

Typology Spatial Arrangement and the Strategic Urban Structure of Surakarta's Fortifications and its Surroundings (1756, 1821, 1832, 1873)

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ARTICLE INFORMATION	ABSTRACT
<p>Received 03-11-2025 Accepted 08-12-2025 Published 01-04-2026</p> <p>Keywords: Bubble system analysis, De Grootmoedigheid, Fort van Soeracarta, Fort te Soerakarta, spatial arrangement, strategic intention, strategic urban structure, typology ground plan, urban structure, Vastenburg.</p>	<p>This study examines the spatial arrangement and strategic urban structures of the Surakarta Fortification during the 18th and 19th centuries, highlighting how defence, trade, and governance were intertwined in its urban fabric. By analyzing maps from 1756, 1821, 1832, and 1873, the research identifies distinctive spatial typologies that reveal both the military logic and civic functions embedded in the fort's design. The comparative approach situates Surakarta within broader traditions of colonial and military urbanism, while also underscoring its unique synthesis of Javanese royal authority and imported fortification strategies. The findings contribute to architectural and urban knowledge by offering a classification method of ground-plan typologies that illuminate the relationship between strategic defence and urban development. Beyond historical interpretation, this study also engages contemporary debates on heritage conservation, the planning of historic cities, and public policy, demonstrating the enduring relevance of fortification structures in shaping urban identity.</p>
<p>Kata kunci: <i>Bubble system analysis, De Grootmoedigheid, Fort van Soeracarta, Fort te Soerakarta, spatial arrangement, strategic intention, strategic urban structure, struktur urban, typology ground plan, Vastenburg.</i></p>	<p>ABSTRAK</p> <p>Judul: Tipologi, Tata Ruang, dan Struktur Urban Strategis dari Benteng-Benteng Surakarta dan Kawasan Sekitarnya (1756, 1821, 1832, 1873)</p> <p><i>Kajian ini menelaah tata ruang dan struktur perkotaan strategis dari Benteng Surakarta pada abad ke-18 dan ke-19, dengan menyoroti bagaimana fungsi pertahanan, perdagangan, dan pemerintahan saling terkait dalam jaringan kota. Melalui analisis peta tahun 1756, 1821, 1832, dan 1873, penelitian ini mengidentifikasi tipologi spasial yang khas yang memperlihatkan logika militer sekaligus fungsi sipil yang tertanam dalam rancangan benteng. Pendekatan komparatif menempatkan Surakarta dalam tradisi yang lebih luas mengenai urbanisme kolonial dan militer, sekaligus menegaskan sintesis unik antara otoritas kerajaan Jawa dan strategi fortifikasi yang diimpor. Temuan penelitian ini memberikan kontribusi bagi pengetahuan arsitektur dan perkotaan dengan menawarkan metode klasifikasi tipologi denah dasar yang menjelaskan hubungan antara pertahanan strategis dan perkembangan kota. Lebih jauh dari sekadar interpretasi historis, kajian ini juga terhubung dengan perdebatan kontemporer mengenai konservasi warisan budaya, perencanaan kota bersejarah, serta kebijakan publik, sehingga menunjukkan relevansi berkelanjutan dari struktur benteng dalam membentuk identitas perkotaan.</i></p>

Introduction

The goal of this study is to analyze the spatial arrangement of fortifications as a framework for categorizing their characteristics, with a focus on the typology of the Ground Plan of the Surakarta Fortification. This analysis is crucial for understanding the structure's functionality and the reasons for its existence. The urban defense systems of the 18th and 19th centuries were typically designed according to standardized principles.

A key aspect of this study is identifying the design's underlying intent, which serves as the foundation for the strategic significance of these structures. The typology of the fundamental arrangement has been examined through a historical lens, utilizing the concept of a typological ground plan (Oers, 2000) and its connection to the spatial arrangement and strategic functions of urban structures (Hernowo, 2016a, 2016b, 2020a, 2020b).

Fortifications played a central role in shaping cities influenced by European powers in Nusantara, serving to protect settlements while supporting trade and political dominance in urban centers. This model was implemented across numerous islands, including Ambon, Makassar, Malaya, and Ternate. It was similarly evident in Javanese coastal cities such as Batavia, Cirebon, Semarang, Rembang, and Surabaya, as well as interior cities like Yogyakarta, Ngawi, Ambarawa, Klaten, *Carta Soera de Ningrat*, and Surakarta.

