

Chapter 1

Introduction

1.1 Introduction

As part of this study it is important to understand the development of the Southeast Asia region in a historical context. This development is highly influenced by trade. Many foreign powers are attracted to the region because of the economic welfare. They take cities and trade posts like Jayakarta (renamed Batavia) (East Indies), Galle (Sri Lanka), Cochin (India) and Melaka (Malaya). The implementation of some settlements in Asia is highly influenced by these European countries. Foreign powers that conquer parts of Asia include the Spanish, Portuguese, Dutch and British. The Dutch leave their mark on settlements in Asia through lay-out and architecture in a very recognizable, entirely different way from the Portuguese or Spanish. Therefore it is necessary to have an understanding of the development of Dutch settlements in Asia and the influence that Dutch architecture has on the buildings in Asia, especially, on shop houses in Asia.

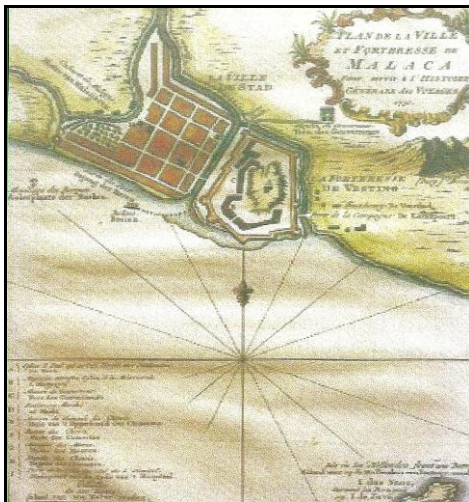


Figure 1.1: Map of the town and fort of Melaka. (ca. 1753).

Source: Atlas of Mutual Heritage, the Netherlands.

This study eventually leads to a better understanding of Dutch architecture in Melaka.

37 shop houses, 9 public buildings and the fort have been selected to give a more in depth study of their *facade* analysis. In this study a comparison is made with other, pre-

vious, studies about the analysis of shop houses.

1.2 Literature used for this Research

The research questions form the base of the study. To be able to answer these questions literature had to be studied related to the research questions. The research questions are answered in Chapters 5: The Dutch Settlements outside the Netherlands: Historical Background, Planning and Implementation (East Indies, India, Sri Lanka and Malaya), 6: The Dutch settlement of Melaka, 7: The Dutch Public Buildings in Melaka, and 8: Dutch Shop Houses in Melaka. Chapter 1 is the Introduction. Chapter 2 is on Methodology. Chapters 3 and 4 give additional information on Simon Stevin and his Principles and Dutch Expansion in Asia which attributes to the context of this study.

The focus of the study is on the mathematician and military engineer Simon Stevin (1548-1620) and his principles (treatises) with regard to settlements and buildings in Asia. An analysis of the historical background of the development of the region (Asia) in the 16th/17th century gives more clarity about that specific period. Foreign powers were attracted to the region because of the development of the trade in Southeast Asia. Cities and trade posts were conquered and rebuilt according to architectural ideas which were highly influenced by the culture of their own countries. Not only were the architectural ideas imposed but social ideas are also integrated in the architecture with regard to daily life within the cities. To get an idea of the Dutch Architecture in Asia it is important to get a better understanding of the development of the architecture in the Netherlands. Dutch architecture was studied if there was any influence on architecture in Asia and specifically in Melaka. It is important to understand the historical development of the region to place any developments of the settlements and architecture in the right perspective. Previous research (summary of existing inventories by area and summary of existing inventories by street) was studied to establish if other researchers

had already done the same kind of research or parts of it. The research gap was established with regard to conservation of buildings. Not included in this study is the research on the condition and restoration of the buildings in Melaka. The personality of Simon Stevin and his ideas were studied. The contents of the principles or treatises Stevin has written on the construction of fortresses and the lay-out of army camps were looked into. Simon Stevin (1548-1620) was a Flemish mathematician and military engineer. He was active in a great many areas of science and engineering, both theoretical and practical. He also translated various mathematical terms into Dutch making it one of the few European languages in which the word for mathematics, *wiskunde* ("the art of what is certain"), was not derived from Greek via Latin. The translation of the *Art of Fortification* was studied to define the influence of Simon Stevin on non-Dutchmen. The influence of the ideas of Simon Stevin on the lay-out of settlements in Asia was studied as were the characteristics of settlements in Asia and the application of the ideas of Simon Stevin on these settlements.

1.2.1 Historical Background

Kathirithamby-Wells (1977) gives an account of the history of the Malacca Straits. The Straits of Malacca is an important thoroughway for trade. It became a factor to be reckoned with in the region when maritime trade begins to flourish between China, West Asia and Europe. From then on the Malacca Straits became the natural site for entrepôt and trading stations which provided the natural shelter and provisions for ships assemble goods for exchange and offer navigational facilities for trade further east with the Spice Islands¹ and China. Main assets of these stations, or rather ports, were its position, its population and its ruler. In the fifteenth century Melaka became more prominent. It had two advantages: the favour of the Chinese emperor and a series of ru-

¹ The Spice Islands are a small group of islands to the north-east of East Indies, between Celebes and New Guinea, despite their relatively small size, they were the largest producers of mace (the dried "lacy" reddish covering of the seed), nutmeg (the actual seed of the tree), cloves (the aromatic dried flower buds) of a tree and pepper in the world.

lers who were ambitious to make Melaka the most prominent port in the Straits.

