TRACING REMNANTS OF DUTCH-JAPANESE AFFAIRS IN THE MARITIME CULTURAL LANDSCAPE OF JAPAN
Abstract

This master’s thesis focusses on the impact of the Dutch in the maritime cultural landscape of Japan, covering a time frame between 1609 to 1853 AD. In order to show this impact, two case study areas were researched. These areas were Hirado, where the Dutch had their trade post between 1609 and 1641, and Nagasaki, where on an artificial island the Dutch stayed between 1641 and 1853. Research methods included a field survey to inventory and analyse the material and immaterial remains of Dutch maritime activities in the present, surrounding landscape of each case study area. Additional research through primary and secondary sources, including archaeology, was used to reconstruct the former maritime infrastructure and the way the Dutch handled themselves in terms of maritime activities in a foreign environment. The first case study on Hirado showed the Dutch acquired, built and maintained several warehouses and other installations during their presence in Hirado, while they adapted their maritime activities in various ways to the natural and cultural circumstances. The second case study on Nagasaki showed the Dutch were able to maintain few of the most vital maritime activities such as necessary repairs, despite being deprived from many of the freedoms they previously enjoyed at Hirado.

Keywords: Maritime cultural landscape, maritime heritage, common cultural heritage, Japanese-Dutch international relations, VOC, Dutch East India Company, Dutch colonial trade, Hirado, Dejima, Nagasaki, Kyūshū, Japan.

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Introduction

During a personal voyage in Japan, the author was confronted with the rich and long lasting history of contact between the Japanese and the Dutch. To a person who was not yet acquainted with the subject, it was surprising to see that for as long as 212 years, a small, artificial island such as Dejima\(^1\) turned out to become Japan’s only gateway to the West. From an archaeologist’s point of view, with a bias towards maritime archaeology, there is always an urge for a tangible representation of such an interesting history. However, to find such a physical representation, it soon turned out that one would have to go Hirado and Nagasaki. A new voyage was planned in order to still this growing urge to dive deeper into the Dutch-Japanese history, which eventually led to this master’s thesis.

The information presented in this thesis is the result of an inventory and analysis of the physical and cognitive impact of the Dutch on the Japanese maritime landscape of Hirado\(^2\) and Nagasaki\(^3\). The information was gathered through a literature study, combined with a field survey conducted between April the 28\(^{th}\) and May the 31\(^{st}\) of the year 2013. The goal of this thesis is to give a geographical representation of the traces of the Dutch-Japanese affairs in the maritime cultural landscape of Japan. Viewing the Dutch-Japanese relations in a maritime archaeological landscape perspective will shed new light on our understanding of the Japanese-Dutch relations and their common cultural heritage within Japan.

Thesis structure

The first chapter of this paper will introduce the reader to the theoretical framework that guides the thoughts and implications in this thesis. Topics include recent views on landscape studies and their uses in maritime archaeology. The second chapter discusses the methods used during the research.

Chapter three represents the first case study and discusses the impact of the Dutch on the maritime landscape of Hirado. The chapter starts by describing Hirado’s foreign maritime traces in general, while more detail is given to those remains that are particularly related to the Dutch presence in between 1609 and 1641. At all times, the historic context will be taken into account.

\(^1\) On which the reader will especially be introduced to in chapter 4
\(^2\)平戸
\(^3\)長崎
Chapter four discusses the case study of the Dutch impact on the surrounding maritime landscape of Nagasaki. Like the third chapter, this chapter starts by presenting the physical and cognitive impact of foreign maritime activities, while paying utmost attention to remains related to the Dutch presence in between 1641 and 1853. As in the preceding chapter, historic, political and economic backgrounds are sketched if relevant.

Lastly, chapter five contains a comparison between the case studies presented in chapters three and four. This is followed by a conclusion, ending in a discussion on the outcomes and relevance for future research on this matter.

**Geographical scope and time frame**
Since the Dutch trade post was first installed in Hirado (1609-1641) and later in Nagasaki (1641-1853), these two localities were thus selected as case study areas.

![Figure 1 - The island Kyūshū with Hirado and Nagasaki displayed in the north west (Japan Reference, 2014)](image)
Both Hirado and Nagasaki are situated in Japan’s south-western region known as Kyūshū\(^4\) (see figure 1 and Appendix III), which is one of four main islands that together with over six thousand smaller islands form the Japanese Archipelago. Overall, ecological and geological conditions that apply to Kyūshū in general\(^5\), were applied to the case study areas as well, unless a specific characteristic of one of the research areas required detailed attention. Detailed descriptions of Hirado and Nagasaki will follow in chapters four and five.

In order to understand the changes within the maritime cultural landscape of Hirado and Nagasaki, it was necessary to create a general inventory of other potential foreign influences in both research areas. This affected the time frame of this research in such a way that the research includes material and immaterial traces from as early as the 16\(^{th}\) century. At that time, Chinese and Portuguese merchant ships started to call in at the harbours of Hirado and Nagasaki. The relatively shorter presence of the English in Hirado between 1613 and 1623 was included as well. The main focus of this research however is set on the period 1600 to 1853 AD, as this is the era during which the Dutch were able to leave their imprint within the surrounding landscape.

**Research Problem Statement and Implications**

The *status quo* of research on Dutch-Japanese relations is crystal clear. Over the years, investigations on the history of these relations have shown that what at a first glance seemed to be nothing more than a trade-based relationship between two countries, has shown\(^6\) to be a complex choreography of advanced politics and economic motives. Apart from the direct economic benefits that come with intercontinental trade, both sides had their own underlying agendas that needed taken care of. The Dutch on the one hand, knew from the start of interactions in 1600 that Japan had many precious metals to offer. Once they had obtained trade privileges with Japan, the Dutch wanted to make sure they maintained access to the Japanese gold, silver and copper, with which the Dutch could finance the Asian trade network of the VOC. What is more, they needed the Japanese precious metals to gain access to the Chinese markets (Feenstra-Kuiper, 1921; Blussé *et al.*, 2000; Goodman, 2002; Blussé *et al.*, 2004).

The Japanese on the other hand initially welcomed the Dutch to gradually rule out the Portuguese-Catholic influence on Japanese society that started ever since the Portuguese

\(^4\)九州

\(^5\) Of which the Geographical Survey Institute of Japan provides the necessary detail (GSI, 1990; GSI, 2005; GSI, 2013)

\(^6\) See for example the works of Feenstra-Kuiper (1921), Boxer (1950), Roessingh (1964), Blussé *et al.* (2000), Goodman (2002), Blussé *et al.* (2004). For more see recommended literature in Blussé *et al.* (2000, p.270)
reached the Archipelago in 1543. Unlike the Portuguese, the Dutch prioritized trade rather than spreading the gospel and were thus welcomed with open arms in the hope they could, in time, substitute the obnoxious Portuguese. Several shogunal edicts implemented between 1614 and 1639 consequently led to a ban on Christianity, the expulsion of the Portuguese from Japan, a stop on Japanese maritime trade beyond the Japanese waters and the removal of the Dutch from Hirado to the shogunate controlled harbour of Nagasaki. This ushered in a period of virtual isolation7 of Japan now known as the sakokujidai or the ‘closed country’ period. However, research has shown that due to the exclusion from the outside world, the Japanese fully relied on the Dutch for importing ground resources and trade wares lacking in Japan. At the same time, the Japanese used the Dutch to import state of the art8 information on Western science, military technology and other technological developments and innovations – an activity later known as rangaku or Dutch learning. While Tokugawa Japan9 was becoming more and more self-sufficient over the course of time, the Japanese intensified the studies on Western science and philosophy and rangaku became the synonym for Western learning. This relationship lasted until in 1853 the United States of America used the threat of military force to ensure the reopening of Japan to other Western countries, marking the end of the seclusion period.

While the effects of relative isolation and the Dutch influence on Japan during the Tokugawa period10 have thus been thoroughly researched, the same cannot be stated of the Dutch impact on the maritime landscape of Japan. Although the landscape in which both parties have conducted their affairs has occasionally been discussed in prior research, this information often lacks depth and is scattered throughout different sources. All this in spite of the rather vast amount of primary sources in the form of daghregisters or daily diaries kept by the heads of the Dutch trade posts in Japan. Although abundant, these sources describe daily affairs that rarely exceed formal economic and political subjects. Especially during the earlier period, only but a few VOC physicians, VOC chiefs and other travellers left us some form of cultural and ecological information. Of course, one has to keep in mind that the authors of these primary sources were influenced by the paradigm of that day and age.

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7 Besides trading with the Dutch, the Japanese continued trade with the Chinese at Nagasaki, the inhabitants of the Ryukyu Islands, the Koreans through Tsushima and with the Ainu in Hokkaido.
8 However, the Dutch could not live up with the expectations of delivering state of the art information, as the Dutch quickly trailed behind scientific developments in Europe themselves (more on this in Goodman, 2002).
9 Japan during the Tokugawa period (1603-1867) when the Tokugawa shogunate family reigned.
10 1603-1867
Another consequence of why the landscape could be omitted from prior research is due to the fact that most researches have approached the Dutch-Japanese connection from the historic discipline. By and large, these researches are based on thorough primary source research, yet leaving a blind eye for archaeology and landscape analysis. Furthermore, the questions asked in this master’s thesis are specifically related to maritime activities. Apart from Mulder’s *Hollanders in Hirado* (1985) which has a considerable maritime interest, it is one subject that has not been the main focus of earlier conducted research on the Dutch-Japanese relations. For that matter it is necessary to look for new clues in the available primary sources, such as the aforementioned *daghregisters* and other contemporary reports.

Over the past decenniums, historical archaeology proved its worth in reconstructing historic landscapes, combining research on regional archaeological phenomena with historic literature (Banton, 2011; Gaimster and Majewski, 2011). Meanwhile, the development of spatial technologies, such as Geographic Information Systems (GIS), gave the opportunity to identify spatial relations and patterns in the spread of archaeological and non-archaeological phenomena (Wheatly and Gillings, 2002). Maritime archaeologists used these new perspectives on landscape reconstructions to connect traces of maritime activities with its terrestrial and submerged surroundings (Westerdahl, 1992a; Ford, 2011; Van de Noort, 2011). Given these developments, new opportunities lie in these landscape-oriented studies which have the ability to shed new light on relations of any kind translated into features in the landscape.

A great part of the affairs between the Dutch and the Japanese were directly or indirectly linked to and through maritime activities. It will soon show that actions related to these activities by either party have been of effect on the cultural landscape and its land use, particularly through features linked to maritime activities.
Research Questions

With the information presented above taken into account, the following main research question is implemented:

**What impact did the relations between the Dutch and the Japanese between 1600 and 1853 have on the maritime cultural landscape of the regions surrounding Hirado and Nagasaki?**

This main research question was supported by answering the following sub questions:

- What other foreign influences may have left their impact on the maritime cultural landscape?

- To what extent are the material and immaterial remnants of maritime activities between the Dutch and the Japanese to be traced throughout the regional landscape around the Dutch trade posts based at Hirado and Nagasaki?
  - What were the main locations of the Dutch, what were their uses and what facilities stood and still stand there?
  - Which construction materials played an important role for keeping the Dutch maritime activities in Japan up and running and where did the materials come from?

- How did the Dutch install themselves in the maritime infrastructure at Hirado and Nagasaki and to what extent did they have to adapt to these environments?

- What zones can be identified in the landscape and what are the traits of these zones?
  - What were the main routes?
  - What transport zones\(^ {11}\) can be identified?
  - What transit points\(^ {12}\) can be identified?
  - How did the relations in political and social power affect the landscape use?

- What chronological stages can be identified in the use and development of the maritime cultural landscape in said research areas and how do they compare?
  - Do these stages relate to our understanding of parallel political, social and economic processes in the Dutch-Japanese affairs?
  - Do the activities during these stages change over time? If so, why?

\(^{11}\) See Chapter 1, pp.17-18 of this paper for a definition.

\(^{12}\) See note above.
The first sub question provides the backdrop and the potential influence of other foreign maritime parties present prior or during the era when the Dutch left their trace within the maritime cultural landscape.

By answering the second sub question, it will be possible to present an overview of the maritime cultural heritage still present within the maritime landscape of the case study areas as well as presenting information on former maritime cultural heritage that may not have survived on to this day. Answering this question has been accomplished by creating an inventory of the tangible and intangible record. In case of the former, this includes archaeology, manmade structures and more. The latter contains information on place names, legends, tales and more.

The third sub question is based on the assumption that the Dutch had to adjust to the foreign environment in order to make the best out of their situation at Hirado and Nagasaki. Answering this question may reveal to what extent the Japanese allowed the Dutch the freedom to acquire knowledge of the local maritime infrastructure and possibly maritime traditions, which in turn can reveal what kind of impact the Dutch had on the foreign maritime landscape in the research areas.

The fourth sub question is intended to analyse and interpret all the gathered information from the second and third sub questions. This allows for a division of the landscape in zones identified by the difference in land and sea use by either party. The end result will give insight in the magnitude of the different influence zones, as every zone will have its own specific set of traits. Zones of transport, transit points and others can be identified as such zones in the landscape.

The last question enables a link between the history of the Japan-Holland connection with the maritime cultural landscape as interpreted by the results of the first two questions, to identify and compare processes through space and time.
1 Theoretical Framework

This chapter constitutes the theoretical body on which this research is built. This includes exploring the boundaries of using theoretical concepts as well as raising awareness of inevitable research biases. The first section contains a summary of current academic perceptions on the meaning of landscape and the roles of nature and culture therein. This is followed by a discussion on the concept of taskscapes and its influence on maritime landscape studies and concepts such as seascape. The third section is dedicated to Westerdahl’s concept of the maritime cultural landscape and its most important developments. The fourth and final section will show how these theories and concepts relate to each other and how they are of use to this research.

1.1 Landscapes and the culture-nature debate

Etymological studies of the word landscape suggest it originated in North-West Europe and combined the meaning of land, the earth’s surface or a territory, with -scape, which is related to ‘shaping’. Make both words one and we would have a shaped surface or territory. After late 16th century painters started using the term to describe a pictorial representation of rural scenery (Weekly, 1921; Sijs, 2001; Harder, 2013), the meaning of landscape became more widely used and referred to a tract of land comprised of various specific features.

Yet where does a landscape start and where does it end? Differences between landscapes are not defined by strict boundaries, as these boundaries only exist “in relation to the activities of the people (or animals) for whom it is recognized or experienced as such” (Ingold, 1993, p.156). The ‘borders’ of a landscape are thus what an individual perceives it to be, suggesting they are cognitive, therefore arbitrary and continuously contested. A landscape would in this sense thus seem as a social construct.

However, Ingold is one of many within the current philosophical discourse on landscape studies, who thinks landscapes are mixed products of culture and nature (1993, p.156). The current debate on nature and culture within landscapes is led by the thought-provoking concept of hybrid geographies. This concept, introduced by Sarah Whatmore (2002), builds on the idea that nature and culture are in fact intertwined. In fact, she suggests that animals and humans are interrelated, hybrid entities that are connected through a geographical network of agency. For example, to many a ‘wild’ horse represents ‘untamed’ nature in general, yet it also represents domesticated horses, while at the same time it is the
agent of humans with professions related to horse catching, breeding and many more aspects. A hybrid geography, whether geography is a geographical region or an individual entity, is thus the agent of many things in one.

As a derivative of Whatmore’s hybrid geographies, Van de Noort argues in his *North Sea Archaeologies* (2011, p.28) that seas, landscapes and ships can have agency as well. Through ‘other-than-human’ agency, these phenomena obtain a certain mode of identity and serve in the construct of social identities. While this has potential in approaching cognitive realms of past times and past people, only a few examples of ‘other-than-human’ agency are discussed in this paper.

**1.2 Taskscapes and seascapes**

In order to deal with the specific research questions posed within this paper however, special attention is given to theories biased towards how humans view and use their surroundings in a more functional manner. One such a way of looking at landscapes is introduced by Ingold, who coined the term *taskcape* to address the way humans view their surroundings in their minds by certain tasks, or by “an array of related activities” humans execute within a specific environment (Ingold 1993, p.158). Taskscapes are temporal of form, as are landscapes. For the array of human activities gradually changes with the landscape, as landscape and therefore activity of man, are influenced by living and non-living factors that are susceptible to change. Those factors are for instances humans, flora and fauna and climate (Ingold, 1993). What remains important is that, according to this concept, peoples ‘tasks’ or activities within a landscape heavily influence the way they perceive a landscape. In this sense, a taskcape is a cognitive realm within a landscape, although Ingold warns that it is not purely cultural. Nature is involved within a taskcape in for instance agricultural tasks or working around a physical (natural) barrier.

A rather new term in maritime archaeological landscape studies that builds upon the idea of taskscapes is *seascape*. The fundament of this concept is, according to Cooney, that the sea with its diverse ecological systems and physical powers of winds, currents and waves is influential on societies living in coastal areas or on islands, as in coastal areas the sea is “central to the way of human life” (Cooney 2004, pp.323-324). Yet not all agree with this rather nature-deterministic view (Ford 2011, p.4). Evidence shows that, while the sea in many cases often does have a significant impact on humans who live in coastal areas, there
are instances known of societies who refrained from turning to the sea (Westerdahl, 2003; Ford, 2011; Van de Noort, 2011).

Ford for instance rather suggests a ‘true seascape’ is a construct of “factors that allow an individual to perceive his or her location out of sight of land. These factors can include stars, currents, swells, birds, winds, clouds, and phosphorescence” (Ford 2011, p.4). Although Ford has a point, he diminishes the human relationship with the sea as a mere functionalist marriage, purely based on navigation. There is more to it than just navigation. Even on the sea, out of sight of land, cultural dynamics are of effect and the term such as the seascape could well be applied to these phenomena.

One could however agree with Ford that Cooney’s sense of seascape does not entirely grasp the essence either. Maritime archaeologists are interested in the origins of ships, origins of materials and of course mainly in the origins of the people controlling these vessels; the lands from where they came. In view of the importance of connecting archaeological traces in or at sea to people who lived on land, the term seascape thus puts too much emphasis on the sea while neglecting the importance of the land. One cannot simply view the operations on islands, seas and in coastal zones apart from the land that provided the materials and ‘basics’ for that maritime culture in the first place.

1.3 Maritime cultural landscapes
One concept that does strive to combine the terrestrial and maritime aspects in one research method is Westerdahl’s maritime cultural landscape. The term originated when in the years 1975-1980 Westerdahl conducted an archaeological survey on the coast of Norrland, Sweden (Westerdahl, 1980). It soon gained a gathering among academics and it has developed ever since (Westerdahl, 1992a; 1994; 1995; 1997; 2003; 2004; 2011; Ford, 2011). Westerdahl coined the term in order to address the “unity of remnants of maritime culture on land as well as underwater” (Westerdahl 1992a, p.5), proposing it “comprises the whole network of sailing routes, old as well as new, with ports and harbours along the coast, and its related constructions and remains of human activity, underwater as well as terrestrial”. In a broader perspective, Westerdahl includes the hinterland of shipping, boat- and shipbuilding and fishery (1997, p.34), which is followed in this paper as well.

While the description of a maritime cultural landscape given above discusses mostly material aspects that together form such a landscape, Westerdahl points out that the material aspects are complimented by a wide variety of cognitive, immaterial aspects
(Westerdahl, 1992a). These immaterial aspects are for instance represented by various place names, cultural traditions and social distinctions.

In contrast to the earlier mentioned concept of seascapes, Westerdahl does include a theoretical acceptance of the possibility that coastal societies may refrain from basing their daily life modes and subsistence economies on exploitations of the sea. In order to speak of a maritime cultural landscape however, water transport has to play an utmost important role (Westerdahl 1997, p.34). Furthermore, in Westerdahl’s sense of the term, a maritime cultural landscape is not restricted to life near or at the sea alone. He thereby includes those known instances of settlements located in areas which are practically isolated from large rivers and open waters such as seas. Westerdahl and others have recognized that some societies based a great part of their subsistence economy on the exploitation of available lakes and rivers, by means of transport, fishery and more (Schutten, 1981; Westerdahl, 1998; Westerdahl, 2003; Schutten, 2006), proving that these settlements, even those far from any sea water, have created a cultural landscape directed towards the exploitation of the water and its direct vicinities (Westerdahl, 1998). Perhaps in lack of a better word, Westerdahl gathers these aquatic-based societies under the wing of the concept of maritime cultural landscapes.

In light of the current philosophical discourse presented in the sections above, a maritime cultural landscape may seem outdated. However, Westerdahl points out that it is very much driven by natural factors (Westerdahl, 1992a), as humans adapt to nature and adjust the landscape at the same time.

Most of the controversy surrounding the concept of the maritime cultural landscape however revolves around the notion of a maritime culture. For in order to speak of a maritime cultural landscape, there has to be a maritime culture that produces these material and immaterial aspects. Hunter (1994) for one opposes to the idea of maritime cultures, as according to him these cannot exist as a culture of itself. In Westerdahl’s view however, a maritime culture is rather a maritime component of a society and reflects a ‘life mode’ which leads to an “exploitation of a number of niches in society and in nature” (Westerdahl 2003, p.19). Thus, it is the social and symbolic relevance of all matters related to activities in and around the water which play an important role for these groups (Westerdahl 2003, pp.43-44). Although perhaps oversimplified, the example of this distinction can be found in the socially assumed distinction between ‘landlubbers’ and those who live their daily lives working with or on sea (Westerdahl 2003, p.18). A typical distinction in landscape use can be found in the use of installations that only serve a purpose for maintaining and exploiting a marine economy, such as fishing installations and repair docks. It seems others such as Firth
are also more concerned with coming to a resolve on the existence of maritime cultures, than that they are opposing to Westerdahl’s concept of identifying maritime related aspects in the landscape.

Another point of critique is that the concept lacks a defined model of use. It is still under development, despite the efforts of bringing the concept into ‘maturity’. In *The Archaeology of Maritime landscapes*, edited by Ben Ford (2011), such an effort was made. Although Petry (2011) rightly concludes that the concept, even with the attempt of Ford’s book and his contributors, still has not reached its mature state, Westerdahl’s maritime cultural landscape has already set firm foot in the realm of landscape studies. For despite its critics, a growing group of academics have come to endorse the concept of the maritime cultural landscape. Many among them agree that it allows researchers to conceive the landscape as seen from the water (Firth, 1995; Saan, 2008; Ford, 2011; Jordan-Green, 2011), as if seen through the eyes of a skipper, filtering out the aspects in that landscape which are directed towards human life and activities on water.

Westerdahl’s concept is mostly revered for combining a broad range of sources derived from an equally broad range of scientific disciplines, including geography, etymology, maritime archaeology and history. While the more obvious sources such as shipwrecks, natural and man-made havens, beacons and the like are included within a maritime cultural landscape study, other sources such as maritime related place names, charts on underwater geography and for instance archives and historic works are included as well (Westerdahl, 1997).

One aspect of Westerdahl’s maritime cultural landscape is particularly interesting. This is the concept of *transport zones*. A transport zone is a geographical zone or corridor in which certain transport methods are used to relocate (heavy) transport goods. Each transport zone has certain cultural and natural conditions to which most transport methods are adapted to, thus creating zone specific transport methods (Westerdahl 1998; 2004). Transport zones are crossed at specific points where a transition to a different method of transport is required in order to continue transportation to a desired destination. These points are what Westerdahl calls *transit points*, which often form at natural obstacles such as estuaries connecting a river with the sea, or cultural obstacles such as politically controlled check points (Westerdahl 1992a, p.11; 1998; 2004). The idea that a natural and cultural environment determines a ship’s design is not new though. Adams (2001) for one presents a more complete model on this matter, as he sees interrelated variables in the form of ideology, technology, materials, tradition, economics, purpose and environment that
together play a role in a ship’s design. Despite Westerdahl’s slight bias towards nature as the most important influential variable in determining the particularities of a transport method, his concept of transport zones seems like a practical tool in approaching larger research areas, allowing to view areas and their conditions as a whole. Such generalizations are necessary in maritime landscape studies in order to get a clear view on land use and classification.

While Westerdahl’s interdisciplinary approach thus provides a diverse range of research angles to allow a broad scaled landscape approach, his concept equally provides the pragmatic tools and methods to conduct such a research, as will be more thoroughly discussed in chapter 2 of this thesis.

1.4 Summary
The current philosophical discourse on landscapes and all living and non-living features within them provides thought-provoking insights. If culture and nature are no longer opposites, but rather cognates, they are one and the same. Landscapes are no longer to be perceived as the manmade constructs wherein nature is altered to the hand of man. This anthropocentric view is no longer of this day. Current philosophers would rather see a landscape in which nature and culture, or humans and non-human beings and elements all have agency. These elements all play their part in each and every feature which defines a geographic space, thus embracing the concept of hybrid geographies; geographies which are hybrid in nature and culture.

Still, humans have a taskscape in their mind; they relate to their surroundings on a day to day basis by the tasks they need to execute. This allows usage of concepts such as the maritime cultural landscape, enabling a filter of a maritime landscape within the material and immaterial landscape. With this concept of a maritime cultural landscape come pragmatic methods which allow researchers to scan the horizon above and below the (water) surface for remnants of maritime significance.
2 Methods

This chapter presents the methods used for this research. The actual results of the field survey and literature research are interwoven in the chapters regarding the case studies.

