

# LIGHTING

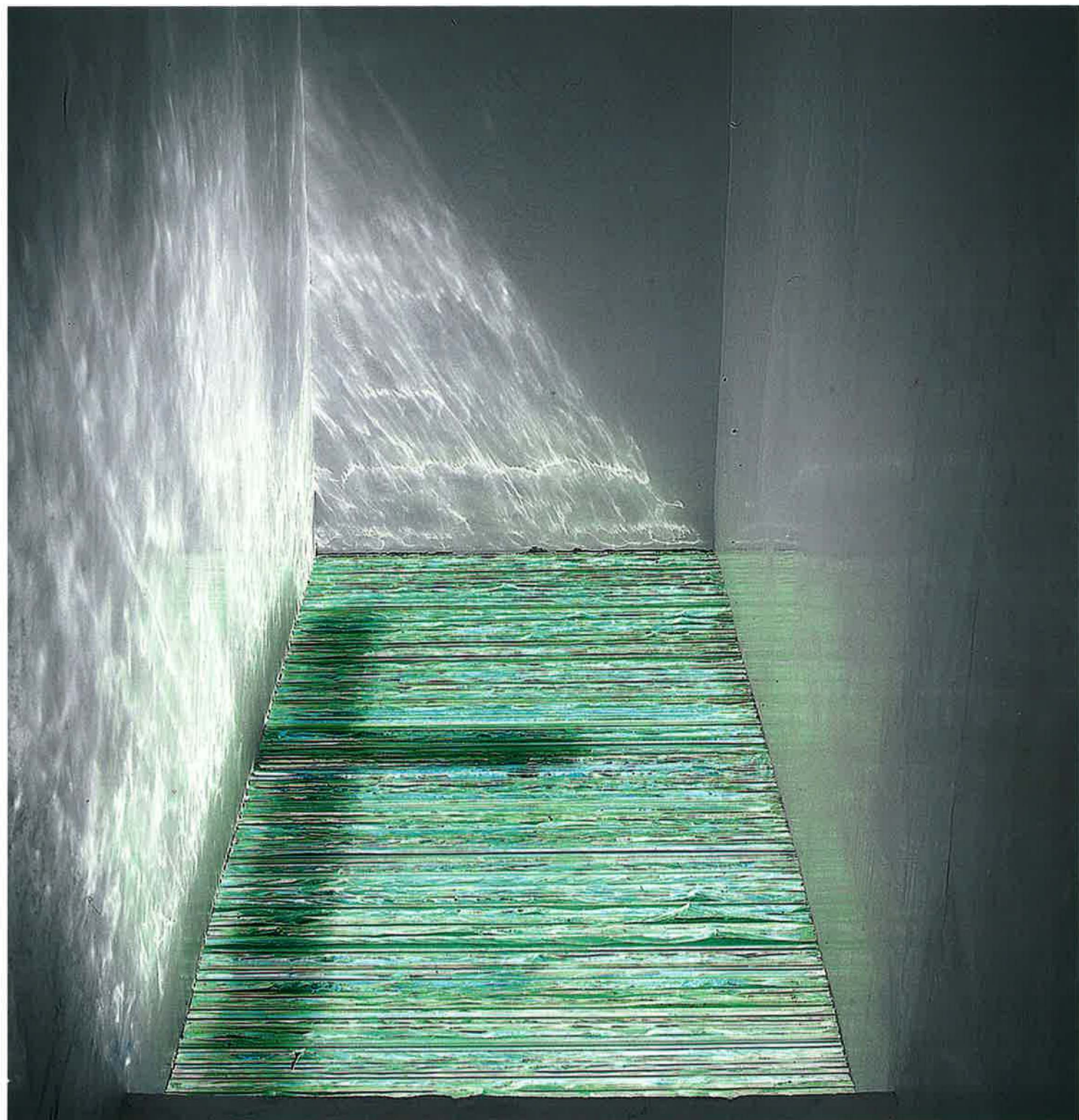
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SPECIAL ISSUE: LDA SHORTLIST 2020/21 | HENRY PLUMMER | IAN RITCHIE



