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THE ARCHITECTURE OF *CULTUURSTELSEL* IN NINETEENTH-CENTURY DUTCH EAST INDIES: BUILT TRACES OF COLONIAL AGRICULTURAL INDUSTRY

Historiography of colonial architecture in Southeast Asia predominantly features accounts of key colonial port settlements, urban civic and military architectural structures, as well as the works of European architects in the colonies.¹ Monumental and architecturally designed colonial buildings are analysed as a form of material embodiment of the different facets of racial politics associated with colonialism, ranging from the imposition of the ruling status of the European subject, practices of racial segregation, and orientalist depiction of cultural otherness. Largely understudied, however, is the built legacy of the core rationale of colonialism: intensive cultivations and extractions of natural resources in the fertile hinterland of the colonies to be traded across the world. Away from the cosmopolitan port settlements, the cultivations of sugar, coffee, tea, tobacco, rubber and timber, as well as the mining of coal, tin, and other valued minerals were put in place by force, diversely impacting and transforming indigenous existences. While exploitation of labours and natural resources that accompanied colonial agricultural and mining enterprises are well accounted in the broader field of historical and ethnographic studies, reflection of how these processes left their marks in built forms is limited.²

*This paper will explore the architecture of *Cultuurstelsel*, the oppressive and widely condemned cultivation system implemented in the Dutch East Indies (today Indonesia) between 1830-1870, and the ensuing industrialisation of agricultural production in the colony in early 20th century. It will focus on the intensification of tobacco productions in Northeast Sumatra during this period and explore how large-scale conversion of forestland into tobacco fields and estates in the region triggered a formation of new building types, such as sheds, labourer barracks, and houses for European planters and administrators. It will reflect on the complex interface between exploitation of natural resources, displacement of local peasants, and appropriation of indigenous building tradition in the built landscape of colonial plantation of the region. Through this analysis the paper seeks to situate historiography of colonial architecture at the heart of colonialism itself: its search for and monopoly of resources and export commodities.*

Beyond the Exemplary Subjects of the Architectural History of Dutch East Indies: Colonial Plantations in Northeastern Sumatra

Colonial history of Indonesia is often framed in relation to the impressive timespan of the presence of Dutch interest in the archipelago, starting from the arrival of the first Dutch fleet in the northern Javanese coast of Banten (near today Jakarta) in 1596 to the declaration of independence by Indonesian nationalists in Jakarta (previously Batavia) in 1945. The implied magnitude of such a long rule, however, often distracts us from the uneven realities of the country's colonial experience. As Jean Gelman Taylor reminds us in her work, up to the late 18th century, the Dutch colony only consisted of a handful of isolated port settlements controlled by the Dutch East Indies trading company along the northern coast of Java and in the Moluccas archipelago.³ Colonial expansion through the rest of the archipelago only accelerated and gained a momentum in mid 19th century. Coinciding with this period was the industrious expansion of plantation agriculture throughout Java, Madura, and Sumatra. The peace and order era in the colony was only achieved as late as the 1908 with the inclusion of the island of Bali.

The first generation of Dutch architects, such as P.A.J. Moojen and E. Cuypers, arrived in the colony in early 1900s at a time when colonial settlements in Java such as Batavia, Semarang and Surabaya experienced rapid growth and construction boom. Such growth was fueled by increased migrations from Europe which had been triggered by the large-scale privatisation of export agriculture, trading and shipping activities in the colony's hinterland. Prior to this, establishment of trading settlements and building constructions were undertaken by anonymous generations of Dutch military personals, surveyors, local masons and Chinese carpenters. Unsurprisingly, writings on colonial architectural history of Indonesia are primarily focused on the late colonial era when most involvement of the Dutch architects could be observed or the monumental fabrics of key forts and colonial ports such as Batavia, Semarang, and Ambon in the Moluccas.⁴ Little has been written about the architectural forms that accompanied colonial intrusions into the fertile hinterland of other parts of the archipelago in the 19th century and how the rapid introduction of export agriculture, particularly in Sumatra, transformed the landscape of indigenous settlements.