Novelty Statement

This study introduces a spatial typology approach that reframes colonial fortifications not merely as defensive artefacts but as integral urban systems. By classifying ground plans into Tripartite, Dichotomous, and Entity types

and tracing their evolution through maps of Surakarta (1756–1873), the research demonstrates how military logic, trade, governance, and social organization were spatially interwoven (Hernowo, 2020a, 2025a, 2025b). This perspective offers a new way to interpret urban history—showing forts as catalysts of settlement patterns and civic hierarchies—while also advancing strategic defence studies by revealing how urban planning itself functioned as a mechanism of control. Beyond historical analysis, the framework provides transferable insights for heritage conservation, urban planning of historic cities, and contemporary public policy.

Methods

This study employs a structured approach to analyze the spatial arrangements and urban structures of Surakarta town and its fortifications, incorporating comparative, interpretive, and analytical methodologies.

First, Comparative Analysis of Spatial Arrangements (1756, 1821, 1832, 1873): a chronological comparison examines the spatial arrangements of Surakarta's urban structure and fortifications alongside those of other towns such as Ambon, Ngawi, and Banjarmasin. Maps from the years 1756, 1821, 1832, and 1873 serve as the primary sources, with a focus on how the forts served as focal points. This comparison aims to identify key characteristics of internal and surrounding urban structures, culminating in a typological classification of the Ground Plan of the Surakarta Fortification for each year.

Second, the study applies the Bubble System Methodology, as designed by Hernowo (2025), to interpret the spatial relationships and connections between

facilities as depicted on historical maps. This methodology aids in understanding the functional and strategic interconnectivity of fortification-related structures and their roles within the broader urban framework.

Third, Focused Discussion on Fort Comparison: a detailed discussion compares the 1756 map of Fort van Soeracarta and the 1832 map of Fort te Soerakarta. This step aims to highlight evolutionary changes in spatial arrangements and strategic functions, contributing to a deeper understanding of the fortifications' historical and urban significance.

By integrating these steps to enables a thorough exploration of the typology, functionality, and strategic roles of Surakarta's fortifications within their urban context.

Result and Discussions

Theoretical Discussion

The spatial typology approach adopted in this study resonates with broader debates in colonial and military urbanism, where fortifications are understood not only as defensive structures but as instruments of urban ordering and social control. Comparative research on Dutch VOC settlements in Batavia, Ambon, and Banda, as well as Spanish colonial towns in Manila and French bastion systems designed by Vauban, demonstrates how military logic was embedded into civic layouts, shaping trade flows, administrative hierarchies, and ethnic segregation. These studies highlight the dual role of forts as both protective enclosures and catalysts of urban growth. Surakarta's Fort Vastenburg, however, offers a distinctive case: its typological evolution reflects the negotiation between Javanese royal authority and

Dutch colonial strategies, producing a hybrid urban form that differs from purely European models. By situating Surakarta within this comparative framework, the study contributes to theoretical understandings of how colonial power was spatialized, showing that fortifications were not isolated artefacts but dynamic urban systems whose legacy continues to inform heritage conservation and the morphology of historic cities.

Comparison of the Dutch Founded Settlement 18th-19th Century

According to Oers (2000), the typologies of Dutch-founded settlements originate from the aspect of a spatial-functional organization. Three types are distinguished. The first type is a tripartite type, meaning a territory consisting of a company fortress, a trade settlement, and an indigenous village connected to it, with separate physical elements. Second, a dichotomous type is a company fort separated from trade facilities and accommodations. Third, an entity, a company fort, and a settlement are one physical urban ensemble. This composition are become important description of spatial arrangement in connection to the existence of Fortification for the Dutch fortification concept of arrangement.

In the case of Solo, based on our research and simulations, it can be concluded that the city's core area follows the tripartite type. The core area of the town consists of a fort, a trade settlement, and an indigenous village, which are connected to it but in separate physical elements (Figure 1). The trade settlement (7) is north of the Fort (Figures 2 and 3).