Lewis (1995) shows that in 1500 Malay Malacca was the most important city of the Malay Archipelago, one of the great trade centers of the world. Its rulers, said to be descendants of the ancient line of Srivijaya, dominated the lands east and west of the Straits. First the Portuguese captured the town. They were followed a hundred years later by the Dutch who, attracted in their turn by Malacca as symbol of the wealth and luxury of the east, were to rule this port city for more than a hundred and fifty years.

It proved to be, in many ways, an empty conquest. Portuguese and Dutch governments imposed restrictions on Malacca's trade, driving it to the newer ports in the north and south. Moreover, by the time the Dutch finally secured the town, they had established their own port at Batavia, in Java. Dutch Malacca was, by 1701 not of much interest anymore. Lewis draws on the extensive correspondence of the Dutch East India Company to examine the role the Dutch played as Malacca's rulers in the eighteenth-century Malay world, arguing that their presence, though generally too weak to secure their own interests, disrupted the traditional political and economic organization of the Malay polities, contributing significantly to the disarray that beset the Malay world at the beginning of the nineteenth century.

1.2.2 Trade

Nordin Hussin (2007) makes a comparative study of Melaka and Penang in the following areas: policy, geographical position, nature and direction of trade, morphology² and society and how these factors were influenced by trade policies. An examination of this kind will require a look at all aspects of the development of Melaka and Penang. Thus trade, administration and policies, physical characteristics of the settlements and nature of the societies will be examined and the interplay of some or all

² The study of the form of human settlements and the process of their formation and transformation.

of these factors will be shown. A comparative study of Melaka and Penang between 1780 and 1830 has to take into consideration: firstly the fact that Melaka had a long history as an entrepôt, has seen indigenous rule before it was colonized and been for a long time under Dutch rule. While Penang was a newly opened port. Secondly that both were run in the interest of rival companies. Conclusions will then be sought regarding the position of the ports in the region: nature and direction of the trade of both port-towns, the physical nature of the towns and type of societies that fostered by trade that was conducted and the policies pursued.

The VOC grew, as Jacobs (2000) mentions, since its establishment in 1602 to the greatest commercial enterprise in the world. For two centuries the VOC dominated the trade between Asia and Europe. The historical description of the VOC in Asia has the most advantage by a general description that would cover a long period or even the whole century including the years after the Fourth English War. The study has concentrated on the products which were traded among almost thirty VOC settlements in Asia. All ship movements were registered. Of every ship and vessel it was written down on what day it left from one trading post to another. What cargo it was carrying, composition, volume and purchase value of the cargo.

1.2.3 Architecture

In the fourth part of their standard series Meischke, Zantkuijl and Rosenberg (2000) describe the reflections on the construction history of the Dutch house. The area discussed is Utrecht, North Brabant and the eastern provinces in the centre, east and south of the country.

The origin of the house types, emerge and specific development of the construction industry are described. The period of the 16th till the 18th century are described on basis of the manner how the local reaction was on the major architecture examples and styles.

Innovation and tradition are explained mainly from the interaction between the basic building style of the construction of walls, floors and windows and the cultural need to do this in one way or another “gevoeglyck” (in an adequate and decent way). Beauty, decoration, construction and detail would continue to be so close together that just as much clarity arises where art historians would establish a fog of stylistic and historical anecdotes. Of the carpenter, bricklayer, construction boss and later on the architect the art and science are described to build practical and beautiful residential buildings indicating the status of the resident and to contribute to the townscape. This part contains descriptions of the buildings in possession of the Society Hendrik de Keyser in the region. In these the building history, history of occupation and use, architectural design and renovations or restorations are described. In these the historical anecdote stands beside the constructive design, stylistic and typological characteristics.

Zandkuijl (1975) discusses in the most comprehensive publication on the house in Amsterdam, in contrast with normal architectural history which focuses primarily on the major public buildings like churches, town halls and palaces, it concentrates on ordinary citizens houses. It begins with the earliest examples of wooden and stone houses and continues into the twentieth century. Zandkuijl's work is broader than the title suggests. In fact, he describes the house-architecture in the Netherlands with Amsterdam as its center.

Blussé (2009) discusses specific points of the town of Batavia like the morphology, application of Dutch architectural ideas in social institutions, the golden age of the town, how the town was seen by others and the geographical position of Batavia. Blussé's contribution is to an edition of Asian port cities in the seventeenth and eighteenth centuries which were the site of intensive cultural contact involving a broad spectrum of participants from across the world. These interactions raised questions of communication for merchants who conducted business in the port cities and of

regulation and control for the officials who governed them. By drawing comparisons among the port cities of East and Southeast Asia where European East India Companies maintained trading centres. The edition goes beyond national histories to examine cultural interactions on a regional basis. The authors draw on the rich literature relating to cross-cultural interactions between the Dutch and Asian countries in discussing issues that range from architecture, mercantile and artistic communication, business transactions and dispute settlement to family issues, clothing, housing, and social relations associated with food. Their work yields intriguing new interpretations of the Asian maritime world that will interest historians concerned with Europe or Asia during the early modern period as well as students of material culture.

