two blocks, linked by a narrow atrium. Expressive bracing frames, dictated by seismic engineering requirements, define the external form. Inside, floors are generously spaced at double heights with suspended mezzanines between them, allowing column-free spaces with natural light and views.

Foster + Partners
Image credit: © Martin Charles

******
Nomos Table for Tecno
Project date: 1986
Designer: Foster + Partners

Nomos Table Elements
1999
Maker: Tecno
Metal, plastic

For this furniture system, Foster applies a ‘kit of parts’ strategy and language of precision engineering that is evident in his larger scale design projects. Conceived to integrate with a technologically progressive office environment, the table resembles a lunar landing module, with its gleaming structural components poised and sprung, ready for take-off.

Foster + Partners

*****

HSBC, Hong Kong and Shanghai Bank
Headquarters, Hong Kong
Project date: 1979
Construction: 1983–1986
Architect: Foster Associates
Structural Engineer: Ove Arup & Partners

Interior Perspective
Undated
Draughtsman: Helmut Jacoby
Pencil on translucent paper
Facsimile
Courtesy of the Norman Foster Foundation

Hongkong and Shanghai Bank, conceptual model (4 versions in one model) 1979–1986
Model maker: Foster + Partners
Plastic and metal

Centre Pompidou, National Museum of Modern Art – Centre for Industrial Creation, Paris. Gifted by the Artist in 1992

Designed as a suspended structure, the bank building hoists itself up on steel legs to open up a ground-floor public plaza, which remains a popular picnic spot to this day. Escalators rise up through a glass underbelly, emerging into a vast ten-storey atrium flanked by clusters of offices that form vertical ‘neighbourhoods’.

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Office Conversion for Brewer Jones Graphics, London, UK
Project date: 1985
Construction: 1985
Architect: Andrew Holmes (b.1947)
Structural Engineer: Unknown

Design for an office conversion for Brewer Jones graphics firm, 2nd floor, 7a Langley Street, London 1985
Draughtsman: Andrew Holmes
Planographic print with coloured paste downs

Design for an office conversion (axonometric) for Brewer Jones graphics firm, Langley St, London 1985
Draughtsman: Andrew Holmes
Planographic print

This vibrant and interior scheme for a London graphics firm was inspired by the Manhattan cityscape. Holmes, who had previously worked with Richard Rogers, channelled the colour coding conventions of projects such as the Centre Pompidou and Inmos factory, while also incorporating the industrial imagery of electricity pylons and construction cranes.

RIBA Collections

THE HIGH TECH HOME

The idea of prefabrication in the design of low-cost housing has been around for a century or more. From the 1930s onwards, Jean Prouvé and Buckminster Fuller experimented with factory-produced ‘kits’ which could be assembled on site. The Eames’s house of 1949 was held up as an exemplar of design ingenuity using inexpensive materials. In the 1950s and 1960s, automotive and aerospace design inspired prototypes for plastic ‘monocoque’ (single-shell) dwellings. Demountable structures found widespread use in wartime, and prefabrication was an essential part of post-war reconstruction. However, few of the more
radical ideas were ever mass produced as intended. Grimshaw and Farrell’s Service Tower for a student hostel (1967) was a rare built example of ‘plug-in’ architecture, inspired by Fuller’s Dymaxion concept. Architects associated with ‘High Tech’ produced a number of exceptional private homes, which exploited ideas of lightness, flexibility and structural ingenuity. Although highly bespoke and finely crafted, these buildings were seen as sites of structural and material experimentation for the factory-made dwelling. The Hopkins House of 1976 is perhaps the most iconic of all ‘High Tech’ homes – an essay in simplicity and precision.


*****

Hopkins House Reconstruction

Hopkins House, London, UK
Project date: 1975
Architects: Hopkins Architects
Structural Engineer: Anthony Hunt Associates

Reconstruction of a section
2018
Metal structure by Litestructures Projects Ltd
Photographic backdrop by Pete Huggins
Contract Table

Sainsbury Centre

Original design: 1950
Designer: Charles (1907–1978) and Ray Eames (1912–1988)
Manufacturer: Vitra
Steel, aluminium and melamine composite Board
Sainsbury Centre for Visual Arts

Chairs EA 101

1978
Original design: 1958
Designer: Charles (1907–1978) and Ray Eames (1912–1988)
Manufacturer: Herman Miller
Aluminium and hopsack
Hopkins Architects

Flos Splügen Brau Pendant Lamp
Modern copy
Original design: 1961
Designer: Achille (1918–2002) and Pier Giacomo Castiglioni (1913–1968)
Spun aluminium with clear lacquer coating
Sainsbury Centre for Visual Arts

Venetian Blinds

1977
Original design: 1970s
Designer and Manufacturer: Faber Blinds Ltd
Silver anodized aluminium slats
Hopkins Architects
Demonstrating functional flexibility, Michael and Patty Hopkins’ home also served as a studio for their budding architectural practice, before they moved to a purpose-built office. Resonating with the building’s lightweight construction, the furnishings reflect a similar ethos of modern and efficient materials – with anodized aluminium blinds, demountable Eames tables, and spun aluminium lampshades.