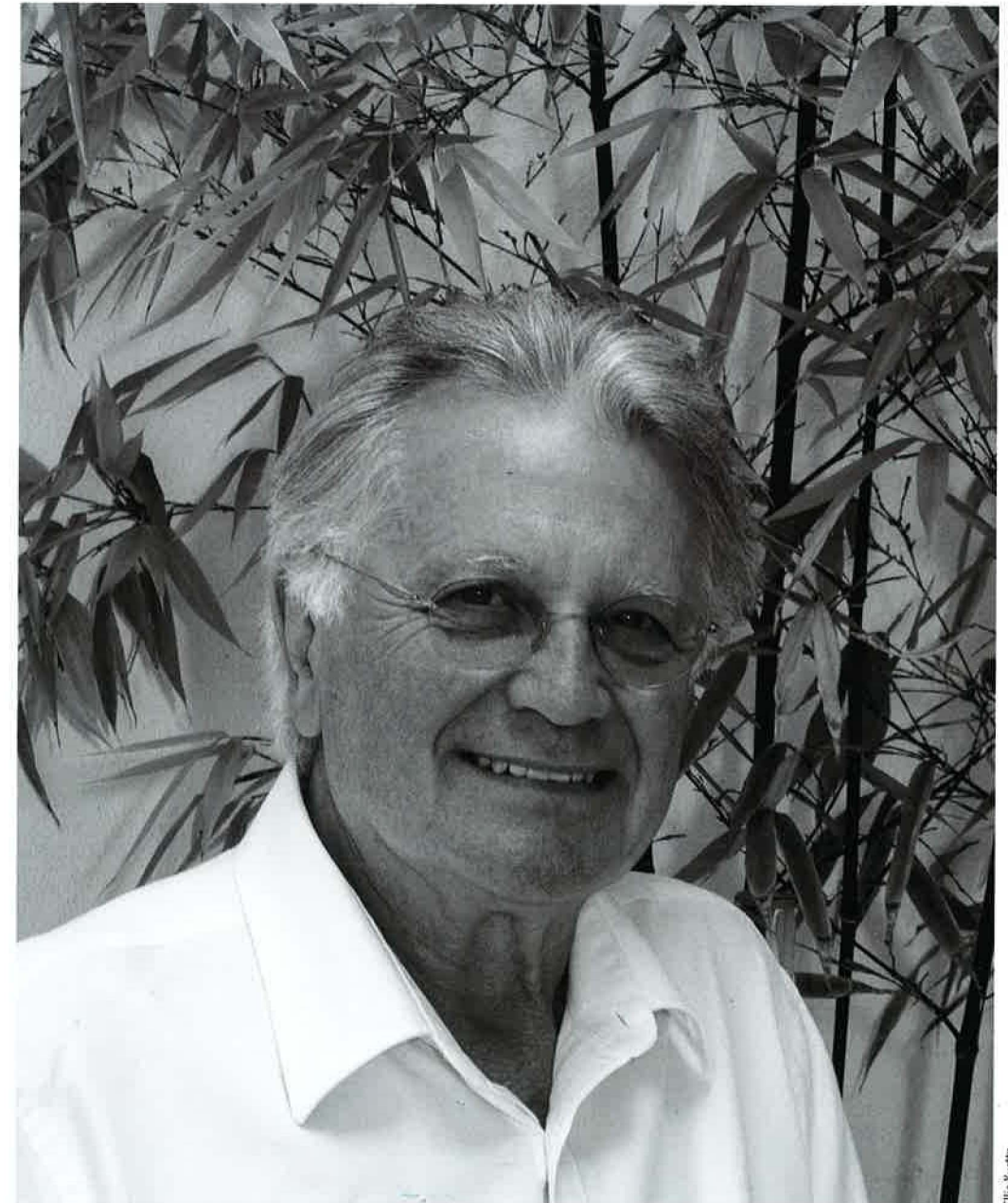
# CLEAR VISION

*Light, says British architect Ian Ritchie, is the 'first material of architecture'. A pioneer in the use of glass, he has explored innovative ways of using natural and artificial illumination to create solutions both practical and poetic*



**WORDS:** Alyn Griffiths

**PICTURES:** iRAL and as credited



Elie Kurtz



‘Norman [Ackroyd] taught me to see colour in a range of black to white. He also helped me to understand how you can love blackness’

Ian Ritchie is one of British architecture's great polymaths. He has a background in medicine and is known for his pioneering work at the boundary between architecture and structural engineering. In addition, he has an enthusiasm for subjects ranging from neuroscience to poetry and painting. Inspiration gathered from these diverse disciplines fuels the output of his eponymous east London practice, Ian Ritchie Architects Limited (iRAL), which over the past four decades has worked on major international projects including the Leipzig Glass Hall, the Spire of Dublin monument, and the Royal Shakespeare Company's Courtyard Theatre.