1.2.4 Previous Research

Summary of Existing Inventories by Area

Raja Nafida (2008) approaches her study through an analysis of case studies and gives a classification according to time from pre 1700 to 1980. In her study there is no classification for shop houses for the period 1800 to 1911. The shop houses which she names early shop houses were the ones which have according to her study Dutch characteristics because of the narrow *facade* at the front because of tax reasons, square windows, big doors with big hinges and terra cotta tiles.

The Inventory of Cultural Heritage (NUS&UM) (2005) determines the *facade* styles of the shop houses through specific, detailed, specifications with among others the personal details, types, design, use, structure, completion, contractor, present owner, current owner of the shop houses. The area of the study was the Core and Buffer zone.

In the Inventory of Buildings in the Heritage Zone of Melaka (MBMB) (2006) the same streets and most of the house numbers, as in my study, are dealt with. The periodical description is different. In the Inventory of buildings in the Heritage Zone of Melaka the

period covered is from 1801 till 1930. In the Inventory of my study the period covered is from 1641 till 1895.

Summary of Existing Inventories by Street

The researchers of the Department of Architecture University of Seoul (2007) Analytical Survey, Heeren Street, Shop houses: Transformation, Mutation and Transformation + Mutation mention that the lay-out of the shop houses is based on the traditional Chinese style of a rectangular courtyard surrounded by walls, buildings or rooms. These houses had front pitched facade roofs rather than the western style gable *facade*. They made a distinction in three types: First Type – Transformation, Second Type Mutation, and Third Type – Transformation + Mutation.

In the inventory of Measured Drawing Front Façade of Buildings Northwest Jalan Hang Jebat (Jonker Street) Melaka by FAB/UM (2001) a few historical buildings are determined in Jonkerstraat according to certain criteria: Age and style, Architectural value and originality, Current function and History. There are certain 4 Architectural styles in this Inventory:

1. Typical Chinese Shop house was an early style. This style was simple in form and highly functional. There was no intricate joinery and detailing, this style represented the simpler living of a very hardworking class of people.
2. The Chinese Baroque style was greatly influenced by Chinese Architecture from the mainland with intricate plaster carvings and details in many colours with depictions of Chinese mythology and legends.
3. The Straits Eclectic Style was a mix of Local Chinese, High Victorian and Baroque styles. The handmade ornamentation was even more elaborate as with the houses build in the Baroque Style. These were built to express the family's wealth and influence.
4. The Art Deco style was probably from a later, more recent period. The features of

these houses were the straight lines, geometrical shapes and patterns used.

As the researchers of *Measured Drawing, Northwest* by FAB/UM (2001) mention typical Chinese shop houses are simple in form and very functional. There were no excessive ornaments, complex woodwork joinery and elaborate details. For these types of houses the materials used are: timber, mortar and terra cotta.

1.2.5 Simon Stevin

Pirlet (2012) discusses that Stevin is a talented physicist, engineer and inventor. From that fascination Stevin left behind a rich maritime engineering legacy. He designed new pumping and drainage systems, contributed to the development of dredging techniques in port areas and was responsible for the construction of the first yacht in our region. For the maritime world is especially “The Port Finding” (1599), his work on positioning at sea, of exceptional importance. Stevin also contributed significantly to the enrichment of the Dutch language, by choosing to work not in the usual Latin but in the Dutch language.

De Mare (2003) gives a comparative analysis of early modern Dutch arts (architecture, literature and painting). Through a critical approach of literature that analyses, interprets, or evaluates the inherent features of a text, based on published source evaluation (or information evaluation). An information source may be a document, a person, a speech, a fingerprint, a photo, an observation or anything used in order to obtain knowledge, history of science and archaeology on the one hand and Russian formalism³, French semiology⁴ and structuralism⁵ on the other hand. Using three

³ Russian Formalism was an influential school of literary criticism in Russia from the 1910s to the 1930s. It includes the work of a number of highly influential Russian and Soviet scholars such as Viktor Shklovsky, Yuri Tynianov, Vladimir Propp, Boris Eichenbaum, Roman Jakobson, Boris Tomashevsky, Grigory Gukovsky who revolutionised literary criticism between 1914 and the 1930s by establishing the specificity and autonomy of poetic language and literature.

⁴ The study of signs. For a semiotician (one who practices semiotic analysis), a shirt, a haircut, a television image, anything at all, can be taken as a sign, as a message to be decoded and analysed to discover its meaning. Its modern form took shape in the late nineteenth and early twentieth century through the writings and lectures of two men. Charles Sanders Peirce (1839-1914) was an American philosopher and physicist who first coined the word "semiotics," while Ferdinand de Saussure (1857-1913) was a Swiss linguist whose lectures became the foundation for what he called "semiology." The application of semiotics to the interpretation of popular culture was pioneered in the 1950s by the French semiologist Roland Barthes (1915-1980) in a book entitled *Mytho-*

historical sources associated with the Dutch home life: the house as presented in the treatise *Onderscheyt vande oirdeningh der Steden and Byvough der stedenoirdening, vande oirdening der deelen eens hvis Met `t gheene daer ancleeft* (1649) (Designing cities) and drawings of the Flemish engineer Simon Stevin (1548-1620), married life as formulated in the long poetic composition centred on a hero *Houwelick* (1625) of the poet-statesman Jacob Cats⁶, and the reproduction of the home life in the interior paintings of Pieter de Hooch⁷ as well as written down in the treatise on the art of painting by Samuel van Hoogstraeten⁸. In the national consciousness Stevin stands for anti-Aristotelian⁹ scientific rationalism, Cats for patriarchal Calvinism¹⁰ and De Hooch for bourgeois intimacy.