*****

On other side of partition wall, left to right

Zip Up House, various locations, UK
Project date: 1968
Unbuilt
Architect: Richard + Su Rogers
Structural Engineer: Anthony Hunt Associates

Zip Up House model
1968
Model maker: The Practice
Like the Eames House, this speculative proposal utilised mass-produced parts. Featuring bus windows and cladding panels used on refrigeration trucks, it offered rapid construction and excellent insulation, at a low cost. Internal flexibility was possible through mobile partitions that locked into place pneumatically. Extending the structure with additional modules would have been a simple process.

Richard + Su Rogers, courtesy of Rogers Stirk Harbour + Partners

*****

Zip Up House, various locations, UK
Project date: 1968
Unbuilt
Architect: Richard + Su Rogers
Structural Engineer: Anthony Hunt Associates
SAINSURY CENTRE
1968
Draughtsman: John Doggart
Black ink on tracing paper

Assembly with truck
1968
Draughtsman: Mike Davies
Black ink on tracing paper mounted on paper

Richard + Su Rogers, courtesy of Rogers Stirk Harbour + Partners

*****

‘Ad Hoc’ Chair
1968
Designer: Nathan Silver (b.1936)
Manufacturer: Crofton Engineering Ltd
Steel gas pipe, black plastic foam insulation material, wheelchair wheels, bicycle axles and bearings, auto bumper bolts, chromed tractor seat, fluorescent vermilion paint and lacquer

Although not strictly a ‘High Tech’ project, this dining chair demonstrates a similar ‘kit of parts’ approach, with its re-use of industrial elements such as gas pipes, bicycle axles, and even a tractor seat. Silver’s and Charles Jencks’ 1972 book, Adhocism – a manifesto of sorts – defined a new spirit of improvisation and materials experimentation within design and architecture.

Victoria and Albert Museum
Omkstak Chairs
1972
Designer: Rodney Kinsman (b.1943)
Maker: OMK Designs
Pressed steel panels, tubular steel frame

Advertising materials for Omkstak Chair
1978
Designer: Rodney Kinsman (b.1943)
Maker: OMK Designs
Paper

Like the ‘Ad Hoc’ chair and Jean Prouvé’s aluminium panel (both shown nearby), this stacking chair borrows its inventory of materials from other industries. Kinsman initially approached a manufacturer of car and refrigerator parts to produce the factory-made sheet steel components for his Omstak chair.

Courtesy of Prof. Rodney Kinsman RDI, Designer and Chairman of OMK Design

*****
On wall and on small plinth

Hopkins House, London, UK  
Project date: 1975  
Architects: Hopkins Architects  
Structural Engineer: Anthony Hunt Associates

Architectural model  
2017  
Model maker: Hopkins Architects  
Metal etchings and plastic

Section through house  
1977  
Draughtsman: Hopkins Architects  
Tracing paper

This architects’ home takes inspiration from the trailblazing, prefabricated Californian Case Study Houses, most notably the 1949 Eames House. The lightweight, precision-assembly structure boasts lattice trusses, exposed cross bracing, steel cladding panels and full-height sliding windows. The vivid blue of the structural skeleton contrasts with the sleek grey-steel cladding, instantly animating the building.

Hopkins Architects
On plinth

Service Tower for Student Housing, London, UK
Project date: 1965
Construction: 1967
Architect: Farrell/Grimshaw Partnership
Structural Engineer: Ove Arup & Partners

Bathroom Modules architectural model
c.1967
Model maker: Unknown
Plastic, plexiglass

Organised around an efficient spiralling ramp, this independent tower provided bathroom and laundry facilities for a student housing block. It supplied an average of four service units per floor. Evoking the utopian drawings of Archigram, a crane hoisted the ‘plug-in’ modules into place. Grimshaw commissioned a dinghy maker to fabricate these pods.

Grimshaw
Image credit: © Tessa Traeger

*****
On wall

The Retreat, Creek Vean House, Feock, UK
Project date: 1964
Construction: 1964–1966
Architect: Team 4
Structural Engineer: Anthony Hunt Associates

Study for Wendy hut [Section and Perspective]
Undated
Unsigned
Pencil on translucent paper
Facsimile

Perspective
Undated
Unsigned
Ink, pencil and wax crayon on translucent paper
Facsimile

This gazebo retreat was part of a private house project for one of the architectural team’s parents. Located in the grounds of the house at a favourite picnic spot, the crystalline structure breaks the surface of the sloping bank and faces towards the sea like the cockpit of a plane or boat.

