

ENGINEERING A GENERATION

IAN RITCHIE'S NEW MEMOIR NOT ONLY RECALLS HIS CAREER AS THE "GLASS MAN," BUT IT ALSO DOCUMENTS THE RISE OF A MUCH CELEBRATED AND TECHNOLOGICALLY SAVVY GROUP OF BRITISH ARCHITECTS.



Ritchie's Messe-Ingolstadt Glass Hall in Germany

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A THREE-PART BBC television series, *The Brits Who Built the Modern World*, that aired earlier this year, examines the legacy of Norman Foster, Hon. FAIA, Richard Rogers, Hon. FAIA, Michael Hopkins, Hon. FAIA, Nicholas Grimshaw, and Terry Farrell. The title doesn't feel like hyperbole. This generation of architects—all born in the 1930s—has made British architecture an ascendant force in its design, innovation, and global reach.

How did such an accomplished group of architects surface at the same time in the same place? A partial answer can be found in a new book by a British architect of a succeeding generation, Ian Ritchie, Hon. FAIA. *Being an Architect* (Royal Academy Publishers, September) is a two-volume memoir of an

architect learning his craft, creating a practice, and discovering himself in the process. The book describes Ritchie's work, built and unbuilt, and compiles a collection of previously published writings, personal essays, poems, and aphorisms. My favorite Ritchieism is "Glass is the answer but what was the question?"

Ritchie is less well-known in the United States than in Europe, where he is sometimes called the "Glass Man." In the 1980s, with engineer Peter Rice and industrial designer Martin Francis, he founded Rice Francis Ritchie, a design engineering firm that was involved in a number of former French president François Mitterrand's *grands projets*, notably I. M. Pei's glass pyramid at the Louvre in Paris, the glazed roofs over Pei's three sculpture court at the Louvre, and the façade of French architect Adrien Fainsilber's La Cité des Sciences et



1675 Construction begins on Christopher Wren's St Paul's Cathedral in London

1788 John Soane named architect to the Bank of England

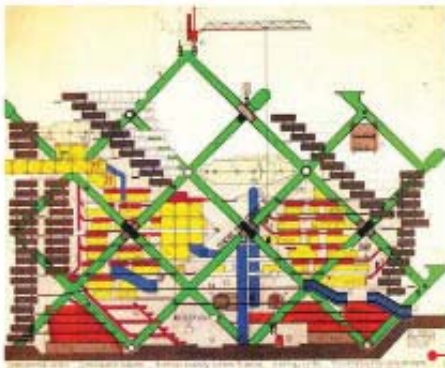


1851 The Great Exhibition held at the Crystal Palace in London

1912 Edwin Lutyens completes The Salutation in Sandwich, England



1928
Pierre Chareau begins construction on La Maison de Verre in Paris



1961
Peter Cook, David Greene, and Michael Webb form Archigram

de l'Industrie at La Villette. His current firm, London-based Ian Ritchie Architects, continues to explore the art of construction in diverse projects: an immense glass-roofed exhibition hall in Leipzig, Germany, that rivals the former Crystal Palace in size; the Spire of Dublin, a monumental stainless-steel spike that soars 400 feet in the air; an urban design project in west London; and a projected pedestrian bridge in Stratford, light as a feather.

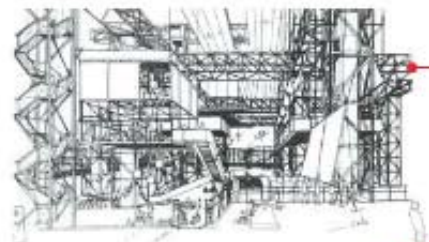
Ritchie came of age, professionally speaking, just as British architecture was emerging from the doldrums. The high point of the immediate postwar period had been the South Bank Exhibition of the Festival of Britain in 1951, whose style the critic Reyner Banham once described as "fimsy and effeminate." The 1960s were not much better. British architecture bulked up as modernists copied Le Corbusier's *béton brut*, but without the master's brio. The results were ungainly concrete hulks and Ville Radieuse-style housing projects, such as Thamesmead South in London, whose dystopian bleakness



1945-66
Case Study Houses built (Eames House pictured)



1951
Festival of Britain held at Southbank Centre site in London (Dome of Discovery pictured)



1961-64
Cedric Price designs Fun Palace



1971
Richard Rogers, Renzo Piano, and Ove Arup win the Centre Pompidou commission; Foster wins the Willis Faber & Dumas commission



1914
Bruno Taut builds Glass Pavilion in Germany

1932
Richard Neutra completes VDL Research House I in Los Angeles

1935
Le Corbusier publishes *La Ville Radieuse*; Erich Mendelsohn and Serge Chermayeff build De La Warr Pavilion in Bexhill-on-Sea, England

