



Public Works Department, Singapore Civil Aerodrome, Singapore, 1937. Photograph taken on 12 June 1937, during the Aerodrome's opening. © Edwin A. Brown Collection. All rights reserved, Celia Mary Ferguson and National Library Board, Singapore 2008.

Before and behind the Pioneers of Modern Architecture in Singapore

BY JIAT-HWEE CHANG

This article situates the emergence of pioneer modern architects and architecture of Singapore in the longer history of colonial and post-colonial modernities and modernization, and in relation to socio-economic forces of capitalism and socio-political influences of the modern state in both the colonial and post-colonial eras. Rather than understand modern architecture in terms of style, this article goes behind style to explore the social, economic, technological and political conditions of producing modern architecture.

In January 2017, the 3rd MASEANA International conference, *Pioneers of Modern Architecture*, was held in Hanoi to explore the history of pioneer architects in different Southeast Asian countries. Earlier, in 2015, when Singapore celebrated its 50th year of independence, organizations in the architectural and design fraternities gave out a number of awards to recognize the “pioneer architects” of the country. Despite these scholarly and professional recognitions given to pioneer architects in Southeast Asia, we do not really know what are the criteria that make one a pioneer architect. Surely it is not based on being on the national scene first during the early post-independence phase, otherwise many more architects would be recognised. If it is about architectural achievements, it remains rather unclear what the bases are for evaluating these achievements. In the case of *Pioneers of Modern Architecture*, these ideas and works should be related to modern architecture. But what is modern architecture in Southeast Asia in the absence of a definitive study? On what criteria should we select the appropriate figures to represent the pioneers?

As a way of answering these questions it might be useful to look at Nikolaus Pevsner's *Pioneers of Modern Design*, first published in 1936, to discern how the word pioneer was first deployed in the history of modern architecture and how it has informed historiography. For Pevsner, the pioneers of modern design were those who were the first to discern the *zeitgeist*, or the spirit of the age, of the modern era and accordingly produce the modern style. Understood as “an invisible, pervasive driving force behind art”, *zeitgeist* was an influential Hegelian idea that shaped the thinking of many 19th century and early-20th-century art historians who wrote in German, such as Wilhelm Pinder (1878-1947), Pevsner's teacher, and Alois Riegl (1858-1905).

According to art historian Alina Payne, style was just Pevsner's starting point. Pevsner also had a strong leftist social message to deliver. Payne argues that Pevsner saw the social and political content of Modernism as equally significant as the aesthetics. Therefore, Pevsner celebrated

Peter Behren (1868-1949) and the Werkbund, and Walter Gropius (1883-1969) and Bauhaus because these two figures and their respective movements promoted mass-oriented and socially-conscious modern design of everyday objects and environments¹.

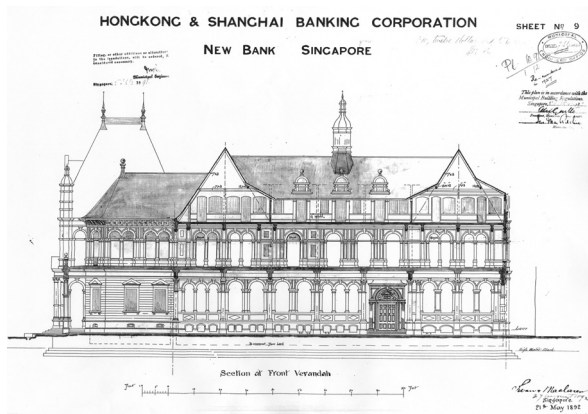
One of the most interesting arguments that can be drawn from Pevsner's *Pioneers of Modern Design* is that style and aesthetics are indissolubly linked to society and politics. Rather than be preoccupied solely with modern architecture and the pioneer architects, it is perhaps more productive to explore what lay behind them: the larger social and political conditions of modernity and modernization from which they emerged. When we explore these conditions in the case of Singapore, they are obviously also part of the national conditions. But these national conditions, especially in the early post-independence years, were inextricably linked to the colonial structure. Thus, in this paper, I would like to explore modernity and modernization in a longer time frame, situating the emergence of pioneer modern architects in Singapore in the longer history of modernity and modernization.