1.2.6 Treatises

The aim of the study of Oers (2000) is to provide an overview in which the focus is directed towards the theory and the practise of the foundation and development of settlements overseas, towards the spatial technical aspects of this subject. The first two chapters are dedicated to outlining the research itself. Chapter 1 explains the main issues, hypotheses, objectives and limits. The collections of historic maps that are held in the Dutch General State Archives in The Hague and the results of the research are dealt within this resulted in the establishment of the Atlas of Dutch Overseas settlements that is described in Chapter 3. Chapters 4 to 7 deal with treatment of the

logies. The basic principles of semiotics had already been explored by linguists and anthropologists, but Barthes took the matter to the heart of his own contemporary France, analysing the cultural significance of everything from professional wrestling to striptease, from toys to plastics.

⁵ Structuralism is a theory of humankind in which all elements of human culture, including literature, are thought to be parts of a system of signs.

⁶ Jacob Cats (1577-1660). Dutch poet, humorist, jurist and politician. He is most famous for his emblem books. These are a category of mainly didactic illustrated book printed in Europe during the 16th and 17th centuries, typically containing a number of emblematic images with explanatory text.

Pieter de Hooch (1629-1684). Genre painter. Paints pictorial representations in any of various media that represent scenes or events from everyday life, such as markets, domestic settings, interiors, parties, inn scenes, and street scenes. Such representations may be realistic, imagined, or romanticized by the artist. Some variations of the term genre works specify the medium or type of visual work, as in genre painting, genre prints, genre photographs, and so on.

⁸ Samuel van Hoogstraeten (1627-1678). *Inleyding tot de Hooge Schoole der Schilderkonst, Anders de Zichtbaere Werelt*. Rotterdam (1678) (Introduction to the Academy of Painting)

⁹ Aristotle (384 BC -322 BC) Greek Philosopher.

¹⁰ Calvinism (also called Reformed tradition, or the Reformed faith, and sometimes Reformed theology) is a type of Protestant theological system and an alternative approach to the Christian life.

historic sources. Starting with an outline of the methodology used to demarcate the object of the research. Chapter 4 covers the selection of family of Dutch settlements overseas for further study and explains how the sources are treated to generate information for analysis and comparison. Important to this are the person and works of Dutch engineer avant la lettre Simon Stevin, whose influence on matters of town planning and fortification building, inside as well as outside the Netherlands, can hardly be exaggerated. Through his famous Ideal Scheme for City the spatial layout and functional organisation of three case studies – Colombo, Cape-Town and Recife/Mauritsstad - and the possible applicability of this explanation to all selected members of the family of Dutch founded settlements overseas is explained.

Van den Heuvel (2004) writes about seventeenth century theories on army reforms en logistics in the field. The basis for these was the scientific approach of the art of war from the Roman antiquity. Gradually these references get a different character. Instead of a historical-philological¹¹ reconstruction in the early seventeenth century it is more to contemporary applicability. The reconstruction now serves as the basis for the military reforms of the military forces, which then through practical experiences in the field can be adjusted. An important contributor to the ideas on warfare at that time was the mathematician and military engineer Simon Stevin (1548-1620). Stevin wrote several treatises on military subjects like *Castrametatio. Dat is Legermeting en Nieuwe Maniere van Sterctebou door Spilsluysen* both of van 1617.

Van den Heuvel (2005) mentions that this book deals with Stevin's unfinished, and until now only partly revealed, architectural treatise. The discussion of Stevin's *Huysbou* opens by exploring the origins of the ideas contained in the work. The four subsequent chapters examine Stevin's notions of symmetry and order in architecture, his views on building methods, the role of water and the use of visual presentations of architecture.

¹¹ Philology: the study of literature and of disciplines relevant to literature or to language as used in literature.

The sixth and seventh chapter of the commentary surveys Stevin's contribution to architectural theory and the reputation enjoyed by *Huysbou* in the Low Countries and in the broader European context.

The second section of the book contains Stevin's work on architecture and town planning. This is not a critical text in the ordinary sense. Stevin's *Huysbou* was never actually published as such and the precise intentions of the author are no longer known. Nonetheless, an attempt has been made here, based on Stevin's own notes regarding the composition of the architectural treatise and the often contradictory lists of contents drawn up by others after his death, to recreate the envisaged *Huysbou* as accurately as possible. This reconstruction is preceded by a discussion in three chapters of the work's genesis, the first attempts to uncover the original form of the opus and an explanation of the framework upon which this hypothetical reconstruction is based.

