

Jiat-Hwee Chang

A Genealogy of  
Tropical Architecture

Colonial networks, nature and  
technoscience



**Jiat-Hwee Chang**

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## Figures

1.1	Elevation and first floor plan of a prewar colonial bungalow for senior officers, Goodwood Hill. Source: <i>QJIAM</i> 1 (2), 1951	23
1.2	Sections of Nassim Hill Flats, an example of postwar apartments for senior officers. Source: <i>QJIAM</i> 1 (2), 1951	24
1.3	Plans of Nassim Hill Flats, an example of postwar apartments for senior officers. Source: <i>QJIAM</i> 1 (2), 1951	24
1.4	Exterior view of Maxwell House, painting by John Turnbull Thomson, 1846. Reprinted, by permission, from Hocken Collections, Uare Taoka o Hākena, University of Otago.	25
1.5	Panoramic view of Singapore from St Andrew's Church spire, 1863. Coleman's House is on the left, fronting a street. Reprinted, by permission, from the NAUK	25
1.6	Front elevation and cross section of Coleman's house. "Conjectural restoration" made in 1955 by T. H. H. Hancock. Source: The Friends of Singapore, ed., <i>The House in Coleman Street</i> (Singapore: The Friends of Singapore, 1958)	26
1.7	Ground floor plan of Coleman's house. "Conjectural restoration" made in 1955 by T. H. H. Hancock. Source: The Friends of Singapore, ed., <i>The House in Coleman Street</i> (Singapore: The Friends of Singapore, 1958)	26
1.8	Type plans of Class 2 to Class 9 government quarters planned and designed by PWD Federated Malay States for the Federated Malay States government. The type plans for the Straits Settlements government would have been similar. Reprinted, by permission, from Arkib Negara Malaysia	27
1.9	Sketches by John Turnbull Thomson titled "Chinese stone cutters, Kay [ <i>sic</i> ] tribe" and "Chinese stone breakers, Kay [ <i>sic</i> ] tribe," 1851. Reprinted, by permission, from Hocken Collections, Uare Taoka o Hākena, University of Otago.	33

1.10	Sketches by John Turnbull Thomson titled “Chinese artificers,” 1851. Reprinted, by permission, from Hocken Collections, Uare Taoka o Hākena, University of Otago	34
1.11	Exterior view of Panglima Prang. Courtesy of the Lee Kip Lin Collection. All rights reserved. Lee Kip Lin and National Library Board, Singapore 2009	43
1.12	View of the front verandah of Panglima Prang. Courtesy of the Lee Kip Lin Collection. All rights reserved. Lee Kip Lin and National Library Board, Singapore 2009	43
1.13	Interior view of the dining room of Panglima Prang. Courtesy of the Lee Kip Lin Collection. All rights reserved. Lee Kip Lin and National Library Board, Singapore 2009	44
2.1	Changi as “almost a Garden City.” View of a barrack block in Changi with the Johor Straits in the background. Courtesy of the REL	52
2.2	Masterplan of Changi Cantonment prepared by the Gillman Commission in 1927. Reprinted, by permission, from the <i>REJ</i> 52, 1938	54
2.3	Masterplan of Changi Cantonment as completed in 1930. Reprinted, by permission, from the <i>REJ</i> 52, 1938	54
2.4	View of a Changi barrack block, circa 1930s. Courtesy of the REL	55
2.5	First floor plan of the barrack block. Reprinted, by permission, from the NAUK	55
2.6	Table on the space standards for housing British soldiers in the 1931 edition of <i>Barracks Synopsis</i> . Source: WO, <i>Barrack Synopsis</i> , 1931	56
2.7	Sectional drawings of the barrack block showing reinforced concrete structural frame. Reprinted, by permission, from the NAUK	57
2.8	Side elevation and first floor plan of the barrack block at Pulau Blakang Mati, which was built only a few years after those in Pulau Brani and was similar to those at Brani. Reprinted, by permission, from the NAUK	59
2.9	Cross section of the barrack block at Pulau Blakang Mati. Reprinted, by permission, from the NAUK	59
2.10	Tanglin Barracks undergoing rebuilding with the old thatch roof barrack in front, c. 1917. Courtesy of the REL	61
2.11	Elevation of the barrack proposed by Smith. Source: <i>PCRE</i> , II (1838)	67
2.12	Sections of the barrack proposed by Smith. Source: <i>PCRE</i> , II, 1838	68
2.13	Drawings of cast iron components, such as staircase and jalousies, and the joineries. Source: <i>PCRE</i> , II, 1838	69
2.14	An overcrowded barrack room in India, labeled as “Daily Means of Occupation and Amusement.” Source: Nightingale, <i>Observations</i>	