2.1 Field survey

In order to locate and inventory the Dutch remains in the maritime landscape of Japan, a field survey was conducted between April the 28th to May the 31st of 2013. The field survey included observing current landscape features, locating different (historical) sites, while surveys within local museums were also conducted, though this did not include surveys through museum depots and archives. In this way, the field survey provided for information on old and new maritime features in the landscape complimentary to information derived from consulted literature.

In his development of his research method, which the concept of maritime cultural landscape in reality is, Westerdahl created several categorical lists by which he analysed maritime features in the Scandinavian context, for example his study on Norrlandsleden, Sweden (Westerdahl, 1980). Since this specific paper is set in a Dutch-Japanese context, Westerdahl’s lists were used as a guide to create a list specifically adjusted to the Japanese context, in order to ensure that certain aspects that may be unique to the maritime cultural landscape context of Japan were not overlooked.

The lists created prior to the research are outlined below. A more complete list for the maritime cultural landscape of Japan is presented in Appendix II below.

The surveyed categories are:

1. The most important destinations on sea (harbours, mostly cities)
2. Waterways and maritime routes
3. Places for fire signals or sea beacons (Hōka 烽火 or Enka 煙火)
4. Sea beacons
5. Lighthouses
6. Other navigational marks, including natural phenomena such as mountain tops or manmade phenomena such as churches
7. Pilot stations (important part of the transport route, observation post)
8. Natural harbours, various in nature (with warehouses, churches, cemeteries, etc.) military harbours, with or without fortifications.
9. Ballast places (usually in the vicinity of a harbour)
10. Fishing haven (usually a season haven)
11. Shipyards or docks, boat building places
12. Place names with a maritime meaning
13. Places known for shipwrecks (pointing to fairways, harbours, etc.)
14. Shipwrecks (indications of, see #13)

A list focussing on place names was created by trying to identify the following characteristic place names:

1. **Names directly denoting the occurrence of wrecks.**
2. **Names of ships.** This is literally the name of a ship wrecked at that specific site. It is questionable that the Japanese people would name a place after a foreign ship’s (phonetic) name. In cases of foreign ship wrecks, it would seem wise to assume that a more general reference to ‘a foreign ship’ would apply, if applied at all. Japanese ship names could however been used to refer to localities.
3. **Names of ship types.**
4. **Names denoting nationality,** mainly of a ship, the owner or the captain.
5. **Personal names,** like the name of a captain, an owner, a pilot or their titles/occupations.
6. **Names denoting danger/warning,** to warn sailors of shipwrecks that have occurred at such a point.
7. **Names denoting stray finds of the cargo, the equipment or parts of the ship itself.**

Other place names related to the maritime cultural landscape are shown in the following concept list of Japanese place names:

- Bay = Wan (湾)
- Sea = Nada (灘)
- Lake = Ko (湖)
- River = Kawa or -gawa (川 or 河)
- Stream = Sawa or -zawa (沢)
- Beacon = Hōka or Enka (烽火 or 煙火)
- Harbour = Minato (港)
- Names referring to historic events, especially related to foreign visitors
- Names referring to fishing activities
- Please see appendix II in the back of this paper for a more complete list on Japanese place names found to represent certain aspects related to a maritime cultural landscape.

The aspect of churches within the landscape of Japan requires an explanation. In case of the European societies, Christianity had its roots even before the Early Medieval periods and it could therefore gradually develop along with the cities and villages. For Japan, Christianity was first introduced by Portuguese Jesuit missionaries who came to Japan since 1543. During its heydays multiple churches and chapels were erected (Boxer, 1974). The (former) locations of these churches have not been included, safe for some exceptions, for otherwise this paper would become too elaborate.

The results of this survey will be discussed in the adjacent chapters below. The usefulness of the concept of maritime cultural landscapes in the Japanese context, and the practical usefulness of Westerdahl’s lists, will be discussed in the conclusive chapter of this thesis.

2.2 Literature study

Although fieldwork is an important method in maritime landscape research, a counterweight was introduced by intensive literary source research. This, combined with archaeological and cognitive elements added to the inventory, embodies the necessary information for a description and analysis of the maritime cultural landscape.

Throughout the course of the research, a literature study was executed to search for passages in literature written by 20th and 21st century authors referring to aspects of the maritime landscape. Apart from modern literature, all effort was made to look into archival records of primary sources such as the daghregisters written by the opperhoofden or chiefs of Hirado and Dejima13. Other material written by contemporary physicians and other travellers was also taken into account. The literature as shown in the bibliography below is the literature used for the purpose of this research.

Most of the literature used for this research is in English or Dutch. The present author simply lacks the right skills in Japanese to understand the Japanese literature on the

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Dutch-Japanese relations of commerce, culture and beyond. However, strenuous effort has been made to make up for these handicaps by interviewing and working together with Japanese historians and other specialists on various subjects. With the help of translators, some Japanese works have been made available as well. Translating a work is however rather time consuming, thus specific questions were asked by the current author and the answers were sought after by translators. Moreover, there are a lot of sources that could have been overlooked, simply due to the fact that only a small array of Japanese key words were used, especially in case of archaeological research. Equally painstaking effort was put in compensating by including English and Dutch sources that discuss Japanese research, which were mostly translated by Japanese authors. One can taste the irony in this problem, as this quite resembles a scientific bottleneck much like the Japanese suffered acquiring information on Europe through the Dutch at Dejima.

In the following paragraphs, the secondary sources are discussed prior to the primary sources. Although this may at first seem illogical, this does represent the order in which the available sources were reviewed by the current author and it is therefore decided to use that same order in the source review chapter.

2.2.1 Secondary sources
The subject of the relations between Japan and the Dutch has been discussed in many forms. A recurring factor that continues to enable new impulses of research, lies in acts of celebrating the remembrance of the long lasting relations between the Netherlands and Japan. This is of course a factor driven by politics, as healthy international relations are intended to create allies in trade and arms. Politics aside, research has been extensive and thorough on the Dutch-Japanese history.

Contemporary academics mainly focussed on the influence of the Japanese-Dutch relations on trade, politics and science. As the Dutch, mostly through name of the VOC, held on to a monopoly that lasted for more than two centuries (1640-1853), the main focus tended to reflect on the connection between both Japanese and the VOC.

2.2.1.1 Portuguese and Chinese history of trade with Japan
In order to summarize a view on the situation in the Kyūshū region prior to the arrival of the Dutch, information on Portuguese and Chinese exploits has been gathered. This was mostly done by literature on matter directly relating to the maritime history. In most books emphasis is put on the position of trade by both the Portuguese and Chinese with Japan. Boxer’s *Christian Century in Japan* (1974) and his *Portuguese Merchants and Missionaries*
in Feudal Japan, 1543-1640 (1997) are significant handbooks on maritime aspects. Further writing on the Portuguese trade is quite scarce, as primary sources by Portuguese tradesmen are equally scarce. Portuguese merchants were less eager to write about their endeavours in trade, to keep the rivals at bay. Most source material is derived from Dutch or Japanese contemporary writers (Boxer 1929, p.12-16).

2.2.1.2 Overviews on the Dutch-Japanese history of relations during the Edo-period

In Japan en de buitenwereld in de achttiende eeuw (1921) Feenstra Kuiper invites the reader to take a closer look at the Japanese society and its relationship with the outside world during the 18th century. This being an overview work, the range of topics is extensive. It is based upon primary sources dating from the 18th century and is told from Dutch and Japanese perspectives. Interesting topics are the coming and going of ships and sea routes which are vividly discussed.

One work that has been mentioned in many of more recent works is C.R. Boxer’s Jan Compagnie in Japan, 1600-1850 (1950). The first edition was issued in 1936, but was reprinted in 1950. In his book, Boxer approaches Dutch influence between 1600 and 1850 on Japan’s understanding of cartography, geography, astronomy, medicine, military techniques, pictorial arts mostly through rangaku. One chapter is dedicated to the perception of the Japanese on the Dutch, deriving this information from sources such as woodcuts and Japanese primary sources. Another chapter is devoted to the work and life of Dejima chief Isaac Titsingh (1745-1812), who in the time of Boxer’s book was still quite unknown and underappreciated for his role in the Dutch-Japanese relations. It shows physician Franz von Siebold’s contributions on our understanding of the Japanese-Holland relations can significantly be elaborated with Titsingh’s (1822) accounts of affairs. Although new sources have been discovered since, Boxer’s work still has its significance for it combines Japanese historic accounts with the Dutch record.

Grant K. Goodman describes in Japan and the Dutch (2002) the way the rangaku had an effect on Japanese sciences and techniques within the boundaries set by the political body of the bakufu. The first edition was released in 1967 and it has since then reprinted in a following edition. In his work, Goodman showed that although the rangakusha were handed literature in Western science, they had difficulties of fitting the pieces into the

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14 Rangaku stands for Holland studies or ‘Hollandology’. In the 18th century this term was used in the broad sense of Western studies. The practitioners of this study were called rangakusha.

15 The governmental body of Japan during the Tokugawa period (1600-1868). It was headed by a shogun, which was a military leader who ruled over Japan. The title of shogun was granted by the Empire of Japan, whose descendants merely formed a symbolic role during the Tokugawa family’s shogunal reign.
chronological development it had gone through in the West. In other words, the rangakusha could not manage to resynchronize the information they received to the development of especially medicine in the West. As a consequence they continued working with theories and techniques deemed outdated in contemporary Western medicine. Except for considerable achievements in the 17th century, Western science as a whole was not led by Dutch scientist, but rather by English, French and German scientists. The Dutch science level therefore depended on scarce translations of the most significant works. For the rangakusha being fully depended on the Dutch, one can imagine the narrowness of the bottleneck in the port of Nagasaki: what had already gone through the filter of Dutch translations would be narrowed down to scientific ‘pulp’ when it finally arrived in Japan.

Several works on the Dutch-Japanese relations were written to inform a broader audience, instead of just the academics. These products intend to give an overview on multiple aspects of the Dutch-Japanese affairs and therefore serve as fresh angles aside the academic works that tend to focus on specialist topics within the Japan-Netherlands relations. Such works are *De diepe wateren van Nagasaki* (Stellingwerff, 1983), *Nederlanders in Japan 1600-1854: de VOC op Desjima* (Paul, 1984), *In het spoor van de Liefde* (Gulik, 1984) and *Bewogen betrekkingen* (Blussé et al., 2000). Especially *Bewogen Betrekkingen* by Blussé et al. (2000) discusses matters of the cognitive landscape in remembrance of the (maritime) heritage left by the Dutch. It is also of great significance because of the contributions by Western and Japanese authors alike, telling two sides of the story.

**Hirado**

Most historians only mention the situation of the Dutch at Hirado as a preamble of the Dejima-period. The only author who focussed merely on this subject is Mulder in his *Hollanders in Hirado* (1985), giving detailed insight in this interesting period. Also of great significance is the information gathered on in- and outgoing ships, including information on cargo and repairs.

### 2.2.2 Primary sources

Most of the VOC crewmembers were merely selected to serve the main interest of trade. Thus when VOC chiefs described the country of Japan and all actions they thought worth mentioning in the Dutch diaries, they did this mainly on their own accord. There are two
separate series of the Dutch diaries, of which one mostly covers the period at Hirado from 1633 until 1641, while the other covers the period at Dejima, Nagasaki.

Seeing as these authors saw the landscape and the culture through their own contemporary eyes, their words are expected to be biased towards the paradigms of that day and age. This is of course a matter that also biases the current author, be it for this day and age. Examples of such authors are Montanus (1669), Caron (Caron and Shouten, 1671), Kaempfer (1729), Titsingh (1822) and Von Siebold (1826). One must note however that these works are mostly preserved through translated works of the original, with Montanus’ work as the only exception of the above mentioned authors. Translations can lead to misinterpretations, which must be taken into account before using such works as a reference.

Apart from the Dutch works there are also reports available which are written by members of the English East India Company (Farrington 1991a; 1991b). Such works are from chief Richard Cocks, the famed pilot William Adams and captain John Saris. Although the East India Company only remained in Hirado from 1613 until 1623, they wrote an extensive set of diaries and letters containing detailed information. These are valuable sources as the amount of Dutch written sources in that period is less extensive.

2.2.3 Archaeology
As is mentioned before, the Japanese have performed excavations on Hirado and Dejima of which the reports are available for research (Hagiwara and Katō, 2002). With the help of translators and persons who are well-informed about the excavation results, relevant information was derived from these sources.

2.2.4 Other sources
Recently a website aired which depicts a map showing the geographical spread of heritage sites that represent the long lasting connection between Japan and the Netherlands. Geographical information on VOC and Dutch heritage sites in the Japanese landscape is thus existent, but the information tends to stick to a more general storyline meant for a broad audience. Furthermore, maritime variables such as natural seamarks, beacons and other aspects are not included in this geographical representation of heritage sites.

16 Of which volumes I to VII have been consulted (Couckebakker 1974a; Couckebakker 1974b; Couckebakker, 1977; Caron 1981; Le Maire, 1984; Elserack, 1986; Overwater et al. 1989).
17 Of which volumes I to VI and XI to XIII have been consulted (Vermeulen, 1986; Vermeulen, 1987; Velde, 1989; Velde and Vermeulen, 1990; Velde, 1991; Viallé and Blussé, 2001; Viallé and Blussé, 2005; Viallé and Blussé, 2010).
18 1566 – 1624.
19 1564 – 1620.
20 1580 – 1643.
21 Japan-Holland connection. Available at: http://www.nihonoranda.com/
2.3 Analysis of other sources

Sources other than available modern and historic literature were analysed to include the chance of identifying elements that are not to be found by the more conventional research methods, for example: copies of maps contemporary to the subjected time periods, digital maps (for example the earlier mentioned site of the Japan-Holland connection) and (pictorial) art.

During field survey, people have been interviewed who were considered to be experts on the area’s history and have been active on subjects related to this research. Interviews were also used to grasp information on local place names and other sources such as local myths, legends, songs, art, etc. The nature of these interviews were rather informal, safe for a few exceptions. A semi-structured interview would therefore suffice.

All the gathered data was implemented in Google Earth and local maps, to analyse and interpret the gathered variables and the geographical spread of these attributes related to the maritime cultural landscape.
3 Case study I: Hirado

The aim of this chapter is to discuss the developments of a maritime infrastructure and the traces thereof in the maritime landscape of Hirado, in particular concerning the VOC. Throughout the chapter, efforts have been made to combine modern day characteristics of the maritime landscape with historic and archaeological records on all these subjects.

3.1 General introduction to Hirado

Hirado-shi is situated on Hiradoshima and is part of the Hirado municipality in Nagasaki Prefecture. The municipality encompasses the island Ikitsuki, lying northwest of Hirado Island, as well as Tabira, which is situated on mainland Kyūshū. Altogether, the municipality covers a region of 235,64 square kilometre. Approximately 34,000 inhabitants live within the region today (City Population, 2014), although the populace declines on an annual basis due to migrating youth and aging elderly. Like the rest of Kyūshū and much of Japan for that matter, Hirado Island and its surroundings were formed by volcanic geomorphological processes (Frédéric 2002, p.5). Natural bays frequently appear alongside the coastline and are an effect of complex geo-tectonic fault patterns that shaped most of these coastal indentations. Hirado Island is connected to mainland Kyūshū by the Hirado Bridge that ever since its construction in the 1970s is used to get across the Hirado Strait, which runs East of Hirado Island (HTA, n.d.).

Hirado harbour is situated close to the northern entrance of the Hirado strait (NGA 2011, p.100). In front of the harbour lies a small islet called Kurokojima (see figure 2) (NGA 2011, p.100). Approximately 260m west of Kurokojima lies the entrance of Hirado harbour, which is entered through point Jyōtō-no-Hana in the north and Kanaeki-Saki in the south. Starting on the north end, a large pier runs approximately 400m east. Then it bends and continues approximately 250m south until the Pier meets a bridge. A smaller pier of approximately 90m wide is situated west of Kanaesaki (NGA 2011, p.100).

The city itself is built alongside both ends of the harbour’s pier, while the city’s centre is built on the west bank. East of the city centre lies Kameoka-hill. Directly south of

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22平戸市
23 Hirado Island
24 A fault is a discontinuity in a rock formation. Due to the earth’s crustal movement, fractures in rock formations appear, causing evident earth shifts along these fractures. This naturally effects terrestrial and submarine relief formation. See Chapman et al. (2009) on the fault patterns in Kyūshū.
25黒子島
Kameoka-hill, lies a small inlet known as Shirahama\textsuperscript{26}. This small fishing harbour is partially reclaimed and has two breakwaters\textsuperscript{27} to protect boats lying at anchor (NGA 2011, p.100).

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Hirado_harbour.png}
\caption{A satellite image of Hirado city with its harbour and surroundings. A = Jyoto-no-Hana, B = Kanaecki-Saki (Google Earth, 2014)}
\end{figure}

\textbf{Cultural heritage}

Although Hirado is only a small town, it boasts a great cultural heritage. A large part of that heritage relates to a period in history when the town was an important and unique maritime trading centre in the Hizen province\textsuperscript{28}. As early as 1543, Chinese merchants settled within Hirado (Lidin 2002, pp.64-65; Takekoshi 2004, p.301). Barely seven years later, Hirado received annual visits by Portuguese merchants until they settled at Nagasaki (Boxer 1974, p.100; Murdoch and Yamagata 1903, p.54; Liden, 2002). Starting in 1609, Dutch merchants had their first trade post of Japan installed, while even the English under the flag of the East

\textsuperscript{26}白浜. 白 = shira = white, 浜 = hama = beach

\textsuperscript{27}Breakwaters are usually elongated installations meant to literally break the force of the waves, thus protecting the bay and ships lying dormant behind such a construction.

\textsuperscript{28}The Hizen province was one of many provinces in Japan, until the Meiji-government (1868) abolished the old feudal system and installed the current-day prefectural system. Hizen was comparable in size to the present boundaries of the Hirado municipality.
India Company set up a trade post in Hirado and stayed between 1613 and 1623 (Farrington 1991a, pp.1-19; Mulder 1985, p.50).

The Dutch removal towards Nagasaki in 1641 proved fatal for the local economy, leaving Hirado side-tracked (Clulow 2010, pp.29-30). As a consequence, the economy and interest in the little town rapidly declined and its inhabitants would never experience such a ‘golden age’ again, while gradually the focus of the local economy was re-laid on fishing and small time agriculture.

The tangible and intangible remnants of this bygone age have however clearly left an impact on the local community. Even before entering the city, one can spot the miniature ships and European-like figures on top of street poles. Once one has set foot in the city, expect to be welcomed by a number of monuments, products in shops, special dishes in restaurants and events that all contribute to commemorating local history (see for example figure 3).

### 3.2 Japanese remnants

Any visitor will soon learn that local history cannot be viewed without including the rise to power of the Matsuura family, who are said to have ruled over Hirado ever since the 11th century (Hall 1991, p.239).

Up on to this day, the Matsuura remain in the heart and minds of the local inhabitants. Physical remnants of their reign can be found in many corners of the town. One of the most notable is the Matsuura mansion that is now converted in the Matsuura Museum, financed by the Matsuura family self. The museum has a wide variety of artefacts on display that together tell the history of Hirado. Another physical reminder of the Matsuura reign that cannot be missed, stands on top of Kameoka-hill. Overlooking the surrounding area rests Hirado-jō (figure 4), a traditional Japanese castle reconstructed in 1962. It resembles a former castle that once belonged to the Matsuura family (HBE, n.d.).

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29 More on the transfer of the Dutch to Nagasaki in Chapter 4, Case study II of this paper.

30 Clulow (2010) rejects the idea that this period was Hirado’s ‘Golden Age’, but he only researched economic matters.
According to local tradition, the Matsuura were responsible for a significant part of Hirado’s flourishing era. From early on, they took full advantage of their positioning close to the intercontinental sea trade corridor in northern Kyūshū (Takekoshi 2004, p.300, p.301; Clulow 2010, pp.1-7), as they personally secured the arrival of foreign parties who called in at Hirado harbour, despite the relatively small size of the town.

Other physical remains remind of a power landscape. A power landscape contains facilities that represent a claim of power or control over a region, which according to Westerdahl is part of the maritime cultural landscape (Westerdahl 1997, pp.41-42). At the north end of Hirado bay, within the boundaries of the former Dutch terrain, lie the remains of three guard houses (figure 5, in-picture). These guard houses were installed as a response to a potential foreign threat, for ever since the Portuguese were banned from Japan in 1639, the Japanese feared a possible violent return of the Portuguese and even the English who voluntarily left in 1623. Cognitive reminders of this power landscape have survived today, as locals at Kawachi, a small fishing town approximately 5.5kms southwest of Hirado, still refer to the former Dutch area in Kawachi as the ‘banyan-zaki’, which literally means the

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[31] In 1637, both areas were already strictly guarded in fear of a rumour concerning the return of the English. The copper-export was temporarily halted at this point (Couckebakker 1974b, p.175). In August 1640, after yet another Portuguese vessel tried to re-establish trade at Hirado, the coastal domains were ordered to lookout for foreign vessels and were to arrest these vessels at once if proven to be an enemy vessel, while reporting to the bakufu in Edo (Caron 1981, pp.249-251).

[32] A local, senior resident was briefly interviewed during field survey. This evidently shows that history of maritime foreign trade in the vicinity of Hirado left a deep and long-lasting impact on the local community at Kawachi.
As had happened in Hirado, the former Dutch grounds at Kawachi were also kept under guard.

While Hirado harbour today is almost exclusively used by fishingboats, the surrounding landscape contains remnants that date back to the brink of the Matsuura reign. These are the Shinto shrines that are placed in and around Hirado-shi. One such shrine is situated on Kurokojima, the small islet in front of Hirado harbour. This shrine, of which the first was thought to be built in 1375 (HBE, n.d.), is dedicated to Benzaiten, a *kami* or deity thought to protect the lives of men at sea. This is a good example of deifications of natural and spiritual elements that watch over life at sea, blending nature and culture in one.

*Figure 5 - Map of Hirado City. 1 = Matsuura Museum, 2 = Hirado-jō, 3 = Remains of coast guard posts, 4 = Ebisu shrine, 5 = Benzaiten shrine on Kurokojima. Original map scale 1:5,000 (HBE, n.d.). In-photo: the physical remains of a guard post at the north end of Hirado harbour (#3 on the map).*
## 3.3 Chinese remnants

The most prosperous but volatile era in the history of Hirado started in 1545. For in that year, contemporary head of the Matsuura clan Matsuura Takanobu\(^{33}\), invited a Chinese merchant pirate named Wang Zhi\(^{34}\) to settle and trade at Hirado in return for protection (Lidin, 2002; Takekoshi 2004, p.301; Yasunori, 2005). According to the Hirado Cultural Board of Education (HBE, n.d.), especially Wang Zhi’s presence helped Hirado grow towards its golden era. All that is left of this part of local maritime history is known from the local archives and maps, which marked the site of Wang Zhi’s former mansion on the slope of Mount Katsuo (see figures 6 and 7).

Only one remaining structure reminds the observer of the Chinese history at Hirado (see figure 7). This is a hexagonal-shaped well dated to the 16\(^{th}\) century, which can be found in the north eastern part of Hirado city (HBE, n.d.).

In Kawachi are also traces of the Chinese history. On top of Maruyama-hill stands a recently installed Mausoleum (see figure 8, #2), erected in honour of the merchant Zheng Chenggong (Hirado City, 2013). Locally known as Koxinga, Chenggong was a Chinese-Japanese merchant who, after the Dutch had left Hirado, became the leader of the Chinese in Hirado. Koxinga was once a trusted partner in trade of the Dutch at Hirado and Nagasaki (Andrade, 2004). He and his subjects also traded with the Dutch situated at Kasteel Zeelandia, a Dutch fort that once stood on Taiwan (then Formosa). Koxinga turned against the Dutch in the 1660s, and successfully conquered Kasteel Zeelandia, banishing the Dutch from Formosa (Andrade 2004, p.442).

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\(^{33}\) 1529-1599

\(^{34}\) Known as 王直(…-1559), Wang Chih, or Ōchoku in Japanese (Lidin, 2002; Yasunori, 2005).
Figure 7 - Overview of locations of Chinese remnants within Hirado-city. 1 = the Hexagonal Well, 2 = location of Wang Zhi’s former mansion grounds. The orange dot is the former Dutch area. Edited in a map of Hirado, original scale 1:5.000 (HBE, n.d.) In-photo: the hexagonal shaped well (Kyushu University Museum, 2009).

For these accomplishments, the man turned legend and is presently still honoured as a deity in Taiwan (Hirado City, 2013), while in Kawachi he is still seen as a hero and became part of local legend (HBE, n.d.). For legend has it, that Koxinga’s mother, a Japanese woman from Kawachi, got pregnant and gave birth to Koxinga on a rock at the southern end of Senrigahama Beach, less than one kilometre off Kawachi city (see figure 12).