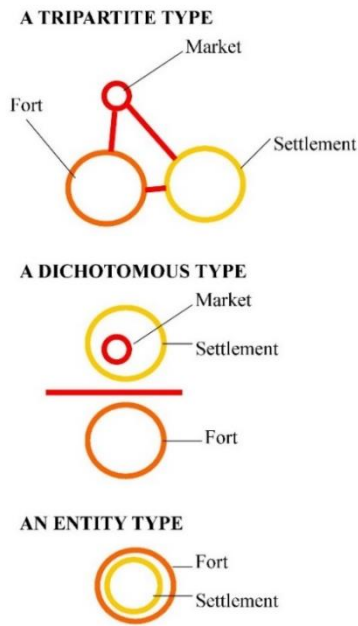


Figure 1. Typology of Dutch settlement.
 Source: Author construction & drawing, 2025

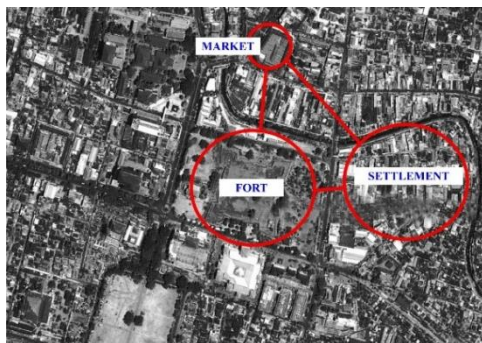


Figure 2. The Tripartite type of Dutch settlement in Surakarta.
 Source:
<https://maps.app.goo.gl/snmKzPqSmezHgJm77>,
 accessed November 2025 with author construction

The Dutch Quarter (2) is placed on the east side of the Fort. This settlement is intentionally positioned right at the riverside to ensure accessibility to the water (Figure 3). The main items considered concerning the planning and design of the settlement are location, reason for settlement/existence (*raison d'être*), and guiding element or backbone of the plan (Leitmotiv)-the ingredients of the design concept that was possibly used (Oers, 2000).

Concerning location, there was an absolute preference for coastal areas or riversides: most of the VOC settlements were situated on the shores of rivers or seas.

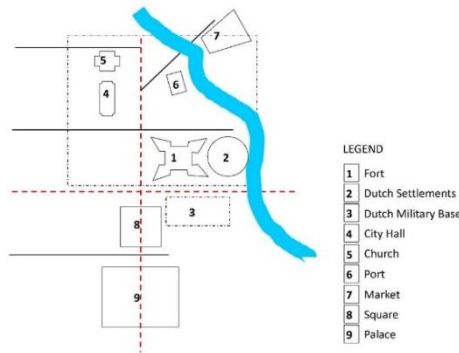


Figure 3. Dutch Urban Structure with Simon Stevin Grid plan in Surakarta in 1821.
 Source: Author construction & drawing, 2025

The Dutch were a maritime nation; their homeland can be considered one big river delta, and they contributed to the discovery and conquest of the world by sea. Settlement in coastal areas or on riverbanks meant controlling incoming ships (Oers, 2000). The Dutch wanted to trade rather than convert, as the Spanish did, or build an empire, as the British did; an economically strategic location was more important for gathering a wide range of goods from the hinterland.

As mentioned previously, three types are distinguished in the typology of Dutch-founded settlements. In the case of Solo (1821) (Figure 2 & 3) and Solo (1873) similar to Ambon (1718) (Figure 4 & 7) and Cirebon (1770), our study concluded that three of these Dutch town's core areas follows the *tripartite type*, which means a territory consisting of a company fortress, trade settlement, and indigenous village connected to it and separate physical elements (see Figure 1 & 2). Ngawi (1873) (Figure 8) and Banjarmasin (1905) (Figure 9), following a dichotomous type, are company

fortifications separated from trade facilities and accommodations. The older formation of the coastal town of Banten (1600s) is a physical urban ensemble of an entity type, a company fortress, and a settlement.

The typology of Dutch-founded settlements in Indonesia reflects the colonial strategies and urban planning principles employed by the Dutch East India Company (VOC) and later colonial administrators. These settlements can be categorized into three distinct types: tripartite, dichotomous, and entity types, each representing unique spatial and functional arrangements.