	<i>on the Evidence Contained in Stational Reports Submitted to Her by the RCSSAI, 1863</i>	70
2.15	New Cavalry Barrack at York – an example of an improved barrack construction. Source: The Commissioners, <i>General Report of the Commission Appointed for Improving the Sanitary Condition of Barracks and Hospitals, 1861</i>	72
2.16	Drawings of a two-storey model barrack proposed for the Mediterranean Stations. Source: The Commissioners, <i>Report of the BHIC on the Sanitary Condition and Improvement of the Mediterranean Stations, 1863</i>	72
2.17	Plans of a two-storey model barrack proposed for the Indian Stations. Source: BHIC, <i>Suggestions in regard to Sanitary Works required for Improving Indian Stations, 1864</i>	73
2.18	Section of a two-storey model barrack proposed for the Indian Stations. Source: BHIC, <i>Suggestions in regard to Sanitary Works required for Improving Indian Stations, 1864</i>	73
2.19	Table on minimum space requirements for housing British soldiers in the 1911 edition of <i>Barrack Synopsis</i> . Source: WO, <i>Barrack Synopsis, 1911</i>	76
2.20	Table on minimum space requirements for housing British soldiers in the 1923 edition of <i>barrack synopsis</i> . Source: WO, <i>Barrack Synopsis, 1923</i>	77
2.21	Map of Changi before its development as a cantonment. Reprinted, by permission, from the <i>REJ</i> , June 1938	78
2.22	Transformation of the landscape at Changi. Courtesy of the REL	80
2.23	Two British soldiers from Pulau Brani posing with their “native” servants, c. 1910s. Reprinted, by permission, from the REL	82
3.1	Panoramic view of the new SGH. Courtesy of the NAS	97
3.2	View of the interior of one of the native wards of SGH. Reprinted, by permission, from the NAUK	98
3.3	View of a verandah of SGH. Reprinted, by permission, from the NAUK	98
3.4	View of the pavilion wards of the Tan Tock Seng Hospital complex. Courtesy of the NAS	99
3.5	“Nightingale wards” (below) as compared to the older plans of hospital wards (above). Source: <i>The Builder, 1858</i>	101
3.6	Statistical table on hospital accommodation in Pinang [Penang]. Source: The Commissioners, <i>The Report of the RCSSAI, Vol. 2, 1863</i>	105
3.7	Cartogram of India with average rainfall levels. Source: The Commissioners, <i>The Report of the RCSSAI, Vol. 1, 1863</i>	107
3.8	Plan of an “improperly ventilated” barrack in Indian stations. Source: Florence Nightingale, <i>Observations on the evidence contained in the stational reports submitted to her by the RCSSAI, 1863</i>	108