Unlike Java's experience of a gradual consolidation of the colonial state since the early 17th century, Sumatra's encounter with colonialism only began in the second half of the 19th century. Colonial expansion into Sumatra was motivated by two conditions: firstly, the need to consolidate the Dutch control upon the archipelago in the face of the growing British presence in the Malay Peninsula, and secondly the rising demand for new fertile soil beyond Java to enable increased production of export agriculture. *Cultuurstelsel* or the Cultivation System is the central policy that shaped the time. The policy required native populations of the Indies to pay land tax by allocating 20% of their land for cultivating export crops such as sugar, coffee, tea, tobacco, and by undertaking unpaid labour work related to the establishment of plantation and trading infrastructure in their region. Although the policy was primarily implemented in the island of Java and Madura and was ended in 1870, it put in place a model of commercial agricultural industry and exploitative land leasing system that characterized the subsequent era of liberalised Dutch East Indies economy. In such a context, the island of Sumatra underwent the most rapid evolution from being a scarcely populated and mostly untouched region into the most productive export agricultural enterprise in the colony through establishment of plantations of tobacco, rubber, tea and oil palm.⁵ As Clifford Geertz described, "[n]owhere else in Indonesia, not even Central Java, did plantation agriculture develop so extensively, so resourcefully, so profitably, or so destructively.... Nowhere else did ethnic diversity, ideological contrast, and class difference crystalize into so convolute a form...."⁶

The start of such a rapid socio-environmental transformation of the island was the establishment of a tobacco plantation in Deli, the northeastern region of Sumatra. Situated next to the Strait of Malacca strategically across the already important network of trading ports of the Malay Peninsula, Deli in the 19th century was centered on the seat of a small but ambitious Malay monarch, the Deli Sultanate. The Sultanate linked its origin to an Islamic Indian prince from Delhi who married a member of a royal family of the powerful Acehese Kingdom of the northern tip of Sumatra. Scattered outside the realm of the sultanate were a number of indigenous kampong settlements belonging

to Sumatran Melayu (Malay) ethnic groups. The indigenous built forms found in this region, including the early royal complex of the Sultanate, reflect their Malay traditions with its *rumah panggung* (timber house on poles, see Fig. 1). It is a more muted architectural form if compared to the symbolical architectural language of the Batak ethnic group who also resides in the North Sumatra region.⁷ Although it linked its royal lineage to the Acehnesse Kingdom, the Deli Sultanate claimed its independent rule of the region through constant war and conflict with the Acehnesse and the neighboring Langkat region. Its cooperation with the Java based colonial government strategically strengthened its position in the region.



FIGURE 1 Indigenous Malay House in the Deli Region circa 1905. Photo courtesy of Leiden University Library, Leiden

In around 1860, at the height of the implementation of the Cultivation Policy, the Sultan of Deli sent his envoy to Batavia in an attempt to invite Dutch planters and investors to the region to explore its agricultural potential.⁸ A Dutchman Jacob Nienhuys accepted the invitation and led an exploration of the region in 1863 and subsequently received a generous concession from the Sultan to cultivate tobacco on the fertile volcanic soil of the region. In 1869 the Deli Plantation Company (*Deli Maatschappij*) was established and subsequently became the largest commercial agricultural enterprise in the Dutch East Indies. When the Cultivation Policy gave way to the open door policy in 1870, the colonial government opened up the region for foreign investments and private companies who were given the opportunity to lease the remaining uncultivated land from the Deli Sultanate. This led to an establishment of around 179 private plantations as recorded in 1889. At the height of the Sumatran tobacco boom in the 1880s around 700 European of different nationalities resided in Deli supplying European and North American markets with the highly valued Deli tobacco leaf known for its suitability as a cigar wrapper.⁹