Tripartite Type

The tripartite type, as observed in Solo (1821 and 1873), Ambon (1718), and Cirebon (1770), is characterized by a division into three interconnected yet distinct components:

1. *Company Fortress*: This served as the administrative and military hub, symbolizing Dutch authority and providing defense against external threats.
2. *Trade Settlement*: Located near the fortress, this area facilitated commercial activities, housing warehouses, markets, and residences for European traders and officials.
3. *Indigenous Village*: Situated adjacent to the trade settlement, this area accommodated the local population, who often provided labor and services to the colonial administration.

The spatial separation of these components reflects the Dutch approach to maintaining control while fostering economic interactions. The fortress ensured security, the trade settlement enabled economic exploitation, and the indigenous village facilitated labor supply. Despite their physical separation, these components were functionally

interdependent, forming a cohesive urban entity.

Dichotomous Type

The dichotomous type, exemplified by Ngawi (1873) and Banjarmasin (1905), represents a more segregated urban form. In this typology:

1. The company fortification is isolated from other urban functions, emphasizing its defensive and administrative roles.
2. Trade facilities and accommodations are located at a distance, reflecting a deliberate separation of military and economic activities.

This separation may have been influenced by the strategic importance of these locations, where the primary focus was on maintaining military control rather than fostering integrated urban development. The dichotomous type highlights the adaptability of Dutch colonial planning to specific local contexts and priorities.

Entity Type

The entity type, as seen in the older coastal town of Banten (1600s), represents a more integrated urban form. In this typology:

1. The company fortress and the settlement are combined into a single physical and functional ensemble.
2. This integration reflects the early stages of Dutch colonial expansion, where the focus was on establishing a foothold and consolidating power in strategic coastal locations.

Banten's entity type demonstrates a less complex urban structure, likely due to the limited resources and administrative capabilities during the early colonial period. Over time, as the Dutch expanded their influence and resources, more sophisticated typologies like the tripartite and dichotomous types emerged.

The typology of Dutch-founded settlements illustrates the evolution of colonial urban planning in Indonesia, shaped by strategic, economic, and administrative considerations. Each type reflects a specific approach to balancing control, economic exploitation, and interaction with local populations. These settlements not only served as centers of colonial power but also left a lasting impact on the urban landscape and cultural heritage of Indonesia.

Bubble System Analysis

The comparison of the urban structure that involving fortifications as a central point between Surakarta and Ambon using the Bubble system analysis offers a structured and effective approach to understanding the spatial arrangements and typological ground plans of these two towns. This methodology, based on historical maps extracted into simplified Bubble forms (Figure 4 & 5), provides a visual representation of the positional and relational patterns of urban structures. It highlights the fortifications' strategic positioning within the urban context while showcasing their functional connections to surrounding areas.

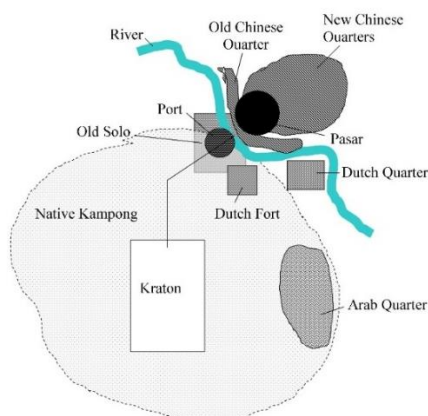


Figure 4. Bubble analysis of Surakarta in 1873 (North on top).

Source: Author construction & drawing, 2025

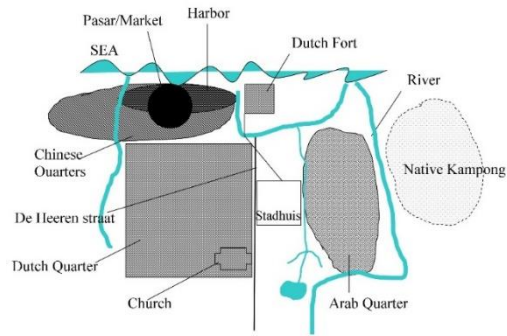


Figure 5. Bubble analysis of Ambon 1718 (North on top).

Source: Author construction & drawing, 2025

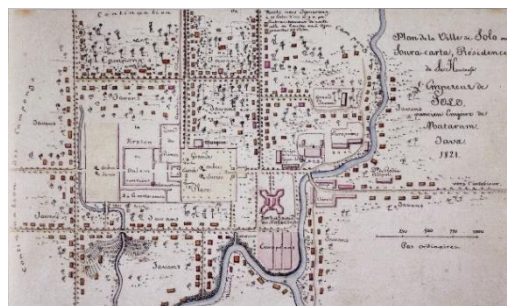


Figure 6. Map of Solo in 1821 (North on the right).