3.9	Upper floor plan of the model hospital for Indian stations. Source: BHIC, <i>Suggestions in regard to Sanitary Work required to improve Indian Stations</i> , 1864	109
3.10	Section of the model hospital for Indian stations. Source: BHIC, <i>Suggestions in regard to Sanitary Work required to improve Indian Stations</i> , 1864	109
3.11	Details of the double roof construction and roof ridge. Source: BHIC, <i>Suggestions in regard to Sanitary Work required to improve Indian Stations</i> , 1864	110
3.12	Cross section of a typical barrack or hospital showing the thermantidote on the right hand side. Source: The Commissioners, <i>The Report of the RCSSAI</i> , Vol. 1, 1863	111
3.13	Helmet designed by Julius Jeffreys. Source: The Commissioners, <i>The Report of the RCSSAI</i> , Vol. 1, 1863	112
3.14	The SGH building housing European wards. Courtesy of the NAS	115
3.15	Plan of the SGH building for European wards. Source: <i>TMMJ</i> , 1933	115
3.16	John Turnbull Thomson's painting of Tan Tock Seng Hospital (left) and European Seamen Hospital (right) which he designed. Reprinted, by permission, from Hocken Collections, Uare Taoka o Hākena, University of Otago	116
3.17	The colonial monuments with "modern classic style" in context. Aerial photograph originally used as part of the site study for the new Supreme Court building in the 1930s. The site for the new Supreme Court building is outlined in the center of the photograph. Reprinted, by permission, from the NAUK	118
3.18	The proposed colonnaded buildings in the civic center with the unbuilt Government Offices on the left, the Supreme Court in the middle and the Municipal Office on the right. Reprinted, by permission, from the NAUK	119
3.19	The clock tower and entry portico of the European scheme. Reprinted, by permission, from the NAUK	120
3.20	The entry portico of the Native scheme. Reprinted, by permission, from the NAUK	120
3.21	Exterior view of the Malacca General Hospital. Source: <i>PWD Annual Report</i> , 1932	121
4.1	Photograph of the interior of an insanitary shophouse in Simpson's report. Source: Simpson, <i>The Sanitary Conditions of Singapore</i> , 1907	133
4.2	Drawings of a shophouse converted into tenements with small cubicles in Simpson's report. Source: Simpson, <i>The Sanitary Conditions of Singapore</i> , 1907	134
4.3	A back lane scheme proposed in Simpson's report to open up the back-to-back shophouses. Source: Simpson, <i>The Sanitary Conditions of Singapore</i> , 1907	135

4.4	A larger open space scheme proposed in Simpson's report. Source: Simpson, <i>The Sanitary Conditions of Singapore</i> , 1907	136
4.5	Wide, straight streets intersecting at right angles as "ventilating conduits" in dotted lines superimposed on what appears to be an insanitary city with narrow, irregular streets. Source: Simpson, <i>The Principles of Hygiene as Applied to Tropical and Sub-Tropical Climates</i> , 1908	138
4.6	Chart showing hours of sunlight in streets of different widths and orientations. Source: Atkinson, <i>The Orientation of Buildings or Planning for Sunlight</i> , 1912	140
4.7	Plan drawings comparing the sunlight distribution in the old pavilion plan ward with the new "verandah" ward. Source: The RIBA Joint Committee on the Orientation of Buildings, <i>The Orientation of Buildings</i> , 1933	141
4.8	Sections of two houses that have open spaces that could not fit the 45-degree light plane. Source: Simpson, <i>The Principles of Hygiene as Applied to Tropical and Sub-Tropical Climates</i> , 1908	142
4.9	Plan of Balestier Housing by SIT. Source: Fraser, <i>The Work of the Singapore Improvement Trust 1927–1947</i> , 1948	151
4.10	Photo of Balestier's artisan quarters. Source: Fraser, <i>The Work of the Singapore Improvement Trust 1927–1947</i> , 1948	151
4.11	Overall site plan of the SIT cottage housing at Old Race Course Road. Only those shaded in dark grey were built. Courtesy of the NAS	152
4.12	Section of Old Race Course Road Scheme. Courtesy of the NAS	153
4.13	Clean lines and streamlined curvilinear forms of the SIT flats at Tiong Bahru. Author's photograph	153
4.14	Plan of two connected blocks of SIT flats at Tiong Bahru enclosing a "Children's Playing Field" in the middle. Courtesy of the NAS	154
5.1	Tower of Shadow with the High Court Building in the background, Chandigarh. Both were designed by Le Corbusier. Author's photograph	165
5.2	Building research carried out at a station in Kumasi, Gold Coast in 1944, before the West African Building Research Station was formally established. Reprinted, by permission, from the NAUK	167
5.3	Cover of a special issue of United Nations' <i>Housing and Town and Country Planning</i> published on "Housing in the tropics." Reprinted, by permission, from the UN	168
5.4	Tropical housing mission – Jacob Crane (fifth person from left), Jacobus Thijssse (sixth person from left), Robert Gardner-Medwin (third person from right) and Antonio Kayanan (third person from left) – visiting a housing project in India. Reprinted with the kind permission of the University of Liverpool Library	169