Courtesy of the Norman Foster Foundation
Image credit: © Camera Craft

******
Design for a flat, Hampstead, London, UK
1981
Unsigned
Ink, letraset on polyester drafting film

This was a design for the architect’s own London flat. Jiric na, who had worked on the Lloyd’s Building, developed an interior scheme characterised by bold pops of colour and industrial references. Green studded rubber surfaces lined the bathroom, toolkit shelving trays served as kitchen canisters, and bright yellow pool inflatables provided dining seating.

RIBA Collections
Image credit: © Arcaid Images/Alamy Stock Photo

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Federation du Bâtiment, Paris, France
Project date: 1948
Construction: 1949–1951
Structural Engineer: Unknown

Panel
1949
Prouvé was hugely influential with his early 20th century experiments with lightweight, prefabricated structures. Borrowing techniques from the emerging automobile and aeronautical industries, he demonstrated the architectural capabilities of modern materials such as aluminium and sheet steel.

Galerie Patrick Seguin

*****

**On plinth**

Prouvé House
Project date: 2013 (based on a 1944 design by Jean Prouvé)
Architect: Rogers Stirk Harbour + Partners

Demountable House model
2015
Model maker: RSHP Modelshop
Oak timber and oak veneer, acrylic, various 3D printed components

Prouvé’s ‘6x6 Demountable House’ was originally designed to supply rapid-assembly emergency housing for French villages devastated by wartime bombing. In this adaptation, external bathroom and kitchen pods are
‘plugged in’, modernising it for use as a holiday home while maintaining the internal flexibility. It offers future possibilities for refugee housing and post-disaster relief shelters.

Rogers Stirk Harbour + Partners

*****

**On wall**

Rogers House, London, UK
Project date: 1968
Architect: Richard + Su Rogers
Structural Engineer: Anthony Hunt Associates

Project drawing: Road elevation
1968–1969
Draughtsman: John Young
Print on tracing paper

Project drawing: Plan
1968
Draughstman: The Practice
Black print on tracing paper

This home, designed for the architect’s parents, was a distillation of the earlier unbuilt Zip Up House project (shown nearby). Rogers describes the building as ‘a transparent tube with solid boundary walls’. Designed for maximum privacy and seclusion, the house consists of
two separate elements facing on to an internal garden courtyard.

Richard + Su Rogers, courtesy of Rogers Stirk Harbour + Partners
Image credit: © Richard Bryant / Arcaid Images courtesy of Rogers Stirk Harbour + Partners

*****

Foster’s House, London, UK
Project date: 1978
Unbuilt
Architect: Foster Associates

Section
Undated (c.1978)
Unsigned
Ink, correction fluid, adhesive film and dyeline fixed on board
Facsimile

This unbuilt house project was conceived the same year that the Sainsbury Centre opened, and applies many similar concepts, but on a more intimate, domestic scale. A bold, expressive steel exoskeleton provides a structural frame to which various elements can be clipped on, including cladding panels, bathroom modules and shelving units – providing internal adaptability.

Courtesy of the Norman Foster Foundation
Projection

The High Tech Home
Slideshow
2018
Duration: 1 minute

The private house was a site of technological and material experimentation throughout the 20th century. Prototype homes by Charles and Ray Eames, Jean Prouvé, Pierre Koenig, Pierre Chareau and Buckminster Fuller were sources of inspiration for the High Tech home, especially in their use of steel frame construction, industrial materials, prefabricated and modular construction.

*****

RETAIL

The 1980s economic boom also brought about significant changes within the retail industry in Britain. This included the growth of superstores, the proliferation of high street brands with homogenised design identities, and the rise of a ‘designer’ sector in fashion and homewares. The British High Street was reshaping itself, as understood by Michael and Patty Hopkins in their intelligent proposal for the regeneration of Basildon Town Square in 1981.
The visual language of the new architecture was often imitated in the design of out-of-town superstores. The ‘big shed’ idea obviously lent itself to large volume retail, as did the use of tented canopies and masted structures to add distinction to bland and inexpensive containers. Some architects, however, got the opportunity to work closely with retailers and propose more radical solutions, such as Grimshaw’s collaboration with Sainsbury’s in Camden in 1985.

The high finish, industrial materials and cool minimalism of ‘High Tech’ also found favour with high-end fashion companies keen to create a holistic relationship between the interior space of the shop and the clothes on display – as seen in Eva Jiricna’s longstanding collaboration with fashion retailer Joseph Ettegui.