The actual reconstruction is based on the compilation of extracts from Stevin's architectural commentaries recorded by his son and various contemporaries. Naturally, the present author is aware that this attempt poises precariously on the margins of historical fiction. The reconstruction is more than just an incomplete treatise; it is a new work in which the gaps have been filled with extracts and comments found elsewhere in Stevin's oeuvre. This approach has been taken because the generally accepted version of Stevin's architectural texts that published by Hendrick Stevin in *Materiae Politicae* in 1649 purposely deviates from the original structure, presenting *Huysbou* in a distorted format. In unpublished extracts from the original work, Isaac Beeckman and Constantijn Huygens revealed entirely different aspects of the book, highlighting parts otherwise ignored. These texts have been brought together here for the first time. In order to ensure that the context of the parts from which the reconstructed *Huysbou* has been composed remains transparent for the reader, the extracts and comments have been

incorporated in their entirety in appendices. These include the excerpts recorded by Isaac Beeckman and Hendrick Stevin that have not previously appeared in print.

The presentation of these various extracts as separate items sheds light on the substance of Stevin's architectural treatise, but not on the intended form of his *Huysbou*. The presentation of these fragments is therefore accompanied by an attempt to merge these into a whole. After all, it is only by reconstructing the treatise in its complete form that the significance of the various parts can be properly assessed. 'It is,' as Stevin noted, remarking on the formulation of scientific propositions, 'like a wax model, with a head, arms and legs, which if melted are no longer limbs, but part of the same material'.

1.2.7 Translation

In this standard work Schukking (1964) mentions almost all publications by the Flemish mathematician and engineer Simon Stevin (1548-1620), who beside his many inventions made important contributions to mathematics, the philosophy of science, bookkeeping, music theory and the art of war (as advisor and teacher of Prince Maurits of Nassau, during the Dutch Eighty Years war¹² against Spain).

One of Stevin's most important publications is *De Stercktenbouwing* (The Art of Fortification) published in 1594 which was translated in 1604.

1.2.8 Influence of the ideas of Simon Stevin

Dijksterhuis (1970) mentions that Simon Stevin (1548-1620) organized the existing knowledge and added his own contributions. He had a sharp critical sense and had an independent judgement which detected the defects in the current theory and practice and his untiring inventiveness enabled him to introduce the necessary improvements.

Fortification had undergone during his lifetime the stimulating effect of actual war and

¹² The Eighty Years' War, or Dutch War of Independence, (1568–1648).

in the Netherlands he was offered many opportunities to observe its practical applications. The defence of the country had to be organised rapidly and without great cost. The Netherlands had developed a new system of strengthening their positions based on the ideas of the “New Italian Method”. In his work *De Stercktenbouwing* (The Art of Fortification) Stevin was the first to give a systematic account and a theoretical treatment of the method followed in the Low Countries in his work *De Stercktenbouwing*.

1.2.9 Characteristics of VOC Settlements

Blussé (2009) discusses specific points of the town of Batavia like the morphology, application of Dutch architectural ideas in social institutions, the golden age of the town, how the town was seen by others and the geographical position of Batavia. Blussé’s contribution is to an edition of Asian port cities in the seventeenth and eighteenth centuries which were the site of intensive cultural contact involving a broad spectrum of participants from across the world. These interactions raised questions of communication for merchants who conducted business in the port cities and of regulation and control for the officials who governed them. By drawing comparisons among the port cities of East and Southeast Asia where European East India Companies maintained trading centres. The edition goes beyond national histories to examine cultural interactions on a regional basis. The authors draw on the rich literature relating to cross-cultural interactions between the Dutch and Asian countries in discussing issues that range from architecture, mercantile and artistic communication, business transactions and dispute settlement to family issues, clothing, housing, and social relations associated with food. Their work yields intriguing new interpretations of the Asian maritime world that will interest historians concerned with Europe or Asia during the early modern period as well as students of material culture.

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1.2.10 Application of the ideas of Simon Stevin

The aim of the study of Oers (2000) was to provide an overview in which the focus was directed towards the theory and the practise of the foundation and development of settlements overseas, towards the spatial technical aspects of this subject. The first two chapters are dedicated to outlining the research itself. Chapter 1 explains the main issues, hypotheses, objectives and limits. The collections of historic maps that are held in the Dutch General State Archives in The Hague and the results of the research are dealt within this resulted in the establishment of the Atlas of Dutch Overseas settlements that is described in Chapter 3. Chapters 4 to 7 deal with treatment of the historic sources. Starting with an outline of the methodology used to demarcate the object of the research. Chapter 4 covers the selection of family of Dutch settlements overseas for further study and explains how the sources are treated to generate

information for analysis and comparison. Important to this are the person and works of Dutch engineer avant la lettre Simon Stevin, whose influence on matters of town planning and fortification building, inside as well as outside the Netherlands, can hardly be exaggerated. Through his famous Ideal Scheme for City the spatial layout and functional organisation of three case studies – Colombo, Cape-Town and Recife/Mauritsstad - and the possible applicability of this explanation to all selected members of the family of Dutch founded settlements overseas is explained.

1.2.11 Summary of literature to support research gap

Kamarul Syahril Kamal, Lilawati Ab Wahab and Ghafar Ahmad (2008) mention in their study as performed which intends to highlight the existing conditions of historical buildings in Malaysia with the main focus on the conditions of building defects and conservation approach to these buildings. To do so, a pilot survey had been conducted on several heritage towns and cities based on the existing heritage trail in Malaysia. The broad objective of this pilot survey was to examine the level of building defects and the location of building defects that normally occurred at various types of historical buildings in Malaysia. At the same time, it also looked into the conservation approaches that had been done to these historical buildings either the method were acceptable according to the basic principles and philosophy of building conservation. These included Government buildings, public buildings, cinemas, banks, mosques, shop houses, museums and libraries.