1946
Ove Arup establishes his engineering business in London

1956
Peter Rice and Edmund Happold join Arup's firm

1961
I. M. Pei completes Government Center master plan for Boston

1962
Anthony Hunt forms his firm in London

1963
Charles Moore designs Sea Ranch; Arup Associates formed with Philip Dowson, becomes Ove Arup & Partners in 1970; English firm Team 4 established by Su Brumwell, Wendy Cheesman, Norman Foster, and Richard Rogers; Paul Rudolph's Yale Art & Architecture Building completed

1965
Nicholas Grimshaw and Terry Farrell form their partnership

1966
Louis Kahn appointed the architect of the Kimbell Art Museum in Fort Worth, Texas

1967
The firm Team 4 dissolves

1968
First residents move into Thamesmead South



1969
Peter Eisenman builds House II in Hardwick, Vt.



1974
Foster wins commission for Sainsbury Centre for Visual Arts in Norwich, England

1979
Foster wins commission for Hongkong and Shanghai Bank Headquarters in Hong Kong

1980
Nicholas Grimshaw and Partners is formed

1983
Kenneth Frampton publishes *Towards a Critical Regionalism*



1986
Adrien Fainsilber and Peter Rice's Cité des Sciences et de l'Industrie completed in Paris

made the perfect setting for droog violence in Stanley Kubrick's film adaptation of *A Clockwork Orange*. To an outsider, it appeared that the Brits lacked some essential creative DNA. James Stirling aside—and his eccentric buildings had serious functional shortcomings—there was little to celebrate. The country that had produced Christopher Wren, John Soane, and Edwin Lutyens seemed to have lost its way.

That changed in the 1970s. Foster burst on the scene with two back-to-back masterpieces, the Willis Faber & Dumas Headquarters in Ipswich, and the Sainsbury Centre for Visual Arts in Norwich, and Rogers and Renzo Piano, Hon. FAIA, set the world on its ear with the Centre Georges Pompidou in Paris. In the following decade, Foster topped his earlier successes with the stunning Hongkong and Shanghai Bank Headquarters in Hong Kong, which was equalled by Rogers's Lloyd's building in London. Along the way, London became an architectural petri dish, spawning one creative talent after another.



1972
Robert Venturi, Denise Scott Brown, and Steven Izenour publish *Learning from Las Vegas*

1976
Edmund Hoppold leaves Arup and starts Buro Hoppold

1977
Charles Jencks publishes *The Language of Post-Modern Architecture*



1986
Richard Rogers completes his Lloyd's of London building



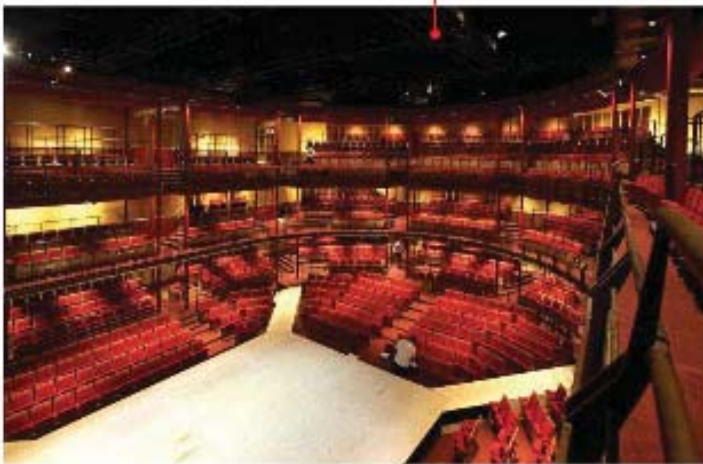
1989
Louvre Pyramid finished

1991
Ian Ritchie's Ecology Gallery Natural History Museum opens

1992
Ritchie begins work on the Messe-Leipzig Glass Hall



2003
Ritchie's Spire of Dublin in Ireland completed



2005

Ritchie begins work on the Royal Shakespeare Company's Courtyard Theatre



2011

Ritchie's Silhouette design shortlisted in the Royal Institute of British Architects' Pylon Design Competition



2014

Ritchie publishes *Being: an Architect*

The professional connections resemble a Venn diagram: Rogers and Foster started out as partners in the 1960s; so did Farrell and Grimshaw. Foster and Hopkins were partners in the 1970s. Jan Kaplický and David Chipperfield, Hon. FAIA, both worked for Foster as well as for Rogers; Richard Horden worked for Grimshaw and Foster; and Ritchie worked on both the Willis Faber project and the Sainsbury Centre.