Colonial Modernity and Architecture in early 20th Century

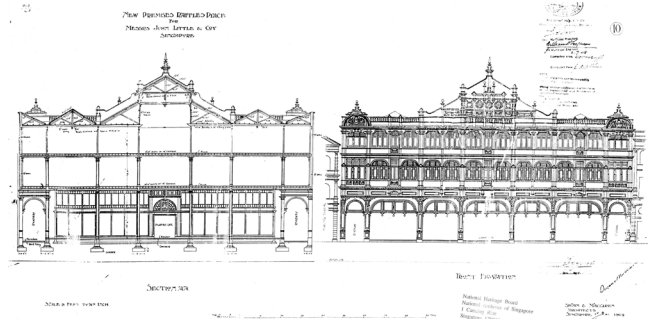
In early 20th century, when the pioneers of the Modern Movement in Europe and North America were designing and building the early path-breaking works that emphasize dynamic experience of light-infused space and volumetric expression of mass with unadorned surfaces, the type of works produced by Singapore's most progressive professional architectural practices were generally in the modes of eclectic classicism or Art Deco. Despite their purportedly non-modern appearance, these works were thoroughly modern in other ways, ways that were inextricably linked to colonial modernity.

First of all, these buildings were designed by the modern architectural profession that was only recently recognized by the colonial state through legislation. Despite what has

01 Swan and Maclaren, Hong Kong and Shanghai Banking Corporation building, Singapore, 1892. © National Archives of Singapore.



02 Swan and Maclaren, John Little Department Store, Singapore, 1907. © National Archives of Singapore.



been written about George D. Coleman (1795-1844) as the “first architect” of Singapore, Singapore did not have a professional architect until the arrival of Regent Alfred John Bidwell (1869-1918) in Singapore in 1895 to join the firm of Swan and Maclaren. Prior to Bidwell, all buildings in Singapore were “designed” – if the word in the modern sense could be used as such – by engineers-surveyors and what I have called “surrogate architects” elsewhere². Bidwell, who was a member of the Architectural Association in London and worked as an assistant architect in the London County Council, was the architect for numerous colonial landmarks. His firm Swan and Maclaren was regarded as the first professional architectural firm in Singapore and it was commissioned to design most of the prominent buildings in colonial Singapore from 1890s to the mid-20th-century, as we shall see³.

The only other firm that was to challenge the dominance Swan and Maclaren in the pre-war era, albeit only briefly, was Keys and Dowdeswell. It was founded by Major Percy Hubert Keys (1879-1954) and Harry Frederick Dowdeswell (?-1937), two British architects who came to Singapore in 1920 because they were commissioned by the colonial government to design The General Post Office Building (also known as the Fullerton Building). Soon after the arrival of Keys and Dowdeswell, we saw the passing of the Architects’ Ordinance in 1926 that strengthened the architectural profession by requiring all buildings to be designed by registered architects.

Monuments of the colonial economy, such the head-quarter buildings of the major banks, were almost entirely designed by these two firms. They included the Hong Kong and Shanghai Bank (1922) and the Chartered Bank of India, Australia and China (1915) by Swan and Maclaren; and the Mercantile Bank of India (1928) and the Overseas Chinese Banking Corporation (or the China Building) (1932) by Keys and Dowdeswell. The two bank buildings by Swan and Maclaren replaced smaller buildings that were also designed and erected by them for the same clients just a few decades ago. And the Overseas Chinese Banking Corporation was formed through the merger of three Chinese banks

established only in the 1910s – The Chinese Commercial Bank, Ho Hong Bank and Overseas Chinese Bank. The proliferation of such bank buildings was indicative of the rapid expansion of the colonial economy in the early 20th century, due primarily to the rubber and tin mining boom in Malaya at that time.

Other than bank buildings Swan and Maclaren and Keys and Dowdeswell also designed buildings for other entities central to the colonial economy, such as Boustead and Company, and Guthrie and Company. These were the British trading and agency houses that handled most of Malaya’s import and export and dominated as the main representatives of shipping and insurance companies from the 19th century onwards. Beginning in the 20th century, the management and control of rubber plantations and tin mines were also concentrated in the hands of these agency houses⁴.

As Anthony D. King has noted in his seminal works, the colonial city was a key node in the capitalist world-economy. It was a centre of political, economic, administrative and managerial control of the colonial society and economy, directing surplus capital to the metropole and assisting in incorporating the “periphery” into the metropolitan “core”⁵. Besides concentrating these key economic institutions (and political ones too, as we shall see below) in colonial cities, colonial capitalism also structured the natural and built environment in specific ways⁶. For instance, colonial capitalism brought about the specialisation and differentiation of production and consumption processes, and contributed to the spatial segregation between home, work and leisure. Architecturally, spatial specialisation and segregation also brought about important changes. Among them was the emergence of new buildings types, such as the modern clubhouse, hotel, department store and cinema. Many of these in colonial Singapore were also invariably designed by the aforementioned big two firms. Examples included Raffles Hotel (1899), the Teutonic Club (1900), Grand Hotel de l’Europe (1905) and John Little Department Store (1907) by Swan and Maclaren; and Capitol Cinema (1930) by Keys and Dowdeswell.