The heroification of Koxinga at Kawachi is a true example of the cognitive impact the Chinese merchant skippers had on the Japanese inhabitants. In general, care given to the Chinese memorial sites within Hirado and Kawachi, sketches the importance of the Chinese-Japanese connection through seafaring tradesmen and form an undeniable part of the local maritime cultural landscape. Safe for one remaining structure, this impact has predominantly survived through immaterial and cognitive remains.
3.4 Portuguese remnants

Five years after Wang Zhi and his fellow merchant pirates had settled at Hirado, a Portuguese ship called in at Hirado harbour. Although the Portuguese had come a long way in establishing an East Asian trade empire, their endeavours within the Japanese waters started after the Portuguese had first discovered Tanegashima by accident in 1543. According to tradition, the Portuguese were helped at Tanegashima by Wang Zhi himself, who later invited them to Hirado (Liden, 2002; Yasunori, 2005).

The place at which the Portuguese ships landed, is today highlighted by a model of a Portuguese vessel, which was called Náo do Trato\textsuperscript{35} or Great Ship (figure 9). These vessels

\textsuperscript{35} Frequently called carrack (in Dutch sources sometimes spelled as caracque, or Kraak). The Japanese called these ships kurofune, or Black Ships, probably for the colour of the hulls. These vessels had a capacity ranging from 600 to as much as 1600 tons (Boxer 1974, p.93). While its capacity brought obvious benefits in the
became an important subject as part of decorative objects that went by the name *Nanban-byobu* or Southern Barbarian screens, most popular during the Keicho period. Mostly known for their blackened hulls, the Japanese knew these vessels as *kurofune* or black ships (Boxer 1974, pp.121-122).

The Great Ship from Macao made annual stops at Hirado for twelve consecutive years (Lidin 2002, p.67). During that time, Hirado’s merchants flourished under the presence of the Portuguese. Local shipwrights equally profited from the presence of the Portuguese and the formerly mentioned Chinese, for ships frequently needed to be refitted and repaired (Takekoshi 2004, p.304). How they were able to perform repairs on the Portuguese vessels is not known, but perhaps the Portuguese instructed them. The Chinese junks on the other hand were vessels the Japanese knew well, as Japanese shipwrights were already acquainted with Chinese shipbuilding technologies through diffusion of shipbuilding tradition (Farris, 2009). It is however evident the Japanese must have acquired certain skills and knowledge of how these foreign vessels could be repaired and refitted.

In 1561, an incident occurred that would abruptly bring the Portuguese trade at Hirado to a hold. For in that year the Portuguese and Japanese had a violent skirmish after which the former evaded the harbour (Carioti, 2009). This upheaval is known as the ‘Miyanono-mae-incident’. The name refers to the location of where the event took place, namely in front *Miya* or shrine, situated at Miyano-chō (see figure 10). Today, this location is marked by a memorial post sign (see in-photo figure 10).

When things settled down between the Matsuura and the Portuguese, the Matsuura allowed Portuguese Jesuit priests to erect to erect a church (Murdoch and Yamagata 1903, amount of transportable goods, its size did not benefit the navigability as it proved to be a very “big and clumsy ship” (Boxer 1974, pp.121-122).

36 The Chinese actually nicknamed the Portuguese as Southern Barbarians. The Japanese copied and applied the same nickname.
37 1596-1614.
pp.81-82; Takekoshi 2004, p.309). Known to the Japanese locals as the ‘Tenmon-ji’ (HBE, n.d.), this church was devoted to the pregnant Holy Mary and stood on the same spot where Wang Zhi formerly resided. No physical remains of this church have been found.

Figure 10 - Locations of Portuguese remnants at Hirado. 1 = Portuguese landing place, 2 = Miya-no-mae, 3 = former location of the Portuguese church, Red triangle = Miya shrine, edited in a map of Hirado, orginal scale 1:5,000 (HBE, n.d.). In-photo, Miya-no-mae sign.

Although the period of Portuguese activity within Hirado remained relatively short, the above described sites show the Portuguese did leave a certain impact on the local maritime cultural landscape. This impact is however only of a cognitive nature, for the miya-no-mae-incident and the Tenmon-ji left no tangible traces in the landscape. However, what is not found now, may be found in the future. If ever, chances are that finds will be made at the above described locations.

38天門寺
3.5 English remnants

Another part of the cultural heritage in Hirado links back to the early 17th century trade. Marked by several modern day monuments (figures 11 and 12), these remnants reflect the English-Japanese history at Hirado. When the Dutch had already settled at Hirado in 1609, the English followed the Dutch in their trail, as in those days the English followed the Dutch to myriad places in the East (Riess 1898, pp.6-8). The first English ships arrived in 1613, after which an English journey to the shogunate court followed, where they established trading privileges (Riess 1898; Farrington, 1991a), yet their stay was a short one as they already left Hirado in 1623 (Mulder 1985, p.123; Farrington, 1991a).

During a peace treaty with both nations, the English and Dutch at Hirado worked together between 1620 and 1621, under the name ‘the Fleet of Defence’ (Mulder 1985, p.110-116; Farrington 1991a, pp.10-13). In this cooperative form, they planned on raiding Portuguese and Spanish trade ships within the East. Interestingly enough they chose Kawachi as a temporary base port for this fleet. This short termed cooperation quickly stopped however, when the English relayed their interest on trade with India, rather than Japan, whereas the Dutch had no longer need of the English military assistance when they installed a base on the Pescadores (Mulder 1985, p.116).

Figure 11 - Monument dedicated in honour of the English-Japanese history at Hirado.

Despite their short stay, the English did leave a reasonable impact. William Adams in particular has attributed to for example Japanese ideas on cartography and shipbuilding
(Wieder 1925, p. 21-30; Arima, 1964). In this section, the English influence is however kept to the presence of the East India Company within the research area of this case study.

Although an approximate location of the former English trade post is known (see figure 12, number 1), there are no material remains found. The English remnants within the maritime cultural landscape of Hirado other than the modern monuments are thus merely cognitive.

Figure 12 - Locations of English remnants at Hirado. 1 = former location of the English trade post, 2 = monument dedicated to the English-Japanese history. The orange dot is the former Dutch area. Edited in a map of Hirado, original scale 1:5,000 (HBE, n.d.). In-photo is a plaque marking the site where the English trade post once stood.
3.6 Dutch remnants

A great deal of Hirado’s present day heritage and tourism revolves around the Dutch history and settlement within the city and its vicinity. Recent installations of tourist signs highlight the Dutch-Japanese history, whilst shops and diners promote Oranda or Dutch related products in their windows and on menus. In fact, at the time when the survey of Hirado took place, flagpoles standing at the quayside were even hoisted with Dutch and Japanese flags waving through the wind to greet cultural exchange students from Holland as the city’s special guests (figure 13).

![Dutch and Japanese flags wave in the wind, Hirado City 2013.](image)

A remnant reminding of the Dutch presence is situated at the south end of the harbour. Here, a narrow point is crossed by a bridge named the Saiwai-bashi, or Oranda-bashi as locals have dubbed it (figure 14). According to the Hirado Board of Education, this point was first crossed by a wooden bridge built in 1669, which was later replaced by a stone bridge in 1702. This stone bridge was built with techniques that remind of European arch techniques used in the Dutch buildings that once stood in Hirado (Mulder 1985, p.121). Another rumour went around that it had been constructed out of cut stones that were originally used in the construction of the former Dutch houses. Hence the nickname

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39 These special guests were children from a school in Noordwijkerhout, Holland, who visited Hirado with their teachers during the Golden Week of 2013. Since 2009, Hirado city and the Dutch city Noordwijkerhout are officially ‘sister cities’, strengthened through regularly organized cultural exchanges, mainly through school outings (Gemeente Noordwijkerhout, 2014).
40 幸橋 - ‘Luck bridge’
41 オランダ橋 - ‘Holland bridge’
**Oranda-bashi.** While this story is most likely more myth than fact (Mulder 1985, p.121; HBE, n.d.), it does however emphasize the long lasting cognitive impression the Dutch have had on the inhabitants of Hirado.

![Figure 14 – The saiwai or Oranda-bashi near the Hirado Municipality building.](image)

The lion’s share of physical remains relating to the Dutch-Japanese history are presently concentrated at the north end of the harbour. Since 2000, visitors can take a walk on the ‘pakhuis promenade’, a boardwalk that runs along the waterfront side of the northern harbour pier, installed to add to the imagination of Hirado in the 17th century. At the north eastern end of the boardwalk, in passing a *Ebisu*-shrine⁴², the former Dutch area is entered and its history slowly enfolds.

### 3.6.1 Arrival in Hirado

The Dutch trade history in Japan has its roots in the 16th century. When Portuguese merchants and Jesuit missionaries found the Chinese and Japanese coasts, they needed fresh personnel on many fronts to maintain a steady business in the East. As capable Portuguese personnel was hard to find, the Portuguese hired Dutch and other folk to fill the void in the East (Lach 2008, pp.468-492). Some of these hired men kept careful descriptions of their journeys or stole vital information on routes and enemy forts. In addition, the economy of the young Dutch Republic was thriving, despite being at war with the Spanish Throne. Soon,

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⁴² *Ebisu* is a *kami* or deity of fishermen, granting abundant catches amongst other things (Kokugakuin University, 2006). Especially popular in the coastal areas.
the Dutch sent out their own fleets towards the East (Bruijn et al. 1987, pp.1-6; Goodman 2002, p.9).

One of these fleets sent to the East had set its sight on Japan (Wieder, 1923; 1925). Only one ship survived the voyage. In 1600, a galleon called the Liefde stranded on the shores of Japan. A few years later, a part of the crew that survived the journey successfully mediated a trade agreement between the Dutch and Japanese (Wieder 1925, pp.21-28). Word of this trade agreement reached home, where a new company called the Vereenighde Oost-Indische Compagnie or Dutch East India Company (VOC) had just received full governmental support and a theoretical trade monopoly in the East (Bruijn et al. 1987, pp.5-6). While the first destinations of the VOC included places such as Bengal, the Moluccas and the Coromandel Coast, the Dutch finally returned to Japan in 1609, when the first ships reached Hirado (Boxer 1929, pp.40-41). These ships were the Rode Leeuw met Pijlen and the Griffioen (De Jonge 1862, pp.294-299). The original mission of the journey was to catch a Portuguese carrack on its way from Macau to Japan, while the secondary mission was to install a trade post in Hirado (De Jonge 1862, pp.294; Boxer 1974, p.288-299). Thus, after a few days the search for the carrack turned to no avail, the Rode Leeuw and Griffioen headed on to Hirado, Japan. Shortly after their arrival, the Dutch went to the shogunate court in Edo, where they acquired a new Vermilion Pass (figure 15), while upon their return they were allotted a small turf at the north end of Hirado harbour. Here, the Dutch would maintain a trade post until their forced removal to Dejima in 1641.

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43 A common business during the first decades of the Dutch in Japan. In 1621, the continuing raids on foreign vessels by the Dutch forced the shogunate to forbid the Dutch as well as the English from raiding foreign ships within Japanese waters (Valentyn 1726, p.30).
3.6.2 Remnants within the former Dutch area at Hirado

Desk research and preliminary archaeological surveys conducted by the Hirado Board of Education\textsuperscript{44} between the years 1988-1996 confirmed the location as well as a few remaining structures that once belonged to the Dutch (Hagiwara and Katō, 2002). The main goal of this research was to index and preserve the remaining structures within the current landscape. Another goal was to facilitate a historic reconstruction in order to breathe new life into the area (HDTP, 2013). A full scale excavation was carried out in the year 2002, to document the archaeological remains in order to reconstruct one of the former warehouses on the site (Hagiwara and Katō, 2002).

Stone wall

When approaching the north end of the harbour through Sakigata-chō, the first physical remnants of the Dutch at Hirado appear. These remnants are represented by a stone wall construction that once enclosed the Dutch area (see figure 16 and the overview in figure 18). Locally known as \textit{Oranda hei}\textsuperscript{45}, literally the ‘Dutch wall’ (Horikawa, 1998; 1999; HBE, n.d.), both its physical and its cognitive aspects have survived in the current landscape.

![Figure 16 - The Dutch wall is portrayed on the right, running up the hill.](image)

The largest part of the preserved wall structure is situated at the north side of the road that runs through the north east end of Hirado-city. This part of the wall is

\textsuperscript{44} The Hirado Board of Education is responsible for managing local heritage and archaeology, as throughout Japan, archaeological management is predominantly conducted by local governments.

\textsuperscript{45} The trail of stairs running up the slope alongside the wall is called Oranda hei zaka (オランダ塀坂), or ‘Dutch wall slope’.

42
approximately 2 meters high, totalling a length of about 30 meters (Hirado City, 2013) and runs north northeast, climbing up on the hill that lies behind the former Dutch area. Another part of the wall that remained is incorporated in a private residential structure situated at the waterfront, south of the aforesaid road. Even though this part of the wall is partially covered by modern wall plaster, a large part has been deliberately left visible by the owner of the residence (see figure 17).

![Figure 17 - Part of the Dutch wall incorporated in a private residence (Masaji, 2009).](image)

Analysis of the surviving parts of the wall revealed that it is made out of cut sandstone and plate-like basalt. Its surface has been finished with a white plaster of sea shells mixed with lime (Hagiwara and Katō 2002, p.152). Desk research revealed that the total area has been expanded several times, as the Dutch stone wall expanded along with the boundaries of the area. The first wall that enclosed the Dutch area is believed to have been installed during the years 1612 to 1616. In 1623 and again in 1628, the wall and thus the total area as well, were expanded towards the neighbouring town, current day Sakigata-chō (Hagiwara and Katō 2002, p.152).
Two Dutch wells

Beyond the wall, on a small courtyard north of the main road, two old water wells are present. One water well is situated at the hill side. The construction is made of basalt stone gravel built in a round shape. It is approximately 2 meters wide and 8 meters deep (HBE, n.d.). The other water well, situated more to the south, is a square-shaped construction made by flat basalt stones. Analysis of the construction technique showed the builders used an European technique reminiscent in red brick constructions. This particular well also has a depth of approximately 8 meters, while it is just over 2 meters wide (HBE, n.d.). Both water wells are closed off as can be seen in figure 19.

Considering the techniques used, as well as the name giving of the same area on a 18th century ground plan of Hirado city as *Orankawa*46 or ‘Dutch river’, researchers are certain these water wells were made and used by the Dutch. Construction dates are however unknown (HDTP, 2013).

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46阿蘭川
According to the Hirado Board of Education, despite being positioned relatively close to the sea shore, the wells still contain fresh water (HBE, n.d.). The wells were thus a fresh water source, serving the Dutch at Hirado as well as providing the necessary replenishments of water reserves on board ships before they headed on their long voyages to Batavia and other places within the Asiatic seas. Moreover, from various entries in the Dutch and English diaries it becomes clear that fires occurred regularly. Japanese houses were made out of bamboo and wood and were thus far from fire proof (Mulder 1985, pp.7-8); accidents with fire often proved fatal to a whole neighbourhood as one little flame could set the whole town alight (Mulder 1985, p.8). No wonder the Dutch installed these wells.

Figure 19 - A Dutch well situated close to the road. In-photo: a Dutch well situated close the northern hill.

Whether a Japanese, Dutch or English house was in flames, both the Dutch and English would rush out to offer help where necessary (Cocks 1883a, p.106), as they feared the safety of their trade goods and other capital. At least in some cases, flames were killed by wetting of sails or simply carrying flasks of water. All stone constructions, such as the aforesaid wall, were thus a precaution meant to keep out the flames and presumably unwanted visitors as well.

Another remarkable construction was found in 2006, when the slope of the hill that towers over the two wells and the former Dutch area was partially reconstructed. During the reconstruction works, eight layers of large flagstones\textsuperscript{47} were found (HBE, 201-). These flagstones appeared to have formed a stone reinforcement wall (see figure 20), meant to

\textsuperscript{47} Large rectangular sandstones.
prevent earth of the hill to erode during heavy rains. The stones were adjusted in a manner hitherto unseen in Japan, as part of the stones were chipped away in order to be used as wedges as to reinforce the wall (HBE, 201-).

![Figure 20 - A flagstone found in a wall-like construction. In-photo: the situation of the wall-like construction as excavators found it in 2012 (HBE, 2012)](image)

When following the reconstructed trail further up the hill, one may find various cut stones laid out in a square as portrayed in figure 21. These cut stones mark the fundaments of the former residence of chief Francois Caron⁴⁸ (HBE, 201-). Excavations carried out in 2012 revealed typical Dutch foundations known as ‘puinfunderingen’, where gaps between larger stone fragments are filled with smaller fragments. The fundaments were constructed in a square of 11.5 meters at the sides. According to an image of the Dutch trade post displayed in Montanus’ famous work the ‘Gedenkwaerdige Gesandschappen’ (see figure 24 further below), a building can indeed be seen on top of the hill overlooking the harbour. However, due to doubts about the realism⁴⁹ of this particular copper engraving, it is hard to tell what the building had actually looked like above ground level.

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⁴⁸ 1600-1673.
⁴⁹ It is known that Montanus has never actually been to Japan and many of the other exotic places he describes in this massive piece of work. He used first hand reports of actual visitors. Furthermore, during the time of his writing (1650-1660) the Hirado trade post was already lifted and its buildings run to the ground.
Dutch quay and stairs

Opposite of the aforementioned wells, starting east of an Ebisu-shrine, runs a quay once built by order of the VOC all the way up to the north eastern corner of the bay. It was maintained over the centuries that followed after the Dutch left. Even though part of the quay has recently been reconstructed and expanded with modern constructions, it remained mostly in its original shape (HBE, n.d.). Right next to the Ebisu shrine rests a staircase that leads into the water (figure 23). Research revealed both the staircase and the remaining quay structure are made of coarse-grained basalt stones (Hagiwara and Katō, 2002), cut in large rectangle-like shapes. A platform-like base situated at the end of the staircase allowed to utilize the stairs during low tide50. The quay was finished in the year 1640, yet part of the quay was already present beforehand.

According to an overview compiled in 1641 by the VOC of facilities and materials that were left behind at Hirado during the time of the removal of the Dutch to Dejima, the listing reads that there was a ‘waterpoort’ or water gate present at the staircase (Elserack 1986, pp.164-165). Despite the fact that presently, no physical traces of this water gate have been found, the earlier discussed depiction of the Dutch trade post in Montanus’ work however does portray such a gate at the top of a stairway (figure 22).

50 Current day depths during tides at this point range between 5m at its lowest to 10m at a maximum (JHA 2012, p.58).
Figure 22 - Zoomed in and cropped out part of the image *De Logie op FIRANDO* as displayed in Montanus (1669). The red circle marks a water gate resting above a stair case.

The quay and the stairs had its typical uses. The quay for one served to protect the Dutch area from the erosive force of the waves, allowing the VOC to safely construct buildings along the coastline. The stairs on the other hand were used during low tide to bring the Dutch ships close to the shore in order to unload and load trade goods and other wares. Once the goods were brought on land, they were stored in one of the buildings that stood within the aforementioned walls as one will see further below. Once the water gate was closed it would prevent unwanted guests such as thieves from easily entering the Dutch area via the quayside.

Figure 23 - Dutch stairs and part of the Dutch pier.
‘Een houten hoeck’ or wooden beacon

On top of the utmost corner of the remaining quay stands a wooden beacon (figure 25). The Hirado Board of Education interpreted the presence of a beacon during the era of the Dutch at Hirado, from the same VOC property list discussed earlier above. For it reads that there was a ‘wooden corner’ present (Elserack 1986, pp.164-165). The beacon that stands here today is called Jyōtō-no-Hana, or ‘eternal light’ and is a modern reconstruction, as the original construction perished centuries ago. The aforementioned image displayed in Montanus’ work portrays a construction (figure 26) that is reminiscent of local style beacons known to have been in use during the Edo-period. The reconstructed beacon is thus made in the same manner.

![Figure 24 - The Dutch area as depicted in Montanus (1669).](image)

Another construction was thought to be standing next to the beacon. Both the image made in 1621 (figure 27) as the one in Montanus’ work (figure 26) show a flag wavering in the wind at the end of the quayside. It is therefore believed that the beacon was neighboured by a flagpole hoisting the Prince’s flag.

Both constructions would have served as helpful guides to navigate vessels from one point to another. Especially during the night, the beacon must have guided many ships

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51 Since wood exposed to air, rain and sea waves simply rots at a rapid speed.
into the roadstead. Even on to this day, the beacon is used by modern navigators, exampled by the advice on sailing directions by the NGA in 2011 (NGA 2011, p.100).

Figure 25 - Jyōtō-no-Hana on the corner of the Dutch quay.

Figure 26 - Zoomed-in part of the image of the Dutch trade post in Montanus (1669). Encircled in red is a construction that presumably resembles a wooden light beacon. Right next to it is a flag waving in the wind.
Other facilities in the area

Results from preliminary literature research show that other facilities were mostly installed during the second stage (1612-1637) of the Dutch presence in Hirado. These facilities existed of pigeon cotes, sick lodgings and residential quarters. Although no physical evidence of these facilities were found, it is believed these facilities were present and maintained throughout the remainder of the Dutch presence in Hirado (Horikawa, 1998; 1999).

Several entries report a graveyard was situated on Yokoshima; an islet within 4kms northeast of Hirado. Supposedly, the graves were made of blue cut stone, the same granite blocks used in the foundations of some of the warehouses in Hirado-city. After the Dutch left Hirado the graves were destroyed (HBE, n.d.).

3.6.3 Archaeology of warehouse foundations at Hirado

At the east end of the former Dutch area stands the Oranda Shōkan (figure 28); a reconstruction built in 2012 which represents the Dutch trade post that stood on the exact same spot from 1639 to 1641 until it was broken down by order of the shogunate. Its interior is designed as a museum, telling the story of the Dutch-Japanese history at Hirado by means of artefacts and imagery.

The reconstruction is partially based on the full scale excavations (see figure 29) carried out in 2002, as well as on desk research. In a written report of the excavations, researchers Hagiwara and Katō convincingly claim to have discerned three distinct stages in
the land reclamation and construction forms used within the Dutch area which are discussed below.

![Figure 28 – Reconstructed Dutch trade post, or the Oranda Shōkan situated at the end of the harbour, as seen from Hirado Castle.](image)

One must keep in mind that although this reconstruction is executed with the utmost care and as ‘true’ to the time it should represent, there are simply no images or blueprints available of this building, meaning that this reconstruction is an artist’s or academic’s impression of what it could have looked like.

### 3.6.3.1 Three construction stages

**The first stage (1609–1612)**

According to Hagiwara and Katō, the first stage of the inhabitation of the VOC at Hirado started in 1609 when the Dutch rented a fire-proof warehouse of a local merchant, situated at the northern end of the harbour. This marked the beginning of the Dutch trade factory\(^{52}\) in Japan.

The details of the area and its houses are unknown from archival records, but the archaeological excavations of 2002 have shown that there were indeed traces of Japanese style foundations. Although not much was left, these foundations were identified by cornerstones and grinded gravels in the foundations as particularities for Hirado house fundaments (Hagiwara and Katō 2002, p.148). These houses were situated near the northern hill that still towers over the former Dutch grounds today. Furthermore, a stone wall made out of basalt pebbles taken from the beach marked the coastline of that area throughout much of the 1610s, when area was considerably smaller than it is today. This former

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\(^{52}\) Not to be confused with a modern factory.
The coastline can be seen in the dotted line marked between two green dots in figure 30. Local techniques and materials were used, by which the researchers presume it was made by a Japanese merchant who rented the area to the Dutch (Hagiwara and Katō 2002, p.146).

![Figure 29 - A ground plan of the excavation of the 1639 warehouse and parts of the former coastline. 1 = the main foundation of the former walls of the warehouse; 2 = foundations of a staircase; X = round, cut stone foundations belonging to warehouses dated to 1618; Red dots mark the former coastline and quay side dated to the year 1616. Green dots mark the former coastline in the 1610s (Hagiwara and Katō, 2002).](image)

**The second stage 1612-1637**

The second stage started in 1612. In that same year, *opperhoofd* Speckx\(^{53}\) was replaced by his short timed successor Hendrick Brouwer\(^{54}\). In a letter written on 13\(^{th}\) of February 1613 to Governor General Both, Brouwer mentions they had erected a warehouse and living quarters\(^{55}\) of their own and consequently had gained respect of the community (Nachod 1897, p.XXXIX). According to Mulder’s calculations, the warehouse was 19 meters long and 13 meters wide (Mulder 1985, pp.6-7). The total costs of the construction amounted to 14,619.84 Dutch Guilders. Expenses included the costs of materials and labourers, but also the deconstruction of 22 private homes that had to be removed before the building of the houses could commence (Mulder 1985, pp.6-7). Mulder estimates the costs per Japanese

\(^{53}\) 1585 – 1652, the first chief of the Dutch trade post in Japan.

\(^{54}\) 1581-1643.

\(^{55}\) In the quotes used by Mulder it is not entirely clear that two houses were built, as Brouwer only mentioned “we have now such a suitable house over here” (Mulder 1985, p.7)
house to have been around 300 Dutch florins and suggests nearly half of the costs went to the owners of these houses as compensation, which seems plausible (Mulder 1985, pp.6-7). During the archaeological excavations back in 2002 the foundations of this early warehouse were found.