Source: Bruggen et al., 1998



Figure 7. Map of Ambon Francois Valentijn, Oud en Nieuw Oost-Indiën 1718 (North belows).

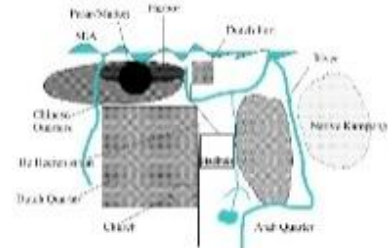
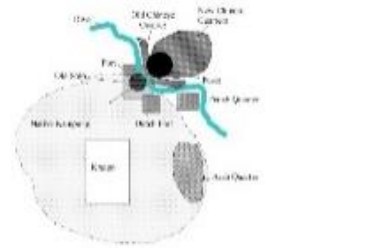
Source: (Valentijn, 1724)

defense, administrative control, and socio-economic interactions.

The Bubble system analysis proves invaluable in extracting the positional and relational dynamics of these fortifications, revealing both the unique and shared characteristics of their urban structures. By visually simplifying historical maps into Bubble diagrams, this method provides clarity in understanding the strategic intentions

behind urban planning decisions. It offers a meaningful comparison of Ambon's coastal trade-oriented layout and Surakarta's inland administrative design, illustrating how fortifications were adapted to their geographic and socio-political contexts. This analysis serves as a foundation for exploring broader applications of typological ground plans across Dutch colonial settlements, emphasizing their influence on urban development and strategic planning.

Table 1. Bubble Analysis of Ambon (1718) and Surakarta (1821), Characteristics Spatial Arrangement and the Strategic Urban Structure. Forts, Kraton/Stadhuis, and Chinese Wijk as the Benchmarks

MAP	Ambon (1718)	Surakarta (1821)
		
(A) Kraton	(Not existed) it was replaced by the existence of Stadhuis	Located in the middle of the city surrounded by the Javanese campong
(B) Stadhuis	connected directly to the Dutch Quarter at the east, divided by the <i>Heerenstraat</i> .	At the west of the Chinese wijk and the fortress
(C) Fortification	The Fortification was located on the North coast. It connected directly with <i>Heerenstraat</i> from the stad huis and Dutch Quarter (in the North direction)	Located in the middle, it was between the Kraton (direct connection) and Chinese wijk (across the river).
(D) Dutch Quarter (<i>Cota Blunda</i>)	The Dutch Quarter was connected directly with <i>Heerenstraat</i> from the fortress to the south. It was located on the west of the stad huis.	On the east side (back of the Fort), it was between the Fort and the river (direction to the east)
(E) <i>Heerenstraat</i>	The main street, <i>Heerenstraat</i> , connected the Fort to the southern direction.	Located at the center of the Dutch Quarter (lying up to the east, connecting the Fort to the river, dividing the Dutch settlement)
(F) Chinese Wijk	Chinese Quarter (<i>Chinese Wijk</i>) (near the market) was positioned in the west direction from the Fortification (divided by the river).	Located the North of the Fort (divided by the river)
(G) Market	The market was positioned west of the Fortification (divided by the river).	Located at the Chinese Wijk.
(H) Church	It was located southwest of Stadhuis.	(Roomsch Church) It was located in the Northern direction of City Hall/Stadhuis. (<i>Gereformeerde Kerk</i>) located on the west of the Fort and the Dutch Quarter.
(I) Native Quarter	West side of the Fortification, the Stadhuis and the Arabische wijk (divided by the river)	Surrounded the Kraton
(J) Arabische Wijk	Located in the east direction of the Stadhuis	Located in the east direction of Kraton

Source: Author construction & drawing, 2025

Characteristics Spatial Arrangement and The Strategic Urban Structure

The Ambon maps of 1718 show that the town was typical of an eighteenth-century metropole. Trading and its location on the open seacoast made it a favorite place for Nusantara and foreign traders to observe. The Fortification located in the coastal area has a function to protect against any attack from outside.