5.5	The bungalow George Atkinson designed and built for himself at the Waterloo Airfield in Sierra Leone, 1941. Courtesy of George Atkinson	176
5.6	A caricature of George Atkinson drawn in 1991 on the occasion of his testimonial dinner. Courtesy of George Atkinson	176
5.7	Cover of an issue of <i>Colonial Building Notes</i>	179
5.8	Colonial architects and civil engineers taking a course at the Building Research Station. Source: <i>CBN</i> , No. 31, July 1955	180
5.9	A researcher placed the model of the Dining Hall at University College, Ibadan, Nigeria (architects: Maxwell Fry and Jane Drew) on the heliodon to study the effectiveness of the sun-shading. Source: Foyle ed. <i>Conference on Tropical Architecture 1953: A Report of the Proceedings of the Conference Held at University College, 1953</i>	182
5.10	“Thermal Analysis” for the Mid-Ohio area in the <i>House Beautiful Climate Control Project</i> . Source: American Institute of Architects, <i>Regional Climate Analyses and Design Data: The “House Beautiful” Climate Control Project, 1949</i>	186
5.11	Psychometric chart of thermal comfort by George Atkinson. Courtesy of George Atkinson	188
5.12	An Advertisement for Hope’s Aluminium Windows and Sunbreakers. Source: <i>West African Builder &amp; Architect, 1961</i>	190
5.13	An advertisement for the “Kingstrand” range of prefabricated aluminum building that appeared in the <i>Journal of the Institute of Architects of Malaya</i> in the early 1950s. Source: <i>JIAM</i>	192
5.14	A 1950s photograph showing female construction workers operating a machine making concrete blocks. Courtesy of the REL.	194
5.15	A photograph showing the outcomes of the weathering tests of different types of cement–soil mixtures. Source: <i>Colonial Building Notes, 1953</i>	195
6.1	Foregrounding the tropics: a postcard from the Department of Tropical Studies, a successor to the Department of Tropical Architecture, c. 1960s. Courtesy of Professor Patrick Wakely	207
6.2	Drawing of two traditional dwellings by Wakely’s students in “ <i>Bui Resettlement Area Survey, 1965</i> ” by Kumasi students under the supervision of P. I. Wakely and K. K. Mumtaz. Courtesy of Professor Patrick Wakely	211
6.3	Conference of Commonwealth and Overseas Architectural Societies, RIBA, London, 21–25 July 1963. Among the attendees are Lim Chong Keat (from Singapore), second row, third person from right; and Oluwole Olumuyiwa (from Nigeria), second row, second person from right. Reprinted with the kind permission of the University of Liverpool Library	215

6.4	Cover of the special issue of <i>Architectural Review</i> on the tropical Commonwealth	216
6.5	Professor Kenneth Black's mapping of "The Distribution of Human Health and Energy on the Basis of Climate," based on a similar map by Ellsworth Huntington. Source: <i>TMMJ</i> , 1932	219
6.6	Markham's map annotated as "Areas of the world where temperatures for the warmest month do not exceed a mean of 75°F. and for the coldest month do not fall below a mean of 32°, 20°, or 10°F. Tropical areas within these limits have been excluded because of the greater intensity of solar radiation." Note how Markham added further indications to show the introduction of climate controls. Source: Markham, <i>Climate and the Energy of Nations</i> , 1947 [1942]	220
6.7	A table showing the 1964–65 curriculum of the Department of Tropical Studies, AA. Courtesy of AAA	223
6.8	A table showing the 1970–71 curriculum of the Department of Development and Tropical Studies, AA. Courtesy of Professor Patrick Wakely	223
6.9	A graphical representation of climatic data of Dar-Es-Salaam for a project by Patrick Wakely in 1963, when he was a student at the DTS. Courtesy of Professor Patrick Wakely	224
6.10	The plans and sections of the schools located in the different climatic conditions of Baghdad, Lagos and Delhi. Source: <i>Architectural Association Journal</i> 78, 1965. Reprinted with the kind permission of Architectural Association	226
6.11	Book covers of the Malay, Spanish and Arabic versions (from left to right) of the <i>Manual of Tropical Housing and Building</i> . Source: Renate Koenigsberger	236