After the first warehouse was constructed in 1612, passages in archival records indicate that the Dutch expanded their territory towards sea. The same is evident in the archaeological record, as a landfill was found dating back to the year 1616. This landfill was deposited southwards and it was enforced by a quay construction made out of large basalt cut rocks, filled-up with smaller gravel basalt (Hagiwara and Katō 2002, p.148). Today the Hirado Board of Education has covered part of this former quay up with earth again to preserve it in situ (see figure 30 below).

A second phase of reclamations occurred around the year 1618, as was indicated by the excavation of a landfill protruding out of the 1616 expansion. The quayside of this landfill was made into a stone quay, built out of basaltic rock of the subtype dolerite (Hagiwara and Katō 2002, p.152). Furthermore, foundations of three warehouses dating from around the year 1618 were found. This corresponds with an entry found in Cocks’ diary as he noted the Dutch had completed three warehouses that year. Analysis of these foundations show that Japanese techniques were used, which according to the researchers makes it reasonable to assume the houses were built in a local style as well (Hagiwara and Katō, 2002).

The Dutch evidently needed to expand their territory in order to answer to a growth in trade in Japan. The land reclamations discussed above indicate that the Matsuura daimyo allowed the Dutch to do so as they pleased, which proves the Dutch had good relations with the local daimyo and the community. This becomes even more evident from Cocks’ (1883b, p.151) diary entry in the year 1621, for when after much haggling the English had finally come to an agreement with the Japanese on the costs and size of an expansion of the English territory, Cocks begrudged the Dutch as they had earlier been allowed to expand their ‘key’ or quay seawards by making it five times bigger than the English were allowed in the end.
The third stage 1637-1641

A third and final stage of the Dutch area is a rather short stage that involved the construction of two European-style stone warehouses. The construction of the first stone warehouse was initiated in the year 1636 and completed in the year 1637. Orders to build this warehouse probably came from the Council in Batavia, as earlier in year 1636 a Dutch skipper merchant named Hendrick Hagenaer had informed the Council of the rotten state of the old, wooden houses and proposed that they had to be replaced by stone buildings made in Dutch fashion (Hagenaer, 1726). Excavations of its base construction reveal it was situated on the west end of the Dutch area and was placed upon fundaments of basalt freestone and sandstone (Hagiwara and Katō 2002, p.151).

The construction of a second warehouse started in 1637 under supervision of opperhoofd Couckebakker and was completed in 1639. The excavations also revealed the fundaments of this particular warehouse (figure 31) and although it too was taken down in 1641, it still provides interesting clues on materials and construction forms used.

The excavations revealed the warehouse had an actual size of 44.84m in length and 12.42m in width (Hagiwara and Katō 2002, p.150). The excavation gave the opportunity to compare the actual dimensions with dimensions given in primary sources. For one source gave it a length of 148ft, while the other two gave it 152ft in length, while all three sources claim it had a width of 41ft. It appeared that the given measurements in ‘voet’ or foot in reality come more close to the Japanese foot, as 148 shaku is 44.84 meters while 41 shaku is
12.423 meters. This indicates that the Dutch measured in *shaku* rather than in Dutch feet, as Dutch feet standards were larger (see *Appendix I*). From the economic records it is known that Japanese labourers were hired to construct the building in aid of Dutch construction workers (Hagiwara and Katō 2002, pp.150-151). Perhaps the Dutch used the Japanese foot to measure out the design in order to prevent confusion over dimensions between the Dutch and Japanese labourers.

![Figure 31 - Outline of grey gravel of the fundaments found belonging to the 1637 warehouse.](image)

The materials used in construction also provided interesting insights. For one, the main walls of the 1639 warehouse were basically made out of bricks, which were attached to each other with plaster and lain in European fashion. The use of bricks in construction on Japanese soil is hitherto unknown, making it the oldest known construction within Japan to be constructed out of bricks. Other non-Japanese aspects incorporated in the construction that were hitherto unknown in Japan were glass windows\(^56\), structure enforcements by means of stone arches and a front topped with a gable (Hagiwara and Katō 2002, p.152).

On the other hand, numerous Japanese tiles found during the excavations indicate that the roof construction must have been made with Japanese style roof trusses to support these indigenous tiles (Hagiwara and Katō 2002, p.154).

The above thus indicates that a mix of indigenous and European construction methods was used in the construction of the two stone buildings (Hagiwara and Katō 2002, p.154). Considering Hagenaer’s description of the old, rotten warehouses at Hirado directed

\(^56\) The technology required to make glass were not yet adapted by the Japanese; they used paper windows instead.
to the Council of Batavia and the course of action taken in the years after to erect new, fortified warehouses made of stone to replace them, indicates that the Dutch felt they had to apply European construction materials and techniques in order to safe-guard their trade wares from thieves, as well as to successfully preserve their wares. In time, they hoped it would save them from expenses in maintenance, as they expected these constructions to last longer than the former wooden warehouses (Hagenaer, 1726). Since these necessary materials and construction techniques turned out to be unavailable at this stage in Japan, they had to be imported.

3.6.3.2 Types & origins of construction materials
Some of the materials used could be traced back to their origin. Below, relative distances from these points within the landscape to Hirado are given in a straight line. Due to natural and cultural obstacles in between these points however, actual routes and distances will have varied. Most of the goods came per boat. Since there were and still are numerous variables involved that influence the route of a loading barge, it would fall beyond the scope of this paper to try and approach the ‘actual’ distances by boat.

Outer resource landscape
The tiles used to construct the roof were made in loco, probably at the Nakano-kiln near Kawachi (Hagiwara and Katō 2002, p.152).

Sandstone is shown to have been frequently used in the construction of the water wells, walls and part of the base foundations. These were cut from a sandstone quarry near Kawachi-ura. Although the exact location of this quarry is unknown, an entry written in the Dutch diary of the year 1637 mentions the quarry was situated at a place opposite of Kawachi (Couckebakker, 1974b; Hagiwara and Katō 2002, p.152). A close look at a recent geological map of the area surrounding Kawachi, shows several ground layers partially compiled of sandstone (GSI, 2005), situated ‘opposite’ of Kawachi, which today is known as Tabira. The English hinted that they received their stones from Nagoya, Iimori (on Takushima, up north) and Tabula which is most likely a corruption of Tabira (Cocks 1883b, p.156, p.161). Thus it could well be that the sandstone quarry mentioned in the Dutch and English diaries was in fact at that location.

57 Winds, currents and shallows for example.
The coarse-grained basalt used in the construction of the stairs as well as the rest of the Dutch quay, originated from Takashima (Island) and was referred to as Aō stone\textsuperscript{58}, while some most likely originated from Nagoya\textsuperscript{59}, which is absorbed in current day Karatsu\textsuperscript{59} (Hagiwara and Katō 2002, p.152). Takashima-city on Takashima Island lies within 20km in a straight line from Hirado, while Nagoya\textsuperscript{60} lies approximately 35km from Hirado.

Since all of the above described resource origins are within 35km from Hirado, this portrays an image that seems to agree with Westerdahl’s description of the *outer resource landscape* (see figure 32); the landscape within the coastal area that provides the necessary resources for shipbuilding, or in this case the construction of maritime trade facilities. It thus shows that by and large the Dutch within Hirado did not have to import stone construction materials from outside Japan. This means they were allowed access to the local trading infrastructure. The quality-cost ratio must have been to the liking of the Dutch, as they continued to use the materials over the years 1610-1641.

\textsuperscript{58}阿翁石
\textsuperscript{59}唐津市
\textsuperscript{60}名護屋村.
Inner resource landscape

One type of material used within the Dutch area came from an astonishing distance, considering the transportation methods of that time. From an entry written by chief Le Maire in 1641 (Le Maire 1984, p.230), granite slabs used to pave the Dutch courtyard with, were called Mikage-Ishi, or Mikage stone, indicating these granite slabs came all the way from Mikage. Once a town near Osaka, Mikage is currently absorbed into Kobe, Hyōgo-Prefecture and lies approximately 547km east of Hirado city (figure 33); an astonishing distance indeed.

![GIS-map of Japan showing Hirado and Mikage](image)

**Figure 33 – Hirado and Mikage as shown in a GIS-map of Japan.**

As occurred with many of the VOC’s materials at Hirado, these slabs were transferred to Dejima during Le Maire’s reign. Thus it is of no surprise that until now, these granite slabs were not found. If these granite slabs were truly from Mikage, then why were these stones imported over such a great length as 547kms? There seem to be two plausible reasons. For one, it could have already been present at the time when the Dutch requested stone slabs to pave their courtyard with and the Dutch simply bought what was offered to them. This could minimize the specialness of the slabs, although the quality of the stones could then still have seduced the Dutch into buying them. Or, they knew of the quality
beforehand and requested it to be imported on their own behalf. This could then indicate that the Dutch were well aware of the quality material Japan had to offer. The fact that Le Maire recalled the name of the stones already suggests that. Further desk research may reveal more on this topic.

Another type of material has proven to be imported over an equally far distance. According to Hagiwara and Katō (2002, p.152), the bricks used in the construction of the 1639 warehouse predominantly came from the Dutch trade post, Kasteel Zeelandia, at Taiwan.

### 3.6.3.3 Archaeological Artefacts

Apart from the construction materials, archaeologists dug up a number of artefacts as well. Above a 1000 shards of Chinese pottery of the Jingdezhen style were found in the landfill soils of the 1616 quay construction (figure 34). These were most likely dumped during the reclamation activities. Porcelain wares of the Jingdezhen style were a typical VOC trade commodity during that time (Hagiwara and Katō 2002, p.154). Besides the porcelain shards, several bronze smoking pipes were found as well (figure 35). Tabaco was already introduced to Japan by the Portuguese, yet the locals in Hirado must have had a taste of their own when the Dutch came around.

A remarkable find is a key stone found in Shōsen-an, Hirado City (figure 36). This key stone bears the VOC trade mark, cut out of the rock. The key stone was found at a little shrine in Shōsen-an and was part of a small towering construction, which at first was interpreted as a grave, but was later re-evaluated as a place of ritual in worship of a kami or deity of trade. The stone with its engraving was lain sideways, suggesting the user could not read the letters or at least did not care for its inscription, but rather for the meaning behind it. Shōsen-an⁶¹, a local place name, is the place where Shōsen Kagawa used to live. Shōsen

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⁶¹ A conspicuous fact; as a means to settle the ‘Nuyts Arrest’ the infamous Dutch ambassador Nuyts was held hostage in the same area where this key stone was found (Mulder 1985, p.178). The ‘Nuyts Affair’ (1627-1636) started when a court journey in 1627 executed by VOC ambassadors Pieter Nuyts and Pieter Muijser turned into a failure. The next year, Nuyts became head of the Dutch trade post at Formosa, where he treated Japanese merchants with disrespect as a personal revenge for the failure in 1627. The Japanese authorities responded in 1629 by seizing five VOC ships, while minor trading businesses only continued when the VOC
Kagawa was one of the merchants who frequently traded with the Dutch, whilst also catering their needs as a mediator between the local daimyo and the Dutch. After the Dutch were forced to move to Nagasaki, the person who integrated the Dutch key stone must have thought it to be an agent of prosperous trade (HBE, n.d.).

At this stage, no other artefacts belonging to this period have been found in Hirado. A reason for this can be found in the removal of the Dutch to Dejima. In the diaries kept by Le Maire, the first opperhoofd of the VOC at Dejima, it becomes clear that various stone and wood materials were either shipped to Dejima by loading barges, or sold on location. The whole area was thus stripped down to a point where almost all that belonged to the Dutch was removed from the vicinity, which explains the small amount of artefacts and structures found at the site.

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Figure 35 - Bronze smoking pipes unearthed during excavations in 2002. Photo by the Oranda Shoukan.

Figure 36 - A key stone bearing the VOC mark on display in the Oranda Shōkan.

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sent ‘free-lance’ ships. The ‘Nuyts Arrest’ ended when the VOC handed Nuyts over as a hostage in 1632. Nuyts was finally released in 1636 (Mulder 1985, pp.169-179; Clulow 2010, pp.26-29).
3.7 The maritime infrastructure of the VOC in Japan 1609-1641
Yet the question remains how the Dutch installed themselves in such a foreign maritime landscape of Hirado and how they handled themselves within these foreign surroundings. In those days, the Dutch went on long voyages towards the East, where they arrived in natural and cultural conditions unlike they had encountered in Europe. In order to understand what these changing conditions were and how the Dutch managed to deal with these conditions, the sections below will explore the available maritime infrastructure of routes, harbours and other facilities at Hirado, while discussing the approaches and adjustments made by the Dutch.

3.7.1 Route towards Japan
When the VOC started their endeavours within the Asiatic waters, several routes had already been tested. Ships either left in April – May or December – January, sailing through the Gulf of Guinea, around the South African cape and along the East African coast, passing Persia, India and onto the East Indies (Bruijn et al. 1987, pp.59-60). The length of voyages could vary between a fast three months to the more general eight or nine months. Especially during the early years up until 1610-1615, some voyages could even take up to ten months or longer (Bruijn et al. 1987, p.56, p.60). Once in the East Indies, the route to Japan led vessels through the Banka Strait passed Pulu Condore (current day Côn Đảo), hugging the mainland coast of Annam (Vietnam) and through the Formosa Strait. After Formosa was passed, vessels would cross the gulf of Tonkin passing south of the Paraceles Islands towards Japan (Feenstra-Kuiper, 1921).

Upon approaching the Japanese Archipelago, the Dutch navigated on an island known today as Me Shima to estimate their position. Once in sight of Me Shima, the Dutch skippers knew they would soon leave the open seas and enter the Japanese waters, while at the same time skippers used Me Shima to direct their vessel further up north towards Hirado (Linschoten 1596; Michel 1993, p.32). Even today, ships still use Me Shima and the surrounding islands belonging to the Danjo Gunto group, as a means to visually confirm their position.

3.7.3 Route towards Hirado
Although sailing details of the Dutch voyages to Hirado have mostly been left out once vessel had passed Me Shima and the Danjo-Guntō islands, the skippers must have used a route that resembled those described in Van Linschoten’s Reys-gheschrift. Taking the Dutch sailed past Me Shima, vessels headed past the Goto Islands towards the Hirado Strait (figure
After passing the Goto Islands, the first point referred to in the rutter is Kuroshima, lying within five nautical miles southwest of the coast of Hirado Island. From there, vessels had to pass small islets surrounded by reefs in order to enter the Hirado Strait. Once inside the Strait, skippers could sail on “a greath high Hovell [hill]”, which from this point is a 535m high hill called Mount Yasumandake, which is the highest of Hirado Island. This non-mistakenly made it a great point of navigation, including it as part of the navigational landscape.

**Figure 37 - An impression of the sea route from Me Shima towards Hirado.**

Proceeding north into Hirado Strait, ships first entered Kawachi-wan (see figure 38 below). This bay on the west side of the Hirado Strait is presently entered by passing a modern breakwater on which a light beacon is situated. In order to get to Hirado per sail, the 17th century skipper was advised to hire towboats, either in Kawachi or Hirado, in order to get past the strong currents that run near Hirado harbour up ahead, for "otherwaies they canot escape running ashore" (Cocks 1883b, p.314). These currents still hamper small

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62 黒島
63 川内湾
64 As occurred with the *Amsterdam* in August 1635 (Couckebakker 1974a, pp.261-262).
vessels trying to enter Hirado harbour today, as according to the NGA during tides the currents can run up to speeds of 6 knots\textsuperscript{65} or more (NGA 2011, p.100).

Figure 38 - Impression of the sea route from the transit point in Kawachi to Hirado. Red dashed line = towboats zone. Red flags are land marks.

Towing businesses were managed by the Matsuura who regularly sent out eight or more\textsuperscript{66} boats in order to tow a vessel out of the bay. The boats that were used to tow the Dutch as well as English vessels out of the bay were called pheijphone, which means hayafune or swift boat (Turnbull 2000, p.52). These boats were manned by rowers, while according to the Dutch the Japanese oarsmen used a sculling technique to drive the boats forward. Each boat was manned by at least six rowers, depending on the size of the vessel (Turnbull 2000, pp.52-53). At the lowest, six or eight vessels towed a vessel in or out, meaning the boats were manned by at least thirty-six rowers. This indicates that, indeed, a lot of manpower was necessary to tow the vessels across the currents. The rigging of Dutch

\textsuperscript{65} A knot is a measuring unit of speed used on sea or during flight. One knot equals one nautical mile per hour, which is 1.852 km/h or \textasciitilde{}0.514 m/s. According to The American Practical Navigator (NGA 2002, p.143), currents with speeds of 5 knots or higher are considered strong currents for boats and ships.

\textsuperscript{66} John Saris even mentioned the Matsuura sent at least 60 ‘Great Boates’ to tow the Clove in (Saris 1900, p.82).
vessels must have been adjusted in some way, for sails most likely played a minor role, as sudden wind spells at these narrow points could have proven counterproductive. Or as the rutter in Van Linschoten’s work warned the skipper “have care, for the wind is strong at your entring”.

Either way, European seagoing vessels thus had to adjust to the local, natural obstacles by hiring these towboats. Payment for these towing services were an economic and thus a cultural obstacle, though the exact amount of the payment could not be traced.

When ships were ready to leave, they were generally first towed from Hirado to Kawachi, where they often had to wait for the right winds before heading on a voyage back to other destinations within the Indies. Additionally, the Dutchmen found that the larger the ship, the more difficulties it would encounter further upstream trying to enter Hirado harbour, especially when fully loaded. Thus, they often had part of the cargo transferred and stored ashore in Kawachi or transferred from a larger ship to another vessel such as jachts and fluyts that would then sail from Kawachi to Hirado instead (figure 39). The route from Kawachi to Hirado and vice versa was therefore a transport zone, while the anchorage at Kawachi can be viewed as a transit point.

**Hirado harbour vs. Kawachi bay**

Contemporary reports by Dutch and English sources prove that Hirado harbour did not provide the most suitable roadstead for the larger European ships. As apparently it was a “very small and badd harbour, wherin not above 8 or 10 shipps can ride at a tyme without greate danger to spoile on other in stormy weather” (Cocks 1883b, p.314). According to a Dutch source, the harbour floor was too soft for ships to anchor in (Hagenaer 1726, p.115), which could cause a vessel to drift during storms and cause collateral damage. Indeed, after a typhoon on the 4th of September 1620, the Dutch lost the Expeditie due to collateral damage inflicted by an English vessel named the James Royall (Cocks 1883b, pp.200-204). At the time, only four ships were riding at anchor in Hirado.

Both the loose ground and the slim nature of the harbour combined therefore evidently make for an unsuitable roadstead.

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67 Several financial accounts kept by the Dutch and the English (Farrington 1991b, pp.427-434) have been consulted, yet none explicitly mention costs for hiring tow boats (hikibune) for towing ships into the harbour.
68 For instance, in 1635 the jacht Veenhuijsen sailed from Hirado to Kawachi to wait for the right winds (Couckebakker 1974a, p.203).
69 On 23rd of September 1634 the ship t’ Wapen van Delft anchored in Kawachi, in order to transfer its burthen over to the yachts lying dormant in the bay of Kawachi (Couckebakker 1974a, p.181). Such transfers of cargo occurred on other occasions as well.
Kawachi bay on the other hand, proved to be a more suitable roadstead than Hirado. Hagenaer explained it had “a wide Bay, good ground, and the inlet is reasonably covered” (Hagenaer 1726, p.115). Thus, in most cases, ships returned to Kawachi after their cargo was unloaded at the trade post in Hirado. Various diary entries made by the Dutch as well as the English however, show typhoons inflicted a lot of damage on ships within Kawachi bay as well. In a report written in 1617, Specx wrote to Director-General Coen that the *Hollantsche Leeuw*, which had already suffered heavy weathering in the Asiatic waters, had finally foundered in a typhoon. Deemed unfit for repair, it was demolished ashore. Up until 1639, the Dutch suffered the loss of another four shipwrecks\(^{70}\) at Kawachi bay due to typhoons.

In most cases, these ships had sailed through Asiatic waters for over several years. Most ships that wrecked in Kawachi were already dilapidated when a typhoon dealt the final blow. After the damage was done, they were taken ashore and dismantled for scrap (Mulder 1985, p.66, 91). What happened with the scrapped parts is only partially clear. Director-General Coen for one requested the scraps belonging to the *Hollantsche Leeuw* and presumably the *Roode Leeuw* to be sent back to Jakatra (present day Jakarta).

![Figure 39 - An anchor found in 1782 in Kawachi bay, as on display in the Oranda Shōkan.](image)

In several reports\(^ {71}\), accounts were given of anchors lost within Kawachi bay due to these same storms. As of yet, two anchors of western produce were found and are thought to belong to the Dutch ships. The first was found in 1782 and identified by the contemporary

\(^{70}\) The *Maen* and *Hondt* in 1622 (Cocks 1883b, p.336), the *Vreede* in 1631 (Mulder 1985, p.177), the *Gallias* in 1639 (Caron 1981, p.139).

\(^{71}\) In 1639 for instance, the ship *Breda* lost two of its anchors during foul weather on the night of August into September (Couckebakker 1977, p.122).
Dutch chief of Dejima, Isaac Titsingh\textsuperscript{72}, as a Dutch anchor. This anchor is displayed in the Oranda Shōkan museum, at the former Dutch grounds, as shown in figure 39. The second was found in 1952 and is displayed out in the open, protected only by a small roofing, just outside the Hirado Municipality Office (HBE, n.d.; see figure 40 below).

![Image](image_url)

**Figure 40** - The smaller, heavily eroded anchor on the right was found in Hirado harbour. The larger anchor in the middle was found in Kawachi. The Chinese stone anchor on the left was found in a harbour on the southern tip of Hirado Island. In-photo: the blue dot represents the current location of these anchors, in front of the Hirado Municipality building.

**Then why Hirado?**

If Hirado harbour had such an unsuitable roadstead for the VOC vessels, then why did they choose Hirado in the first place and why did they stay? Fortunately, scholars have already tried to answer the question as to why the Dutch chose Hirado in the first place. For one, from analysis of primary sources it is evident that Matsuura Shigenobu, daimyo of Hirado during the time the *Liefde* had wrecked, put in a great effort in setting up the first trade deal between the Japanese and the Dutch survivors of the aforesaid shipwreck. Although the Dutch knew Nagasaki had a better trade potential, the fact that their archenemy, the Portuguese, occupied the city forced the Dutch to seek another haven. A third reason is said to have been the presence of Li Dan, a Chinese pirate merchant who resided in Hirado. The Dutch wanted to enter trade with China through Li Dan and his consorts (Blussé, n.d.).

Still, even Kawachi, a few miles south of Hirado had the better roadstead (Hagenaer 1726, p.115). The merchants of Hirado as well as the Matsuura however were already settled in Hirado, while according to Hagenaer, Kawachi was full of ‘villainous

\textsuperscript{72} 1745-1812
people’. Thus the Dutch kept close to the heart of trade in Hirado. What is more, as the Matsuura were the local authority, they most likely wanted to keep a close eye on the Dutch.

Remarkably, when the English and Dutch started to use Kawachi harbour more frequently during their cooperation under the name ‘Fleet of Defence’, Kawachi suddenly became more popular as “the king [daimyo of Hirado] having geven order, as they say, to erect above 200 new howses to putt inhabitantes into.” (Cocks 1883b, p.155). In 1637, Hagenaer (1726, p.115) claimed that although Kawachi was still not much of a town, the populace had been doubled since the Dutch had arrived. Because Kawachi was such an important transit point, the Dutch and English quickly installed huts in order to have a permanent base here. And when they settled, merchants and others looking for business followed in settling at Kawachi. This phenomenon within a maritime infrastructure is recognized by Westerdahl (2004) in the European context, as around such transit points certain structures are often built, allowing for (maritime) businesses to make a profit of the ships that prepare for a transfer towards another transport zone or merely drop their load off ashore. The same phenomenon can thus be seen in case of Kawachi, where businesses followed the business.

3.7.4 Ships, shipbuilding & repairing facilities
In order to deduce whether the Dutch adapted their means of transport within Hirado, an analysis of different transport methods is presented below.

On their lengthy voyages towards Japan, the Dutch embarked on various kinds of ships. An important type of vessel that sailed towards Japan, was the schip type. These were mainly built to carry large amounts of cargo, as they by far the largest vessels in service of the VOC (Mulder 1985, p.31; Parthesius 2010, p.71). It had average dimensions of 38m in length, 8.8m in width and 3.8m in draft, while it had a carrying capacity of approximately 300 last73 (Mulder 1985, p.31). After 1629 these vessels were used as so called homeward-bounders to shuttle between the Netherlands and Asian destinations, instead of short voyages within the East itself (Mulder 1985, p.31).