03 Public Works Department, Clifford Pier, Singapore, 1933. Interior view showing the reinforced concrete arched trusses. © Jonathon Lin, goo.gl/Zb2Pov, used under CC license.



Modern Colonial State, Infrastructure and Architecture

Besides modern capitalism, colonial architecture in Singapore was also shaped by the modern colonial state. Various scholars have traced the emergence of the modern state in Southeast Asia to the decades around the turn of the 20th century, when the various colonial powers ruling different parts of Southeast Asia embarked on the expansion, functionalization and rationalization of their presence and their institutions of governance⁷. The modern colonial state not only reformed and strengthened the old functions of the state but took on a new rationality of governance and engaged in new activities – such as education, public health and social welfare – to improve the biopolitical lives of the population. The creation of this new political order had a direct impact on the built environment, particularly on the planning and design of public works and public buildings⁸.

In Singapore, the modern colonial state embarked on various new initiatives, including infrastructure building and the provision of medical facilities. Among the major infrastructural projects undertaken in the early 20th century was the building of the Singapore Railway Terminus (later better known as Tanjong Pagar Railway Station) (1932). The Singapore Railway Terminus was the terminal station of the Federated Malay States Railway lines. Sited opposite Tanjong Pagar docks, the Art Deco station – designed by H. G. Atkin-Berry, Denis Santry (1879-1960) and D. S. Petrovitch of Swan and Maclaren – was seen by the Straits Governor Cecil Clementi as the key nodal point for “interchange between railway traffic and ocean shipping” and a part of the “immense system” of rail and shipping infrastructure connecting Asia and Europe⁹. These new transportation infrastructures and the new modes of transportation they served – trains and steamships – helped to compress time and space, which in turn increased the rate of capital accumulation and were thus central to colonial capitalism. Not only did the colonial state commission and fund these infrastructural projects, it was sometimes directly involved in planning and designing these projects through one of its agencies – the Public Works Department (PWD), as we shall see below¹⁰.

Two of what architectural historian Wong Yunn Chii described as the “crown jewels” that the architectural branch of PWD built in early-20th-century Singapore were also transportation infrastructural projects – Clifford Pier (1933) and Singapore Civil Aerodrome (1937). Clifford Pier was built to replace the old Johnston’s Pier as the main arrival and departure point for passengers travelling by sea. The main space of Clifford Pier was conceived as a large loggia covered with a roof supported by large-span reinforced concrete arched trusses. On the seaward side of the loggia was a “ceremonial landing place” that could be illuminated by arc lamps¹¹.

At a much larger scale and involving much more challenging engineering works than the Clifford Pier was the building of the Singapore Civil Aerodrome. Planned to cater to the rapidly growing commercial aviation traffic, the project started in 1931 with the extensive land reclamation and engineering works at Kallang Basin to turn the tidal swamp into an aerodrome with a landing area for airplanes, and a wharf and slipway for seaplanes and flying boats¹². The iconic building in the complex is the main terminal. Its streamlined exterior with horizontal lines, emphasized by large multi-tiered cantilevered decks and big continuous expanse of glass windows, makes it one of the most recognizably “modern”



04 Keys and Dowdeswell, China Building in 1964, Singapore, 1932. © From the Kouo Shang-Wei Collection 郭尚慰收集. All rights reserved, Family of Kouo Shang-Wei and National Library Board Singapore 2007.

in style among the pre-war buildings. Its interior spaces and decorative details, however, suggest much greater affinity with the Art Deco style. The interior spaces are arranged symmetrically and highly compartmentalized. In the centre of the terminal building is an inward-looking, double-volume main hall, where one is cut off from the dynamic spaces of the exterior. Instead of unadorned surfaces echoing the machine aesthetics of the Modern Movement, the interior featured surfaces decorated with all kinds of Art Deco geometries and motifs made with novel materials like chromium plated metal and rubber tiles.