The bubble drawing of Ambon (Figure 5) shows the coastal town's spatial functional and urban structure. The harbor is located on the west side of the Victoria fortress, close to the (F) Chinese Quarter (Chinese Wijk) and the market, all positioned in the west direction from the (A) fortification. However, in Surakarta, the Fort is (in the middle) between the Kraton (direct connection) and the Chinese Wijk (across the river).

The main street (E) Heerenstraat connected the Ambon Fort to the south. However, Surakarta fort is located at the center of the Dutch Quarter (lying up to the east, connecting the Fort to the river, dividing the Dutch settlement).

In Ambon, (H) the church and (D) Dutch Quarter (Cota Blunda) are southwest of the Fortification in front of (B) the Stadhuis. But in Surakarta, Roomsche Church was located in the Northern direction of City Hall/Stadhuis. Gereformeerde Kerk was located on the west of the Fort and the Dutch Quarter. And the Stadhuis was at the west of the Chinese Wijk and the fortress.

The metropolis has no (A) Kraton, but as an equal comparison, there was a Stadhuis exactly on the east side of the Heerenstraat, next to it in the east direction was (J) Arabische Wijk (Located in the east direction of the Stadhuis), and further to the east a crossing of the river was a (I) Native

Quarter. However, in Surakarta, Arabische Wijk is located east of Kraton, and the Native Quarter surrounds the Kraton.

The comparison in the Table (Figure 10) explains the standard bubble configuration of urban structure that was applied in the towns of both Ambon (1718) and Surakarta (1821). This table shows that the city has become more explicit regarding standard or general model land use and the typology ground plan of both towns.

In this case, the general model of a typological ground plan can also be generated in other Dutch cities in Nusantara or any part of the world. The bubble system helps to formulate the configuration of a typical city's urban structure. Ambon was a Portuguese town layer before the Dutch invaded the city in 1605. The VOC cooperated with the local Hitu power to attack and take over the Fort.

After comparing the characteristics of the urban structure of Ambon and Surakarta, it can be concluded that the town was applying standard arrangement, which became an essential requirement that allowed the city to work correctly in terms of the defense, economic, social, and political in the setting of history Ambon in 1718 and Surakarta in 1821 in relation to the position, distance, orientation, type of connection or barrier was critical including the type of inhabitants. In detail, we can study the observations from the existing maps that have been extracted into general model drawings, such as Ambon: Kraton (Which did not exist); the Stadhuis replaced it, and the Stadhuis was connected directly to the Dutch Quarter to the east, divided by the Heerenstraat. The Fortification was located on the North coast. It connected directly with

Heerenstraat from the stad huis and the Dutch Quarter (in the North direction). The Dutch Quarter (Cota Blunda) was connected directly with Heerenstraat from the fortress to the south. It was located on the west of the stad huis. Heerenstraat, the main street, connected the Fort to the south. Chinese Wijk Chinese Quarter (Chinese Wijk – near the market) was positioned in the west direction from the Fortification (divided by the river). The market was positioned west of the Fortification (divided by the river). The church was located southwest of Stadhuis. Native Quarter: On the west side of the Fortification, there are the Stadhuis and the Arabische wijk (divided by the river). Arabische Wijk was located in the east direction of the Stadhuis.

Surakarta: Kraton was located in the middle of the city and is surrounded by the Javanese campong. Stadhuis at the west of the Chinese wijk and the fortress. The Fortification was located in the middle between the Kraton (direct connection) and the Chinese wijk (across the river). Dutch Quarter (Cota Blunda) is on the east side (located behind the Fort), between the Fort and the river (direction to the east). Heerenstraat is located at the center of the Dutch Quarter (lying up to the east, connecting the Fort to the river, dividing the Dutch settlement). Chinese Wijk is located north of the Fort (which is divided by the river). The market is located at the Chinese Wijk. Church (Roomsche Church) was located in the Northern direction of City Hall/Stadhuis. The Gereformeerde Kerk was located on the west side of the Fort, the Dutch Quarter, and the native Quarter, which surround the Kraton. Arabische Wijk is located east of Kraton.

The typology of spatial arrangement of Dutch colonial settlements exemplifies strategic urban planning tailored to military, economic, and social needs.

Three key types—Tripartite, Dichotomous, and Entity—demonstrate the adaptability of Dutch designs across diverse contexts.