A consistent thread that runs through Ritchie's portfolio is a passion for light, which he describes as ‘the first material of architecture’. Throughout his career he has explored innovative ways of using natural and artificial illumination in his buildings, working alongside engineers, scientists, artists and lighting designers to develop practical and poetic solutions. ‘I was taught that one way of reading architecture is the way light comes into buildings,’ he says, speaking from his home in London's Docklands during the early days of the UK's Covid-19 lockdown. ‘Light and shadow give shape and meaning to a space, which is why light is the first thing we design with in all our projects.’

The way Ritchie views and works with light has been informed by various experiences and encounters throughout his career. For example, the time he spent studying at King's College London medical school in the early 1960s helped him to appreciate the biological importance of light and the way it affects the body's diurnal rhythm – something Ritchie feels is ‘vital in order to create architecture that really works for people’. For this reason, he tries to use daylight wherever possible in his projects, with artificial lighting playing a supporting role or helping to create a distinctive atmosphere where required. ▶

St Kilda from the North (top right) and The Atlantic at Inishkea, County Mayo, etchings with aquatint by Norman Ackroyd: ‘Under his hand the medium so often associated with precision and fine line dissolves into evanescent veils, or sparkling fractals of light and shadow and movement’

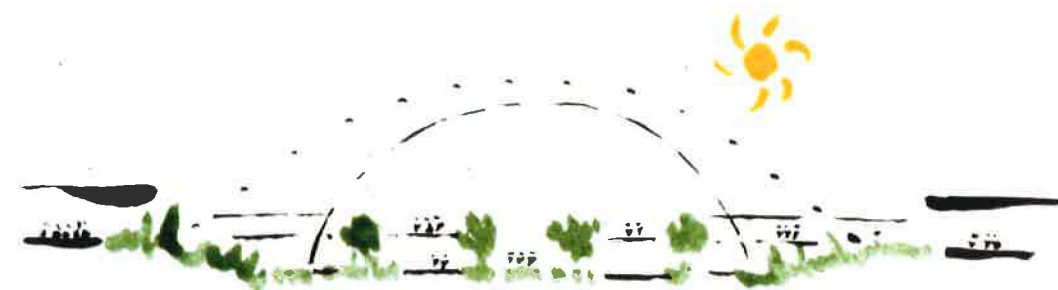


© Norman Ackroyd



© Norman Ackroyd





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Concept: 'Filagree' structure in Landschaft-Tal



RAL

'Over the past 30 years, it seems like architects treat glass as the answer without really thinking what the question is'

Artists and poets have also played important roles in shaping Ritchie's creative approach. He credits painters including his friends Norman Ackroyd and John Hoyland for expanding his appreciation of how light is perceived. 'Norman taught me to see colour in a range of black to white,' he says of Ackroyd, who is renowned for his atmospheric monochrome etchings of the British landscape. 'He also helped me to understand how you can love blackness. You can't read form without shadow – the absence of light. The way you compose light and shadow within a building ultimately reveals its form.'

Ritchie also talks passionately about meeting and performing with the Liverpool poets Adrian Henri, Roger McGough and Brian Patten during his early days studying architecture in the city after dropping out of medical school. The experience gave him the confidence to continue composing his own verse. For years now, he has begun every project, not with sketches, but by writing a poem to capture its essence in a loose form. 'I used to say that I was scared of drawing because it locks an idea in the brain,' he explains. 'Most architects have an image before they've even thought about what they're doing. I'm lucky because I can write my way into a project. It's something that really matters to me.'

Other important influences on his career include the professors and examiners he encountered during his studies, both in Liverpool and while completing his diploma in architecture at the Polytechnic of Central London (now University of Westminster). In particular, he remembers receiving positive feedback on his 1972 graduation project from tutors including Warren Chalk of Archigram and influential teacher and architect Cedric Price. That project also attracted the attention of Norman Foster, who gave Ritchie his first job at his firm, Foster Associates.