In the initial years of trade with Japan, a well mentioned vessel was the jacht. What these vessels lacked in size compared to the larger schip type, they compensated in speed and manoeuvrability. Fit for only a small amount of cargo, they were often used as scouts to sail ahead of the fleet in order to spot possible dangers ahead. Due to a relatively shallow draft and good sailing qualities, they could easily be fitted out as message carriers or for

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73 One last is approximately 3.24m³, two tons equals one last.
military purposes (Mulder 1985, pp.29-31; Parthesius 2010, pp.73-74). These vessels had a capacity ranging between 20 to 170 last. The average dimensions were 23m in length, 5.6m in width and 2.2m in depth (Mulder 1985, pp.29-31).

Another type was the fluyt, which averaged a 30m in length, 6.7m in width and a cargo hold of 2.7m deep (Parthesius 2010, p.86). Although this type of vessel had already been sliding of the Dutch shipyards before the 1600s (Bruijn et al. 1987, p.40), it only came in service of the Compagnie after 1615 (Mulder 1985, p.31; Parthesius 2010, p.84). The fluyt turned out to have many advantages. For one, it had a rounded hull shape, making it suitable for carrying Asian bulk wares such as rice, wheat and pepper (Bruijn et al. 1987, p.40). Furthermore, it had an average capacity of 200 lasts and despite its reasonable size, it had great sailing capabilities (Mulder 1985, p.31). Moreover, it was cheap to build and easy to maintain. Another advantage was that it could be manned by a relatively small crew (Parthesius 2010, p.84). Due to its pragmatic use in all aforesaid dimensions it became a standard vessel in Asian waters. Once the fluyt became permanently part of the Asian fleet, the aforementioned schip types were then growingly used as homeward-bounders (Mulder 1985, p.31).

During the early years of the Dutch trade post in Japan, the yacht was more present as it could be deployed as a military vessel as well. This was a politically driven and deliberate choice made by the VOC to answer to potential threats and execute raids on Portuguese and Chinese price ships carrying trade bulks. After the 1630s, when the anti-Christian edicts simultaneously diminished the Portuguese trade on Japan by the year, there was no longer need for military equipped vessels. As there was no longer need for military vessels, the fluyt soon made regular stops in Japan (Parthesius 2010, p.85). The record of ships that called in at Hirado indeed shows that slowly but surely the fluyt took over, as it was deployed on many voyages towards Japan (Mulder, 1985). The predominance of the fluyt in general can be explained by the fact that it was employable in almost every situation and therefore sent towards many destinations in the maritime network of the VOC.

According to Parthesius (2010, p.99), the VOC ships deployed in Asiatic waters were generally rigged according to European standards, as sailing on the Asian winds did not require adjustments in the prefixed rigging. Weather conditions were however strikingly different as especially during the winter season, typhoons regularly ran their course, inflicting a lot of damage to ships along the way, as will be explained further below.
3.7.4.1 Chinese and Japanese vessel types

While the above section on Dutch ships showed the VOC ship types deployed in Japan did not differ that much from the deployment of ships towards other destinations, the Dutch did use Asian and specific Japanese vessels at Hirado.

One typical Chinese vessel was a *jonck* or junk. From the archival records it is evident that the VOC sometimes chartered a Chinese junk to sail to Couchin China and other places. At some point the VOC even bought one or two of their own. Jan Joosten van Lodensteijn, a freeman and one of the survivors of the shipwrecked *Liefde*, owned several junks of which one was the *Goede Fortuna*; a Siamese junk that was chartered several times to trade on behalf of the VOC elsewhere. With a capacity of approximately 150 *lasts* or 300 tons, it apparently was a product of Chinese shipbuilding tradition with European influences in its construction, as its mizzen mast for instance carried a topsail in European-style (Blussé, n.d.).

*Hayafune and kobaya*

A ship could rarely enter the harbour of Hirado on its own, thus they were towed in by many boats as aforementioned. Apart from Japanese boats and English boats (when they were still in Hirado), the Dutch also used their own boats. Cocks mentioned on several occasions the use of the ‘Dutch’ *foyfone* (Cocks 1883a, p.82, p.348), while the Dutch diaries often mentioned the use of a *pheijphone*, which the transcribers of the diaries reckon a Dutch corruption of the Japanese *hayafune*: “At the break of dawn, the honourable President [opperhoofd] left with the Logie *pheijphone* [hayafune] and sculled towards Kawachi to pick up the ship that arrived there earlier, in order to bring her to Firdando” 10 July 1638 (Couckebakker, 1977). Another Japanese vessel in service of the VOC was the smaller kobaya, often mentioned as the ‘Logie coebaij’. From a diary entry in 1639 it becomes clear that chief Caron and second Abraham Lucas took the Company’s kobaya to Nagasaki.

In actuality, a *hayafune* or swift boat was rather a general term for any Japanese vessel that was engaged in official purposes, scout dispatches and fighting. A *kobaya* was in fact merely a term for a small, open-decked ‘swift boat’, manned by an even number of oarsmen ranging between 10 to 38 with equal the amount of oars. A *sekibune* proper on the other hand was a larger ‘swift boat’ with above 40 oarsmen, topped with a roof (Turnbull

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74 (c. 1560 – 1623)
75 The VOC trade post was often simply referred to as the (Comp.es) Logie or (Company’s) Lodge.
2000, pp.52-55). It remains a question whether the Dutch and English knew the distinction, as it could be that they saw these two vessels as specific types of boats.

What is certain is that both vessels were propelled by oars, which were according to first hand Dutch sources built in such a way that it reminded them of sculling, rather than rowing. Since both vessels were propelled by oars and were thus less reliable on winds, these vessels could indeed be quickly dispatched as rowing would come in handy when facing strong currents in Japanese waters. The Dutch were therefore keen to adopt these vessels as their own, using them as messenger boats in between Kawachi and Hirado, or to scout for and fetch sighted ships. Occasionally they were used to fair to Nagasaki and other places. This means the VOC assessed the possible difficulties within the natural environment, such as the harsh winds and strong currents in between Hirado and Kawachi, and found ways to adapt to the natural surroundings by adopting indigenous vessel types. In the process they acquired the necessary skill to drive these kind of vessels that were at first alien to them.

3.7.2.2 Careening, cleaning and ship maintenance at Hirado

Although the rigging and main construction of ships did not require specific adjustments once the vessels were operational in Asiatic water, adjustments did have to be made to on the outer surface of the hulls of ships.

As vessels were transferred from the relatively cold European seas into the Asian tropical waters, the warmth of the sea easily wore out the oaken wood, evoking rot and the growth of barnacles under the hulls of ships. Excessive growth of barnacles on the hulls could notably slow vessels of all sizes down. The hulls thus had to be cleaned on a regular basis (Parthesius 2010, pp.102-105). In order to achieve this, vessels were either beached or careened in order to scrape off barnacles growing on the hulls. When a ship was careened, it was first made light by removing most of its cargo and ballast and then it was pulled on its side, either by help of another vessel or by a construction on the quayside. Careening jobs usually transpired in shallow waters influenced by the tides, for when at a lower tide, the lowest parts of the hull would become visible, making it easier to perform maintenance jobs (Parthesius 2010, p.104).

Besides barnacles, the hulls of ships were heavily pestered by the Terreda navalis or shipworm (Parthesius 2010, p.102). In 1614 for instance, Jacques Specx wrote to

76 A barnacle or cirripede is a predominantly marine crustacean, related to the crabs. These are parasites clinging on to marine life forms, rocks or in this case marine vessels.
77 In reality, the shipworm is not a worm, but rather a molluse (Didžiulis, 2011).
Director-General Jan Pieterszoon Coen that he was awestruck by the destructive force of the shipworm in Asian waters (Coolhaas 1952, p.16). He concluded that the yacht Jacatra was already in need of repairs and new sheathing, despite the fact that only eight months earlier it had been thoroughly repaired and sheathed at Jakarta (Coolhaas 1952, p.16). No wonder Specx was surprised, for in the colder European waters, conditions are less suitable for shipworm (Didžiulis, 2011). Back home, the shipworm was thus less active and in smaller numbers. Due to the fact that the VOC vessels operated for over several years in the moist and shipworm-infested Asian waters, vessels needed to be repaired and doubled several times a year (Parthesius, 2010).

From early on, the VOC started experimenting with several innovations to repel the shipworm’s destructive hunger (Parthesius 2010, p.102). As it turned out, sheathing the hull with a double layer of thin boards, combined with a layer of hair drenched in pitch proved most successful against shipworm attacks. The first layer of boards was mostly of oaken wood, while the outer layer was finished with pine (Parthesius 2010, pp.103-104). These specific adjustments were mostly executed before a vessel set sail towards the East. Entering the Asiatic waters thus meant entering a new transport zone, though it is hard to tell where the ‘line’ of such a transport zone is crossed.

Figure 41 - Kawachi bay. The orange dot represents the Dutch water well and the location of the former Dutch quay.
Suitable locations for repairs and services within Hirado

After about a year, depending on the quality of the materials used and the works carried out, the hulls had to be re-sheathed. The regular need for scraping and burning off barnacles while in Asiatic waters, required for good facilities to execute all these labour intensive operations. Luckily, these facilities could be found in Japan, for apparently, vessels could be maintained at Kawachi. Besides being a safe-haven for large ships, Kawachi was frequently used to careen, bream and repair ships at. In order to maintain the ships, there were several facilities installed to make sure that the required repairs and maintenance could be fulfilled.

The first notable structure that was installed was constructed in the year 1621. For Richard Cocks wrote that the Dutch had ordered the Japanese to build a quay of approximately 60m in length, 14.50m deep at one end, while 11m at the other end, with a width of 3.60m (Cocks 1883b, p.155, 158), while at least in 1635 it featured a staircase (Couckebakker 1974a, p.283).

Other facilities were installed as well, as there was a courtyard with a warehouse and a carpenters’ house, in which timber for shipbuilding and other constructions was produced and stored (Caron 1981, p.275; Horikawa, 2009). Today a water well similar to those in Hirado can still be found at Kawachi, though archaeological surveys conducted so far have not revealed much (Hagiwara and Katō 2002, p.146). Evidently, the Dutch had altered the maritime landscape to their desire, installing the necessary facilities for ship maintenance and repairs.

While Kawachi is most frequently mentioned by several researchers as the place to repair and clean the Dutch ships at (Mulder, 1985; Blussé, n.d.), some Dutch and English diary entries shed new light on Hirado harbour’s uses, as these entries explain the back side of Hirado harbour was used to sheathe, bream and careen vessel with a lower mean draft, capable of entering the more shallow waters of the Hirado back port (Cocks 1883a, p.62; 1883b, p.146; Couckebakker 1974a, pp.202-203).

78 Multiple Dutch diary entries link Kawachi to beaching, breaming, careening of ships. See for instance Couckebakker (1974a, p.196).
79 Cocks measured in what he called tatta., an abbreviation of tatamis. A tatami is a Japanese mat, which has fixed dimensions of 6 by 3 Japanese feet. Cocks probably used the length measured in a tatami, which is 6¼ feet (Cocks 1883a, p.46). See more on measurements in Appendix I.
According to an old sketch portraying Hirado in 1621 (Appendix III), the English house stood close to the end of the bay. The same back area can be seen in a map of Hirado in 1792 (figure 42). A Dutch skipper described the same area in his reports as a shallow ‘back pond’ (Hagenaer 1646; 1726), which ran dry with every tide. This characteristic was perhaps a disadvantage for keeping large vessels in that part of the harbour, yet it must have proven ideal for careening and beaching smaller ships, as large differences in tidal ranges would have made it easy for workmen to reach the lower parts of the ships during low tide, allowing the ships to sail back to the roadstead at high tide.

The back area of the harbour today is called Tsukiji-chō⁸⁰ (figure 43), which literally means ‘built earth district’. This is a cognitive reminder that the former back area was once water and is now reclaimed.

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⁸⁰築地町
This proves that the area that is now Tsukiji-chō functioned as a place to trim and careen junks and other ships with a lower mean draft than the larger fluyts and ships. It goes to show that the Dutch, as well as the English in this case, used a seemingly disadvantage to their advantage, by which they thus adapted to the natural environment.

3.7.5 Maritime resources

From the earliest records of correspondences, the Dutch wrote about the ‘fantastic and durable’ state of the ship lumber available in Japan. In 1616 chief Specx wrote that the Dutch had access to quality plum and oaken wood, fit to produce “planks, ribs, beams, knees etc.” by which ships could easily be repaired and sheathed (Coolhaas 1952, pp.191-192).

Consequently, myriad ships from all over the VOC network were doubled and repaired at Hirado on various occasions (Mulder 1985; Parthesius, 2010). For details on available materials in Japan, a particular informative example is given in what Specx called the rejuvenation of a ship named the Oude Zonne (Coolhaas, 1952) by which the availability and unavailability of resources, the origins of resources and their uses will be discussed further below.

3.7.3.1 Timber

Suitable timber within Japan was thus widely available. More than once, ships were sheathed as if they had just slipped off the shipyards back home (Coolhaas 1952, pp.310-311). Financial records on ship repairs at Hirado after the 1620s indeed show that with every repair came the necessary ‘verdubbelingen’ or sheathing jobs. For these jobs, they hired Japanese ship carpenters whom were apparently paid in Japanese shoes and gowns (kimono), as these products are mentioned on various lists representing repair jobs on vessels.

It remains a mystery how the Japanese shipwrights acquired the necessary knowledge and skill in applying new sheathing and repairs on these foreign vessels. Perhaps the answer lies in the influence induced by William Adams and a handful survivors of the shipwrecked Liefde, who built at least two European-style ships for Tokugawa Ieyasu, of which the first was an eighty ton vessel said to be a smaller copy of the galleon the Liefde (Arima 1964, pp.353-354; Wieder 1925, p.22).

81 These ships were however not always so welcome. In the year 1621, chief Lenaert Camps complained on the 15th of October in a letter to Batavia that the Nieuw Seelant had arrived in Hirado without a proper cargo and apparently had only been sent to be repaired and doubled. Fearing the arrival of more ships in need of repairs with little cargo to compensate for the costs, Camps therefore requested Batavia not to send any more of these ‘wonderful’ ships from afar without a proper shipload (Coolhaas 1952, p. 804).
Although it would be too much honour to ascribe all the influence on Japanese shipbuilding in Western-style to Adams and his unknown Dutch companions, they must have left an important basis. The Dutch diaries kept by the heads of the Hirado Factory however mention that Dutch ships were boarded on various, separate occasions by an equally variety of daimyo who each brought with a delegacy that took up measurements of vessels, inquired about rigging and asked for demonstrations of navigation and more\textsuperscript{82}. These types of inquiries continued during the Dutch stay on Dejima, Nagasaki. It shows the Japanese were thus keen on learning these foreign products of state of the art technology. It would be interesting to see if more can be revealed by further investigating the roles of both Adams’ and the Dutch in diffusing shipbuilding techniques and other related topics such as navigation.

Oak and pine were the most frequently used wood species. On the origins of these wood types we first take a look at the English record, for they kept a close record on where they gathered their materials from, as well as keeping a close eye on the Dutch choices on resource markets. On one occasion Cocks penned down that the Dutch bought wood via a Japanese from Satsuma, as the daimyo of Satsuma was not on friendly terms with the Dutch (Cocks 1883b, p.55). The English for instance received their timber generally from Fingo (Higo), Langasaque (Nagasaki), Umbra (Omura), Miyako, the Goto Islands and even as far as Osaka (Cocks 1883b, p.161). Regarding available shipbuilding timber, Specx made clear the Dutch had nothing to complain about (see figure 44).

\textit{Naval sawmill at Furutachi}

According to several diary entries, the Dutch had a timber and iron-ware storage at a place the Dutch called fortatie (Le Maire 1984, p.49), which the Hirado Board of Education have found to be Furutachi\textsuperscript{83}. According to their research, the Dutch had installed a sawmill and a timber storage. This seems about right, as Cocks reported in 1616 that the Dutch had installed a storagehouse one mile off of Hirado, \textit{“to buld shiping and put tymber in”} (Cocks 1883a, p.138). Although Furutachi must have been the location of this sawmill, this has not yet been confirmed by archaeological excavations in that area (Hagiwara and Katō 2002, p.146), as it must have been made out of wood, which is hard to discern in ground layers if

\textsuperscript{82} At least three times during Couckebakker’s period as Chief factor (Couckebakker 1974a, pp.244-245; Couckebakker 1974b, p.129; Couckebakker 1977, p.101), while the same happened in later periods.

\textsuperscript{83} 古館
traces survived at all. The dimensions of this sawmill are however known, for it had a length of 35.4m, a width of 10.1m and a height of 3.3m (Katō 2012, p.158).

One vessel that is most certainly built in Hirado is a junk of 250 to 300 last called Firando (Nachod 1897, p.555; Mulder 1985, p.274). Another vessel, a yacht called the Jacatra, had such a low deck that the carpenters and skippers decided to raise the deck high enough for a man to be able to stand up straight in the cargo hold below (Coolhaas 1952, p.15); an important improvement in terms of transport and weight capacity.

This and the above mentioned example of the Oude Zonne means the Dutch had all the necessary facilities available at Hirado to perform radical overhauls of ships, as well as they had access to material and knowledge to build vessels from scratch. This would in part also explain why so many ships were sent to be repaired and altered at Hirado. A comparison between ship repair facilities in the entire VOC network would however allow a more precise answer on this matter.

Figure 44 - Timber resource landscape. The orange dot is the Dutch trade post at Hirado. The green triangles represent locations where ship building lumber was fetched from.
3.7.3.2 Acquiring Cables

Not all materials were available however. In ‘rejuvenating’ the Oude Zonne, the Dutch found it required new cables as well and they had therefore produced their own ropes\(^\text{84}\). In the process, they found the price for hemp to be too expensive. During the repair of the Oude Zonne another problem was encountered. The ropes which the Dutch felt they so expensively had produced could not be coated with tar as there was no tar available\(^\text{85}\) (Coolhaas 1952, p.311). A real inconvenience, for tar was a necessity to improve the durability and therefore the quality of ropes.

In effort of trying to work around these inconveniences, the VOC installed a ropeyard in 1620 (Coolhaas 1952, p.502), which was located on a small islet called Yokoshima; a small islet 4km from Hirado (see figure 45). As it turned out, the quality of the cables produced\(^\text{86}\) with Japanese hemp at the new rope yard surpassed the quality of Dutch domestic cables. Tar was however still absent (Coolhaas 1952, p.502). In order to substitute tar, Specx explained the Dutch therefore tried to create pitch\(^\text{87}\) out of Japanese arpeuijs and liver-train to impregnate the ropes, in the hope it would prove a useful substitute (Coolhaas 1952, p.502).

The first experiments in greasing the ropes with this mix of resin and liver-train however failed (Coolhaas 1952, p.502). Although Specx does not explicitly state why, he does mention that the liver-train caused the experiment to fail. Despite the apparent failure in this first experiment, the financial accounts of the VOC kept since the 1620s, show various lists of expenses on repairs and maintenance on ships which include costs on aerpuis and traen. This suggests that tar could still not be supplied and the Dutch thus had to continue to use these products as a substitute. Furthermore, it thus shows that the Dutch could harness the flexibility to adapt to the resource landscape and shift to using available

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\(^{84}\) How they produced these ropes is not mentioned. In 1620, the English for instance made ropes in the streets of Hirado (Farrington 1991a, p.786), perhaps the Dutch had made these ropes in an equal manner.

\(^{85}\) As early as 1613, William Adams already reported that Japanese tar was none existent (Farrington 1991a, p.107).

\(^{86}\) According to Specx, Japanese labourers were employed for spinning of hemp in yarns; the first step in readying the hemp to be worked for proper rope-making. Next, the Dutch used the spun hemp yarns to produce ropes in the rope yard (Coolhaas 1952, p.502), indicating the Dutch and Japanese cooperated on more levels than mere trade.

\(^{87}\) In old times, arpeuijs or harpuys had different connotations (INL, 2010). In a general sense, harpuys stood for ‘some kind’ of resin. However, the same word was also used for a substance of boiled linseed oil mixed with tree resin. Which specific understanding Specx had of the word harpuys is hard to interpret, though as he mentions it was mixed with traen or liver-train, it is more likely that Japanese arpeuijs was rather tree resin from a Japanese pine. Liver-train on the other hand was generally derived from whale.
materials, rather than that they had to wait on made-ready cables or barrels of tar from one of the VOC’s other locations in the Indies.

Unfortunately, none of the consulted Dutch sources give away clues on the origins of Japanese resin or harpuys and liver-train, only on the people the Dutch bought them from. Japanese pine trees from which the resin could be derived however were most likely widely available, while Ikitsuki Shima, an Island approximately 12kms west of Hirado Shima, had a whaling industry from which the liver-train could have been harvested. The English however give more exact details as they note they received their resin from a Portuguese acquaintance called Jorge Durões who resided in Nagasaki (Farrington 1991b, 1627).

Rope yard
Several entries in the financial journals of the years 1620-1623 provide details on the dimensions and location of this rope yard. The first rope yard was estimated to be 75 vadem in length, and 3 vadem in width, which is approximately 135m by 5.5m. It burned down however in 1621, while a second was built soon after that same year.

Figure 45 - Yokoshima island as marked by the orange dot. The rope-yards presumably stood on the east side of the islet.

Yokoshima, the islet on which the rope yards stood, has a surface of approximately 2km². In the Dutch records it is often referred to as the Compes eijlant, which is an abbreviation for ‘Company’s Island’, as it was owned by the VOC. Although it is uncertain when the islet was granted to the VOC, already in 1616 Richard Cocks (1883a, p.121) mentioned the Dutch owned an island.
In order to retrieve its former location, several excavations have been carried out between 2009 to 2011 (Katō 2012, p.155). The first two excavations in 2009 and 2010 did not reveal much, though researchers did discover a dike construction made of basaltic rock, presumably dating to the first half of the 17th century (Katō 2012, p.155). The excavations on the eastern side of the islet in 2011 revealed several ground layers containing early 17th century Chinese porcelain shards, by which the researchers suspect this must have been the location where once the Dutch rope yards stood (Katō 2012, p.155). New excavations were carried out in 2013, but the results have yet to be published.

3.7.3.3 Nails and iron works
The origins of nails and other iron products could not be located, though Melchior van Santvoort who lived in Nagasaki delivered nails for the English and must have done the same for the Dutch. Willem Versteegen, an VOC employee, had a permanent residency88 in Nagasaki and played a similar role.

From several entries in the Dutch diaries, it is certain the Dutch had a place to cast mortars and pulley blocks. In discussing the former Dutch remains at Hirado, opperhoofd Le Maire mentioned the VOC had a smithy at Shirahama, while according to Cocks, the first ordnance moulded by the Dutch was finished in 1615 (Cocks 1883a, p.34) Today, Shirahama is part of Hirado-city and is a small, partially reclaimed harbour. During talks with local historians, it became clear that the location has not yet been found. A former iron smithing location can be identified by the appearance of iron slag in ground layers. Semi-finished casting products and other iron-related material can be expected at such a place.

Through this smithy at Shirahama, the Dutch introduced the Japanese to their own style of mortars, known as bassen89, halve kartouwen and other military hardware. For a good review on the Dutch endeavours in casting mortars and other military pieces, please refer to works by Boxer (1950, pp.24-43) and Mulder (1985, pp.65-68).

3.7.3.4 Victuals
According to Specx’ reports, as analysed by Mulder, Japan could not only serve good quality shipbuilding materials, but good quality and quantities of victuals as well. Products such as rice, meat (beef) and fish could be acquired at relative low costs (Mulder 1985, pp.15-16, p.36, p.73). On several occasions, Director-General Coen requested victuals, especially rice, (Clulow 2010, pp.9-10) to be send over to Batavia. Food was produced

88 In fact, Versteegen held an affiliate shop displaying examples of the wares the Dutch had for sale over in Hirado (Mulder 1985, p.183).
89 Small, military guns crafted out of copper, usually installed on the sides of a ship (Talens 1999, p.103).
locally and even though these victuals were predominantly provided by the Japanese, the Dutch started to produce victuals on their own behalf. Yokoshima, was used as a meadow for keeping geese, sheep, horses, cows, quail, pheasant and pigeons. The Dutch at Hirado thus had all the necessities to live their daily life in relative comfort, while being able to maintain their own food supply as well as that they were able to call on locals to replenish reserves when empty.

3.8 Case Study I: Summary and Implications
What the case study of the maritime cultural landscape of Hirado city and its surrounding area has shown is that various physical and cognitive traces reminding of foreign maritime trade have survived on to this day. Partially, these remains can be linked to the former presence of Chinese, Portuguese and English marine tradesmen, yet a large part of the cognitive and physical remnants of foreign trade can be linked to the Dutch.

Throughout their stay in Hirado and its surrounding area (figure 46), the Dutch have left several structures behind. Over the years, these structures have been incorporated in the local urbanity and infrastructure, while a cognitive imprint was left behind in the hearts and minds of the local people. The physical remains range from water wells to wall structures, from a staircase and a quay that still has its purpose today, to house foundations preserved in situ underground. At other locations such as at Kawachi stands another water well, while Yokoshima still bears a dike construction.

Cognitive, immaterial remnants are represented in the form of place names such as Orankawa or the ‘Dutch river’, describing the water wells formerly owned by the Dutch or for instance the local legend of the supposed Dutch stones used in building the Saiwai-bashi and of course the agency attributed to a key stone of a former VOC building.