The Tripartite Type, seen in Solo (1821 and 1873), Ambon (1718), and Cirebon (1770), divides towns into a Company Fortress for defense and administration, a Trade Settlement for economic activities, and an Indigenous Village for labor and services. This structured separation balanced security, commerce, and local labor.

The Dichotomous Type, exemplified by Ngawi (1873) and Banjarmasin (1905), segregates military and economic zones. Here, the Company Fortification is isolated to emphasize defensive and administrative priorities, while trade facilities are located at a distance, indicating a deliberate focus on military dominance rather than integrated development.

The Entity Type, observed in Banten (1600s), integrates the Company Fortress and settlement into a single ensemble. This simpler model reflects the early stages of Dutch expansion, prioritizing efficiency due to limited resources.

Urban arrangements, such as Ambon's coastal trade emphasis and Surakarta's central Kraton, reveal strategic positioning for control. These typologies collectively illustrate the systematic Dutch approach to fortifications, balancing defense, economic activity, and local social structures, leaving an enduring legacy in urban landscapes.

Fort Plan and Its Strategic Urban Structure

The 1832 Vastenburg Fort Plan offers a comprehensive insight into the spatial arrangement, functionality, and strategic intentions of Dutch colonial fortifications

in Surakarta. By analyzing the Fort's design and comparing its evolution across 1756, 1821, 1832, and 1873, this study highlights the meticulous planning and high standards of military architecture that defined these structures. The Fort's dual function as a defensive stronghold and a settlement within its walls underscores its significance in maintaining colonial control and supporting urban development.

Functional Structure and Strategic Intentions

The Vastenburg Fort was designed with a clear understanding of its dual purpose: defense and settlement. The integration of military and civilian facilities within the Fort's walls reflects a high-standard military system that prioritized both security and functionality. The Fort's layout, with its central courtyard surrounded by military and administrative buildings, facilitated efficient operations while maintaining a strong defensive posture. The inclusion of facilities such as the *Staatsgevangenis* (state prison), *Artillerie Kazerne* (artillery barracks), and *horenden magazijnen* (associated warehouses) highlights the strategic intent behind the Fort's design. These structures were not only functional but also symbolized Dutch authority and control over the region.

Detailed Elevations and Typology of the Ground Plan

The 1832 plan of Fort Vastenburg is recognized as one of the most detailed drawings of a fortress in Java. Its elevations and spatial arrangements provide valuable insights into the typology of the ground plan, which was essential for understanding the Fort's functionality and strategic significance. Comparing the Fort's spatial arrangements across different years reveals a consistent emphasis on strategic urban structures. The typological ground

plan, as applied in this study, connects the spatial arrangement to the strategic function of the urban structure, offering a framework for analyzing similar fortifications in the region.

Urban Structure and Strategic Composition

The Fort's composition, with its specific arrangement of urban structures, reflects the strategic intentions behind its design. The integration of central trade and commando facilities within the Fort underscores its role as a hub for economic and administrative activities. The surrounding urban structures were carefully planned to support the Fort's operations while maintaining a clear separation between military and civilian areas. This arrangement highlights the Dutch colonial approach to urban planning, which prioritized control, efficiency, and functionality.

Comparative Analysis of Spatial Arrangements

The comparison of the Fort's spatial arrangements in 1756, 1821, 1832, and 1873 reveals the evolution of its design and functionality over time. Each iteration of the Fort's plan reflects the changing priorities and challenges faced by the colonial administration. For example, the addition of the *Staatsgevangenis* in 1832 highlights the increasing emphasis on maintaining order and control in the region. Similarly, the inclusion of facilities such as the *Kavallerie Kazerne* (cavalry barracks) and *Paddie magazijn* (rice warehouse) demonstrates the Fort's adaptability to meet the needs of its inhabitants and the colonial administration.

Broader Implications for Urban Development

The study of Fort Vastenburg's spatial arrangement and strategic urban structures provides valuable insights into

the broader implications of Dutch colonial fortifications for urban development in Nusantara. The Fort's design and functionality influenced the development of surrounding settlements, shaping the urban landscape of Surakarta and other cities in Java. The integration of defense and settlement functions within the Fort's walls reflects a colonial approach to urban planning that sought to balance security, economic activity, and administrative control.