While working with Foster as project architect on the seminal Sainsbury Centre for the Visual Arts at the University of East Anglia, Ritchie visited Berlin on a research trip and returned inspired by the way light was introduced into the city's famous museums through courtyards and glass spaces. This prompted him to consider innovative ways of illuminating ►

Ritchie's concept for and realisation of the Glass Hall 'winter garden' at Messe-Leipzig (1996). The world's largest, it formed the centrepiece of the German city's new international exhibition centre. Overleaf: Ritchie's drawing of the glass structure under construction





Under Construction 1995



Leipzig Glashalle "Schosette"



## 'Diffused daylight creates a pleasant working environment and reduces lighting costs, while at night the building emits a gentle glow'

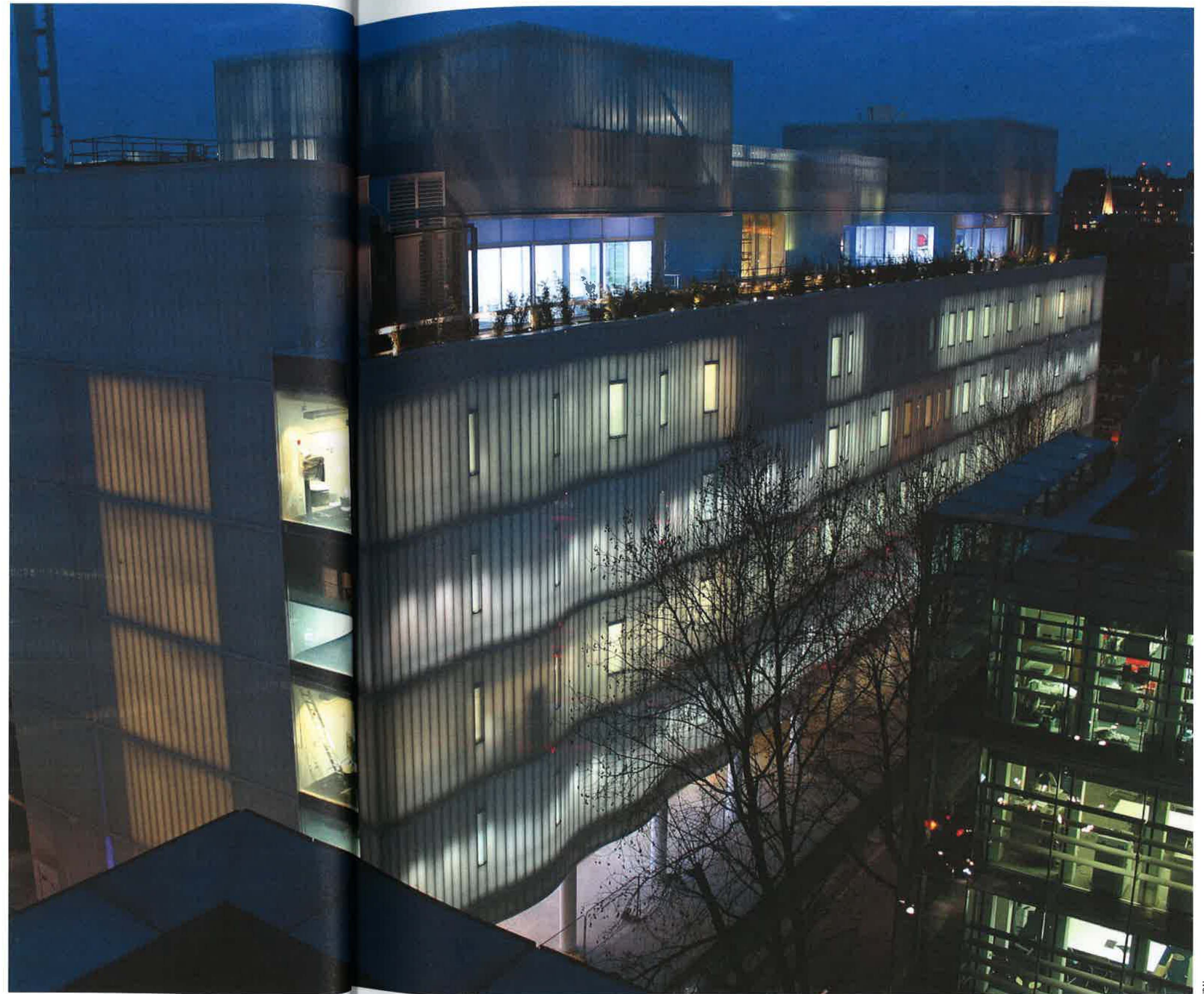
Robert and Lisa Sainsbury's collection of world art. 'I was convinced that the approach at that time of using spotlights and lighting everything artificially was wrong,' says Ritchie of the way illumination was typically being applied in institutional spaces in the 1970s. 'It seemed to me that all the objects in the Sainsbury Centre could be naturally lit for most of the day, so we worked with glass to achieve that in an intelligent way.'

