

Extensively referenced and mostly well illustrated, this book deserves to be in every architecture school library and is likely to provide the material for seminars, discussions and debates on race in architecture in the US and internationally. From my viewpoint in advocating for the global south, I hope this book will be made accessible to academics there, too, perhaps as a discounted or open-access digital resource.

Daniel Barber, *Modern Architecture and Climate: Design Before Air Conditioning* (Princeton, NJ: Princeton University Press, 2020), 336 pp. incl. 196 b&w and 76 colour ills, ISBN 9780691170039, £50 (paperback)
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Reviewed by FLORIAN URBAN

Modern Architecture and Climate is the outcome of Daniel Barber's decade-long investigations of modern architecture, which he started against the background of the climate emergency. Against this background, harnessing historical research for current concerns is perhaps the book's single most important contribution.

Barber, who teaches at the University of Pennsylvania, will be familiar to some readers from his earlier work on the Bauhaus. In his 2019 article 'Heating the Bauhaus', published online at hcommons.org/deposits/item/hc:28553, he unsparingly deconstructed the myths surrounding Walter Gropius's 1926 Bauhaus building in Dessau. While to generations of students it has been praised as a building whose form allegedly accommodates its innovative function, Barber showed that the single-glazed workshop wing from the beginning was impossible to heat appropriately to provide thermal comfort, or even to prevent the pipes from freezing. In 2010, after three unsuccessful attempts to upgrade the heating system, that part of the building was declared unfit for use, and is currently maintained exclusively for conservation reasons.

Now, in *Modern Architecture and Climate*, Barber turns his attention to other canonical architects of the mid-twentieth century, discussing, among others, Le Corbusier, Lúcio Costa, Ludwig Mies van der Rohe, Skidmore Owings and Merrill and MMM Roberto. He regularly steps back to look at the general picture and integrate his archival findings into a larger historical narrative. This approach convincingly relates to his project of a 'revisionist history of architectural modernism, demonstrating the significance of environmental concerns', as he puts it on his university website.

The book is divided into two parts. 'The Globalization of the International Style' comprises the first three chapters, dealing with climate-concerned modern architecture from the 1920s to the 1940s, and focusing on Le Corbusier, Richard Neutra and the Brazilian modernists. The second part, 'The American Acceleration', comprises chapters four to six and focuses on American-led programmes of the post-war period, including the American Institute of Architects' Climate Control Project, the Princeton Architectural Laboratory and the debates around air conditioning.

Barber's discussion of the emerging, globally standardised space of thermal comfort, which he refers to as 'the planetary interior', is among the most captivating parts of the book. So are the portions on architecture and energy use in chapter five on the Olgyay brothers' research at Princeton, and chapter six on the beginnings of air conditioning and the idea of a 'comfort zone'. Barber is openly critical of many approaches that underlie the global triumph of modern architecture. He points to the inherent wastefulness of modern architecture, to its connections with authoritarian and colonial contexts, and to its dubious attempt to universalise the subjective experience of white Europeans and North Americans raised in northern climate zones.

Throughout the book, Barber follows several very different links between architecture and 'climate'. Climate, as he points out, can be understood as a sensitivity to the outdoor surroundings that architecture should embrace, as a concern with thermal comfort in indoor spaces, as an attempt at flexibility and local variation within the International Style, as the scientific monitoring of meteorological data and, finally, as a cipher for the current emergency to which architecture, as a carbon-intensive practice, makes a significant contribution. By and large, Barber convincingly connects these threads while not glossing over their differences.

Barber discusses in places the contradiction between modern architects' explicit concern with climate and thermal comfort, and their actual designs that tended to provide worse thermal comfort than buildings from previous periods. He lays out this contradiction in his examples, but he does not place it at the centre of his narrative, claiming instead that 'modern architecture was formulated, initially, as a strategy of climatic adaptability' and that 'climatic modernism is an attempt to [...] optimise millennia-old building strategies'.

The reality that Barber presents, though, was far from achieving such aims. As he shows in chapter one, Le Corbusier's 1920s idea of an insulating wall (*mur neutralisant*) was from the very beginning based on profound misunderstandings about the nature of thermal insulation. Likewise, the approach of Gropius and Mies van der Rohe to comfort conditions was rather 'unscientific'. This situation did not fundamentally change over the following two decades, as shown in chapter two on Brazilian modernism of the 1930s. In all these designs, as Barber points out, concrete walls with large single-glazed windows and aluminium brise-soleil were in many ways inferior to the thick nineteenth-century brick walls and double windows that had preceded them. As Barber shows, despite their assertions to the contrary, modern architects up to the 1950s showed very little attempt to design on the basis of scientific knowledge about thermal processes.

Barber explains the widespread thermal inadequacy that culminated in the 'most egregious offender', Mies van der Rohe's 1957 Seagram Building in New York, as a result of the modernist obsession with the glass curtain wall. Much of the discourse about thermal comfort from the 1950s onwards evolved in response to the dismal thermal properties of glass curtain walls and thus, paradoxically, to a problem that was created concomitantly with the discourse on climate.

The 'historical foundation for today's zero-carbon design' that Barber announces on the back of his book receives detailed attention only in chapter six and in the conclusion. The relegation of this topic to the end of the book makes for a less tidy narrative, but seems necessary given that, after all, architecture's threat towards the future of the planet

lies not in the modernist attempt to design for different climatic environments, but rather in the burning of fossil fuel for excessive operational energy and high-energy materials such as steel, glass and concrete. This is related to but not caused by the modernist interest in 'climate', and, aside from the operational energy for air conditioning, would have played out with similar vigour if there had not been a discourse on climate adaptability.

Modern Architecture and Climate is a thoroughly researched and superbly illustrated discussion of some of the most important connections between architecture and technology in the twentieth century, essential reading for anyone interested in the discourse around modern architecture in the light of current challenges.

Patrick Zamarian, *The Architectural Association in the Postwar Years*
(London: Lund Humphries, 2020), 208 pp. incl. 25 colour and 90 b&w ills,
ISBN 9781848224063, £45
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Reviewed by ELIZABETH DARLING

As Patrick Zamarian notes in the introduction to this handsomely produced book, despite the fact that 'at a rough estimate' the Architectural Association School of Architecture (AA) trained half of the UK's leading post-war architects, and for much of the post-war era was the nation's 'largest [...] and most eminent school of architecture', there exists comparatively little scholarship on this period in its history. Zamarian's aim, therefore, is to build on the 'tentative research' that has charted the pre-war waters of the AA and to trace its history from the end of the Second World War until the 1960s. Through a consideration of student work, institutional machinations and a focus on a number of key individuals, his concern is to dispel the myths that surround the post-war AA and, as the book's blurb declares, to provide 'an in-depth account of what really happened'.

After a prologue in which Zamarian provides a useful précis of the AA's history from 1847 to 1945, the book is organised around the tenures of the different heads of the school, except for chapter four, 'Chuzzlewit's Heirs', which focuses on students and student life. Interwoven through the text are illustrations of student designs. With their extended captions, these recount a complementary tale to the main narrative, and show the designs that students created in response to the changing context — programmatic and stylistic — of the immediate post-war decades. The conclusion is that, by the mid-1960s, the wider architectural context was such that the school chose to cede its position as 'pacemaker' in order to retain institutional independence. This paved the way for the internationalist-global AA of today.

The book is the result of detailed archival work, which makes very effective use of the AA's institutional records and repository of student work, as well as papers at ETH Zurich and the National Archives. This allows Zamarian to write an in-depth study of a unique architectural school, one whose origins as both an association of architects and