

Conference Name: SSHRA 2024 – Social Science & Humanities Research Association International Conference, 09-10 July, Bangkok

Conference Dates: 09-Jul- 2024 to 10-Jul- 2024

Conference Venue: The Landmark Bangkok, 138 Sukhumvit Road, Bangkok, Thailand

Appears in: PEOPLE: International Journal of Social Sciences (ISSN 2454-5899)

Publication year: 2024

Yu-Ting Lin, 2024

Volume 2024, pp. 306-311

DOI- <https://doi.org/10.20319/icssh.2024.306311>

This paper can be cited as: Lin, Y-T. (2024). A Study of Dutch Siege Tactics and Fortification Designs in Asia During the 17th Century. SSHRA 2024 – Social Science & Humanities Research Association International Conference, 09-10 July, Bangkok. Proceedings of Social Science and Humanities Research Association (SSHRA), 2024, 306-311.

A STUDY OF DUTCH SIEGE TACTICS AND FORTIFICATION DESIGNS IN ASIA DURING THE 17TH CENTURY

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Abstract

The purpose of this paper is to examine the relationship between the design concepts of Dutch siege fortifications and the VOC's siege practices in Asia in the 17th century. In terms of "the design concepts of Dutch siege fortifications," mainly based on the theoretical work OF BESIEGING TOWNS AND FORTRESSES (Vant Belegherin Der Steden en Sterckten), written by Simon Stevin (1548-1620), a Dutch military engineer. Stevin had served in the Dutch army as a military advisor to Prince Maurice of Nassau (1585-1625), co-planning a number of sieges. Moreover, he was designated to found the engineering school at Leiden University. Thus, Stevin's works reflect the tactics and design concepts of sieges in the 16th-17th centuries. Regarding "the VOC's siege practices in Asia," mainly derived from the establishment of the Dutch East India Company (Vereenigde Oost-Indische Compagnie, abbreviated as the VOC) in 1602. Its purposes were not only to gather wealth but also to attack the power of Spain and Portugal. The government empowered the VOC with the rights to recruit troops, purchase

quality guns and cannons, and even represent the country to declare war or make peace with the flags of red, white, and blue. As a result, the globe-wide expansion of the VOC led to several sieges in Asia, as well as cross-cultural military exchanges between Europe and Asia.



The ship of the Dutch East India Company in Malacca around 1780. (Source: Atlas of mutual heritage)



Major trading posts and voyage routes of the Dutch VOC in Asia during the 17th century. (Source: Robert Parthesius (2010). *Dutch Ships in Tropical Waters-The Development of the Dutch East India company (VOC) shipping Network In Asia 1595-1660*. Amsterdam: Amsterdam University Press)

Based on the concept of maritime history, this paper reveals the military exchanges between the Netherlands and Asia in the 17th century from the perspective of maritime trade. In terms of research methods, "theories" and "practices" were compared to each other. As for "theories," the focus was mainly on the principles of siege in *OF BESIEGING TOWNS AND FORTRESSES*. While in "practices," the siege campaigns of the Dutch VOC in Asia were utilized as comparative objects. Based on the results of the comparison between theories and practices, the correlation between the design concepts of Dutch siege fortifications and the VOC's siege practices in Asia in the 17th century could be interpreted to some degree. Hence, this paper finally drew the following conclusions:

1. Principles of Siege Tactics and Fortification Design in Simon Stevin's *OF BESIEGING TOWNS AND FORTRESSES*

When Stevin wrote *OF BESIEGING TOWNS AND FORTRESSES*, the Netherlands was expanding overseas during the middle of the Eighty Years' War. It can be deduced from various manuscripts that Stevin was extremely likely involved in the pre-planning of several sieges,

such as the layout of the barracks and the design of the siege fortifications. In addition, according to historical images from *the Atlas of the Republic of the Netherlands (Toonneel der Steden van de Vereenighde Nederlanden*, published during 1649-1652) by Joan Bleau's (1596-1663) and the "Atlas of Mutual Heritage" website, there is a high degree of similarity between the sieges that occurred in the Netherlands and the design concepts of fortifications in *OF BESIEGING TOWNS AND FORTRESSES*. It can be reasonably inferred that this theoretical work fully reflected the Dutch practical experience in the preliminary stage of the war.

The book *OF BESIEGING TOWNS AND FORTRESSES* introduced the three main stages of sieges in detail. The first stage is "Reconnoitring," which means investigating the surroundings of the target and gathering information about the city beforehand. The second stage is "Investment," which involves encircling the targets with two rings consisting of trenches and breastworks. The inner ring is for defending against the enemy inside the city, while the outer ring is for deterring reinforcements from outside. The area between the two rings ensures the safe movement of troops. Additionally, barracks, forts, and batteries are positioned along the rings to assemble the army and reinforce defense. The final stage is "Approach," which involves digging a zigzag-like trench from the siege fortifications towards the target, allowing the army to approach the city under cover. The primary function of a fortress is to defend itself and its surroundings; therefore, these three stages of sieges can be used to understand the design concepts of fortress defenses.