The Dutch remnants are thus strongly represented by a mosaic of physical as well as immaterial remains, showing the Dutch have left a sensible impact on the maritime cultural landscape of Hirado and its community that is evident on to this day.

A mix of tradition, techniques and culture
Archaeological excavations and desk research have shed light on the cultural hybridity of the former Dutch structures, which were predominantly built with local and regional, even interregional materials, whilst in constructing the structures it proved that combinations of Dutch and Japanese construction methods and techniques were used. When Dutch methods
were introduced, these were used in complimenting Japanese techniques. This shows the Dutch valued the quality of Japanese materials and were well aware of what they could acquire within the resource landscape of Japan. Only brick and glass had to be imported from locations outside Japan.

The Dutch knowledge and use of the maritime infrastructure of 17th century Hirado

As the above case study has shown, the VOC was allowed to install maritime facilities on several locations that fall within a close range radius of approximately 6km. The facilities vary from quays to lookouts, from rope yards to warehouses.

Concerning essentials in shipbuilding and maintenance materials, Hirado and its surrounding region proved to provide almost every necessary item. From the source analysis in this paper, it became clear that the Dutch obtained an impressive knowledge on the availability and usability of materials within the regional resource landscape of Hirado. Shipbuilding timber, such as oak and pine, was widely available and could be acquired at a good price, while the quality of Japanese wood and the skill of labourers inclined the Dutch to bombard Hirado and Kawachi as one of the more important localities for ship maintenance within their Asian network, as proven by the numerous repairs and sometimes even complete makeovers of vessels that were taken in cooperative care of the Dutch and Japanese shipwrights.

Even experiments were carried out in the example of the efforts in trying to substitute tar with a mix of liver-train and Japanese harpuys or resin. This proves the Dutch were capable to adjust to the availability of local and regional resource material and were not afraid to experiment with these kinds of indigenous products and techniques.

In adapting to the local maritime infrastructure, they weighed advantages against disadvantages and decided to use the Hirado roadstead mostly for loading and unloading vessels at the Dutch trade post, while Kawachi bay was used as a shelter for larger ships. Japanese vessels were adopted for use in between Hirado harbour and Kawachi bay. Furthermore, Hirado harbour did prove useful for careening against other ships, while its cylindrical pond at the end of the harbour in turn proved useful for beaching junks, jachts and boats to perform maintenance jobs.

As was the case with the construction of the buildings and other structures, the VOC also hired Japanese labourers in shipbuilding, repair and maintenance jobs. This indicates that the expertise and skills of the Japanese labourers were to the liking of the Dutch. At the same time, it shows how a foreign maritime trade colony or enclave if you
will, were accepted as an employer and were thus able to hire local labour, reflecting a good social relationship or at least a mutual understanding.

Figure 46 - Overview of locations bearing remnants of the VOC at Hirado.

During their stay in Hirado, the VOC thus blended in and neatly adapted to the natural and cultural environment. At the same time, the Japanese allowed the Dutch to freely dwell within the limits of the waterfront zone, installing all kinds of facilities necessary to maintain and expand their trade post in Hirado Japan, though in the mean time they were clearly kept from setting firm foot within the coastal and inland zones. The Dutch position at Hirado during the years 1609-1641 can thus be viewed as a colonial, maritime trade enclave installed within the local maritime cultural landscape of Hirado.

Until in the year 1641, these privileges abruptly came to an end, when the shogunate ordered the take down of most of the Dutch structures within Hirado, but more on this in the next chapter.
4 Case study II: Nagasaki

This chapter follows the Dutch from Hirado to Nagasaki, into their new situation on Dejima. Much like the preceding chapter, this chapter starts with a brief description of the modern day research area, in this case Nagasaki. This is followed by a second paragraph starting with a discussion on local history and its remnants, superseded by the earliest arrival of the Portuguese and Chinese during the second half of the 16th century, focusing on foreign exploits and instalments within the local maritime landscape. The third paragraph presents the Dutch arrival in Nagasaki, as well as a discussion on dominant sailing routes, a description of the harbour conditions, a description of Dejima and its facilities, along with other landmarks and locations within the Nagasaki landscape that were of importance to the Dutch. At all times, modern day situations are used to address the survival of maritime heritage within the present-day Nagasaki maritime landscape.

4.1 General introduction to Nagasaki

Nagasaki is situated at the south-western tip of mainland Kyūshū and it is one of Japan’s largest port cities. It is the capital city of Nagasaki-prefecture and counts up to nearly 450,000 inhabitants. It covers a total area of 406.35 square km, giving a population density of approximately 1,000 persons per square km. Mountainous, andesite hills from a valley around a wide-stretched harbour which is accessed through a fairway in the south (Kodansha, 1998; Frédéric, 2002).

Nagasaki’s core city is built on the slopes of the surrounding hills, reaching all the way down to the waterfront. Reclaimed parts within the harbour were built to attribute the city’s growth. In particular through developments at the start of the Meiji period, the fundamentals were formed on which the city’s future industries were built. The city today mainly thrives on maritime industry (see figure 47), dominated by Mitsubishi Heavy Industries90 which amongst other products produces modern freighters and passenger cruise ships (Kodansha, 1998; Frédéric, 2002).

A dark milestone within human history transpired at the end of World War II when Nagasaki got hit by a nuclear bomb dropped from a US B-52 bomber. It exploded within Urakami valley, where today the 60 to 80,000 victims are still remembered by the Nagasaki Peace Park built around ground zero. The blast of the atom-bomb destroyed up to 40 percent of the city, but due to the mountainous environment in which the bomb went off, older parts

90 Part of the Mitsubishi Group.
of the city survived the nuclear blast (Atomic Bomb Disease Institute, n.d.). The city has been rebuilt ever since.

The research area of this case study is mainly situated on the western and eastern banks south of ground zero, where the first six machi\textsuperscript{91} or quarters of Nagasaki were once built and would grow out to become the city it is today.

![Figure 47 - Today’s harbour industry. Areas marked in blue are ship building industries (Nagasaki Coast Guard, 2012).](image)

### 4.1.1 Japanese cultural heritage and remnants

Most of the city’s history evolved around foreign maritime trade, with the sakokujidai\textsuperscript{92} as one of its most remarkable periods. During this era, the Dutch held a trade post on a small artificial island situated at the city’s waterfront. This little island had become the one and only corridor between Japan and the West. Part of local history has remained in tangible and intangible representations that have stand the test of time.

A striking example of this history is captured in the Nagasaki Kunchi\textsuperscript{93} festival (NTIC, 2013a). This annual festival takes place in between the 7\textsuperscript{th} and 9\textsuperscript{th} of October.

\textsuperscript{91} Shimabara-machi, Omura-machi, Hokaura-machi, Hirado-machi, Bunchi-machi and Yokoseura-machi.

\textsuperscript{92} ‘Closed country’ period (1639–1853), see page 11 of this paper.

\textsuperscript{93} Kunchi is derived from Ku Nichi, or the 9\textsuperscript{th} day. In Japan, the 9\textsuperscript{th} day is traditionally a lucky day. Therefore, the festival was held annually on the 9\textsuperscript{th} day of the 9\textsuperscript{th} month. The festival is now held annually between the 7\textsuperscript{th} and 9\textsuperscript{th} of October.
Originally initiated in the year 1634 as an offering to the Suwa Shrine in honour of the kami that watches over the city, two aspects in particular commemorate the foreign history of Nagasaki. One aspect of the Nagasaki Kunchi, the *hikimono*, is a performance where boats on wheels are pushed through the streets. These boats are decorated to resemble Portuguese, Chinese and Dutch vessels. Another particular aspect is the *Oranda-manzai* introduced in 1933 (Nagasaki Minami High School, 2008), which is a dance and music choreography that commemorates the arrival of the Dutch, who are represented by men dressed in outfits that resemble Early Modern European fashion. The Dutch and foreign history of Nagasaki thus becomes convincingly vivid during the festival, combining both tangible and intangible aspects of history in the festivities, proving the long-lasting impact it had on the city’s inhabitants.

A particular intangible remnant is found in the place names of a street and a slope near the Kwassui Women’s College and Umegasaki Jr High School. At the end of the *sakoku* period, the port of Nagasaki was one of the first Japanese ports to be re-opened to foreigners. Soon after, foreigners from all over the world took residence in Nagasaki at the southeast side of the bay and as the indigenous inhabitants of Nagasaki had only known the Dutch for so long, they were not yet used to the idea of outlanders other than those from Holland. Thus, over the years, *Oranda-san* had become a synonym for these newcomers despite the fact that many in reality came from England and the United States (DBNL, 2011; NTIC, 2013b). These Westerners settled on the hills of the southeast bank of Nagasaki, where the area would become known as the *Oranda Dori* (Holland street) and a slope that led up on the hill as *Oranda-zaka*94 (Holland slope). Within the area, some houses built in Western-style are left standing, though the foreigners that once inhabited this area are long gone. The physical and cognitive remnants imprinted in the current landscape are however a silent reminder of their former presence. What is more, the ‘original’ *Oranda-san* who took up residence on Dejima evidently left their imprint as well.

Another interesting remnant related to Dutch-Japanese maritime heritage is the Shomudoji95 or Shomudo Temple96. For according to the Nagasaki Board of Education, priests at this temple handed out amulets “for the safety of Dutch sailors” (NBE, n.d.), as well as amulets for those in charge at Dejima, including interpreters. Japanese mariners could also acquire special amulets that allegedly contain the power to grant family

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94オランダ坂
95聖無動寺
96The location of the temple is displayed in figure 86 at the end of this chapter.
prosperity and protection at sea. This surely is an interesting example of agency through a temple and the amulets it distributed, yet unfortunately no further information could be consulted at the time.

Other remnants are well represented and numerous; too numerous to discuss all these here. Therefore this paper sticks to those remnants strongly linked to the maritime infrastructure.

4.2.1 Portuguese remnants: origins of Nagasaki

The origins of the city are strongly related to the first foreign arrivals. A modern monument overlooking the bay from a hill up north in the city commemorates the actions of Jesuit missionary priest Luis de Almeida, who was one of the first Portuguese to have set foot on the shores of Nagasaki in 1567 (see figure 48).

Figure 48 - A recent Portuguese-Japanese monument marks the former church grounds, as the church itself was demolished in 1614, while it was replaced by the Shuntokuji, a temple of the Zen Buddhist sect.

According to tradition, De Almeida arrived in Nagasaki when most of Japan was still in the midst of chaos due to the Warring States period. At the time, Nagasaki was no more than a small fishing village, situated at the promontory of a long cape. De Almeida knew Nagasaki bay had outstanding qualities compared to most other natural harbours within the region and consequently informed Portuguese traders of its existence. In 1569, the daimyo of Omura who controlled the region, was asked to build a harbour and within the course of the following year, six machi were constructed from scratch (see note 111 above). And thus in 1571, the first Portuguese merchant ship, along with a chartered Chinese vessel, arrived in the bay of Nagasaki (see figure 49). They landed at the tip of the long cape that

97 Sengokujidai (c.1467 – c.1573) a period when the Japanese Archipelago was engulfed in a civil war between rivalling daimyo, also known as the Warring States period.
inspired the city’s name. This place is presently marked by a monument, commemorating the start of the Nagasaki nanban-trade period (NBE, n.d.).

Figure 49 - Symbols marking the location of the Portuguese remnants within the landscape of Nagasaki. Scale of original map 1:5,000 (NBE, n.d.). In-photo: monument marking the Portuguese landing place.

### 4.2.1.1 Growth of Nagasaki and the exit of the Portuguese

Owing to the annual visits by the great trade ships from Macao and the numerous Chinese merchants that followed the Portuguese in their trail, Nagasaki gradually grew from a small fishing town to a steady, flourishing port city. When in 1580 Omura Sumitada granted the administrative rights of the city to the Jesuit missionaries, Nagasaki was henceforth under Portuguese control, converting many of the populace to Christianity while simultaneously building churches, monasteries and schools within the area (Boxer 1974, pp.100-101; Lidin 2002, p.179).

Although the Portuguese had already lost their administrative rights in 1587, over the years they still had a great influence and a certain autonomy over the city. In the decades that followed, anti-Christian and anti-foreign edicts were growingly implemented. While most Portuguese missionaries as well as Japanese Christians were either executed or forced

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98 Nagasaki literally means ‘long cape’.
99 ‘Southern barbarians’ (see p.49)
to leave the country, the presence of Portuguese merchants was still condoned (Boxer 1974, p.368).

In the year 1637 however, an uprising erupted at Shimabara, which was in part perceived as a Christian rebellion (Mulder 1985, pp.189-196; Goodman 2002, pp.14-15). After the Shimabara rebellion ended in 1638, the blame ended up on the plate of Christianity and as a consequence, contemporary shogun Tokugawa Iemitsu decided to ban all Portuguese from his realm in 1639.

The Dutch on the other hand, had infamously aided the shogunate’s forces with the bombardment of Shimabara by two of their flutes. Partially owing to their obedience when they were practically ordered to help crush the rebellion, the Dutch were allowed to stay (Mulder 1985, pp.189-196; Goodman 2002, p.15). However, after the construction of their new stone warehouses in Hirado, these warehouses apparently rather looked like strongholds instead of regular warehouses and were thus perceived as a threat (Paul 1984, p.44; Mulder 1985, p.204). In 1640, the shogunate then ordered the same houses to be taken down, under the pretext that the Dutch had ignored the anti-Christian edicts by inscribing a Christian calendar year into a key-stone in one of their stone warehouses. Contemporary president Caron chose to abide the order of Japanese authorities, as he agreed the VOC would take down the buildings. Alas, the Dutch trade at Hirado ended, while the Dutch had to move all their belongings to Dejima (Goodman 2002, pp.15-16). The exit of the Portuguese was complete.

### 4.2.1.2 Remnants

Dejima and what remains left of it will be discussed more thoroughly below, for practically all of the remnants found today at Dejima are strongly linked to the Dutch or later periods of Dejima.

Other typical remnants related to the maritime aspects of the Portuguese business in Nagasaki however remain unfortunately scarce. Most of the physical remnants, including archaeology, related to the Portuguese presence in Nagasaki, are represented by construction fundaments of churches (NPWHRPD, 2011). Yet all of these churches were abolished in

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100 It must be noted that this rebellion was started by non-Christian farmers who were starving after yet another failed harvest, while they still had to pay the same amount of tax paid out in rice and such. Christians, who were equally starving, joined the rebellion for the same cause. Yet their involvement in the turmoil made the shogunate believe it was a Christian rebellion, which would prove the oil thrown on the already vastly burning fire of the anti-Christian demeanor of the shogunate (Mulder 1985, pp.189-196).

101 As (Christian) historians and others have criticized such a move on their ‘fellow believers’.

102 As they had sent the fluyt the Rijp, as well as dropping 5 cannon ashore to set up a battery (Mulder 1985, pp.189-196).
1614 by order of the Tokugawa shogunate and only a few fundaments are left (Boxer 1974, p.317). Moreover, these churches fall beyond the scope of this research as it would be too much to include the Christian remains here.

However, one church, the *Santa Maria*, is worth mentioning, as this church apparently played a prominent role in navigating vessels towards the Nagasaki roadstead where they could anchor. For in a rutter written by a Portuguese pilot on entering Nagasaki harbour (Linschoten, 1596) it reads that skippers first had to navigate on a tree standing close to the church and once the captain saw from his ship that the top of the tree aligned with the highest point of the church, his ship would be at the right spot to anchor at 4.5 or 5 fathom of water (~8-9m). This church was thus an important feature in the cognitive, but more precisely, the navigational landscape. It stood at the tip of the promontory at the head of Nagasaki bay which then marked the former coastline (see figures 49 above). On the exact spot today stands the building of the Nagasaki Prefectural Office, though no physical remains of the *Santa Maria* church have been found.

Close to this landing place, is a mooring bollard which predates the construction of Dejima, said to have been used by Japanese, Portuguese and Chinese trade ships (NBE, n.d.; see figure 50).

Figure 50 - A mooring bollard situated at the former waterfront of Nagasaki predating the construction of Dejima in 1636 (NBE, n.d.)

**4.3.2 Chinese remnants**

A vivid and irrefutable remnant of the Chinese past within the city of Nagasaki ‘s Chinatown (NBE, n.d.). Formally known as Shinchi-machi, it is situated on the east bay, a few kilometres south of the old city centre (figure 51). Nagasaki Chinatown is still largely
inhabited by Japanese-Chinese residents and is one of the city’s tourist attractions, as the architecture, products and people combine a nice blend of Chinese-Japanese heritage. Southeast from Nagasaki Chinatown runs a street called Tojin Yashiki-Dori. Both this street and the Nagasaki Chinatown are strongly linked to the origins of the nanban-trade. In fact, Tojin Yashiki-Dori points to the old quarter named tojin yashiki the Chinese were allotted to.

The origins of this quarter relate to the birth of Nagasaki as a port city. When the Chinese were eventually only allowed to trade at Nagasaki, a growing number of Chinese vessels kept flocking towards the harbour of Nagasaki (Blussé et al., 2000; NBE, n.d.). Consequently, the shogunate decided in 1688 to build a space designated for the Chinese merchants, in order to maintain a strict watch on the Chinese tradesmen and their freedoms within Nagasaki. At times, as much as 5000 Chinese resided within the walls of their own town (Jansen 2000, p.86). Due to occasional fires and quarells within the Chinese residential area, the governors of Nagasaki ordered the construction of a square island specially made for the Chinese trade and storage in order to safeguard their trade wares, while tojin yashiki was since then only used as the Chinese residential area. Over the centuries, the city grew and through reclamations mostly executed in the 19th and 20th century the Chinese island was gradually absorbed into the city.

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Figure 51 - Overview of Chinese maritime heritage found in Nagasaki city. 1 = Shinchi-machi, outlined in a red dashed shape; 2 = find location of a Chinese keel. The orange dot is the location of the former Dutch Trade Post on Dejima.
One of the important locations for the Chinese within the maritime cultural landscape of Nagasaki was the roadstead. The designated roadstead was first situated close to the tojin yashiki town. Later, when the trade island was built, the roadstead consequently moved further down south. At this new roadstead would they anchor their junks for centuries to come (see figures 52 and 54, #3).

Figure 52 - Nagasaki harbour by the artist Maruyama Ōkyo (1733-1795). 1 = tojin yashiki; 2 = the Chinese Island; 3 = Chinese anchorage; 4 = Dejima, the Dutch Trade Post; 0 = Former Chinese anchorage (late 18th century depiction of Nagasaki harbour by Maruyama Ōkyo).

Figure 53 - Close-up of Chinese rudders kept wet in the bay.
Construction work at Nishihamano-machi carried out in 1966 revealed a keel within a layer of clay that was thought to belong to a Chinese vessel, dated to the 16th century and thus before Dejima was built (Kashiwagi 2010, p.78; figure 51), providing physical evidence of Chinese maritime traders in Nagasaki.

As part of keeping the Chinese in check, the Japanese authorities ordered the rudders of all Chinese vessels to be dismantled and kept in Japanese hands until the junks were ready to leave. Dismantling the rudders was a manifestation of power performed by the Japanese authorities that was at least continued until the end of the 18th century. In order to prevent the rudders from drying out as that would mean the rudders would break, these rudders were continuously kept wet at a place within the bay where they were fixed between poles in order to keep them in place (see the location in figures 53 and 54, #0).

Figure 54 - Reconstruction of the Chinese prime locations as displayed through a GIS. Edited to show: 1 = tojin yashiki; 2 = Chinese Island; 0 = the former Chinese anchorage. Original scale 1:2500 (Hotei, 2009).
4.2 Dutch remnants

A fresh Nagasaki sea-breeze gently flows through Edo-machi. Bearing the old name of the capital city of Japan, this quarter in the middle of Nagasaki city forms a bridge between the old quarters and the new. South of Edo-machi, across the Edo-machi road, lies a small canal which runs right along the bend of the aforesaid road. Right on the otherside of that canal lies Dejima. Once an island, it is now overtaken by the city’s hunger for urban development, although recent efforts by the Nagasaki municipality and the Dejima Restoration Office have been undertaken to reconstruct its former status as an island (Dejima Restoration Office, 2014; see figure 55).

Trams make daily stops at the Dejima Tram-station, in order to drop off hordes of tourists and school classes at the west gate. Inside the walls of the former Dutch grounds, alongside a main crescent-shaped street, reconstructed houses take the visitor back to 19th century Dejima. An unreconstructed part of Dejima is left standing right around the middle on an open courtyard and is represented by partially intact outer walls that once formed the houses of Westerners who resided on the former Dutch grounds after the Dutch had closed up shop in 1853 and the ‘closed country’ period had ended. Inside reconstructed houses, visitors are told of the rich and long-lasting history, where videos and artefacts make for a visual spectacle and a restaurant even offers a taste of ‘Dutch’ food with home-grown ingredients, as the former Dutch residents supposedly had dined.

Figure 55 - Dejima as it is today, outlined in orange. The blue dot is the west gate (Google Earth, 2014).
4.2.1 Archaeological excavations & reconstruction work
This impressive reconstruction of Dejima started back in 1922, when the Japanese government assigned the grounds covering the remains of what used to be the island Dejima as one of its National Historic sites, though it remained in use by private owners. Ever since the 1950s however, Nagasaki City started to procure tracts of land from its proprietors with the intention of setting up a restoration plan. Finally in 1996, the first of several full scale excavations was carried out.

The first excavations were directed towards investigating and documenting the top layer of the 19th century building and inhabitation remains, as Dejima had been continuously inhabited since the Dutch had left the premises. In the expectancy that the 19th century layers could provide enough data for a justifiable reconstruction, while also refraining from unnecessarily damaging the older layers, Nagasaki City and the Dejima Restoration Office have marked the reconstruction of 19th century Dejima as a top priority. Though late 18th century foundations were also revealed in the digging process. Part of the dating of strata occurred by a scorched ground layer found in what would have been the western part of the island. This layer had been identified as the soil that got burned during a fire in the year 1798, which burned most of the western part of Dejima.

![Figure 56 - Ground plan of excavated parts of Dejima (Nagasaki Prefectural Government, n.d.). 1 = foundations of the former residence of the Dutch chief of Dejima; 2 = foundations of De Lelie; 3 = foundations of De Doorn.](image)

Excavations revealed the fundamentals of the building in which the Dutch chiefs resided (see figure 56, #1), as well as the fundamentals of two fire proof warehouses called De

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103 A business they have been continuing on to this day (Dejima Restoration Office, 2013).
*Lelie* (figure 57) and *De Doorn*, which both were deemed very important throughout the Dutch era on Dejima.

Stored within these two warehouses were the most valuable trade goods and gifts for the annual procession to shogunate court in Edo. These houses were constructed and paid for by the Dutch (Kämpfer 1729, p.232). Most of the other buildings on Dejima existed of two storeys and were mostly made of pine wood. The first floor was generally used for storage, whereas the top floor was used for living (Kämpfer 1729, p.232). The Dutch actually rented Dejima from Japanese landlords and payments included costs for residing in the houses. Japanese carpenters were annually asked to carry out maintenance on their own and Dutch buildings, which included repair works on the exterior and basic construction of the houses, such as roofs, attics and stairs. The interior on the other hand, had to be designed and paid for by the Dutch, doing so in a European fashion. While some of the furniture came from outside locations such as Java\textsuperscript{104}, some had to be constructed on request (Overmeer-Fisscher 1833, p.256).

![Figure 57](image)

*Figure 57 - Blue dots represent the foundations of De Lelie (Nagasaki Prefectural Government, n.d.).*

A third excavation project focussed on the outer walls of the stone embankment on which Dejima was constructed. Careful examinations were carried out to deduct the methods used in filling up the stone and mud layers that formed the firm base for Dejima since its

\textsuperscript{104} Formerly Batavia, now Jacarta.
construction in 1636, all the way up to the Edo period. During the Meiji period, the northern wall and part of the eastern and western sides were demolished when the Nakashima River was diverted. The southern wall and most of the side walls remain standing on this very day. Although the southern wall must have totalled a length of about 233 meters, some 131 meters were excavated. By meticulously disassembling the stone embankment, archaeologists could trace back the piling and filling methods, revealing several methods that had been used throughout decades of construction and repair. After the southern wall had been thoroughly investigated, it had been restored. At the west end of the former Dutch factory grounds, excavations revealed the landing platform which connected to the water gate. Further investigations showed that the western side had been extended on two separate occasions.

Figure 58 - Ground plan of Dejima, as displayed in Titsingh's work (1833). 1 = guard posts; 2 = hospital; 3 = warehouse; 4 = interpreter's residence; 5 = head clerk's office; 6 = chief factor's residence; 7 = deputy factor's quarter; 8 = west gate; 9 = residence of warehouse master; 10 = surgeon's residence; 11 = De Lelie; 12 = flag pole; 13 = De Doorn; 14 = main gate.