*****

To left of section panel

Sainsbury’s Superstore, London, UK
Project Date: 1985
Architects: Grimshaw
Structural Engineer: Kenchington Little & Partners

Elevation to Camden Road
January 1986
Tracing paper, computer-aided design with ink pen and collage

Section: interior perspective

This building’s skeletal steel-framed structure accommodates a deep, open-plan shop floor. A vault of curved trusses spans the entire retail area, enabling a column-free space for flexible arrangements of shelving, refrigeration and cashiers. Full-height glazing encloses the supermarket, and the upper level is wrapped with elegant aluminium cladding and strip windows.

Proposal for the Enclosure of Basildon Town Centre Square, Basildon, UK

Longitudinal section through square

Draughtsman: Hopkins Architects
Tracing paper
Basildon, one of Britain’s first post-war New Towns, saw rapid development during the 1960s and 1970s. Population growth quickly outpaced shopping developments, and efforts were made to redevelop the town’s commercial centre. Hopkins’ ambitious project, although unbuilt, demonstrates the potential of extensive, large-span masted structures within civic contexts, to provide a sense of cohesion and community.

Hopkins Architects

******

On plinth

Katharine Hamnett Store, London, UK
Project date: 1986
Construction: 1986–1987
Architect: Foster Associates
Structural Engineer: BuroHappold Engineering

Architectural model
1986
Model maker: Foster + Partners
Acrylic, timber, plastic

This scheme converted a dilapidated two-storey industrial building into a bright, single space for a high-end fashion brand. By ‘stitching-in’ a ring of new steel lacework, the architects could remove existing floors and utilise historic structural cast-iron columns. The elegant
detailing and precision engineering of ‘High Tech’ echoed the language of craftsmanship promoted by luxury brands, making such collaborations ideal.

Foster + Partners
Image credit: © Richard Bryant/Arcaid Images
EVENING EVENTS

Professor Jane Pavitt
Thursday 26 April, 6–7pm
Join Professor Jane Pavitt, co-curator of SUPERSTRUCTURES: The New Architecture 1960–1990, for an engaging illustrated lecture introducing the key themes of this exciting exhibition.

Reyner Banham and the Paradoxes of High Tech
Professor Todd Gannon
Friday 8 June, 6–7pm
On the occasion of this special exhibition, Professor Todd Gannon joins us from the United States to give an evening lecture, and conference keynote, focusing on his recent research on Reyner Banham.

Sainsbury Centre Slide Show
Thursday 14 June, 5–7pm
An evening presentation of some rarely-seen vintage images of the Sainsbury Centre building from the UEA’s slide library archives introduced by Curator of the Photographic Collections, Dr Nick Warr.
LUNCHTIME TALKS

From structure to space: the ineffable dimension of architecture
Dr Ana Rute da Costa, Lecturer in Architecture, Norwich University of the Arts
Thursday 17 May, 1.15–1.45pm

High Tech into High Rise. British public housing in the 1960s
Professor Stefan Muthesius, UEA Honorary Professor, School of Art, Media and American Studies
Thursday 24 May, 1.15–1.45pm

ARTIST-LED TOURS OF THE BUILDING

See the Sainsbury Centre with fresh eyes with this series of artist-led explorations of the building.
Peter Nencini
Friday 1 June, 3.30pm
James Epps
Friday 22 June, 3.30pm

Superstructures on the Move – a tour of Cambridge and Suffolk buildings with Alan Powers
Saturday 14 July, 9.30–6pm
Programmed in association with the Twentieth Century Society, architectural historian Alan Powers will lead a tour of Superstructures of the eastern region.
‘Behind the Scenes’
Building tour with David Rees
**Sunday 16 September, 2–2.45pm, 3–3.45pm repeat**
Join David Rees, Head of Technical Services, for a special tour of the Sainsbury Centre. See behind the scenes and explore areas of the building not usually open to the public.

Sainsbury Centre at Cinema City
How much does your building weigh, Mr Foster?
**Monday 7 May, 5.30pm**
Cinema City
*How much does your building weigh, Mr Foster?* traces the life and work of celebrated architect, Lord Foster. Introduced by film expert Chris Rodden, the screening will be followed by a panel discussion considering the impact and legacies of Foster’s first public building, the Sainsbury Centre for Visual Arts. This event is in partnership with RIBA East and the Norfolk Association of Architects

**Friday 8 & Saturday 9 June**
Programmed in partnership with Modern Interiors Research Centre at Kingston University, this one-and-a-half-day conference at the University of East Anglia will bring together a wide range of international architecture and design historians to explore the influences and legacies of this iconic building style.
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