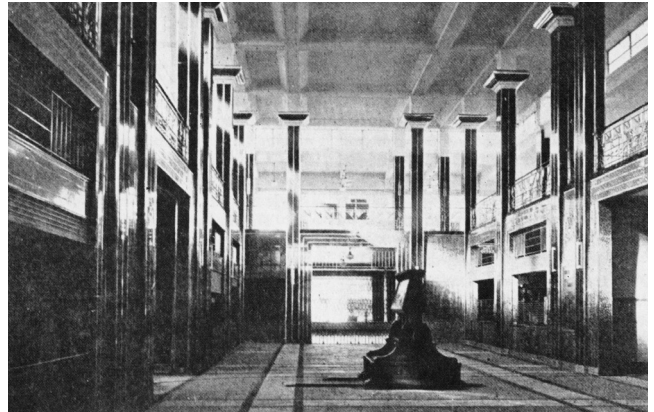
Despite the inconsistencies in style, these infrastructural projects made use of modern constructional technologies and engineering methods. Steel frame and reinforced concrete structures were deployed for Singapore Railway Terminus, Clifford Pier and the terminal building of Singapore Civil Aerodrome. The unique structural properties of these new materials are vividly demonstrated in these three buildings: the main interior spaces in the first two buildings – the main hall and the loggia respectively – appear bright and airy because of the light-weight large-span structures while the last building features large cantilevered decks that seem to float. Even in the case of the Supreme Court building (1939) and General Post Office (1928) – the two most explicitly classicist buildings commissioned by the colonial state – steel and reinforced concrete were used together with the latest mechanical ventilation technologies¹³. In fact, the General Post Office was only one of the two buildings in early 1920s Singapore that was designed in accordance with the latest London County Council specifications¹⁴.

These buildings were also modern in the sense that they were assemblies of globally-sourced materials, products, labour and expertise. For instance, the Supreme Court



05 Swan and Maclaren, Singapore Railway Terminus, Singapore, 1932. Main hall. © Jiat-Hwee Chang, 2015.

06 Public Works Department, Singapore Civil Aerodrome, Singapore, 1937. © *The Malayan Architect*, vol. IX, n. 6, June 1937.



building used local hardwood *chengai* and *kapoh* obtained through Malaya's Government Forest Department for most timber components, "Bombay Burmah first quality teak" for the doors to the main spaces, "snowcrete" white cement from a London cement company for exterior rendering, windows from Crittal Manufacturing in London, cast iron canopies from Walter Macfarlane & Co. of Glasgow, bronze caps from Bigazzi in Hong Kong, "centrifugal multivane blowers" manufactured by Ozonair Co. of London, etc. Only a modern resource infrastructure could ensure the provision of these different materials and products from far-flung localities. Furthermore, on top of relying on British architects, engineers and consultants, the Supreme Court also benefited from the craft of Italian sculptor Cavaliere Rudolfo Nolli (1888-1963), who was responsible for the sculptures on the pediments and the carvings on the capitals of the columns and other classicist ornaments. It also benefited from the "first class workmanship" of plasterers who were forced to leave Shanghai for Singapore due to the Sino-Japanese hostilities in the 1930s¹⁵.

Pre-war colonial architecture in Singapore should also be noted for its innovations in environmental planning, i.e. the ways it was designed to respond to hot and humid climate in the tropics. Hospital buildings, in particular, are one of the much-overlooked building types that contributed to these innovations. An excellent example in Singapore is the Tan Tock Seng Hospital (1909) by PWD. It was a pavilion plan hospital in which each individual ward was planned as a separate airy pavilion encircled by verandahs and porous walls to provide shade while optimizing cross ventilation. The different wards were arranged in parallel rows linked by a common corridor¹⁶.

The Emergence of Local Architects and Early Experiments in Modernism

During the late-19th and early-20th centuries when European professional architects began to dominate the architectural scene in colonial Singapore, there were a small number of local "amateur" architects, i.e. those who were trained as engineers and surveyors, primarily dealing with small buildings for local clients who might not be as preoccupied with style and symbolic contents as their European coun-

07 Public Works Department, Tan Tock Seng hospital, with the pavilion wards completed in 1909 in the foreground and the mid-20th century addition in the background, Singapore. © National Archives of Singapore.



08 Ho Kwong Yew, House for Aw Boon Par at Haw Par Villa, Singapore, 1938.



terparts¹⁷. These local “amateurs” were a multicultural group that included figures such as George d’Almeida, Wan Mohammad Kassim, A. F. Cornelius, George Anthony Fernandez, Chye Tian Fook, Wong Siew Yuen and Seah Eck Jim. Their lack of professional training is evident in the comparatively less professional drawings their firms produced.