The rapid growth of Sumatra's tobacco plantation involved a large-scale conversion of land and labour structure into the region. Contract plantation workers were sourced from Java, Malaysia, Singapore and China as the European planters considered local populations to be unskilled for plantation operation.¹⁰ This left the local isolated from the dramatic conversion of their land. While the growth of tobacco industry in the area subsequently triggered constructions of new rail network and formations of new trading centres, such as Medan, Belawan, Lubukpakam and Binjai, the indigenous settlements were excluded from this new economic network and the extension of the colonial state into the region. Local indigenous populations had to rely on marginal agricultural land to grow sustenance crops, which led to widespread poverty in the area.¹¹ The only reference to the indigenous existence in the establishment of the tobacco plantation was the use of local building craftsmanship in the construction of the early forms of built fabric of the agricultural enterprise: large sheds and warehouses needed to store, dry, and process tobacco leaves, mansions for European planters and administrators, and large barracks where the contract migrant labourers resided.

The built fabrics of one of the most damaging agricultural exploitations of the Indies, this paper argues, are also traces of gradual alienation of the indigenous communities of the Deli region dispossessed of their link to their land. The indigenous building craftsmanship was appropriated, reconfigured, and subsequently abandoned through the

industrious establishment of the tobacco estate built infrastructure. The colonial plantation economy not only reinforced the social disparity between the Malay monarch and the indigenous peasants of the Deli region, it further marginalised the indigenous peasants by excluding them from the plantation economy and labour structure.

Although writings on the architectural history of the Dutch East Indies hardly featured the establishment of plantation estates across the archipelago, colonial agricultural industry was extensively documented through the medium of photography, which was introduced in the colony in mid 19th century. Plantation companies were in fact key clienteles of the growing number of commercial European photographers working in the region. As John Falconer notes, “[t]he documentation of the industrial and agricultural development of newly-opened territories had by the 1880s become a stable subject for the professional photographers, supplying a record of progress and prosperity....”¹² Company albums and the private collections of photographers such as Charles J. Kleingrothe, H. Stafhell, G.R. Lambert, and Walter Woodbury provide rare insights into the hinterland of the Dutch East Indies, including the extensive tobacco plantation in Deli.¹³

The Architecture of the Tobacco Plantation in Deli: Impositions of Colonial Rule and Social Hierarchy

In her study of the environmental and visual culture in colonial Indonesia, Susie Protschky analyses how the social landscape of colonial plantations were depicted in 19th century photographs:

Photographers’ images not only revealed the regimentation of the late colonial plantation landscape, but also the hierarchical social structures, differentiated by employment status and race, that characterized plantation life. At the lowest end of the plantation order were the manual workers: free or indentured Indonesian men, women and children. Their Asian supervisors occupied the next run on the ladder. These people were distinguishable by costume (they tended to wear more clothing than coolies), and were usually not engaged in heavy labour. The European overseers who formed the apex of the hierarchy were almost always pictured striking imperious poses in white suits and *topi* (hats).¹⁴

Such a hierarchical racial and social structure was expressed in the architecture of built infrastructure on the site of tobacco plantations in Deli. As shown in Fig. 2 and elaborated in the following paragraphs, a plantation estate was typically comprised of a set of buildings of differing qualities, forms, and degrees of appropriations of local vernacular style. Each building structure was associated with a certain stage of the plantation operation which in turn was associated with a group of workers from a certain ethnic group. The Javanese men and children worked in the field and drying sheds, while the Chinese and selected Javanese women worked in the fermentation shed sorting the processed tobacco leaves. European administrators and controllers supervised the operations of the plantation and lived in distinguished looking free-standing villas, reminiscent of the residences of European elites and rulers in the more established colonial settlements such as Batavia. External to the plantation’s worker structure was the local Malay peasants. These readily available and cheap local labours were mainly exploited at the early days of the establishment of tobacco plantations particularly in the clearing of forestland and the construction of pioneering plantation sheds and houses for the Dutch plantation managers. They were subsequently considered as unskilled to work on the plantation estates.