Dejima was originally connected to the city by a small but heavily guarded bridge (see figures 58 and 59). At the head of the bridge stood a guardhouse called the 'landpoort' or main gate towards Dejima. This gate was heavily guarded and no one was to enter

105 Some parts were reinforced by means of more modern techniques.
without an official pass (Kämpfer 1729, p.233). On the island itself, Japanese guards manned up to four guard posts year-round, while three *otona* or town mayors\(^\text{106}\) resided on the island as well (Kämpfer 1729, p.232). These officials had authority over all lower ranked inhabitants and were obligated to frequently report to the Nagasaki governors whom ruled over all that transpired within Nagasaki.

![Image of GIS map displaying Dejima (1) and the Chinese Island (2) (Hotei, 2009).](image)

With so many guards, officials and procedures to reckon with, one can understand the Dutch often compared Dejima with a prison. To add to the sense of imprisonment, Dejima was enclosed by a boarded wall carrying a roof which was finished with two rows of spikes on top. These walls were high enough to keep a person on ground level from observing what transpired behind either side of the wall. Just outside these walls within the surrounding shallows, stood sixteen poles that were placed at a regular interval. These poles

\(^{106}\) Nagasaki was divided in separate *machī* or quarters each headed by an *otona*. Dejima was also considered a *machī* of Nagasaki.
carried Japanese signs warning vessels not to approach the island, for trespassers were not treated lightly.

Thus, at a first glance not much remained of the former freedoms the Dutch so gratuitously exploited within their maritime enclave at Hirado. Especially when the trade season had ended and the Dutch ships had left the bay of Nagasaki, those few that remained - usually no more than 17, including the chief, a deputy, a scribe, a carpenter, a cook, a surgeon, and a few slaves - had nothing left to do but to kill time. Once in a while the Dejima diaries mention that the crew was allowed for a stroll in the city or outside of it, while masters of ships and their carpenters were occasionally allowed to look for timber and such in the city as well. The chief and his few companions had the privilege of the annual trip to the shogunal court, as part of tradition to present exotic gifts that had to come with new requests of changing the *pancado*\(^{107}\) or the amount of copper to be exported and the like. By and large, life on Dejima was thus a life of solitude where the Dutch could do nothing but abide to the will of the Japanese.

### 4.2.1.1 Artefacts
Apart from foundations of buildings, traces of gutters and other constructional remains, various sorts of artefacts were found during the excavations. Of these artefacts, over 500,000 ceramic remains were found. Other remains found were clay and bronze smoking pipes, coins and copper (NBE, n.d.).

![Figure 60 - One of the cannon up on display on the Dejima Museum terrain.](image-url)

\(^{107}\) *Pancado* was a fixed price on silk, set annually by the Nagasaki Chamber of Commerce, or *Geldkamer* (Boxer, 1950).
While most artefacts were found on the premises of the former Dutch terrain, a few objects were found outside of it. For during dredging operations in the 1954 and 1964 respectively, two bronze cannon have been dragged out of the harbour mud (NBE, n.d.). They were found near the mouth of the Urakami river. Both are on display on the terrain of Dejima Museum today (see one in figure 60). A closer look on the locations of these finds are discussed further below.

The excavations of the Dejima Restoration Office have thus far been focussed on getting a clear view on what Dejima looked like during the 19th century, including its position as an island within Nagasaki harbour. Allowing the sea to form a canal between Edo-machi Dori and Dejima-machi was just one of first steps and more plans are waiting to be executed. Next in line is the impressive plan to divert the road and tramline running along the west side of Dejima, to allow the sea water to retake its place even further.

4.2.2 Dutch graveyard
Another important area rests at the foot of Mt. Inasa (figure 69). Here, at the Goshinji temple a Dutch or western graveyard is situated.

Figure 61 - The grave of Hendrik Duurkoop (1736-1778) in the Dutch cemetery, Nagasaki.
The first Dutchman ever to be buried there was Jacob Heijndricksen of Hoorn, who drowned in 1655. Up until that year, all the European men that perished during their stay in Nagasaki were thrown into the sea, some 3 to 4 miles outside the Nagasaki roadstead, where weights were attached to the deceased, making them sink to the bottom of the ocean (Le Maire 1984, p.120). Only a few of them have inscriptions of which most inscriptions and symbols are of a Christian nature. The oldest grave is Hendrik Duurkoop’s grave; a Dutch merchant and diplomat whom died in 1778 en route from Batavia to Nagasaki (figure 61). The Christian symbolism is displayed in the shape of a lamb and a small cross that are enclosed by a garland (figure 62). Apparently, this specific symbol was overlooked, or rather condoned, by the Japanese officials, and one can only agree with Earns and Burke-Gaffney (1991, p.17) that it examples “feelings of respect toward[s] the ‘kapitan’, but it also reflects the magninity of the people of Nagasaki”.

Graveyards play a role in Westerdahl’s sense of a maritime cultural landscape. Ideally, these grave yards have to contain graves with maritime symbolism inscribed in the slabs. This particular significance of Dutch and foreign trade through maritime symbolism has not been found. Yet the Christian symbolism is of course strongly linked to maritime activities as it resembles a foreign religion brought in from the West. It is furthermore the oldest known Western grave in Japan.

Symbolism on Japanese graves has not been researched, yet certain families active in maritime trade or trade with the Dutch could have incorporated some kind of reference to this through symbolism in a family crest, as was the case with the Matsuura in Hirado. This requires further research, as it could shed light on which families were actively involved in (foreign) maritime trade, apart from those well-known families that are mentioned often through archives and other resources.

4.3 Maritime infrastructure at Nagasaki
After the Dutch were told they had to move towards Nagasaki, they knew little of what was to be expected from their new residence on Dejima. Yet in most correspondence they feared
the worst, for right after Dejima was built, they knew it was more a prison than a trade post (Mulder 1985, pp.185-186).

When the Dutch were finally moved to Dejima however, it soon became clear that their former status and freedoms at Hirado meant nothing and that they had to start from scratch to win back the hearts and minds of the Japanese authorities. On an economic and political level, matters changed. More strict rules were applied concerning the export of copper, a more strict pancado or the annual fixed price on silk, while imports were thoroughly searched for forbidden wares such as Christian items or hidden ammunition and more.

Yet how did the removal of the Dutch towards Dejima affect the maritime activities of the Dutch within Japan?

4.3.1 Nagasaki Route
An obvious change was that the Dutch had to adjust their route. Where they usually had to sail from Me Shima further op north to the Hirado Strait - which was full of shoals, shallows and swift currents - they now had to deviate their route towards the north, northeast.

In the transitional year from Hirado to Nagasaki, a new route was quickly established. The transition to the sakoku-policy however led the Nagasaki government to implement a harbour defence system that apart from a great range of guard stations, included a strict set of procedures that had to be followed before entering the bay. It was thus not simply a change of route, but of procedures as well, as shown below.

From Me Shima to Nagasaki (see figure 63)
As in the preceding period at Hirado, Me Shima remained an important navigation mark. If all went well and the wind had brought a ship in sight of Me Shima, she could then pass on the east side of the island within a distance of two miles. Then depending on prevailing winds, was she to head north east towards Nomozaki or Cape Nomo (Montanus, 1669; De Coningh 1856, p.6).
Approaching Cape Nomo, ships had to announce their arrival by several means. First, if a vessel carried the new chief of the factory it had to be announced by a set of flags attached to the rigging, while the other Dutch vessels had to hoist the Dutch flag. Later, after a British vessel had entered the harbour hoisting a Dutch flag as a masquerade, the Dutch vessels had to have a yearly changing arrangement of secret flags hoisted on their masts (De Coningh 1856, p.7).

Upon approaching Nomozaki, ships came within viewing range of lookout-posts or *tomi dake* that were placed on top of the hills that surround the entry of Nagasaki. The guards that manned these lookouts were a group of 20 samurai called the *tomiban* and were stationed on top of Nomozaki, Fukahori and Koseto (Blussé *et al.*, 2004). Armed with binoculars and signalling flags, they were to spot every incoming vessel from afar and were equipped to communicate the arrival of foreign ships (Kämpfer 1729, p.195).

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108 The largest viewing distance mentioned within the diaries is 30 miles, according to an entry by Jacob van der Waeijen in 1741 (Blussé *et al.*, 2004, p.12). Other given ranges were lower than 30 miles; it all depended on the weather.

109 Kämpfer recollects that during his stay in Japan, this group was still called *ju ninsi*, which he translated as the “guard of ten” as previously the guard existed of 10 members.
Figure 64 - From Nomozaki to Iojima and into Nagasaki bay.

Passing Nomozaki, skippers then had to sail straight towards the northwest end of the *Ilha dos Cavallos* (figure 64), or Iojima as the islet is known today. Skippers then had to pass the north end of Iojima and head into the bend towards Nagasaki (figure 66).

Upon entering the bight of Nagasaki, the Dutch had to announce their presence by the sounding of ordnances, as a greeting to the shogunal guards called the *gobansha* (De Coningh 1856, p.7). Those on the east bank were called *Tomachi* while those on the west bank were called *Nishidomari*. Unlike the other guard stations that were under direct control of the Nagasaki governors, the shogunal forces listened to the direct command of the lords of Hizen and Chikuzen, who each took a year’s turn and were obliged to provide 700 men for these stations (Kämpfer 1729, pp.194-195).

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*Iōjima*. Cavallos is derived from Cavalos, or horses. The nickname Ilha dos Cavallos thus means the Island of Horses.
At least one physical remnant that belonged to this power landscape has survived within the landscape today. This is the Uomidake daiba site. Situated on Uomidake, a hill close to the entrance of Nagasaki bay, are the remains of a fort that formed part of the harbour defensive system during the Edo period. It exists of several levelled grounds on the slope of the hill. Today, a few stone structures are left standing, such as a gunpowder house where the ammunition for artillery was kept. The daiba or artillery was stationed at a point clearly overlooking the entrance of Nagasaki bay (Nagasaki Prefectural Government, n.d.; see image 65).

After following the bend towards Nagasaki bay, adverse or dropping winds regularly forced a vessel to anchor and wait for better winds at the Papenbergh\textsuperscript{111}, by the

\textsuperscript{111} Supposedly, the Dutch named this island after papen or papals (Roman Catholics) who were dropped off the cliffs during the Anti-Christian prosecutions.
Japanese known as Takabokojima\textsuperscript{112} which roughly translates into ‘high bamboo island’. Therefore, Takabokojima became a regular stop for vessels.

![Figure 66 - Former locations of sites related to the Nagasaki power landscape.](image)

At Takabokojima, the ships were met by guard boats that would remain by their side until the ships had left the harbour. These guard boats were known as the funaban or coastguard, existing of eighteen bushido\textsuperscript{113} (Kämpfer 1729, p.195). One of these guard boats carried the delegates of the governor of Nagasaki, as well as delegates of the Dutch chief, including interpreters. In the 18\textsuperscript{th} century, due to treacherous incidents with enemy vessels, incoming ships had to hand out two temporary hostages, as Overmeer-Fisscher (1833) explains in his report. The crew and the soon-to-be-chief were quickly mustered and if all was in order the vessel could continue onwards.

Although it did occur that ships sailed from the Papenbergh by their own, the Dutch more than often\textsuperscript{114} requested the ships to be towed in, as its surrounding mountains usually sheltered out most winds. Therefore, most ships first anchored at Takabokojima

\textsuperscript{112} 高鉾島
\textsuperscript{113} Samurai
\textsuperscript{114} See various volumes of the Dutch diaries kept by the heads of Dejima, for instance in the first years of the Dutch at Dejima (Le Maire 1984, p.188) as well as during later years (Vermeulen 1987, p.44).
from where they would be towed in by a group of boats, ranging from 10 to 30 or even 100 boats, depending on weather situations (Kämpfer, 1729\textsuperscript{115}; figure 67). And as was the case with the towing business at Hirado, these vessels also had to be hired. During the second half of the 17\textsuperscript{th} century these towboats cost the VOC 12 \textit{mas}\textsuperscript{116} per vessel. Apart from sails, oars were thus a necessary means of propellant, marking this transition to another kind of transport method as a transport zone.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure67}
\caption{A Dutch ship is towed into Nagasaki bay. Painting by Kawahara Keiga.}
\end{figure}

\textbf{Weighing anchor at Dejima}

Having come in front of Dejima, ships would anchor. The anchorage was situated near the island of Dejima in the back of the bay. After the crew was mustered and instructed on how to behave when on Dejima, ships could sail past the point of Takabokojima and into the bay. While the Chinese had their anchorage on the bank south-east of the city, the Dutch had theirs situated west-southwest of Dejima. This point of anchorage corresponds with the point described by the Portuguese author in the rutter above (see also figure 69, #3). During the presence of the Dutch this church no longer stood on top of the promontory for it had made way for the governor’s mansion.

\textsuperscript{115} The numbers mentioned by Kämpfer are also given in several volumes of the Dutch diaries.
\textsuperscript{116} \textit{A mas} is in this case a silver monetary unit one tenth of a tael. After 1666 the \textit{Heeren XVII} decided to fix its worth on 7 \textit{stuiver} in Guilders (the Dutch currency). A \textit{tael} was thus 70 \textit{stuiver} (see Appendix I in the back of this paper for more measuring units).
Even though the surrounding mountains gave a reasonable shelter, the occasional storms did stir up vessels lying at anchor, whether they were set at their usual anchorage in front of Dejima or near Takaboko before entering or leaving the bay. Mostly during August or September, a storm razed through the vicinity and caused the ships to be dragged along their anchors. Such incidents more than often coincided with the snapping of cables and consequently a loss of anchors\(^\text{117}\). The loss of anchors was a great nuisance. When a storm would hit and the ship was in reach of a shelter, the sails had to be lowered and sometimes even the masts had to be cut to prevent her from catching the strongest winds\(^\text{118}\). Especially at that point, all anchors were needed to keep her safe throughout the remainder of the storm, otherwise she would run adrift or worse; capsize.

*Leave of ships*

After the trade season was finished, the Dutch were obliged to leave around the 20\(^{\text{th}}\) day of the 9\(^{\text{th}}\) Japanese month, which according to the Gregorian calendar however could vary with as much as a month’s time. They were then occasionally forced to leave, as one governor was more strict than the other, by ordering to tow the ships towards Takaboko, even if a vessel was still leaking and the Dutch feared for her survival.

When the ships left, they were again guided by another pair of guard boats, that guided every foreign vessel out of the bay, until they were on their way sailing towards the open sea. No ship was allowed to return back into the bay after they had officially left and these *Mi Okuri Bune* were there to make sure they did in fact leave. Only foul weather or great damage would be allowed to push these ships back into shelter. Another reason for these guard boats to go far outside the Nagasaki roadstead was for them to keep an eye out for Japanese smugglers trying to reach Dutch and Chinese ships, as well as preventing the Dutch and Chinese from sailing towards other harbours than the one in Nagasaki, which was the only harbour they were allowed to enter (Kämpfer 1729, p.195).

4.3.1.1 *Harbour defence*

The harbour defence and the harbour entry procedures were instigated by the fear of the arrival of enemy vessels. In case of approaching enemy vessels, the lookouts on Nomozaki, Fukahori and Koseto would immediately warn the city. If the first tidings of enemy vessels

\(^{117}\) For instance in 1646 (Viallé and Blussé 2001, p.238, p.241) and in 1743 (Blussé *et al.* 2004, p.47), and many other instances.

\(^{118}\) As occurred with the fluyt the *Venenburg* (Viallé and Blussé 2010, pp.79-80)
were to be true, then a large beacon on top of Hoka San\textsuperscript{119} would be set aflame (Kämpfer 1729, p.195; figure 68). Once the beacon on Hoka San was set aflame, it would cause a chain-reaction, signalling the neighbouring domain of Amakusa, which would light a beacon of their own. This would signal the neighbouring domain of Higo, which in turn led other domains along the southern shoreline set fire to their beacons, in the end reaching all the way up to the shogunate court of Edo. According to Kämpfer, this chain-reaction could be accomplished within 24 hours of the first flames (Kämpfer 1729, p.195). One can understand that such a fire beacon was only to be set afire in deer need and could only be done by direct order of the Nagasaki governors.

![Figure 68 - First four chains before the beacon on Hokasan is set aflame. From the lookout at Nomozaki, below, to Koseto, to Nagasaki governor, to the beacon on Hoka (displayed in Google Earth, 2014).](image)

Today, Hoka San still bears a stone base construction that was used to this end. It was filled up with firewood and was at all times kept ready in case a foreign attack on Nagasaki harbour was imminent.

Nagasaki harbour was entered by enemy vessels on three separate occasions. The first incident occurred in the year 1647 and involved two Portuguese merchant ships (Viallé and Blussé, 2001). A second incident occurred in 1808 and involved a British frigate, while another incident involved a Russian vessel (Meylan, 1830). After each incident, the harbour defence system was upgraded with a number of gun batteries. In the end the whole bay was

\textsuperscript{119} Mt. Hoka is a 426m high hill (烽火山)
practically littered with guard stations and gun batteries. The power landscape thus changed radically due to the threat of enemy vessels who wanted a hand in the Dutch trade on Japan.

4.3.1.2 Transition point: transferring cargo and personnel to Dejima

After having past all the guard posts, gun batteries and all the various procedures that had to be taken into account, a vessel could finally land at the Nagasaki roadstead. Once a ship was set at her anchor in front of Dejima, the cargo would be transferred into small boats that would transport the cargo further on towards Dejima, as Dejima was surrounded by shallows (Kämpfer 1729, p.231). The cargo would then be unloaded at the water gate.

Once unloaded, the goods were then carried to and from the warehouses that were only opened on during the trade season, only after all trade ware was thoroughly inspected on forbidden wares such as Christian propaganda and hidden ammunition (Valenteyn 1726, pp.40-41; Kämpfer, 1729; Meylan 1830, p.120).

In the meantime, no one was allowed to sail to or from the idle lying ships without official leave from the Nagasaki governor. Furthermore, the gunpowder and weapons had to be handed in, although the Dutch made sure to keep some gunpowder at hand, just in case (Valenteyn 1726, pp.40-41; Meylan 1830, p.120). Gun ports were sealed off by a bamboo-veil fastened with a ribbon. If this veil and ribbon were only slightly disrupted, it would arouse suspicion of the Japanese authorities who kept a lookout for smuggle ware. These were all measures meant to make sure the Dutch were by no means able to pose a threat, nor able to smuggle. The latter did occur on a grand scale however, especially during the 18th and 19th century (Feenstra-Kuiper, 1921; Blussé et al. 2000; Nagazumi, 2008). Smuggling or ‘personal trade’ was conducted by VOC employees to compensate for considerably low salaries (Nagazumi 2008, p.3). In the 18th and 19th century it was officially condoned by the Japanese as well as the Dutch authorities, though only for certain amounts.

During the first few decades of Dejima, from the first Portuguese inhabitants until the end of the 1660s, the Japanese removed the sails and even the rudder from the ships as well (Valenteyn, 1726, p.41; Meylan 1830, p.120). The location for keeping the Dutch rudders could not be retrieved, yet most likely they were kept close to Dejima; perhaps near the Dejima bridge, within sight of the guard stations. According to Valentyn (1726, p.41), the Dutch became fed-up with having to remove the rudders and consequently ordered their ships back in Holland to be constructed with a fixed rudder. Indeed at the end of the 1650s, the Japanese authorities apparently stopped removing the Dutch rudders.
If it was indeed an adaptation in response to the obligated removal of rudders, then it is a good example of how a political power in the first instance deliberately handicapped a vessel, while an adaptation in ship construction effectively countered that political power play. Adaptations in shipbuilding are usually characterised by slow and gradual developments, rather than quick transitions. Considering risks of losing cargo when a seemingly proven form of shipbuilding is adjusted, shipwrights were not keen on experimenting. This makes these adjustments rather remarkable to say the least and would prove a flexibility in ship construction.

At the end of each trading season, the warehouses as well as the water gate were sealed shut, while vessels were reloaded in reverse sequence returning rudders\textsuperscript{120}, guns, ammunition, ballast, victuals and newly bought goods.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{map.png}
\caption{Map of Nagasaki in 1802 (Dejima Restoration Office, 2011). 1 = a Dutch ship firing of ordnances as it is towed into Nagasaki bay; 2 = Dejima; 3 = a Dutch ship riding at anchor; 4 = Mount Inasa with Gōshinji temple and the Dutch grave yard; 5 = Magōme, where the sampans were stored.}
\end{figure}

\textbf{4.3.2 Ships, flutes, yachts and sampans}
According to a majority of authors (Mulder 1985; Viallé and Blussé, 2001; Goodman, 2002 and others), the transition to Nagasaki deprived the Dutch from many if not all of their

\textsuperscript{120} After 1660, removing the rudders was no longer necessary.
privileges at Hirado. Throughout the Dejima diaries however, several diary entries reveal that the Dutch at Dejima did in fact on various occasions acquire the privilege to repair and clean their ships. In order to make a good comparison with the privileges in the preceding years at Hirado, a detailed look on the businesses regarding maritime activity is necessary. The most interesting of these entries regarding maritime activity will be discussed below.

4.3.3.1 Seagoing Vessels
The VOC and later under the flag of the Netherlands Trading Society (NTS) used quite the same ship types as were sent to Hirado, although later the galleon and later the frigate would be deployed more frequently. At Batavia and other trade posts, ships were ballasted with either stone or lead, or sometimes bulk ware such as rice. Useless ballast stones (quay stones) were dropped at the water gate\(^{121}\). On their way out, ships were generally ballasted with copper, complemented by stowing stones or rice\(^{122}\) if there was no copper left.

Ship repairs
After a July or August storm had stirred up the sea, it often meant that ships sailing from for instance Batavia to Japan were caught in the middle. It happened often that these ships arrived severely damaged\(^{123}\), or did not arrive at all. In order to survive a storm, skippers were sometimes forced to take measures into own hands by cutting down the masts in order to prevent ships from tipping over\(^{124}\). Various diary entries mention how the Japanese towed drifting Dutch vessels towards Nagasaki. Once such a dilapidated vessel had finally entered the harbour of Nagasaki, it was in grave need of repair.

On some occasions the Japanese would try and retrieve new masts, rigging and anchors from within Nagasaki city itself. Though if they failed, either entirely or partially, the Dutch had to acquire new material by themselves. For this, they first looked in the city after permission was granted by the Governor of Nagasaki, allowing a few men of their own - usually the master of the damaged ship himself, along with a carpenter - under guidance of Japanese interpreters and the usual guards to enter the city market\(^{125}\).

In case of the yacht the *Pouleron* (Viallé and Blussé 2010, p.358), which had to have a new mainmast, a foremast and a bowsprit after it was caught in a July storm on its way from Batavia, the Dutch found three “fine, sound pieces of timber as good as those in

\(^{121}\) See for example Dutch Diary Vol. XII (Viallié and Blussé 2005, p.372).

\(^{122}\) See for example Dutch Diary Vol. XII (Viallié and Blussé 2005, p.361) and other diary entries.

\(^{123}\) For instance the yacht the *Pouleron* in August of 1670 (Viallié and Blussé 2010, pp.351-352)

\(^{124}\) Another example is the yacht the *Overveen* in September 1669 (Viallié and Blussé 2010, p.312)

\(^{125}\) As occurred with *Cabo Jasques* in 1656 (Viallié and Blussé 2005, p.264), the crew found masts for 150 *taels* each.
the fatherland of a suitable length and thickness”. The Dutch were however shocked by the price asked, totalling up to 2100 tael for all three pieces together. Compared to 150 tael for masts bought fourteen years earlier, that is indeed an astonishingly high price.

Such high bids occurred more than just once. The Dutch often hardly had a choice, which is something they assumed the Japanese knew as well. In case of the Pouleron, the Dutch ended up buying a mainmast and foremast for 1420 tael, while they decided to leave the bowsprit and make one themselves out of a spare timber from another ship, extending it with another piece of wood to make it the right length. Unfortunately, it turned out they bought a pig in a poke as the foremast was worm-eaten and full of knots, forcing the carpenters to enforce the mast with a cheek, showing a flexibility seen before in their previous situation in Hirado.

The Pouleron was also in need of small timber, blocks and rigging. When the Dutch asked the interpreters to fetch these materials in town, they deliberately seemed to stall the request, in the end leaving not enough time for the Dutch to wait for the right materials. Thus all spare material was taken from the other Dutch ships lying at anchor. This means the Dutch had to fully depend on the interpreters in acquiring the right materials and could do little in case the Dutch felt they were played with, as on a larger political and economic scale, the Dutch could only abide. It all depended on the temperament or clemency of the contemporary governor of Nagasaki, for some governors were more strict than others, which had its effect on the interpreters good-will and intentions as well.

On other occasions, when certain pieces of timber were unavailable within the city - which happened often at times when the Dutch were looking for large and thick timber for masts - the Dutch could have the Japanese specially acquire the right timber beyond the borders of the city; either in Satsuma or on the Goto Isles (Viallé and Blussé 2005, p.264). The Dutch usually refrained from this option as they were warned, and rightly feared, that the prices for these special jobs would hit the roof.

Location
In answering the question regarding the location of repairs and maintenance, clues on these locations are spread over several years in separate diary entries. The first chief Le Maire for instance immediately requested a standard place to set, clean and repair ships, as well as to build a timber yard and a house to store the loading barges in (Viallé and Blussé 2001, p.5, p.8). The Dutch were only allowed to clean and maintain their ships in a certain bay on the ‘west side’ of the city or as some referred to the place as the ‘west side of the bay’. The
requests to build a timber yard and a storage place were not granted (Viallé and Blussé 2001, p.20). Various ships are mentioned to have been beached, cleaned and careened at this certain point (Viallé and Blussé 2005, p.116).