Later, with the passing of the Architects’ Ordinance in 1926, other locals qualified as architects through examinations. As there was no formal architectural training in colonial Singapore until a Department of Architecture was established at the Singapore Polytechnic in 1958, these locals picked up the requisite knowledge through working as tracers and draughtsmen in architectural offices and learning on the job. By the 1920s, a few architectural offices established by local architects began to gain some level of professional prominence by having their works featured in local architectural journals.

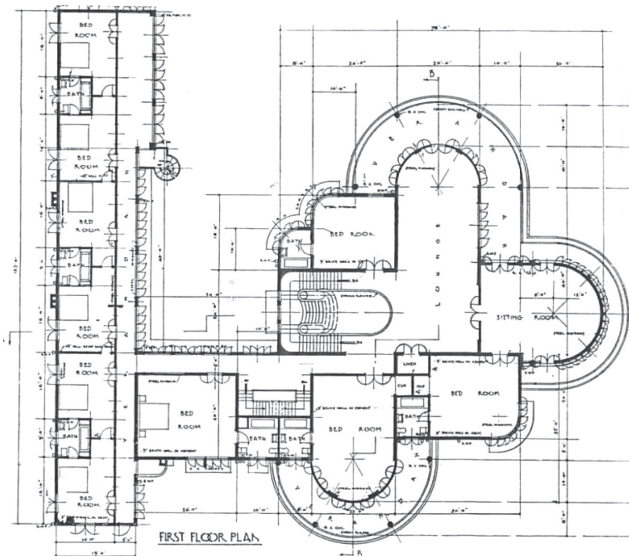
One of the more prominent local architectural firms was Chung and Wong, established in 1920. It was formed by Wong Puck Sham (1896-?) and Chung Hong Woot (1895-1957), two architects who apprenticed at the government survey department and Singapore Harbour Board’s building section respectively¹⁸. Although “a large portion of their practice was building shophouses”, the firm also designed large houses in eclectic classicist style for social elites such as wealthy Chinese businessmen Lim Peng Siang and medical doctor S. Y. Yin, and large projects such as the Happy World Stadium¹⁹.

One of the most notable pre-war local architects was Ho Kwong Yew (1903-1942). Ho apprenticed at the PWD and gained experience as a draughtsman in the Municipal Architect’s Office. Later registered as both an architect and civil engineer, Ho was a partner of Chung and Wong between 1927 and 1933 before venturing out to set up his own firm²⁰. His in-depth knowledge of reinforced concrete construction and flair for design were evident in the houses he designed for two tycoons and their families – Chee Guan Chiang at Grange Road (1938) and Aw Boon Par at Haw Par Villa (completed in 1938 and destroyed in 1942). In both houses, he appropriated the streamlined aesthetic and ocean liner imagery of *Art Moderne* and translated them into idiosyncratic forms. In the former, the main house

consists of three projecting double-storey semi-circular structures with verandahs and porches. These are asymmetrically arranged around more-enclosed and less-curvilinear volumes. In the latter, the single-storey building consisted of 6 circular rooms, each topped with a reinforced concrete dome, clustered together to form an unusual bulbous exterior²¹. Despite their dynamic external forms, the spatial configurations of these houses are quite conventional. They have centrally-positioned grand entrances and clearly compartmentalized spaces. There is little in the plans to suggest a dynamic conception of space that is comparable to Euro-American Modernism of the time. Nor does the planning imply that they were designed for a modern lifestyle that is different from that found in traditional Chinese households during the colonial era.

The late 1930s, just before WWII and the Japanese Occupation, also saw the return of the first three overseas-trained Singapore-born architects – Koh Cheng Yam, Robert F. N. Kan and Ng Keng Siang²². However, it was only Ng Keng Siang who made a discernible impact with his architectural output. His own firm became one of the most successful local practices in the 1950s and it was given prestigious commissions such as Asia Insurance Building (1954), the tallest building in Singapore at its completion, and Ngee Ann Building (completed in 1957, demolished in 1985), the first post-war luxury flat development²³. Although these projects were not exceptional aesthetically – either resembling *Art Moderne* architecture elsewhere or the type of middling mid-20th century Modernism typical of the region – Ng Keng Siang was a model professional. He showed younger local architects that local firms could be as successful as the European expatriate firms. He also became the founding president of the Society of Malayan Architects (later Singapore Institute of Architects), the professional body established as an alternative to the expatriate-dominated Institute of Architects of Malaya.