The perishable nature of the product required each plantation to equip itself with a number of large drying sheds located right on the field. Once dried, the leaves were fermented and subsequently sorted, packed and shipped to auction places in Europe and Northern America. Depending on the size of the tobacco estate, the fermentation and sorting sheds were located near the area where the European employees, administrators, and medics resided to minimise travel distance. Workers’ barracks were positioned near to their associated working environments: male Javanese labourers were often in charge of the opening of land, planting, harvesting, and drying stages so their barracks tended to be located near the field; Chinese labourers were largely assigned with the sorting of fermented tobacco leaves so their barracks were mostly located near the fermentation sheds.¹⁵ The residences of the main administrators of the estate occupied the central location of the estate as shown in Fig. 2. Some of the large estates were equipped with hospitals (separate complexes were allocated for European and non European patients), Chinese temple or praying hall, Chinese Wayanghouse (puppetry performance house) and a market place.



FIGURE 2 Bird's eye view of tobacco plantation in Deli Serdang circa 1925. Photo courtesy of Leiden University Library, Leiden.

The most pronounced appropriation of indigenous craftsmanship and use of locally available building materials can be seen in the construction of warehouse like sheds located near the tobacco field to store and dry tobacco leaves. These storage and drying sheds [Fig. 3] were modeled on a rectangular wooden shelter with pitched roof used in the area's Malay settlements as a basic form for a house. The surrounding forest area, a large portion of this was cleared away to create open plantation fields, provided the tobacco companies with a large supply of tall timbers columns, suitable for a construction of a large shed space.

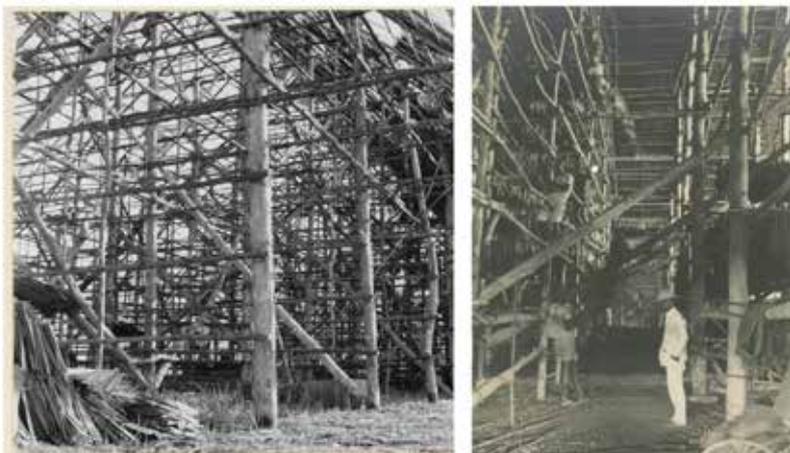


FIGURE 3 Local timber craftsmanship and the Drying Sheds circa 1920. Photo courtesy of Leiden University Library, Leiden.

Utilising the existing craftsmanship of indigenous populations, the early sheds were built using local palm leaves as roof materials and panels of weaved timber skin/rattan fiber as wall enclosure. The use of such permeable and breathing materials in the shed created a protection from the strong tropical sun and occasional dry wind of the region while allowing constant airflow. Internally, multiple rows of timber frames were constructed to support the wide roof structure and stabilise the large volume of the shed. The resulted dense grid of timber frames inside were used as structures to hang rows of timber poles on which tobacco leaves were laid. Plantation works undertaken around and near the drying sheds are the most physically demanding works. The harshness of the work and the low status of the contracted labourers associated with the works resonate the tone of the raw appropriation of the indigenous craftsmanship in the construction of the shed. Beyond the early days of plantation establishment, European employees would rarely be involved in this stage of tobacco productions. In Fig. 3 we can see a Chinese man clothed in white indicating his role as a supervisor of the shed where Javanese men laboured.