Ritchie's experiments with glass and new structural systems were informed by his experiences working alongside some of the best engineers around at that time, including Anthony Hunt at Foster's studio and Peter Rice at Arup. In 1981, he co-founded the Paris-based multidisciplinary office RFR with Rice and industrial designer Martin Francis. RFR operated at the vanguard of the high-tech movement, working on prestigious projects such as IM Pei's Louvre Pyramid. The firm also completed the innovative greenhouse spaces at the Cité des Sciences et de l'Industrie science museum, which were the first structural glass walls to be built without framing or supporting fins.

Ritchie claims that the solutions pioneered by RFR at that time were responsible for the boom in glass buildings which followed, but his pride in this achievement is tempered somewhat by architects now using structural glass in ways 'he deems lazy or lacklustre'. 'Glass is such a magical material because you can't see it but it keeps the rain out and it can keep heat in,' he enthuses. 'Over the past 30 years, though, it seems like architects treat glass as the answer without really thinking what the question is.'

The use of glass at the Sainsbury Wellcome Centre, London, completed in 2016, exemplifies how Ritchie has continued to exploit the material's properties in unique and intelligent ways. The cramped inner-city ►

Ritchie's use of glass at the Sainsbury Wellcome Centre (2016) exemplifies how he has continued to exploit the material's properties in unique and intelligent ways







Grant Smith

‘Light and shadow give shape and meaning to a space, which is why light is the first thing we design with in all our projects’

site prompted him to use translucent cast glass for the building's envelope, which enhances the quality of light within the street. During the day, diffused daylight creates a pleasant working environment and reduces lighting costs, while at night the building emits a gentle glow. The project represented a world first for the way it used structural cast glass, formed into prefabricated modules that could be quickly installed on site.

iRAL worked closely with lighting consultant EQ2 Light and Zumtobel on the Sainsbury Wellcome Centre, creating a lighting scheme that emphasises the changing quality of light throughout the day. Light wells illuminate some of the basement areas, and concrete soffits are painted a specific shade of blue with a spectral wavelength of 480 nanometers, chosen for its effect on mental alertness.

For Ritchie, lighting designers are essential to the architectural team, and he stresses the importance of them being ‘on the same conceptual wavelength’ as the architect. This means the designers he collaborates with must appreciate that daylight is the fundamental starting point for every project. ‘[The designers] who understand biology and the way our bodies and brains pick up light are the ones I like to work with,’ he explains, ‘because they tend to want to use daylight for longer before switching to artificial light.’

In 2000, Ritchie wrote the foreword for German lighting designer Ulrike Brandt's book, *Lichtbuch*. The pair met more than 30 years ago when Brandt came to England to visit several of the top architecture firms around at the time. Ritchie and Brandt quickly identified some areas of common interest, and over the past three decades they have collaborated on projects including the refurbishment and expansion of London's Royal Academy of Music, a masterplan to improve The British Museum's Bloomsbury Estate, and a proposal to transform an Art Deco brewery building in Malta into a new office complex. ▶

The undulating facade of the Sainsbury Wellcome Centre: the project represented a world first for the way it used structural cast glass



‘It’s attention to details such as the way light reaches the viewer’s eyes through reflections at different times of the day that makes Ritchie’s work especially relatable and memorable’