Modernism, Post-colonial Modernity and State
Modernism really flourished in Singapore in the 1950s and 1960s, after a younger group of overseas-trained architects came back to Singapore. Prominent among this group were Alfred Wong (1930-), Lim Chong Keat (1930-), William S.



HO KWONG YEW,
ARCHITECT.

W. Lim (1932-) and Victor Chew (1928-). While these four architects are rightly celebrated and well-known today, with the exception of Alfred Wong, they all formed group practices informed by the ideal of equal partnership. Together with Chen Voon Fee (1931-2008), Lim Chong Keat and William Lim formed Malayan Architects Co-partnership (MAC) in 1960. When MAC was dissolved in 1967, Lim Chong Keat formed Architects Team 3 while William Lim formed Design Partnership with Tay Kheng Soon (1940-) – one of the first five graduates of the Diploma course at the Singapore Polytechnic in 1963 and an important architect in his own right subsequently – and Koh Seow Chuan²⁴. Victor Chew first established CAV Chew and Partners in 1957 but he changed it to Kumpulan Akitek in 1964 when he teamed up with Wee Chwee Heng – another one of the first graduates from the Singapore Polytechnic – and Chew Kum Chong²⁵.

From the late 1950s to the early 1970s, these architects produced a body of important works in Modernism: St. Bernadette Church (1958), St. Ignatius Church (1961), National Theatre (1963) and Hotel Malaysia (1968) by Alfred Wong; Singapore Conference Hall and Trade Union House (1965) by MCP; Malaysia-Singapore Airways Building (1969) and Jurong Town Hall (1973) by Architects Team 3²⁶; People's Park Complex (1973) and Woh Hup Complex (1973) by Design Partnership; Hilltops (1965), Malayan Bank Chambers (1965), Ming Court Hotel (1970) and Subordinate Law Courts Complex (1975) by Kumpulan Akitek²⁷. Much has been written about the architectural significance of these works and I will not repeat these arguments here²⁸. What I would like to show instead are the connections between architecture, economic structure and state.

Earlier in the paper, I have argued that what appeared to be Eclectic Classicist architecture of the colonial era

was inextricably linked to colonial modernity, particularly its modern capitalist economy, and the modern colonial state. These linkages continued in the post-colonial period except that the main actors and the socio-economic conditions have changed. Instead of expatriate architects, we have local architects as the main designers. Rather than depending on European capitalists and firms, these architects have Asian capitalists, who had gradually displaced the Europeans in the decolonizing and post-independence years, as their clients. For instance, one of the major clients of Kumpulan Akitek was Khoo Teck Puat, who was a major shareholder of Goodwood Group of Hotels and Maybank. Khoo commissioned the firm to design a number of hotels and bank buildings, including branches, connected to these two major companies. Likewise, the post-colonial state, its state agencies and state-linked companies either directly commissioned or indirectly facilitated a significant number of these projects. For example, Singapore Conference Hall and Trade Union House was commissioned by the state for hosting major conferences and housing the headquarters for the new trade union movement; Jurong Town Hall was seen by Jurong Town Corporation, the statutory board established by the state to lead Singapore's post-independence industrialization program, as a monument to Jurong Town; buildings like People's Park Complex and Woh Hup Complex were only possible because of the post-independence state's urban renewal and land sale programs.

Afterword: the Conservation of Modern Architecture in Singapore²⁹

The very conditions of rapid socio-economic development that had given rise to the above-mentioned exemplars of modern architecture in the past 70-80 years in Singapore are also the very conditions that had led to and continue to lead to the demise of many of these exemplars of modern architecture. Capitalist logic that expects the continual "upgrading" and renewal of commercial projects such as hotels, shopping malls, offices, mixed-used complexes so as to facilitate further capital accumulation meant that a number of the aforementioned buildings – such as Hotel Malaysia and Malaysia-Singapore Airways Buildings – have already been demolished and redeveloped. As their 99-year land tenure runs down and their real estate value diminishes accordingly, a number of key commercial buildings from the 1970s – such as the People's Park Complex, Golden Mile Complex and Pearl Bank Apartment – also face the possibility of imminent collective sale and en bloc redevelopment. Fortunately, state agencies such as the Urban Redevelopment Authority and Preservation of Sites and Monuments have, in recent years, gazetted a number of modernist buildings for conservation and even as national monuments. Notable examples include St. Bernadette Church, Jurong Town Hall and Singapore Conference Hall. Despite these laudable attempts at conserving modernist buildings, particularly state-owned modernist buildings, development pressure to optimize land utilization in order to house a projected population of 6.9 million means that many other state-owned modernist projects from the past that were

built at lower density – particularly Singapore Improvement Trust’s housing at Dakota Crescent – are facing uncertain future. Besides state agencies, non-governmental grassroots organizations have also emerged in recent years and become active in engaging with both members of the public and the state agencies in their advocacy for the conservation of modernist built heritage. Hopefully, these organizations are able to effect change and help to bring about the conservation of more modernist buildings and their landscapes.