The fermentation shed [Fig. 4] is a more elaborated architectural structure. The only link to local craftsmanship is the use of dried palm leaves as roof materials. Although the structure is widely referred to as a shed, the internal space of the fermentation shed is more comparable to that of a large hall. Some of the sheds have an upper level sorting area which also serves as a reception hall of the estate. While most materials in the drying sheds were used

in their unfinished rough stage, the fermentation sheds featured a more elaborated material finishing and detailing. The use of white paint on the wall and ceiling panels (made of timber slates) contrasts the dark tone of the timber roof structure. Panels of glass windows are incorporated on the gable side of the shed allowing more direct sunlight into the hall and in particular into the upper level sorting/reception hall. On the ground level, a raised wooden platform, similar to an architectural element commonly featured in a village communal hall structure or a long house typology in the broader Sumatra region (not necessarily from the immediate Deli-Malay region) is placed at the centre of the hall establishing a sense of spatial hierarchy. Adaptation of building traditions from other region's in the fermentation shed of the more established estate as featured in Fig. 4 suggests that the particularity of the Deli's Malay indigenous existence had gradually lost its significance in the subsequent imagining and formation of tobacco plantation landscape. At the same time, the increasingly commercialised nature of tobacco production and the development of new construction techniques developed elsewhere in the colony's agricultural industry hot spots such as Central and East Java further dictated the construction and architectural form of these buildings.

The operation of the fermentation shed was controlled and managed directly by European administrators. Office furniture such as tables, chairs and cabinets were placed on the platform to facilitate the works of the plantation's high-ranking supervisors. Most of the labourers – typically Chinese or female Javanese – worked by sitting on the ground while the European supervisor, typically dressed in white, assumed a commanding position by sitting or walking along the raised wooden platform.

FIGURE 4 Fermentation Shed: Exterior View (*top*), Lower (*middle*) and Upper Level (*bottom*) Interiors circa 1900. Photo courtesy of Leiden University Library, Leiden.



The use of manufactured timber panel/slate at the time as featured in many examples of fermentation sheds was not common in the region. Such materials were more commonly used in Java or in the realms of the Malay monarch in the region. Most of the labourers working in the fermenting sheds were Chinese migrants; many came from Penang and Singapore known for their carpentry skills. The use of manufactured timber slates in the fermentation shed might also be related to the availability of such skills among the workers and the growing importance of Chinese labour brokers and community leaders in the region as more tobacco plantations were established in the region increasing the demand for migrant workers.¹⁶

Migrant workers from Java and China lived in separate clusters of barracks situated within the plantation estates. Different building forms and craftsmanship were featured in these barracks as they were most likely constructed and maintained by each of the particular labour groups reflecting their places of origin while utilising local building materials. This created a variety of architectural forms and building types [Fig. 5 and Fig. 6]. The barracks used by the Chinese workers often featured a circular window frame [Fig. 5] and in some cases adopted the shophouse typology typical of the urban form of a Chinatown in Penang, Malaka, and Singapore, where most of the migrants originated. The Javanese barracks took the shape of a large *pendopo*-like structure enclosed by slender timber column colonnade and corridor which functioned as an open terrace [Fig. 6]. *Pendopo* was one of the most basic timber house typology widely produced in the central Java region. During the year, the Javanese migrant barracks morphed into a Javanese kampong settlement equipped with its own range of civic space, such as prayer halls, vegetable garden, communal bath house and village meeting hall [Fig. 6]. The more established Chinese migrant barracks were equipped with a Chinese puppetry house where they staged puppetry performances as a form of leisure activities.

The early group of Dutch planters built their residences adjacent to the Malay indigenous settlements that were located near the plantation field. This allowed a degree of security and immediate access to local peasants and labourers in this scarcely populated region. A distinct form of dwelling, a freestanding elevated villa, was adopted [Fig. 7]. The architecture of residences of Dutch administrators and employees of tobacco plantations pronounces the ruling status of their occupants through size, heights, and formal language of architectural symmetry. Due to the almost square and symmetrical plans, most European residences had almost pyramidal shaped gable roofs, a form that implied prestige and authority.