The cramped inner-city site of the Wellcome Centre prompted Ritchie to use translucent cast glass for the building’s envelope, which enhances the quality of light within the street



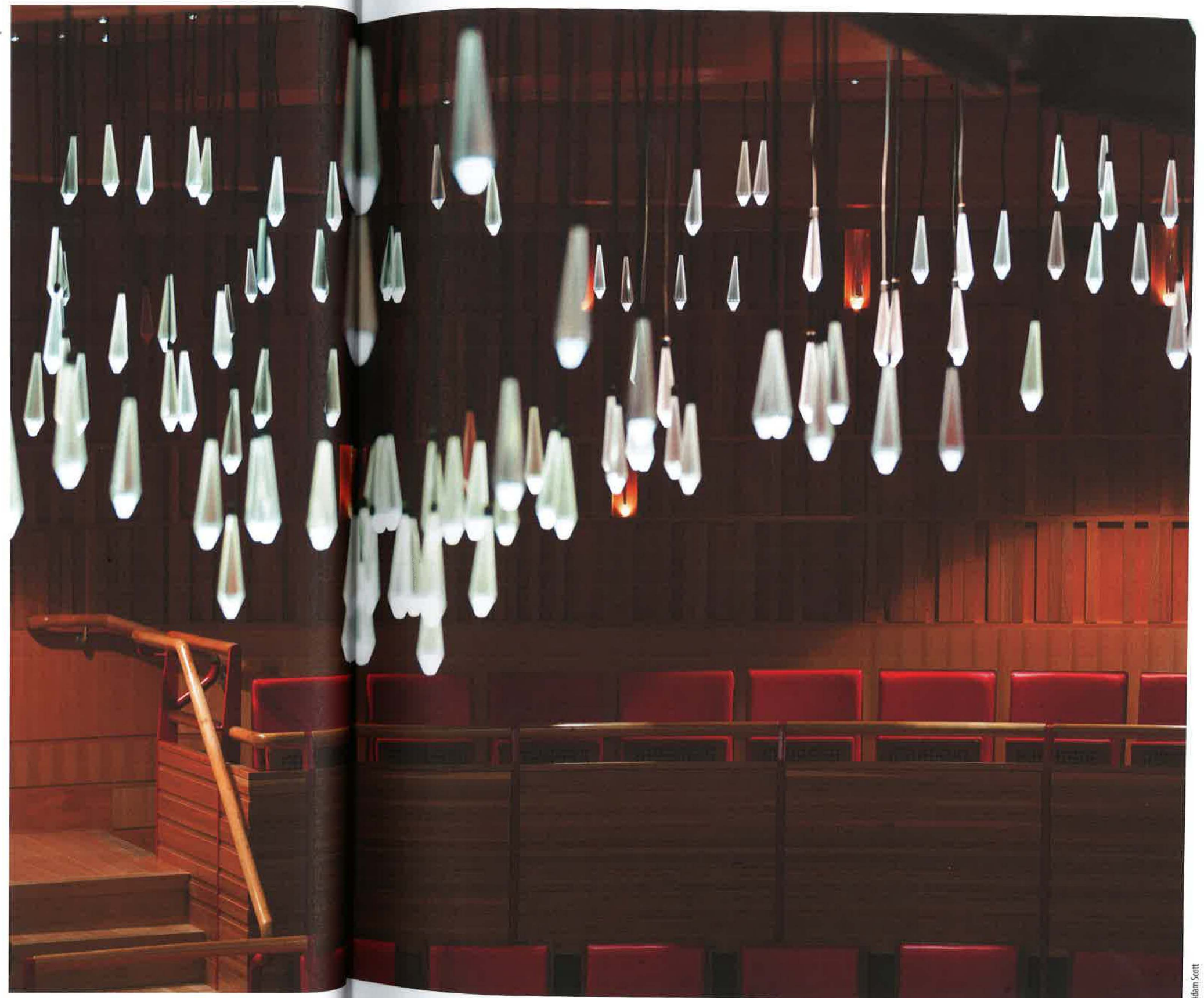


## 'Ritchie takes time to observe and appreciate the phenomenon of light'

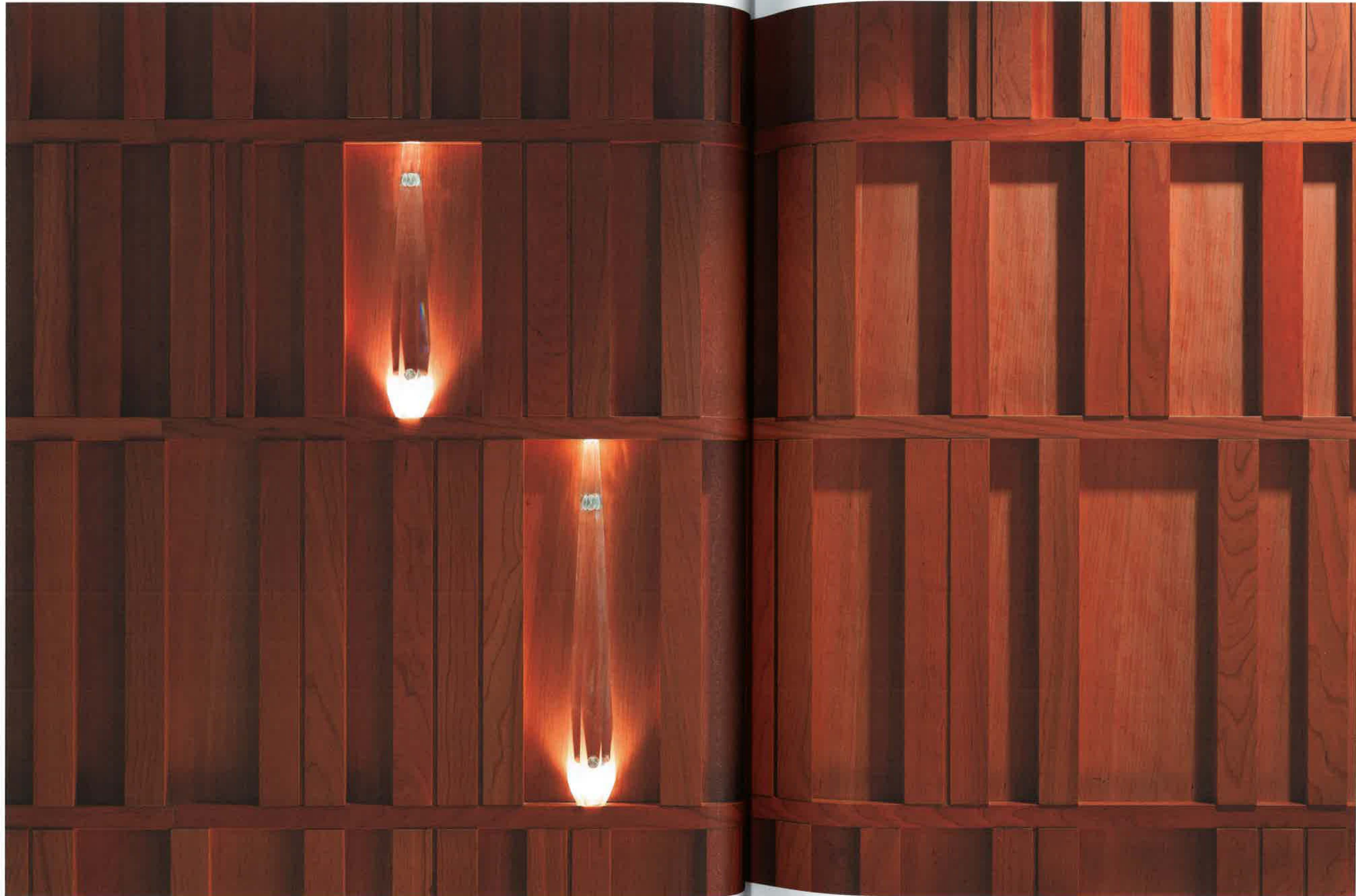
According to Brandi, Ritchie 'takes time to observe and appreciate the phenomenon of light. He approaches lighting design as an integral part of the concept – lighting design as a part of the unified whole'. At the Royal Academy of Music, a new glazed lobby, light wells and the reinstatement of previously bricked-up windows all form part of a strategy that introduces natural light wherever possible. A new recital hall is topped with an oculus that floods its interior with daylight, while the timber-lined Susie Sainsbury Theatre explodes the traditional chandelier into a dramatic array of crystal-like, fibre optic pendants raining down from its ceiling.