## Preface

Since I was an architecture student at the Department of Architecture, National University of Singapore (NUS), in the early 1990s, I have encountered various discourses and practices of tropical architecture. It began as early as my first-year field trip to Bali, to learn from “Balinese” tropical resorts.<sup>1</sup> The trip was designed by my studio tutor to allow us to immerse ourselves in the delightful sensory environment of the resorts and experience “tropical living.” At that time, tropical living was understood as living at the interface between indoor spaces and outdoor landscape, enjoying the thermal delight of shade and breezes amidst the heat and humidity. Implicit in the celebration of the open-to-nature, thermally varying, multi-sensorial environment of “tropical living” in the “Balinese” tropical resorts was its imagined opposite – the hermetically sealed, thermally constant and purportedly impoverished sensorial environment of the air-conditioned spaces ubiquitous in the “air-conditioned nation” of Singapore which we, the students, inhabited.<sup>2</sup> The intended escape from the air-conditioned spaces was, however, only partial. As poor students who could not afford to stay at the exclusive tropical resorts, we stayed in the air-conditioned rooms of a budget hotel instead and visited the different resorts during the day. Upon returning from the trip, we were tasked to design a tropical house as our final project, drawing inspirations from our brief experience of “tropical living,” in our over-cooled air-conditioned design studio. Our studio group’s field trip and design brief were not atypical. Other first-year students in the Department were likewise involved in similar initiation rites of “tropicalization.”<sup>3</sup>

Later in my education, my course mates and I were exposed to other types of discourses and practices on tropical architecture. These included a body of works by local architects Tay Kheng Soon and Ken Yeang that engaged with larger issues of urban environmental sustainability in the rapidly developing tropical cities in Asia. Extending the climatic design approach of modern tropical architecture from the mid-twentieth century, they proposed tropical skyscrapers and high-density urban forms that were covered with vertical greenery, well-shaded and, sometimes, naturally ventilated.<sup>4</sup> At the same time, we also became aware of

another body of works that sought to engage with environmental sustainability by drawing from the region's vernacular architectural traditions. Instead of deploying the latest technologies and constructing large-scale buildings, this body of works, as exemplified by the architecture of Malaysian architect Jimmy C. S. Lim, utilized simple traditional techniques in construction and environmental control, and involved primarily small-scale residential projects. I later found out that these two bodies of works were not just environmental discourses but also cultural discourses inextricably intertwined with the identity politics of the post-colonial globalized world. Concerned with how tropical architecture could be used to assert "local" and "regional" differences and thus, identities, these works emerged in the mid-1980s through the Aga Khan Award for Architecture (AKAA), the regional seminars it organized and *Mimar*, the periodical it published.<sup>5</sup>

Tropical architecture was, however, not just produced by architects in private practice and engaged with the project of architectural regionalism. It even entered official discourse when the state planning agency of Singapore, Urban Redevelopment Authority, called its vision of the 1991 Concept Plan, "towards a tropical city of excellence."<sup>6</sup> By the mid-1990s, the various discourses and the attendant works of tropical architecture were all grouped under the label of "Asian Tropical Style" or one of its interchangeable variants, and celebrated in pictorial books and lifestyle magazines. "Asian Tropical Style" was a vague label used in a loose manner. It referred to not just different types of contemporary architecture in the region, it was also used in connection to diverse architecture from Southeast Asia's past, such as vernacular architecture, colonial architecture, and post-independence modernist architecture. Due to the popularity of the pictorial books and lifestyle magazines featuring "Asian Tropical Style," the stylistic label became a stand-in for tropical architecture. By the time I graduated in the late 1990s, tropical architecture had become this taken-for-granted and seldom interrogated entity nebulously associated with an array of keywords like climate, culture and sustainability. When probed further, these associations appeared to be contradictory. For example, tropical architecture was said to be responsive to the climate but it was frequently air-conditioned, tropical houses were supposedly closely connected to the culture of a place but tended to be inhabited by highly mobile and wealthy expatriates, and tropical designs were purportedly about the sustainable use of limited natural resources but they were often about luxurious houses characterized by energy and resource profligacy.