FIGURE 5 Barracks for Chinese Migrant Labourers circa 1900. Photo courtesy of Leiden University Library, Leiden.



FIGURE 6 Barracks for Javanese Migrants (*top*) and Javanese Kampong Settlement (*bottom*) circa 1900. Photo courtesy of Leiden University Library, Leiden.



FIGURE 7 Residences of European Plantation Administrators circa 1880-1890. Photo courtesy of Leiden University Library, Leiden.

The main entrance of these residences was consistently marked by an accentuated porte-cochere where the occupants could park their horse carts. A formal wooden staircase leading to the upper level open balcony was another typical feature of the residences. The overall form and composition created a commanding view across the surrounding landscape and a sense of authority for the occupants. Although these residences featured different types of building materials and ornamental languages, they consistently conformed to the same architectural form. Elaborated detailing of window panels and wooden balustrade as well as adoption of white painted brick columns instead of white painted timber columns further signified the prestige and authority of the occupants among the region's European community. Although built in local building materials, these residences adopted the architectural form of plantation villas commonly found in coffee and sugar producing areas in the island of Java, such as Bandung, Solo, and Malang.

Conclusion: Alienation and Displacement of Indigeneity in the Colonial Landscape of 19th century Sumatra

Unlike the experience of Java, colonial plantation in Northeastern Sumatra was implemented at an industrial scale within a short period of time. While Javanese labourers had a spectrum of opportunities to participate in the establishment of colonial coffee, tea and sugar plantations, the indigenous Malay community of the Deli region was excluded from the shaping of commercial agricultural industry and landscape within their own region. Although Javanese peasants and labourers suffered similar imposition of social hierarchy which positioned them at the lower rank of colonial plantation order, the Northeast Sumatran peasants were almost a non-subject in the transformation of island of Sumatra as the colony's key agricultural exporters.

Architecturally, this process was reflected through the nature of appropriation of local building craftsmanship within the plantation estate. The differing degrees of appropriation of local craftsmanship, as showcased in the architecture of plantation sheds, workers barracks and European residences as discussed in this paper, demonstrated limited referencing to indigenous architectural forms of the Malay Deli settlements. Instead of informing the shaping of



FIGURE 8 Two Colonial Pillars: The Royal Palace of Deli Sultanate circa 1886 (*left*) and the Headquarter of Deli Tobacco Company in Medan circa 1920 (*right*). Photo courtesy of Leiden University Library, Leiden.

the plantation landscape, local Malay indigenous architecture was dismantled into its core materiality. It was then reconfigured and subsequently abandoned by the new regimented social relations of a colonial plantation estate. Reduced into its materiality, indigenous architectural form lost its visibility within the new landscape of Deli. It was dismantled, disposed and eventually erased from the plantation landscape.

The alienation of the local peasants within the colonial landscape of 19th century Sumatra could be observed in the formation of Medan in early 20th century as the political centre of the region and colonial trading centre for the Western region of the Dutch East Indies. Medan was the direct outcome of the commercial success of tobacco plantation in the region and today it is the capital city of the North Sumatra province, the fourth largest city in Indonesia. It is an embodiment of the commercial ambitions of the two pillars of colonialism in the region: the Dutch planters and the Sultanate of Deli. The royal family proclaimed their new wealth in the construction of a new royal palace [see Fig. 8 left image] and the royal mosque in the city. The two monumental structures featured a hybrid architectural language combining features of India's Mogul architectural tradition and neo-classical European styles while making no reference to the timber architecture of the old royal complex. The colonial state imposed itself on the city through the construction of Sumatra's tobacco research institute and the headquarter of the Deli Plantation Company [see Fig. 8 right image] using the distinct neo-classical style which had been widely produced in 19th century Java.¹⁷ A new cosmopolitan urban settlement and culture was put in place in Medan without a trace of Sumatran Malay indigeneity.