Architectural critics and the media lump these architects together under the rubric "high tech." Although it's always hazardous to pigeon-hole creative people, there are some clear commonalities. Their buildings tend to be lightweight and to favor steel and glass; they push structural limits; and they use advanced industrial materials and building techniques. In the 1980s, these qualities set the high-tech architects apart from their contemporaries elsewhere. At a time when Americans were caught up in the arcane issues raised by Postmodernism, critical regionalism, and semiotics, the Brits were more interested in

answering the question, “How do you build the bloody thing?”

The curious thing about the British techies is that they were influenced by America. Not by the postmodern America of Robert Venturi, FAIA, Charles Moore, and Peter Eisenman, FAIA, but by an earlier era—specifically, by the seminal work of Charles and Ray Eames in Southern California in the 1940s and '50s (to this day, Rogers and Foster regularly use Eames chairs in their projects). It was Richard Neutra who introduced skinny steel-and-glass Modernism to California. Lightweight Modernism, as it might be called, had been pioneered by architects Bruno Taut, Pierre Chareau, and Erich Mendelsohn (Neutra's one-time employer). Despite the fame of Los Angeles's iconic Eames House and the Case Study Houses of Craig Ellwood and Pierre Koenig, California Modernism never took hold in the United States. It was overshadowed by the heroic—and concrete—Modernism of East Coast architects such as Louis Kahn, Paul Rudolph, and I. M. Pei, FAIA. Heavy trumped light.

The unexpected re-emergence of Lightweight Modernism in Britain was due to several factors. One was the reaction against Brutalism. Another was the spadework done by Archigram, a group of architects whose brash futurism, irreverent gadgetry, and stylish youthful glamor were part of Swinging London. Archigram built almost nothing, but its theoretical projects, which were a combination of American aerospace technology and sci-fi imagery, were undeniably influential. Another intellectual presence was Cedric Price, whose unbuilt Fun Palace project is said to have been a model for the Centre Pompidou.

Although Archigram was mainly about image, Foster et al. were interested in actual building performance: structure, construction, energy, adaptability. This required engineering know-how. It turned out that at the same time as architects were interested in engineering, there was a cadre of creative engineers who were interested in architecture. Britain has a strong engineering tradition—think Joseph Paxton and Isambard Kingdom Brunel. But the two professions are not natural allies; they have different histories, different educations, and different working methods. The two came together thanks to several exceptional postwar British engineers, notably Frank Newby and Ove Arup. Between them, they trained a generation in the field, including Anthony Hunt, Peter Rice, and Ted Happold—engineers who were ready to work with architects, not as consultants, but as active collaborators.

Arup, whose influence on British architecture cannot be overstated, preached—and practiced—teamwork. His firm included

architects as well as mechanical and structural engineers. If there is a single secret to the success of this generation of British architects, I think it lies here. Of course, all large building projects required teamwork, but this was different. The architect took on the responsibility—and sometimes the liability—of coordinating and leading. The team involved many disciplines from the very beginning of the design process, and often included builders, fabricators, and manufacturers. The aim of this teamwork went beyond mere collaboration and instead focused on innovation and, occasionally, even experimentation.

Ritchie, who worked at Arup's Lightweight Structures Group, once described this process as “a mixing of cultures to create the soup of inventive creativity.” *Being: an Architect* describes one of his projects that illustrates the point. In 2004, the Royal Shakespeare Company (RSC) was renovating its theater in Stratford-upon-Avon, and required a temporary home for three years. A 600-seat building was estimated to cost £16 million. Ritchie, a governor of the RSC who has designed several theaters, believed that it was possible to build a temporary 1,000-seat theater for £5 to £6 million. Moreover, he claimed that it could be done—design, approvals, and construction—in 18 months.

He accomplished this by streamlining the process: Design time was reduced to six weeks, the Dutch contractor was brought in before planning approvals were complete, and the design of the structurally independent auditorium was only finalized as the exterior enclosure was being built. The enclosure is a soundproof box whose self-supporting skin is constructed out of interlocking, folded Cor-Ten A steel panels, using a technique that somewhat resembles steel-sheet piling. Not only does the oxidizing steel require no external finish, but its warm red color blends well with the mainly brick historic neighborhood, and the material is recyclable when the building is dismantled. The roof design, proposed by the contractor, is a series of portal frames supporting similar steel panels.

The building was completed for £5.68 million and opened in time for the 2006 season. The Courtyard Theatre, as it's now known, proved to be a hit with both actors and audiences. It turned out to be pretty good architecture, too; the building won an Royal Institute of British Architects (RIBA) National Award, and was shortlisted for the RIBA Stirling Prize. Following the move to its new theater, the RSC decided not to demolish the rusty box. Ian Ritchie Architects is currently completing a conversion that will include a 300-seat studio theater, rehearsal halls, and costume and prop storage. This is one creative soup that was so good it was worth reheating.