When I joined academia in 2001, I was fascinated but also concerned by both the proliferation of the discourses of tropical architecture and the various underlying contradictions, and I began to research it seriously. As an architectural historian, I believed, and still believe, that the present carries sedimented meanings of the past and I decided to research the longer history and deeper structure of tropical architecture. By longer history, I am referring to the history before the phrase "tropical architecture" was first institutionalized and named as such in the mid-twentieth century. By deeper structure, I am referring to the socio-cultural assumptions and sociotechnical foundations behind the nomenclature of tropical

architecture that privileges nature as the prime determinant of architectural form. This book is the outcome of that research. As will become clear in the following pages, this longer history and deeper structure, which I call genealogy, is primarily a narrative of how the knowledges and practices, and their underlying epistemological foundations, of tropical architecture were constructed in the British colonial and post-colonial eras. My interest is in how the different British colonial institutions and actors systematically constructed these knowledges and practices that buttressed the production of buildings in the tropics. In other words, this is a historical project about *the building of building*, as understood along the line of “the conduct of conduct” for Foucauldian governmentality (see Introduction). To write this account, I carried out research at the archives of metropolitan and local institutions, using predominantly colonial records. Such records obviously present certain limits and two caveats are perhaps necessary at this point to explain what is included and excluded in this account, and why.

While this is primarily a colonial history, it is emphatically not a Eurocentric account. Although I have included quite a wide array of different actors, readers will notice that there are very few local/indigenous actors and their voices in this account.<sup>7</sup> I have written quite extensively about local actors related to the built environment in various colonial and post-colonial contexts elsewhere but I have not included many of them in this account for a few reasons.<sup>8</sup> My account focuses on the nineteenth century to the mid-twentieth century, a period where there were very few local architects in Singapore and the other British colonies in the tropics that I study. Although there were many local builders involved, their voices were typically not recorded in the archival materials that I consulted. I went to great lengths to locate historical materials, including those in vernacular languages, on the local contractors in colonial Singapore but could only uncover very few relevant materials. My interests in these local builders are, however, unlike those of scholars like Brenda Yeoh and James Francis Warren, who wrote histories from below and sought to give agency to the colonized population.<sup>9</sup> While I agree that it is important to account for how the colonized population resisted and contested the dominant colonial power structure, this book is primarily about understanding the hegemonic colonial structure and its underlying epistemological foundation, because these have not been historicized in the context of tropical architecture. Therefore, my interest in the local builders is more about how they were accounted for and addressed in colonial knowledges and practices of tropical architecture. I am aware of the dangers of overemphasizing colonial successes and overstating colonial power. I consciously read between the lines and look at the cracks of the colonial edifice, attending to scandals and failures of the colonial institutions and actors, and contingencies and uncertainties of colonial knowledges and practices.

Any history of tropical architecture would necessarily be a global, or at least extra-local, history in that it would involve actors, knowledges and practices from many sites. This book is no different, but it approaches the global history of tropical architecture from a particular site, Singapore, and traces the British colonial and post-colonial networks, and the circulations of people, ideas and practices from it.

Such an approach obviously has its omissions. For example, in focusing on the British colonial networks, the important histories and significant contributions to tropical architecture of other European and American colonial powers are not included. Likewise, this book is also silent on the influences of institutions and actors from the socialist countries, Scandinavia and Israel in shaping tropical architecture in the so-called Third World during the Cold War through international aid or technical assistance programs. Even within the British Empire, this book focuses on networks and connections that passed through Singapore, and, in the view of some, might not be sufficiently attentive to other British colonial territories like those in the West Indies, India and Africa. For readers interested in the above omitted topics, I would urge them to refer to a small but growing body of scholarship on them as they are beyond the scope of this book.<sup>10</sup> In scripting a global history of tropical architecture in this book, I have chosen a situated but limited point of view rather than multiple floating but all-encompassing viewpoints.