Syed Zainol Abidin Idid (2010) mentions that the main drawback of urban conservation in Malaysia was hypothesised by the conflicting ways in which various stakeholders perceived the role of the urban conservation. They failed to see that conservation was directed among other things to; maintaining the places of cultural significance i.e.,¹³ a

¹³ Id Est = that is. It is used in place of "in other words".

whole neighbourhood, part or even the entire town, and it focused on ensuring a harmonious relationship of the old and the new. The key to a common goal in achieving the successful urban conservation was in the understanding of the appropriate approaches towards tackling the complex issues of a “living city” as in the case of the World Heritage City of Melaka. Type of buildings which must be maintained according to the conservation zone action plan MPMBB (2001) are religious places: temples, mosques and churches still existing in the Conservation Zone such as the Kampong Kling Mosque, the Cheng Hoon Teng Temple and the Sri Poyartha Viyanagar temple at Jalan Harmoni and others. Buildings for residential purposes in Jalan Tun Tan Cheng Lock, Jalan Bukit Cina, Lorong Bukit Cina and Lorong Hang Jebat. Buildings of vendors of religious items in Jalan Tokong. Craft Shops in Jalan Tukang Besi and Jalan Tukang Emas and Lorong Jambatan. Old restaurants shops at the end of rows of shops in the Conservation Zone that still maintain their old characteristics. Buildings like institutions of “Tiong Hua” ethnic groups and historical buildings at the heritage complex and buildings which house traditional wholesale activities in Jalan Kampong Paintai.

Kammeier (1986) mentions that the orientation towards the values of the past, the attempts at reconciling protection and economic development in historic urban settings, had gathered momentum rather late whereas earlier, less respectful, periods of urban growth had already destroyed or defaced the historic substance which may have had a chance to survive. In a way, the European experience suggested that the strength of professional and popular consciousness towards conservation was inversely related to economic growth rates. Urban conservationist movements may not realistically be expected to gain significant strength during the early stages of industrial development.

MacGunnicle (1990) mentions that many problems occur during the restoration of buildings. Many of these problems could have been avoided with proper professional

advice and care. There seems to be a lack of understanding of the important distinction between temporary and permanent repairs. Invariably over a period of time temporary repair (and that definition includes repairs embarked on without first seeking proper professional advice and diagnosing the fault proves the most expensive in the long term. Defects are however not synonymous with lower cost restoration work. Major defects can adversely affect buildings on which the owners have lavished enormous funds in attempts to achieve the highest available restoration standard. A relatively minor effect, e.g.,¹⁴ a leakage can eventually much impair a buildings reputation especially if the defect left unattended or is superficially or improperly repaired resulting in a more ancillary problems. Many shortcomings arise from poor detail design and indifferent workmanship. Initial restorations are often impaired by poor detail design and indifferent workmanship.

1.3 Research Aim and Objectives

Research questions:

1. What was the influence of the treatises by Simon Stevin on settlements outside the Netherlands?
2. Whether or not were these treatises used as guidelines to establish Melaka or other settlements in Asia?
3. What was the design of the settlement of Melaka according to Dutch principles?
4. Is there any clear typology of the Dutch buildings in Melaka and is there an influence of Dutch principles according to the ideas of Simon Stevin?

The aim of this research is to establish and clarify the principles, through treatises written by Simon Stevin (1548-1620), on the establishments of settlements outside the Netherlands and buildings. The first part of the aim is to establish the implementation of these principles on settlements in Asia (1598-1795). In particular the settlement of Melaka. The second part of the aim is to establish if the principles of Simon Stevin had any influence on the design of Dutch Buildings in Melaka. The Public Buildings have

¹⁴ Abbreviation of Latin Exempli gratia = for example.

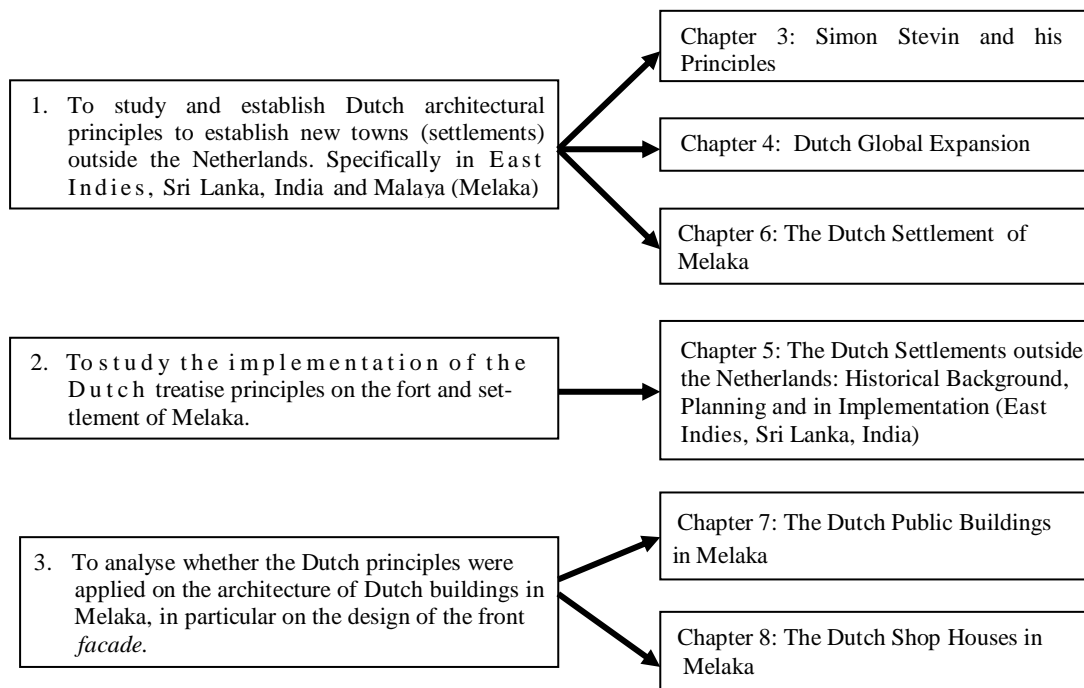
been included in this study because these are a typical expression of Dutch colonial architecture.