One of the most examined events within colonial architectural discourses in the Dutch East Indies is the debate on the question of how to architecturally express the modern identity of the colony in early 20th century from which two opposing positions emerged.¹⁸ The first was put forward by Wolff Schoemaker, Professor of Architecture at the Technical High School in Bandung (today Bandung Institute of Technology) who argued that the indigenous populations of the colony do not have an architecture tradition in a sense of architecture understood in Europe. He then argued that modern architectural identity for the colony should be articulated as a synthesis between the great classical Hindu-Buddhist Javanese tradition and architectural modernity of Europe. The second position was held by Thomas Karsten and Maclaine Point, prominent practicing architects and town planners whose works shape the early 20th century landscape of key colonial settlements throughout Java. They argued for the need to recognise the living architectural tradition found in Java at the time instead of refereeing to the no longer existing classical tradition. The eminent Dutch architect H.P. Berlage, who travelled through the colony in 1923, supported Karsten's and Pont's position.¹⁹ Such a formalist conception of architectural identity continues to shape the same debate as it occurs through the unfolding nation building process in Indonesia in its unending search for an architectural identity.²⁰ The search for an architectural image for the country and the centrality of Java continue to gloss over the history of displacement of indigeneity across the archipelago.

Endnotes

- 1 For critical analysis of the historiography of architecture of Southeast Asia, including analysis of writings of colonial architectural history of the region, see Lai Chee Kien, "Southeast Asian Spatial Histories and Historiographies," *Fabrications* 19, no. 2 (2010): 82-105.
- 2 For studies of labour exploitation in 19th century colonial plantation practices, see for example Karl J. Pelzer, *Planters Against Peasants: The Agrarian Struggle in East Sumatra 1947-1958* (Leiden: 'S-Gravenhage – Martinus Nijhoff, 1982); Jan Breman, *Taming the Coolie Beast: Plantation Society and the Colonial Order in Southeast Asia* (Delhi: Oxford University Press, 1989); Pal Ahluwalia, Bill Ashcroft and Roger Knight, eds., *White and Deadly: Sugar and Colonialism* (New York: Nova Science Publishers Inc., 1999); and Ann Laura Stoler, *Capitalism and Confrontation in Sumatra's Plantation Belt, 1870-1979* (Ann Arbor: The University of Michigan Press, 1995 [1985]).
- 3 See Chapter 3 of Jean Gelman Taylor, *Global Indonesia* (Abingdon and New York: Routledge, 2013).
- 4 On the subject of architectural history of the Dutch East Indies, see for example Cor Passchier, "Colonial Architecture in Indonesia," in *The Past in the Present: Architecture in Indonesia*, ed. Peter J.M. Nas (Rotterdam: NAI Publishers, 2007); Stephen Cairns, "Re-Surfacing: Architecture, Wayang and the "Javanese House," in *Postcolonial Space(s)*, eds. Gülsüm Baydar Nalbantoglu and Wong Chong Thai (New York: Princeton Architectural Press, 1997); Abidin Kusno, *Behind the Postcolonial: Architecture, Urban Space and Political Cultures in Indonesia* (London and New York: Routledge, 2000); C.L. Temminck Groll and W. van Alphen, *The Dutch Overseas: Architectural Survey, Mutual Heritage of Four Centuries in Three Continents* (Zwolle: Waanders Publishers, 2002).
- 5 Taylor, *Global Indonesia*, 262-268.
- 6 Clifford Geertz in his introduction in Pelzer, *Planters Against Peasants*, vii.