## NOTES

- 1 The Balinese tropical resort has in recent years proliferated beyond the geographical confines of Bali and Southeast Asia to places like Mauritius. See Dejan Sudjic, "Is That Room Service? Where Am I?," *Observer*, 20 August 2000. For a history of Balinese resort "tropical architecture," see Philip Goad, *Architecture Bali: Architectures of Welcome* (Sydney: Pesaro Publishing, 2000).
- 2 Cherian George, *Singapore, the Air-Conditioned Nation: Essays on the Politics of Comfort and Control, 1990–2000* (Singapore: Landmark Books, 2000).
- 3 For architectural education as a series of rites, see Dana Cuff, *Architecture: The Story of Practice* (Cambridge, MA: MIT Press, 1991).
- 4 Robert Powell and Kheng Soon Tay, *Line, Edge and Shade: The Search for a Design Language in Tropical Asia* (Singapore: Page One Pub., 1997); Robert Powell, *Ken Yeang: Rethinking the Environmental Filter* (Singapore: Landmark Books, 1989).
- 5 Robert Powell, ed., *Regionalism in Architecture: Proceedings of the Regional Seminar in the Series Exploring Architecture in Islamic Cultures* (Singapore: Concept Media, 1985); Robert Powell, ed., *Architecture and Identity: Proceedings of the Regional Seminar in the Series Exploring Architecture in Islamic Cultures* (Singapore: Concept Media, 1983). For the organization and activities of AKAA, see its official website: <http://www.akdn.org/akaa>. For a critical discussion of AKAA, see Sibel Bozdoğan, "The Aga Khan Award for Architecture: A Philosophy of Reconciliation," *JAE* 45, no. 3 (1992). I have written about AKAA and tropical architecture elsewhere, see Jiat-Hwee Chang, "'Natural' Traditions: Constructing Tropical Architecture in Transnational Malaysia and Singapore," *Explorations* 7, no. 1 (2007).
- 6 URA, *Living the Next Lap: Towards a Tropical City of Excellence* (Singapore: URA, 1991).
- 7 My use of "indigenous" population in this book includes the migrant population. As J. S. Furnivall noted in his classic study, many colonial societies were also plural societies in that migrant communities like the Indian and Chinese mixed and intermingled with the Europeans and the "natives" in the colonial marketplace. Colonial Singapore, the focus of this book, was a typical plural society in that it was a multiethnic colonial city with a majority of Chinese and Indian migrants. As many of these migrants stayed in Singapore for a long period, they have been indigenized to various degrees. Therefore, I include them as part of the "indigenous" population even though the indigenous population in Singapore refers specifically to the Malays. In this book, I use "indigenous

- population" interchangeably with "local population." Essentially, the indigenous population here refers to the non-European population in a colonial society. I use it as a substitute for the pejorative expression "natives." See J. S. Furnivall, *Colonial Policy and Practice* (New York: New York University Press, 1956).
- 8 For my writings on local actors, see for example, William S. W. Lim and Jiat-Hwee Chang, eds., *Non West Modernist Past: On Architecture and Modernities* (Singapore: World Scientific, 2011); Jiat-Hwee Chang, "Deviating Discourse: Tay Kheng Soon and the Architecture of Postcolonial Development in Tropical Asia," *JAE* 63, no. 3 (2010); Jiat-Hwee Chang, "An Other Modern Architecture: Postcolonial Spectacles, Cambodian Nationalism and Khmer Traditions," *Singapore Architect* 250 (2009).
- 9 Brenda S. A. Yeoh, *Contesting Space: Power Relations and the Urban Built Environment in Colonial Singapore* (Kuala Lumpur: Oxford University Press, 1996); James Francis Warren, *Rickshaw Coolie: A People's History of Singapore, 1880-1940* (Singapore: Oxford University Press, 1986).
- 10 See Mia Fuller, *Moderns Abroad: Architecture, Cities, and Italian Imperialism* (London: Routledge, 2010); Mark Crinson, *Modern Architecture and the End of Empire* (Aldershot: Ashgate, 2003); Łukasz Stanek, "Introduction: The 'Second World's' Architecture and Planning in the 'Third World'," *JoA* 17, no. 3 (2012); Johan Lagae and Kim De Raedt, "Editorial," *ABE* 4 (2013); Setiadi Sopandi and Avianti Armand, *Tropicality Revisited* (Frankfurt: The German Architecture Museum, 2015); Duanfang Lu, "Introduction: Architecture, Modernity and Identity in the Third World," in Duanfang Lu, ed., *Third World Modernism: Architecture, Development and Identity* (London: Routledge, 2010).

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