Acknowledgement

Research for this essay is supported by a Ministry of Education Academic Research Fund (Tier 1) for “Agents of Modernity: Pioneer Builders, Architecture and Independence in Singapore, 1890s-1970s,” WBS no. R-295-000-127-112.

Notes

- 1 Alina Payne, “Review of Pioneers of the Modern Design, by Nikolaus Pevsner”, *Harvard Design Magazine*, n. 16, 2002.
- 2 Jiat-Hwee Chang, *A Genealogy of Tropical Architecture: Colonial Networks, Nature and Technoscience*, London, Routledge, 2016.
- 3 My account of the works of Swan and Maclaren draws primarily on Eu-jin Seow, *Architectural Development in Singapore*, Unpublished PhD thesis, University of Melbourne, 1973.
- 4 James J. Puthuchery, *Ownership and Control in the Malayan Economy*, Singapore, Eastern University Press, 1960.
- 5 Anthony D. King, *Urbanism, Colonialism, and the World-Economy: Cultural and Spatial Foundations of the World Urban System*, London, Routledge, 1990.
- 6 *Buildings and Society: Essays on the Social Development of the Built Environment*, London, Routledge & Kegan Paul, 1980.
- 7 See for example, Carl A. Trocki, “Political Structures in the Nineteenth and Early Twentieth Centuries”, in Nicholas Tarling (ed.), *The Cambridge History of Southeast Asia Volume 2: The Nineteenth and Twentieth Centuries*, Cambridge, Cambridge University Press, 1993; Robert E. Elson, “International Commerce, the State and Society: Economic and Social Change,” in Nicholas Tarling (ed.), *The Cambridge History of Southeast Asia*, vol. 3: *From C. 1800 to the 1930s*, Cambridge, Cambridge University Press, 1999.
- 8 Jiat-Hwee Chang and Imran bin Tajudeen (ed.), *Southeast Asia’s Modern Architecture: Questions in Translation, Epistemology and Power*, Singapore, Singapore NUS Press, 2018.
- 9 “Opening of Singapore’s New Station”, *The Singapore Free Press and Mercantile Advertiser*, 3 May 1932.
- 10 The most thorough research done on the architectural works of the colonial PWD thus far is Yunn Chii Wong, *Public Works Department Singapore in the Inter-War Years (1919-1941): From Monumental to Instrumental Modernism*, Unpublished Research Report, National University of Singapore, 2003. I draw extensively on this work below.
- 11 “Modern Pier for Singapore,” *The Straits Times*, 23 October 1929.
- 12 Reginald Lewis Nunn, “The Singapore Airport”, *Journal of the Institute of Civil Engineers* 12, n. 8, 1939.
- 13 “Air Conditioning: The Plant at the G.P.O Singapore”, *Journal of the Institute of Architects of Malaya* 2, n. 6, 1932.
- 14 The Colonial Engineer J. H. W. Park’s assertion. The regulations of Singapore Municipality then was lagging quite a few years behind LCC’s regulations. See *Proceedings of the Legislative Council of the Straits Settlements 1922*, B85.
- 15 *Ceremonial Opening of the New Supreme Court Building Singapore by His Excellency Sir Shenton Thomas*, Singapore, Government Printing Office, 1939.
- 16 Jiat-Hwee Chang, *op. cit.*, 94-128.
- 17 Many of them were recorded in Kip Lin Lee, *Emerald Hill: The Story of a Street in Words and Pictures*, Singapore, National Museum Singapore, 1984.
- 18 Seow, “Architectural Development in Singapore”.
- 19 “Architect’s Claim”, *The Straits Times*, 9 February 1931; “House at Siglap for Mr. Lee Siong Kiat”, *Journal of the Singapore Society of Architects Incorporated* 2, n. 1, 1929; “House for Dr. S. C. Yin at Gilstead Road”, *Journal of the Singapore Society of Architects Incorporated* 1, n. 4, 1929.
- 20 Weng Hin Ho and Kar Lin Tan, “Ho Kwong Yew”, in Leo Suryadina-