The objectives of this research are:

1. To study and clarify Dutch architectural principles in establishing new towns (settlements) outside the Netherlands. Specifically in East Indies, Sri Lanka, India, and Malaya (Melaka).
2. To study the implementation of Dutch treatise principles on the fort and settlement of Melaka.
3. To analyse whether Dutch principles were applied on the architecture of Dutch buildings in Melaka, in particular on the design of the front *facade*.

The conclusion drawn from the objectives are the architectural and treatise principles which had an influence on the settlements and architecture in Asia and specifically on the town of Melaka.

Table 1: Diagram of Objectives.



1.4 Thesis Structure

The following part of the introduction is about the chapters in this thesis. It will give a short summary of contents of each of the chapters in relationship to each other.

Chapter 1: Introduction

This chapter contains the Literature review on Historical Background, Trade, Architecture, Previous Research, Simon Stevin, Treatises, Translation, Influence of the ideas of Simon Stevin, Characteristics of VOC Settlements and the Application of the ideas of Simon Stevin. Research Aim and Objectives and Thesis Structure.

Chapter 2: Methodology

The first step was to inventorise what kind of literature would contribute and give a base to the study, since the study concentrates on the principles according to which Dutch settlements were designed and specifically those of Simon Stevin (1548-1620).

The second step was to find material in archives which would support the study. The documents concentrated upon were the principles or treatises of Simon Stevin with regard to the application on settlements in Asia and specifically the settlement and buildings of Melaka. Archival records were also looked into where decisions were taken about Melaka concerning the changes which were made on the town and the fort during the Dutch era.

The third step were direct observations. A general inventory was made of the public buildings and shop houses in the Core and Buffer Zone of Melaka. From this inventory 9 case studies emerged with regard with regard to the public buildings, the fort and 37 shop houses.

Chapter 3: Simon Stevin and his Principles

The personality of Simon Stevin is described by different authors as practical and down to earth, a sober and humane man, with a refreshing way of tackling problems, hardworking and clear thinking, as good-natured and funny guy, opportunistic, coldrationalistic, as having a pragmatic rationalism and as having a very utilitarian view. (Romein-

Verschoor, 1938, Struik, 1958, Van Berkel, 1995, Ottenheim, 1999).

His work lacks philosophical speculations and barely refers to classical philosophers. Stevin does not develop any naturphilosophy¹⁵ of his own as Galileo¹⁶ and Descartes¹⁷. Yet he was characterized as one of the new generation of scientists. Stevin is a pragmatic who did not surrender to philosophical speculations. (Kox, 1980).

Simon Stevin published several treatises. In 1594 Stevin published *De Sterctenbouwing* (The Art of Fortification, in which he gave guidelines on the construction of fortresses. The treatise *Wisconstighe Ghedachtenissen* (Thoughts on Mathematics) was published in 1605 and 1608 by Simon Stevin. One of the chapters which was originally intended for *Huysbou* was titled: *Materiae Politicae* (Political Matter). In 1617 the treatise *Castrametatio* (Camp Measurement) was published. In 1649 after his death his Ideal Plan for a City was published in *Onderscheyt vande oirdening der steden* and *Byvough der stedenoordening, vande oirdening der deelen eens hvis Met 't gheene daer ancleeft*. (Designing Cities).

The English translation of 1604 in manuscript form of the Art of Fortification, 1594 at James Catalogue at Trinity College Library, Cambridge, United Kingdom has never been printed. This rare 106-page document, most of which in old writing, could not be used for the interpretation of Stevin's original text for the non-Dutchmen.

There are several treatises from the Italian Renaissance: Leonardo Bruni in his *Laudatio Florentiae urbis* (Praise of the City of Florence) (1407) described Florence as a model of an ideal city of justice, a city well ordered, harmonious and beautiful. Leon Battista Alberti stated in *Re Aedificatoria* (On the Art of Building) published between 1443 and 1452 his aesthetic and moral values, of his ideal city, quite clearly. An interesting

¹⁵ Naturphilosophy attempted to comprehend nature in its totality and to outline its general theoretical structure, thus attempting to lay the foundations for the natural sciences. In developing their theories, the German *Naturphilosophen* found their inspiration in the Ancient Greek Ioniaian philosophers.