Still, from the diary entries alone it remains unclear where this point may have been. The answer may be found in the cannon dredged up from the harbour in 1954 and 1964 discussed earlier above. These cannon were found near the mouth of the Urakami river (see figure 70), which is in fact close to the former coastline of the west side of Nagasaki bay.

Figure 70 - Former coastline of Nagasaki as it must have looked like in 1700. Added are symbols and legend to portray the discussed locations of interest (Nagasaki Doyukai, 2000).

An interesting entry in the Dejima diaries (Viallé and Blussé 2001, p.213, pp.231-232) specifically relates to a yacht named the *Leeuwerik*, which foundered after it was readied to be cleaned. A September storm hit the vicinity, which ripped her from her four anchors, blew her ashore and onto her side while losing several ordnances in the process. At least two of these ordnances were later retrieved by Japanese divers, though no other cannon seem to have been found. It could thus well be that these cannon belonged to the *Leeuwerik*.
and that the area where vessels were beached and cleaned was close to the spot where the cannon were found. What is more, from the inscription on the cannon found in the 1950s-1960s, it shows these cannon came from Amsterdam and were made in 1640. Although the cannon could have been used over a longer period of time, the fact that the Leeuwerik was built in 1642 in Amsterdam (Bruijn et al., 1979), makes it even more plausible that the cannon found in the 1950s-1960s were indeed those of the Leeuwerik.

Furthermore, late 18th and early 19th century maps of Nagasaki harbour display the name funatsu on the west side of the bay, which is again close to the point where the cannon were found. Funatsu means either ‘ship port’ or ‘ferry’. In order to confirm whether this place name refers to a port of some kind, calls for further investigation by a specialist on Japanese place names. Yet the location of the place name, added to the cannon found certainly hint that this particular side of the bay was used for careening the Dutch vessels. This thus supports the idea that the former careening location was situated west of what is now the mouth of Urakami river.

Repairs on masts, leaks, rudders and such did not necessarily have to be carried out at specific locations. These repairs could in general be executed on the spot where a vessel was anchored. Broken or damaged masts, rudders and other materials were in some occasions taken ashore and either fixed in Dejima by Dutch and Japanese ship carpenters (Viallé and Blussé 2005, p.321), or in some cases brought into the city to be repaired there. Masts however could not so easily be re-stepped, for there was no crane available to tackle a mast high up on a ship. Thus, in those cases, the Dutch used another ship by bringing her close to the one missing the mast, while a ship’s blocks and rigging were used to tackle a mast and to re-step it properly. As for instance occurred with re-stepping a mast of the Erasmus in 1657, with help of the yacht Hercules (Viallé and Blussé 2005, p.321).

Sometimes, not all the necessary repairs could be executed, as was the case with the fluyt the Sandijk. When the Dutch were investigating a leak in the hold, it became clear the stern was in such a bad shape that it was deemed unfit to make it back to Batavia in one piece. To make matters worse, it could not be repaired properly at Nagasaki (Viallé and Blussé 2005, p.84), for they did not have the right tools and able men ready, where after she sailed to Batavia nonetheless. This suggests that the Japanese available expertise and technologies were inadequate to perform radical repairs in Nagasaki at the time. Japanese

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126 Of course, the date ‘1640’ inscribed on the cannon alone is no guarantee that the cannon were not dropped from other vessels in a more recent period than 1645, as these cannon could have been re-used over the course of time. Yet the Leeuwerik was built in 1642 in Amsterdam, which makes it even more plausible (Bruijn et al., 1979).
shipwrights were used in making much smaller coastal ships and apparently they did not have the material, the expertise or the right facilities at hand to perform more complex repairs.

The above indicates that after the removal of the Dutch from Hirado to Nagasaki, they indeed had to leave their own maritime facilities behind and were not allowed to install new facilities at Nagasaki. They were however allowed, in case of need, to beach ships in order to careen them. This was mostly done in a bay on the west side of the harbour. Unlike in previous times in Hirado, when ships were sometimes sent from other locations in Asia to receive a new sheathing, as well as other thorough repair jobs, the ships at Nagasaki were only repaired when there was absolutely no other way. When repairs were done, the Dutch looked to make a bargain, but because the Dutch in general had no other choice and did not have the facilities and instruments themselves, they had to settle at high prices for standard repairs.

4.3.3.2 Sampans
In the foregoing case at Hirado, it became clear the Dutch had adopted the use of kobaya and sekibune. Yet at Nagasaki, these boats were no longer necessary as the Dutch were confined to Dejima and were no longer allowed to sail to other locations outside Nagasaki bay. As there was no longer need for small sailing vessels, these kobaya and sekibune were therefore replaced by loading barges known as sampans or danbeibune (Viallé and Blussé, 2001; see figures 71 and 72). These were flat-bottomed vessels fit for transporting cargo on rivers and within close range of the coast and only had to be propelled by a large sculling oar.

Over the course of centuries, the Dutch had three to four sampans in service. Every year around June, a month before the Dutch expected the arrival of ships for the new trade season, the Dutch usually checked the state of the sampans. Almost every year the Dutch had to repair at least one of them. Reports written on the sampans often mention damage done by wood- and shipworm, draught caused by the sun and rot by rain and wash.

127 Around the year 1782, Chief Isaac Titsingh (1745-1812) was of the impression that this could have been helped if only 100 Japanese shipwrights were allowed to go to Batavia in order to study ship building techniques at the Dutch shipyards. This was not allowed however. Instead, Titsingh let a few Japanese sailors to board the Dutch longboats, taking the vessels for ‘a ride’ (Feenstra-Kuiper 1921, pp.275-276).
128 Le Maire noted in his daghregister the kobaya and ‘other loading barges’ were up for sale after the Dutch transfer from Hirado to Dejima was complete (Le Maire 1984, p.143).
129 See for instance the transcriptions of the Dejima diaries volumes I to VI and XI to XIII that were consulted for this research (Vermeulen, 1986; Vermeulen, 1987; Velde, 1989; Velde and Vermeulen, 1990; Velde, 1991; Viallé and Blussé, 2001; Viallé and Blussé, 2005; Viallé and Blussé, 2010).
At least until 1660, new sampans were made on Dejima at a place the Dutch called the ‘sampan yard’, in order to keep a close eye on the construction work. The sampan yard must have been close to the storage building where they kept wood and other materials for the sampan (Kämpfer 1729, p.73) and probably was just another name for the water gate.

Later in 1667, the sampans were made within the city, out of sight of the Dutch. Perhaps because the Japanese ship carpenters felt the Dutch carpenters checking up on their progress breathing down their necks (Viallé and Blussé 2010, pp.220-221). Although no particular location is mentioned, the sampans were most likely made on the east bank of the city. Analysis of 17th and 18th century Japanese maps of Nagasaki reveals that on the east bank there is a machi for funedaiku or ship carpenters and the Japanese ship carpenters must have built and repaired the Dutch sampans somewhere within this quarter. In Tokugawa
Japan, it was ordinary to have quarters arranged according to profession. This quarter still exists today as Funedaiku-machi\textsuperscript{130}, though it is safe to say the shipwrights have moved.

The costs for a new sampan varied around 350 taels, while repair costs varied according to the amount of damage a sampan had suffered. In 1651 (Viallé and Blussé, 2005, p.69), a new sheath and a proper caulking cost up to 35 taels, while in later years it cost up to 90 taels. Annual costs for sampans were thus running high and the Dutch were eager to prevent the sampans from getting damaged in order to maintain the cost. As these vessels played a great part in the pacing of unloading and loading of ships, the sampans played an important role over the centuries of the Dutch presence in Nagasaki. Finding a suitable place to store the sampans was thus of the utmost importance. At first the sampans were kept near the guard post at Dejima, probably fixed to a mooring bollard. Yet as they were fully exposed to sun and shine, they were moved towards a quay near Mount Inasa (Viallé and Blussé 2005, p.69, p.330). After that, they were moved several\textsuperscript{131} times before they were finally stored at Magome\textsuperscript{132} (figure 73), although the Dutch were not happy with the quality of that place as a storage for the sampans either (Blussé \textit{et al.}, 2004).

\textbf{4.4 Case study II: Summary and Implications}

The above has shown that the overall history of foreign trade - before, during and after the fully implemented sakokujidai - has had a deep impact on the Nagasaki community and the maritime cultural landscape. This history is mainly captured in present-day tourism, place names, local tradition, numerous artefacts within the local museums and actual physical remnants in the landscape such as the church foundations, the current Chinatown and Chinese temples, the reconstruction of Dejima and the surrounding landscape carrying traces of the sentinel forts which formed part of the coastal defence system.

Since the Dutch only resided on Dejima and were not able to use locations other than the artificial island, the physical remains of the Dutch in general are kept to the area covering the former Dutch grounds on Dejima. Archaeological research on the construction remains and desk research through mainly archival records reveal that the Japanese built and maintained most of the warehouses and other buildings on Dejima. Several buildings did however use a combination of Western and Japanese constructions methods as well as

\textsuperscript{130}舟大工町
\textsuperscript{131}As mentioned in the Deshima diaries (Viallé and Blussé 2010, p.339, pp.340-341)
\textsuperscript{132}The storage place at Magome is first mentioned as ‘Mangome’ in 1682 (Vermeulen 1986, p.22).
materials. Such were the more important places as the chief’s mansion and the two stone warehouses De Lelie and De Doorn.

![Map of Nagasaki with important Dutch places marked](image)

**Figure 73 - Overview of the most important places of the Dutch in the maritime cultural landscape of Nagasaki. Scale original map, 1:10.000.**

The above paragraphs concerning the maritime activities of the Dutch in the maritime cultural landscape of Nagasaki have shown that after their removal from Hirado to Dejima, the Dutch could only adapt to the changing situations in order to keep their position in trade with Japan. As others have shown, this was achieved on an economic level, as well as social and political. Regarding uses of local maritime infrastructure, the Dutch adapted as well. They had to make do with the means presented to them, as well as they were forced in buying materials sometimes found to be of inferior quality. On occasions there were no suitable materials found at all. Most of the times the Dutch devised improvised methods to substitute the necessary materials nonetheless. Timber could however be purchased before it was felled, allowing the Dutch indirect access to the resource landscape as they were granted before at Hirado, yet often only against relatively high prices from which the Dutch occasionally refrained.
In most if not all of their maritime activities they had to request permission before they could execute them. Such activities included the repairs of ships, of sampans, buying of timber and other materials within the city. At times the Dutch even had to request whether a skipper could fair from and to his ship in order to fetch some necessary equipment. The Dutch were thus chained to Dejima and Nagasaki bay.

All in all, the transition from Hirado to Dejima had a great impact on the Dutch freedoms within Japan. Yet when taking a closer look at the locations the Dutch, frequently or infrequently, were allowed to access, there is still a substantial part of Nagasaki bay and Nagasaki city that could be accessed, albeit with explicit permission.
5 Comparison, Conclusion & Discussion

In order to answer the main question of this paper, as to what impact did the relations between the Dutch and the Japanese between 1600 and 1853 have on the maritime cultural landscape of the regions surrounding Hirado and Nagasaki, this final chapter presents a comparison of the two case studies, followed by a conclusion and a discussion.

A comparison: Hirado vs Nagasaki

Both Hirado and Nagasaki have their roots of economic and cultural prosperity in the Chinese and Portuguese maritime enterprises. Tangible and intangible remnants of especially the Chinese can still be found in both cities. Nagasaki itself had underwent greater changes than Hirado owing mainly to the Portuguese and Chinese trade ships that frequented the more suitable harbour of Nagasaki.

Physical and intangible remnants of the Dutch presence in Hirado and Nagasaki have evidently survived on to this day. Recent traces found in local tradition, tourism and such were evident at both places. Even though the Dutch presence in Hirado was a significantly shorter period than their period in Nagasaki, the Dutch physical and archaeological remains within the landscape are striking. The physical remains at Hirado comprise various structures such as water wells, walls, a quay with a stair case and even a dike. Archaeological remains found are fundaments of warehouses and other buildings, artefacts and typical maritime artefacts such as anchors. The remains found at Nagasaki were predominantly located within the former Dutch grounds of Dejima and thus within or slightly outside the range of its former dimensions of approximately 15,000 square meters. So far, archaeological excavations have been executed within these grounds, revealing foundation layers of 18th and 19th century structures such as warehouses and residential quarters, as well as revealing the edges of the former island terrain and its base construction of cut stones piled on the Nagasaki peninsula.

The political and economic situations at Hirado and Nagasaki had been different to begin with. At Hirado, the Dutch knew the local daimyo. Consequently, they were granted all kinds of privileges within the surrounding area, while they could freely negotiate on economic terms. Facilities were installed within the vicinity of their trade post in Hirado and at all places they predominantly combined Dutch or western techniques and products with Japanese or local techniques within the constructions. With most of the businesses and production work of materials, they combined their own men with hiring Japanese labourers.
Materials were by and large available within the Kyūshū region, safe for some rare specimen that came from as far as Osaka. When materials were found lacking, as such was the case with tar, as well as good sails, they either imported the materials or adopted local techniques used in constructions, as well as in maintenance of vessels. All in all, showing that the Dutch were able to adapt to the local circumstances in various ways. By adopting local ship and boat types such as the hayafune and kobaya the Dutch could move quickly through the vicinity, without having to use their own wind-and-weather-dependent ships, thus adapting culturally. At the same time the Dutch adapted to the local natural environment, by stowing their ships in Kawachi bay, which was more suitable than Hirado harbour. While at Hirado they used the natural disadvantages of a great difference in tidal range and turned it to their advantage by careening and beaching smaller ships and boats in order to bream.

When they were moved to Nagasaki however, they were stripped from most of their freedoms. The Dutch, throughout the centuries of their stay, had learned to abide with certain disadvantages if they wanted to continue their means of trade with Japan and especially keep the import of copper. This forced them to adapt to the cultural and natural environment, which already started in Hirado but was truly tested and mastered throughout their stay within the small spaces of Dejima. At Dejima, they were strictly kept away from places other than Dejima and could only leave Dejima if explicit permission was given by the local governor, then in general not without supervision. In case of using the maritime infrastructure, there was not much they were allowed to use, let alone install for their own facilities. The Dutch were however allowed to caren their ships in inlets within Nagasaki bay suitable to careen ships in. At Dejima, they again turned a nuisance into an advantage, as they could easily beach their vessels on the shallows near the island.

In the instance of repairs, they could in general only fetch raw materials such as timbers for masts and beams from within the city itself, though occasionally they were allowed to order materials from outside locations. Yet if they would import these masts from elsewhere, the costs would pile up excessively. The Japanese clearly took advantage of the fact that the Dutch’ hands were tied, as they were not allowed to look for other options elsewhere and if other options were given, these were excessively expensive. Thus, at times they had to make do with exactly the same quality of timber they could acquire at Hirado for a much greater price. At times, even timber of disputable or inferior quality had to be bought, simply because there was not enough time left to wait for other timber worth the cost, and so it often occurred the Dutch had to settle for a lesser cost-quality ratio for timber. What is more, due to lack of the right facilities, which they did have available in Hirado, a
ship that had suffered serious damage on for instance the stern could hardly be fixed. In
general, due to lack of material, craftsmanship and the right facilities and instruments, the
Dutch often had to improvise using the means and material available. However, it
fortunately did not lead to great disasters on sea.

While the Dutch maritime enclave at Hirado was practically a shipwright’s store,
the Dutch had thus evidently lost these privileges at Nagasaki. Consequently, Dutch ships
were now mainly sheathed and repaired at other places within the Dutch Asia network.

Discussion & future research

The amount of information and research angles incorporated in this paper, are just a tip of a
broad variety of sources and research angles that each may provoke new questions and
interesting insights into the Dutch-Japanese relationship. In other words, almost every
subject discussed in this paper deserves to become a research subject of its own, as every
subject contains a potential in clarifying multiple aspects of the Dutch-Japanese history we
may not yet have fully researched. There was simply not enough space to go into further
detail at some points, although some might already consider this thesis as detailed as it is.
Combining maritime landscape studies with a broad range of disciplines, including history,
brings the ability to look at a colonial party such as the Dutch who were mere guests of
honour in Japan, from a broader perspective. Zooming in on certain aspects revealed in this
paper may however provide a more clear insight these specific aspects of the Dutch-
Japanese relations.

There are several topics in this paper that provoked new questions. One of these
concerns the Japanese labourers hired by the Dutch. What was their exact role and skill? In
what way were the Japanese ship carpenters at Hirado able to acquire the right knowledge,
skills and tools, allowing them to perform repairs and overhauls on Dutch ships? Further
research on this matter should include a study of both Japanese and Dutch archival records.

Concerning the resource landscape, it would be interesting to find out if more exact
locations of material origins could be retraced, as well as the whole social and practical
process behind obtaining these materials. This could show how well the Japanese and the
Dutch understood each other in terms of quality and suitability of the materials the Dutch
ordered, as it suggests the Japanese had a certain knowledge on a foreign, maritime
technology. More information on this topic may perhaps specifically be found in the
Japanese records, while potential finds of preserved ship timber may be used to retrieve the
origins.
Specific archaeological projects in the future may reveal artefacts or other objects relating to the Japanese-Dutch mutual maritime heritage. The areas surrounding the physical remains, cognitive remnants and find locations that are mapped in this paper may all be marked as areas containing potential maritime heritage. Especially at a former roadstead, one must expect to find anchors and other related ship material once lost by the Dutch ships.

Westerdahl’s maritime cultural landscape tested in Japan

Through this research, Westerdahl’s maritime cultural landscape could also be tested. Westerdahl’s approach urged to consider the traditions of usage of maritime infrastructures within the maritime cultural landscape. In the first place, this led to the question as to what is found thus far at these specific places and secondly, what can we except to find there?

In the case of the first question, taking the idea of transit points and transport zones as an example, it led to taking a detailed look on these points and zones within the vicinity of Hirado and Nagasaki, which strongly related to the Dutch sailing routes. Once these points and zones are found, one automatically poses the question as to which variables have mainly influenced the formation of a transition point, how these transitions transpired and what means of transport methods were used. Answering all these questions, allows for a fresh perception on how people as, in this case, a maritime group or enterprise adapted to their foreign surroundings. The answers found were all responses to nature as well as culture, expressing the hybridity of humans and their various ways to adjust, adopt and adapt to their environment.

What is more, for instance by identifying a transit point within the landscape, either through primary sources, archaeological records, one can expect finds and remnants of facilities that could have been installed, dropped, buried, etc. at such a transit point. Above all, future researchers must acknowledge that these places are not solely related to the Dutch-Japanese heritage, but over time have had such a tradition of usage that one may find traces of Japanese, Portuguese as well as Chinese related maritime remnants.

Westerdahl’s transport zones and transit points thus proved a useful research tool. Another one of Westerdahl’s pillars are place names. In the above two case studies, only those places names were researched that were known from recent or old maps, from all kinds of languages. Only on one occasion was a place name acquired that was not noted down on an official map or old document, as was the case with the area called banyanzaki or the guard cottage pier at Kawachiura. The significance of place names however is twofold. Firstly, it tells the observer what still is or may have been present there, allowing researchers
to mark such a place as a potential place where traces of cultural heritage, maritime or not, may be found. The *banyanzaki* is something that once stood at Kawachiura and even today some remnants can be found at this place.

Secondly, it can indicate the a significance of certain aspects, in this case maritime or foreign aspects, that played an important part in local history and heritage. Such was the case with the Saiwai Bashi, nicknamed Oranda Bashi or Holland Bridge in Hirado. Although not built by the Dutch, local folklore suggested it was made by the Dutch. Another example is the Oranda Dori and Oranda Dori Zaki at Nagasaki which suggested the Dutch once resided there, yet in reality these were actually Westerners from the United States of America as well as from various European countries. Both examples do however hint towards the former presence of the Dutch within the vicinity. The significance for research on place names lies in the suggestion that if no other traces would have been found, the use of these names at these locations suggests we may expect otherwise in the future.

All in all, Westerdahl’s approach in general, the idea of a maritime cultural landscape, allowed to address the particular maritime aspects of Dutch-Japanese affairs at Hirado and Nagasaki, presenting detailed information on the maritime enterprise of the Dutch in Japan, showing that the Dutch adapted themselves to the cultural and natural landscape, other than the social, political and economic adjustments they underwent concerning interactions with the Japanese.

This particular paper however did prove to be quite a large study, lengthy in text as well as in the time spent on research. Apart from the author’s personal difficulties in keeping a clear view over the whole subject matter, it is perhaps due to the nature of such a broad and multifaceted research method, which in reality the concept of maritime cultural landscapes is, that a research easily drifts off course into various side arms of Westerdahl’s daring, yet untamed river.
References


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**IMAGES**


**MAPS**


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Map of Hirado, date unknown. 1:5.000. Acquired via the Hirado Municipality *Map of Hirado and surroundings*. [Currently in the author’s possession and used in this paper and edited in MapInfo]

Map of Kawachi, date unknown. 1:5.000 Acquired via the Hirado Municipality. [Currently in the author’s possession and used in this paper and edited in MapInfo]
Appendences

I - Units of measurements and currency

**Fathom, vadem or vaem** = standardized equal to 6 feet (1.8288m). Originally based on the distance between a man's outstretched arms.

Dutch vadem:
- Oude vadem 1.852m,
- Amsterdamse vadem 1.6988m,
- Rijnlandse vadem 1.88m

English vadem: 1.8288m

**Nautical Miles** = standardized 1852m, the German mile was 7407m frequently used on sea, Holland mile (on land) in the 1600s was about 5355m. The British Statute Mile was 1.609344m or 1760 yards. Used since 1592 to 1959. The London mile was 1.524m.

**Nautical Leagues** = At sea, a league was three nautical miles (about 5.6 km).

**Yard** = 91.44cm

**Cable length** = equal to one tenth of a nautical mile or 100 or 120 fathoms

  - English = 1/10 admiralty mile, or 608 ft (185.32m), about 101 fathoms
  - Dutch = 180m

**Ton** = 1$^3$m in volume, weight in 1000kg

**Burthen, Last** = 3$^3$m in volume, 2000kg in weight. Thus 100 ton is 50 burthen.

**General measuring units**

**Fathom, see above**

**Feet, Voet** = English ft 30.48cm, Amsterdam ft 28.31cm, Rijnlandse ft 31.39cm

**Inch, Duim** = 2.54cm
Japanese feet, Ken = In the Dutch factory piece-goods were measured by the ikje, which is a corruption of ikken, i.e., one ken, a Japanese measure equal to 6 Japanese feet (shaku); Siebold (Nippon, iv) says the ken =6.3 shaku, or 1.909 metre, which would make 2.087 yards. A tatami was one ken long and half a ken broad, thus approximately 6 x 3 feet. Other sources give the ken a measurement of 6 shaku and thus 1.818m. One shaku is 0.3030m.

**Tatami in length** = 6¼ feet (Cocks 1883a, p.46)

**Tatami in square** = a mat used to measure 6 x 3 feet (Cocks 1883a, p.103) Formally: 1.81818 meters (5.9652 ft) x 0.90909 meters (2.9826 ft). In Japan, the size of a room is often measured by the number of tatami mats (-畳 -jō), about 1.653 square meters.

**Currency**

Tael = Japanese currency. Until 1666, a tael was 57 stuiver (5 cent in guilders), after 1666 it was fixed on 70 stuiver, to prevent miscalculations.

Maas/maes/mas = Japanese currency. One maas was 7 stuiver.
II - List of Japanese place names referring to maritime landscape features (including coastal natural phenomena)

- 舟
  Romaji: fune, funa
  Meaning: boat, ship

- 舟大工（町）
  Romaji: funedaiku
  Meaning: shipwright (quarter)
  Location: Nagasaki City, Nagasaki-Prefecture, Japan

- 船
  Romaji: fune, funa
  Meaning: boat, ship

- 御船蔵（町）
  Romaji: ofunagura (machì)
  Meaning: great ship warehouse (quarter)
  Location: Nagasaki City, Nagasaki-Prefecture, Japan

- 浦
  Romaji: ura
  Meaning: inlet

- 崎
  Romaji: saki
  Meaning: small peninsula, cape

- 湾
  Romaji: wan
  Meaning: bay
- 灘
   Romaji: nada
   Meaning: sea

- 湖
   Romaji: ko
   Meaning: lake

- 川 or 河
   Romaji: kawa or -gawa
   Meaning: river

- 沢
   Romaji: sawa or -zawa
   Meaning: stream

- 烽火 or 煙火
   Romaji: hōka or enka
   Meaning: fire beacon

- 港
   Romaji: minato
   Meaning: harbour
Outcrop of the map of Japan, slightly edited to show the main islands: #1 is Hokkaido, #2 is Honshu, #3 is Shikoku and #4 is Kyushu. Scale of the original map 1:5,000,000 (GSI, 2010)
IV – Sketch of Hirado Harbour in 1621 by an unknown artist