Legacy and Historical Significance

Fort Vastenburg's legacy as a colonial fortification extends beyond its architectural and functional aspects. It serves as a testament to the Dutch colonial administration's strategic planning and its impact on Surakarta's urban development. The Fort's detailed plan and its evolution over time provide a valuable historical record of the challenges and priorities faced by the colonial administration. Moreover, the Fort's preservation and study contribute to a deeper understanding of the region's cultural and historical heritage.

In conclusion, the Fort Plan represents a high point in the design and functionality of Dutch colonial fortifications in Java. Its detailed elevations, strategic urban structures, and integration of defense and settlement functions reflect a sophisticated approach to military architecture and urban planning. By analyzing the Fort's spatial arrangement and comparing its evolution across different years, this study provides a comprehensive understanding of its character and significance. The findings contribute to a broader appreciation of the role of colonial fortifications in shaping Nusantara's urban landscape and their enduring legacy in the region's cultural and historical heritage.

Fortification and formation of the city

The comparison between the urban structures and strategic arrangements of Ambon (1718) and Surakarta (1821) reveals a systematic approach to urban planning by the Dutch. Both towns reflect the influence of European colonial strategies in Nusantara, with distinctive adaptations based on geography, history, and local needs.

Ambon, a coastal town and trading hub, prioritized Fortification against external threats given its position on the open coast. The Victoria Fort was strategically situated to oversee the harbor and protect the town. The urban structure featured the *Heerenstraat* as the main thoroughfare connecting the Fort to the Dutch Quarter (*Cota Blunda*) and other areas, such as the *Stadhuis*, Chinese Quarter (*Wijk*), market, and church. The absence of a *Kraton* (Palace) in Ambon emphasized its commercial and administrative focus, with the *Stadhuis* acting as the central authority.

In contrast, Surakarta's urban structure was centered around the *Kraton*, reflecting its role as a royal and administrative city. Fort Vastenburg was located between the *Kraton* and the Chinese Quarter, underscoring its dual role as a defense structure and a mediator among different social groups. The Dutch Quarter lay to the east of the Fort, divided by the *Heerenstraat*, while key facilities, such as churches and markets, were strategically located to support the colonial administration.

The spatial comparison illustrates how the Dutch adapted their urban planning principles to different contexts. Ambon's layout emphasizes maritime trade and external defense, while Surakarta integrates royal, colonial, and local elements into a cohesive urban system. Both towns exhibit typological ground

plans that balance defense, economic activity, and social organization, reflecting the standardization of Dutch colonial urban planning. This analysis underscores the importance of position, orientation, and connection in shaping the strategic and functional character of these towns.

Conclusion

This study demonstrates that the spatial typology of Dutch colonial fortifications, Tripartite, Dichotomous, and Entity, represents more than military architecture; it embodies a strategic urban logic that integrated defence, trade, governance, and social organization. The case of Fort Vastenburg in Surakarta, analyzed through maps from 1756 to 1873, reveals how spatial arrangements evolved to balance colonial control with urban development, situating the fort as both a defensive stronghold and an administrative hub.

By classifying ground-plan typologies and comparing Surakarta with other settlements such as Ambon and Cirebon, this research contributes a framework for interpreting colonial and military urbanism in Southeast Asia. It highlights how fortifications were not isolated structures but catalysts for shaping civic life, economic flows, and social hierarchies.

The findings extend beyond historical analysis: they underscore the enduring influence of colonial spatial strategies on the morphology of historic cities. This typological approach offers insights for heritage conservation, urban planning, and public policy, reminding us that the legacy of fortifications continues to inform contemporary debates on identity, memory, and the management of historic urban landscapes.

In sum, the Surakarta fortification exemplifies how strategic defence and urban history intersect, and how spatial typology can serve as a critical tool for advancing architectural and urban knowledge.

Contemporary Relevance

The spatial typology of Surakarta's fortification not only enriches historical understanding but also offers practical insights for present-day challenges. The classification of ground plans and their strategic arrangements highlights how colonial legacies continue to shape the morphology of historic cities. These findings can inform heritage conservation by identifying significant spatial patterns worth preserving, guide urban planning in integrating historic structures into modern development, and support public policy aimed at balancing cultural identity with functional urban growth. In this way, the study bridges past and present, showing how colonial fortifications remain relevant to contemporary debates on sustainable and inclusive city planning.

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