¹⁶ Galileo Galilei (1564 -1642). Commonly known as Galileo, was an Italian physicist, mathematician, astronomer and philosopher.

¹⁷ René Descartes (1596 -1650) was a French philosopher and writer who spent most of his adult life in the Dutch Republic.

treatise, the *Trattato di architettura* (Treatise on Architecture) was written by Filarete in twenty five volumes around 1460-1464. Tomasso Campanella wrote, in an Italian version in his City of the Sun in 1602 and in a Latin version *Civitas Solis* in 1623 about the ideal city.

There was a great influence of Simon Stevin's treatises on design and planning of settlements. In his Ideal Plan for a City Stevin had developed a city design in which he was influenced by ideas of an ideal town according to the principles of the Italian Renaissance: the application of arithmetic units and strict symmetry and Dutch engineering and fortification works from the sixteenth and seventeenth centuries.

Chapter 4: Dutch Expansion in Asia

This chapter will be on Dutch global expansion. It will be on the reasons and backgrounds of Dutch trade. It will specify on the trade in Melaka. According to Goor (1994:50) the Dutch were quite late in participating in trading in Asia. The Spaniards, the Portuguese and even the English and the French had launched their operations a century before the Dutch even attempted to sail for Asia. In the sixteenth century the Dutch operated, mainly, in the Baltic, England, France and Spain. Goor (1994:50) mentions since the merchant houses in Antwerp had good connections in Lisbon and Seville there was no need to set sail for Asia to buy sugar, spices and other tropical goods.

Chapter 5: The Dutch Settlements outside the Netherlands: Historical Background, Planning and Implementation (East Indies, India, Sri Lanka and Malaya).

The purpose of this chapter is to expand on the historical background and planning of forts in the Netherlands and settlements in East Indies, Sri Lanka and India but more specific on the town of Melaka (Malaya). It is also on the design of buildings in these countries. VOC architecture and town planning, in the settlements in Asia, was similar

in design, clear and straight forward. Regulations for settlements during the 17th and 18th centuries were not only confined to architectural principles and technical aspects of planning and construction. They also covered all aspects of life: social, economic and cultural level from trading and warfare to everyday living and working. It seems that this was deliberately planned in such a way.

Chapter 6: The Dutch settlement of Melaka

Melaka was taken from the Portuguese in 1641. It is taken due to its strategic position on a rocky hill overlooking the Malacca Straits and to enforce the control on the spice trade. Its natural defences were made out of the hill and river. According to Oers (2000:48) in the middle of the 18th century it had a size of 0.6 by 1 km.

The settlement consisted of three parts: the *Fort Wilhelmus* (the former Portuguese fort A Famosa), the city and an indigenous village. On the main square on the place, where the Portuguese governor's house stood a Town Hall (*Stadthuys*) was built between 1641 and 1656. Next to it the Dutch Reformed Church was completed in 1753. It could very well have been that the space in front of these two buildings was used as a marketplace. Markets established themselves along the quays at the riverside where the merchandise was delivered by boat. The church on top of the hill was renamed St. Paul's and used for religious purposes.

In Melaka the Dutch fort stood on the place of the original Portuguese fort: *A Famosa*. In time the Portuguese built a circle of walls with four gates around the hill. *A Famosa* was extended in time and became the *Fortaleza Velha* or the Old Fort. A citadel now surrounded it. Within the walls of this citadel churches, convents, hospitals and houses were built.

Chapter 7: The Dutch Public Buildings in Melaka

This chapter discusses about the development of Architecture in the Netherlands and its influence in Asia and specifically Melaka. It is about the development of houses and buildings, types of houses (the alley house and the hall house), characteristics of houses through the centuries, changes in the construction of the house, building regulations, changes to the interior of the houses, bricks, masonry, the use of colour at the houses and the windows in the Netherlands.

This chapter also discusses about the implementation of Dutch architecture in Melaka. The hall house has had an influence on the public buildings. The one alley house has had an influence on the shop house in Melaka. Dutch architecture has had an influence on the building style in Melaka through regulations with regard to the size of the front of the buildings. Through the roof type, through the types of windows, through decorative elements like water ledges, pilasters and decorative elements on the rooftops and through materials like bricks and roof tiles.

Chapter 8: Dutch Shop Houses in Melaka

This chapter discusses the architecture and *facade* analysis of 37 Dutch shop houses. It will give a summary of contents of Existing Inventories by Area and by Streets. It then will make a comparison with same locations and house numbers. The list will show, previous Dutch and Chinese, comparative inventories of shop houses. It also discusses the type of shop houses. This chapter will show Dutch and Chinese architectural and other influences.

Chapter 9: Conclusion

This chapter will be about the clarification of Simon Stevin's ideas about the construction of towns in the Netherlands, the implementation of these ideas on Dutch settlements outside the Netherlands and specifically in the settlement of Melaka, the development of Dutch architecture and the implementation on Dutch buildings in

Melaka and the analysis of Dutch shop houses and town houses in Melaka. It will also show the findings of this study through a locational analysis and a determination of 37 shop houses in the Dutch style in Melaka and their Dutch and Chinese architectural influences.