- 7 For early writing on the landscape of Deli which includes a brief description of the architecture of local Malay ethnic group and monarch, see Pieter Johannes Veth, *Het Landschap Deli op Sumatra: Naschrift op het Artikel... Nalezingen en Verbeteringen* (Amsterdam: Stemler, 1876). Indigenous house form from the Batak ethnic group was one of the main 'native' architectural features of the Dutch Pavilion at the Colonial Expositions events in late 19th century, see Marieke Bloembergen, *Colonial Spectacles: The Netherlands and the Dutch East Indies at the World Exhibitions, 1880-1931* (Singapore: Singapore University Press, 2006).
- 8 Jan C. Zadoks, *Black Shank of Tobacco in the Former Dutch East Indies Caused by Phytophthora Nicotianae* (Leiden: Sidestone Press, 2014), 19. See also Taylor, *Global Indonesia*, 67-70.
- 9 Stoler, *Capitalism and Confrontation in Sumatra's Plantation Belt*, 16-17.
- 10 Jean Gelman Taylor, *Indonesia: Peoples and Histories* (New Haven & London: Yale University Press, 2003), 264.
- 11 See Susie Protschky, *Images of the Tropics: Environment and Visual Culture in Colonial Indonesia* (Leiden: KITLV Press, 2011), 92 and 100.
- 12 Falconer, John, *Photographs of Java, Bali, Sumatra: 1860s-1920s* (Paris: Les Éditions du Pacifique, 2000), 34.
- 13 For writings on 19th century photographs of Dutch East Indies, see for example Amanda Achmadi, "A Changing Scene: The Framing of Architectural Otherness in the Dutch East Indies in Nineteenth- and Twentieth-century Colonial Photography," *Fabrications* 24, No. 1 (2014): 4-25, Gael Newton, *Garden of the East: Photography in Indonesia 1850s-1940s* (Canberra: NGA Publishing, 2014), Janneke van Dijk, Rob Jongmans, Anouk Mansfeld, Steven Vink, Pim Westerkamp & Wimo Ambala Bayang, *Photographs of the Netherlands East Indies at the Tropenmuseum* (Amsterdam: KIT Publisher, 2012), Gerrit Knaap, *Cephas, Yogyakarta: Photography in the Service of the Sultan* (Leiden, KITLV Press, 1999), Steven Wachlin, *Woodbury & Page Photographers, Java* (Leiden: KITLV Press, 1994), and Anneke Groeneveld, Liane van der Linden, Steven Wachlin & Ineke Zweers, (eds), *Toekang Potret: 100 Jaar Fotografie in Nederlands Indie 1839-1939* (Amsterdam: Fragment Uitgeverij and Rotterdam: Museum voor Volkenkunde, 1989).
- 14 Protschky, *Images of the Tropics*, 91.
- 15 In the early days of the plantation establishment, Chinese barracks were also located near the field as they also undertook the heavy manual works associated with the clearing of the jungle areas. In a later period, the ethnic distribution of labourers became more pronounced with the Chinese gaining more trust from the European employers and obtaining higher rank within the labour structures of the tobacco estates.
- 16 For the role of Chinese carpenters in the construction of colonial forts and settlements in British Malaya, see John Ting, *Precarious Power, Forts and Outstations: Indigenisation, Institutional Architecture and Settlement Patterns in Sarawak, 1841-1917* (University of Melbourne: unpublished PhD dissertation, 2015), 242.
- 17 For photographic recordings of 19th century architectural landscape of Batavia, see Scott Merrillees, *Batavia in Nineteenth Century Photographs* (Richmond: Curzon Press, 2000).
- 18 For analysis of the debate, see for example Cairns, "Re-Surfacing," 73-88, Kusno; *Behind the Postcolonial*, 25-48.
- 19 For Berlage's writing on Indies architectural landscape, see H.P. Berlage, *De Indische Reis van H.P. Berlage* (Rotterdam: Nederlands Architectuurinstituut, 1991).
- 20 For a study on postcolonial search for an architectural identity in Indonesia, see Kusno, *Behind the Postcolonial*, 169-212. See also Abidin Kusno, *The Appearances of Memory: Mnemonic Practices of Architecture and Urban Form in Indonesia* (Durham and London: Duke University Press, 2010).