- ta (ed.), *Southeast Asian Personalities of Chinese Descent: A Biographical Dictionary*, Singapore, Institute of Southeast Asian Studies, 2012.
- 21 “New Residence Grange Road - Singapore - for Chee Guan Chiang”, *The Malayan Architect* 10, n. 2, 1938; “Mansion on a Hill: Work Nearing Completion”, *Morning Tribune*, 12 March 1936.
- 22 Seow, “Architectural Development in Singapore”, 312-3.
- 23 Fong Leng Chow, “Ng Keng Siang (1909-1967) - Singapore’s Pioneer Architect”, Elective study, University of Singapore, 1979.
- 24 For Tay Kheng Soon’s architectural career, see Jiat-Hwee Chang, “Deviating Discourse: Tay Kheng Soon and the Architecture of Postcolonial Development in Tropical Asia”, *Journal of Architectural Education* 63, n. 3, 2010; Robert Powell and Kheng Soon Tay, *Line, Edge & Shade: The Search for a Design Language in Tropical Asia*, Singapore, Page One Pub., 1997.
- 25 Bee Lok Hoong, “Victor Chew: An Architect”, BArch Elective Study, National University of Singapore, 1981.
- 26 “Singapore’s Jurong Town Hall”, *Asian Building and Construction* March, 1974.
- 27 “Victor Chew: An Architect”.
- 28 See, for example, Alfred Hong Kwok Wong, *Recollections of Life in an Accidental Nation*, Singapore: Select Books, 2016; Jiat-Hwee Chang, “Race and Tropical Architecture: The Climate of Decolonization and Malay-ization” in Irene Cheng, Charles L. Davis and Mabel O. Wilson (ed.), *Race and Modern Architecture*, Pittsburgh, University of Pittsburgh Press, forthcoming; Eunice Seng, “Habitation and the Invention of a Nation, Singapore 1936-1979”, Unpublished PhD Dissertation, New York, Columbia University, 2014.
- 29 Although I am a member of the advisory committee of the Preservation of Sites and Monuments, the views expressed in this essay is in my personal capacity as a researcher and scholar of modern architecture. They do not represent the views of the institutions that I am affiliated with.

References

- CHANG, Jiat-Hwee, *A Genealogy of Tropical Architecture: Colonial Networks, Nature and Technoscience*, London, Routledge, 2016.
- CHANG, Jiat-Hwee, “Race and Tropical Architecture: The Climate of Decolonization and Malay-ization”, in CHENG, Irene, DAVIS, Charles L. and WILSON, Mabel O. (ed.), *Race and Modern Architecture*, Pittsburgh, University of Pittsburgh Press, 2018.
- CHANG, Jiat-Hwee; IMRAN, bin Tajudeen (ed.), *Southeast Asia’s Modern Architecture: Questions in Translation, Epistemology and Power*, Singapore, Singapore NUS Press, 2018.
- HOONG, Bee Lok. “Victor Chew: An Architect”, BArch Elective Study, National University of Singapore, 1981.
- KING, Anthony D. (ed.), *Buildings and Society: Essays on the Social Development of the Built Environment*, London, Routledge & Kegan Paul, 1980.
- KING, Anthony D. (ed.), *Urbanism, Colonialism, and the World-Economy: Cultural and Spatial Foundations of the World Urban System*, London, Routledge, 1990.
- LEE, Kip Lin, *Emerald Hill: The Story of a Street in Words and Pictures*, Singapore, National Museum Singapore, 1984.
- SEOW, Eu-jin, *Architectural Development in Singapore*, Unpublished PhD thesis, University of Melbourne, 1973.
- WONG, Alfred Hong Kwok, *Recollections of Life in an Accidental Nation*, Singapore, Select Books, 2016.
- WONG, Yunn Chii, “Public Works Department Singapore in the Inter-War Years (1919-1941): From Monumental to Instrumental Modernism”, Unpublished Research Report, National University of Singapore, 2003.

Jiat-Hwee Chang

PhD, UC Berkeley. Assistant Professor at the Department of Architecture, National University of Singapore. He is the author of *A Genealogy of Tropical Architecture: Colonial Networks, Nature and Technoscience* (Routledge, 2016) and a co-editor of *Southeast Asia’s Modern Architecture: Questions in Translation, Epistemology and Power* (NUS Press, 2018) and *Non West Modernist Past* (World Scientific Publishing-2011).