In addition to his pioneering work with glass and advanced structural solutions, Ritchie has constantly experimented with materials and technologies that help to achieve different lighting effects. As early as the mid-1990s he was in contact with producers of emerging LED technologies and proposed using these light sources to create a beacon required to top his Spire of Dublin monument (completed in 2003). This 120m-high spike that pierces the sky above the Irish capital was designed to celebrate the ever-changing quality of daylight that results from its oceanic climate. Rather than employing a straightforward mirrored finish, the monument's stainless-steel surface was blasted with small metal balls to create softer reflections. The treatment, known as shot peening, provides a velvet-like texture that causes the spire to appear darker at night, so it almost disappears against the black sky. It's this attention to details such as the way light reaches the viewer's eyes through reflections at different times of the day that makes Ritchie's work especially relatable and memorable. He puts it down to a human-centred approach to design and an ►

The Susie Sainsbury Theatre at the RAM: the traditional chandelier is exploded into a dramatic array of crystal-like pendants suspended from the ceiling







The cherry wood-lined walls of the Susie Sainsbury Theatre are warmed by recessed wall fittings echoing the design of the ceiling pendants





Adam Scott

## HISTORY OF ARCHITECTURE

Is the history of  
architecture  
the way that light  
has entered buildings?

At first, through small holes  
in masonry,  
walls and roofs  
before we put glass.

Holes became bigger  
between the frames.  
Paxton then made  
the Crystal Palace.

First material  
through which we can  
appreciate  
the nature of space.

As well as surface  
colours, objects.  
light reveals form  
within and without.

Yet light is only chasing away darkness,  
creating shadows in the process,  
and these shadows  
in turn frame the pools of light.

Darkness is never far away.  
Like an object moving through water,  
light cuts through shadows  
only to leave shadows in its wake.

Where light is not,  
shadow and darkness exist.  
Shadows are holes in light.  
And against light, silhouettes.

IAN RITCHIE, 2001



## IAN RITCHIE ON LIGHT

The tree is a weave of light and earth  
and water  
(2019)

An enlightened environment is what  
we all seek, politically, economically  
and physically  
(*Paris Biennale*, 1982)

If you want to fall in love avoid  
fluorescent lighting  
(2002)

I believe that one fundamental  
reading of the history of architecture  
is the story of the way light enters  
into buildings and reveals the spatial  
composition and forms within  
(*Lecture, Munich*, 1996)

Light is the opium of the architect and  
shadow its form  
(2004)

My empathy lays with the lighting  
designer who says that the longer we  
keep the lights switched off the better  
we feel and the less energy we use  
(*Introduction to Lichtplanung book*  
by Ulrike Brandi Licht, 2001)

Our perception of spaces and surfaces  
differs greatly between sunlight and  
moonlight, artificial light and fire or  
candlelight  
(*Introduction to Lichtplanung book*  
by Ulrike Brandi Licht, 2001)

Wouldn't it be nice to put a rainbow in  
your pocket? NO!  
(*Light exhibition and catalogue*,  
*Ingolstadt* 1992)



Adam Scott





Barry Mason

appreciation for how science affects our relationship with the world around us.

As with all of iRAL's projects, the process of creating the Spire of Dublin started out with words, not drawings. The poem he wrote about it begins:

*Drawing inspiration from Ireland's light  
its skies, its landscape, its history  
A 21st century monument by day and night.*

In many of Ritchie's poems, the quality of light is central to the composition, and therefore becomes the starting point for the design. With his permission, we have published in full Ritchie's 2001 poem titled *History of Architecture* to accompany this article. In it, he describes how our relationship with light has evolved alongside changes in the way we create and inhabit buildings. The poem offers an insight into the mind of an architect who manages to continually combine art with engineering, science with sentiment, and for whom light has always been the 'first material through which we can appreciate the nature of space'. □

Previous pages: at the Royal Academy of Music, a new recital hall is topped with an oculus that floods its interior with daylight  
Above and right: the Dublin Spire's stainless-steel surface was subjected to shot peening, creating softer reflections and providing a velvet-like texture that causes the spire to appear darker at night, dramatising the LED beacon at the top



Barry Mason