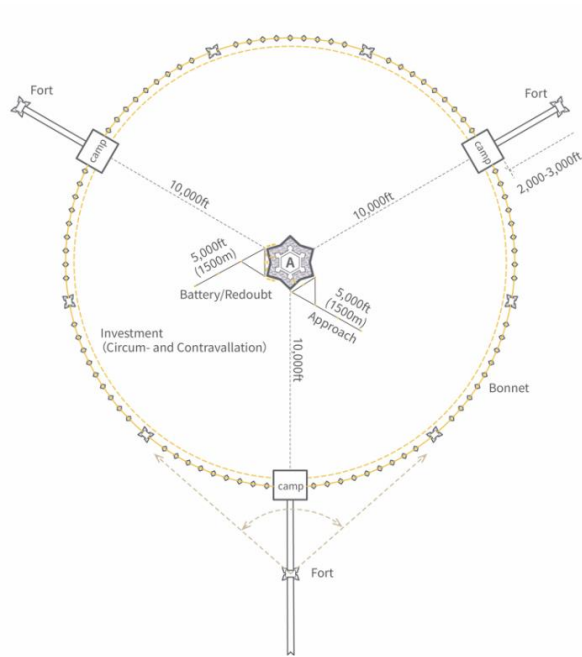
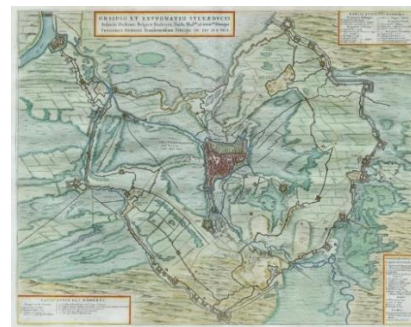
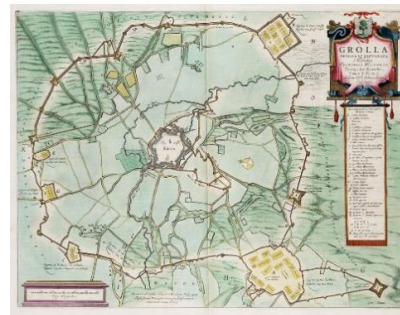


Illustration from *OF BESIEGING TOWNS AND FORTRESSES*. It explains the circum- and contravallation.



Siege of Groenlo in 1627 by Frederick Henry, including the circumvallation.(Source: Blaeu, 1652:46). Map of the siege of Den Bosch in 1629.(Source: Blaeu, 1652:396)

2. The relation between *OF BESIEGING TOWNS AND FORTRESSES* siege tactics and fortification design of Dutch VOC in Asia.

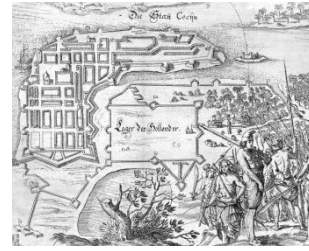
Through the comparison between the three stages ("Reconnoitring," "Investment," and "Approach") of siege introduced in *OF BESIEGING TOWNS AND FORTRESSES* and the VOC's sieges in Malacca (1641, Siege of Malacca), Great Ambon (1651-1656, Great Ambon War), and Cochin (1662-1663, Siege of Cochin), this paper finds that the concepts of fortification design in the Netherlands at that time were related to the VOC's siege tactics in Asia in the 17th century. This result reflected the development of Dutch military engineering during the Eighty Years' War and the siege experience of the Dutch VOC against the Spain and Portugal Empires in Asia. On this basis, the spatial meaning of the fortress, such as "route path," "base environment," and "fortress design," can be further explored through the layout of the siege fortifications.



Prospect and bird's eye view of Malacca, 1606. (Source: Bibliothèque nationale de France)



Bestorming van Laala; Storming of Laala. (Period: 1606. Source: Koninklijke Bibliotheek Brussel)



Siege of Cochin (Period: 1669. Source: Eine Kurtze Ost-Indianische Reisz-Beschreibung)

3. The provenance of Zheng Chenggong¹'s fortification design concepts for the siege of the Dutch fortresses

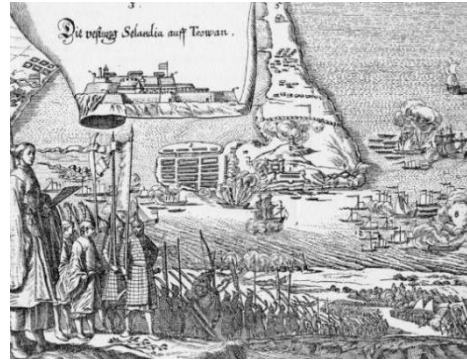
The Siege of Zeelandia from 1661 and 1662, a 9-month-long battle between Zheng Chenggong (also known as Koxinga) and the Dutch VOC, was close to the dates of the three sieges mentioned above (sieges in Malacca, Great Ambon, and Cochin). Based on historical archives, Zheng's army not only used common European fortifications such as artillery and gabion, but also employed black troops and even tried to dig tunnels to bury gunpowder to blow up the fortress walls. These methods of siege had already appeared in Europe in the late Middle Ages, and relevant records can be found in books on fort design and siege tactics in the 17th century.

On this basis, it could be inferred that the Zheng Dynasty, which often interacted with Europeans at that time, had probably learned the relevant siege tactics from Europeans. Therefore, the siege concepts in *OF BESIEGING TOWNS AND FORTRESSES* can also be used to understand the Siege of Zeelandia in Formosa in the 17th century, which marked the military connection and exchange between the Dutch VOC and the Zheng dynasty. Moreover, this siege can also be regarded as the first siege of a Dutch fortress by the Chinese, which is of high significance.

¹ Zheng Chenggong better known internationally as Koxinga, was a Southern Ming general who resisted the Qing conquest of China in the 17th century, fighting them on China's southeastern coast. In 1661, Koxinga defeated the Dutch outposts on Taiwan and established a dynasty, the House of Koxinga, which ruled part of the island as the Kingdom of Tungning from 1661 to 1683.



Bird's Eye View of Tayouan and Fort Zeelandia, 1644.(Source: Österreichische Nationalbibliothek, Austria)



Battle of Zeelandia on the island of Formosa between the Dutch and Coxinga, 1661-1662. (Source: Eine Kurtze Ost-Indianische Reisz-Beschreibung)