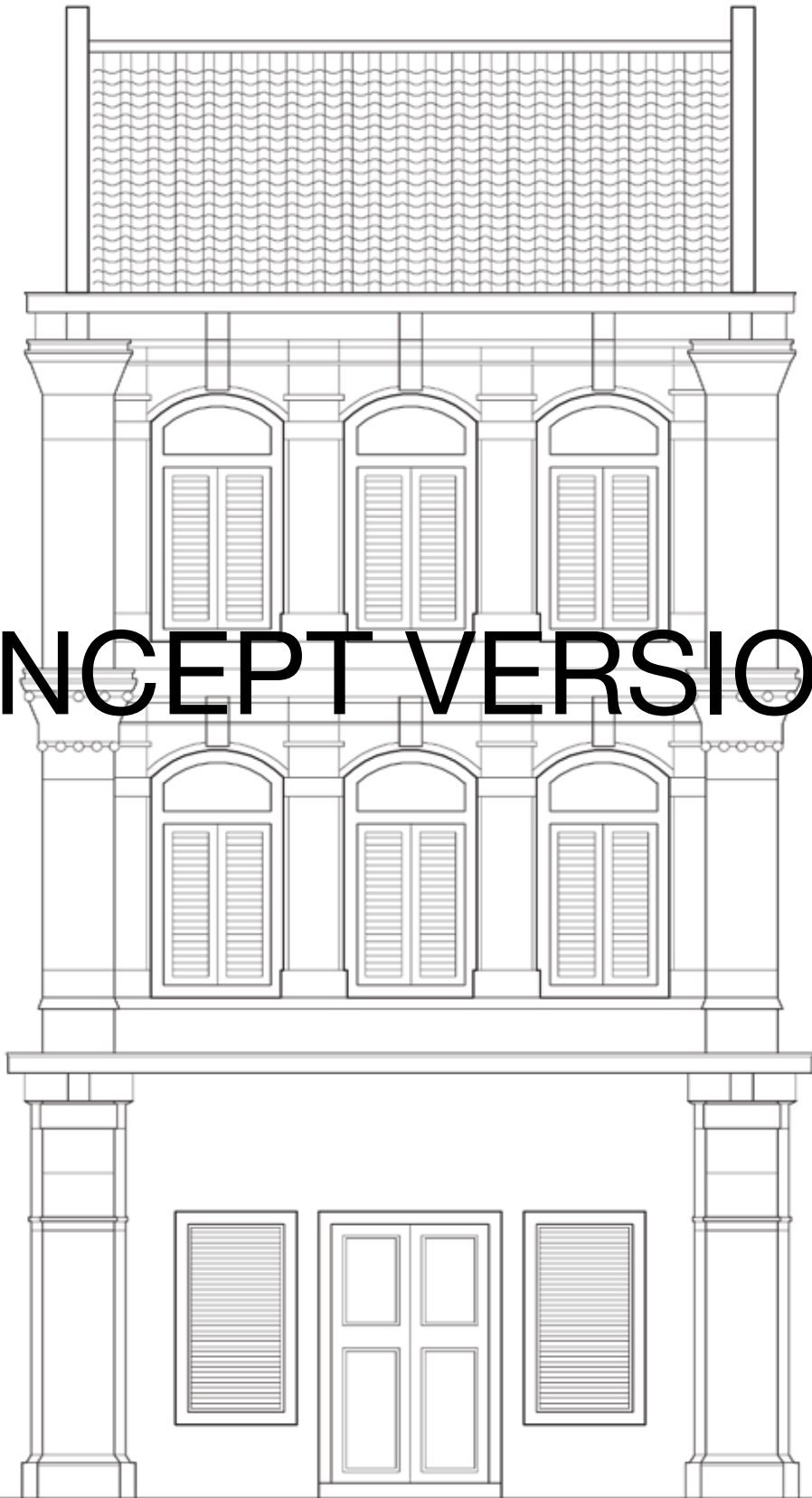


REBIRTH OF THE MALACCA SHOPHOUSE,
a typological research
Traditional Values in a Contemporary World

CONCEPT VERSION



First version, June 12, 2009
The research in concept

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REBIRTH OF THE MALACCA SHOPHOUSE, A TYPOLOGICAL RESEARCH

SHOPHOUSES

Maarten den Teuling

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INTRODUCTION

The title of this research might lead to some misunderstandings, as we all know, words can be a serious obstacle to process. When starting a research focused on architecture it is always hard to describe it in words. Architects communicate with drawings, or models, and when this is communicated properly words don't have to be used. The words as 'rebirth' 'shophouse' 'small scale' etc. might refer to other words as 'heritage', 'preservation', soon the attention of the reader can be distracted, and he or she stops reading. Nevertheless, the goal of this research is not to find solutions for the preservation of buildings, neither it is a research for heritage or renovation, it is an attempt to create a fascination that all started in Malaysia.

My first introduction with a non-European culture left a great impression. Especially the contrast between small rural areas and the big towns all found over South East Asia, like Hong Kong, Singapore and Kuala Lumpur. Not only the contrast between rural areas and urbanized regions exists, even within the large towns the contrast is prominent and visible in a large field: architectural, social, cultural etc. etc.

Where in Europe many towns have a great history that is visible in the architecture and planning, Asian cities often have a shorter history, and vast urban planning tends to destroy the history that is still left. What we see all over South East Asia is the influence of the colonial times, influences can be seen from English, Portuguese and off course Dutch colonists. When I first travelled through Malaysia I was introduced to the town called Malacca. Malacca has one of the richest historic values in Malaysia and many of these items are preserved. In Malacca we can see, feel and taste a mix of time and cultures, a mix of colonial suppression and freedom, and we can always feel the hot and humid tropical climate. Malacca has one of the greatest collections of shophouses, a typology that fascinated me from day one. These 'chaotic' streets with small long shophouses show richness in life and culture. Often Chinese people have their shop, or sell delicious food found inside and outside the shophouse. When we enter the shophouse an architectural highlight becomes visible, and the feeling of indoor and outdoor spaces flows fluently while discovering. Sometimes we find an old man making his Wonton dumplings in a courtyard, and sometimes we find beautiful little garden full with tropical plants.

When we leave this romantic and wonderful place we go back to reality. We go back to the real life that is prominent in Asia: Fast development, high urbanization, housing shortage, improving living conditions, traffic jams, and high rise, lots of high rise. Personally I believe in renewing and development, I also believe that architecture and cities are not build to last forever. In history we saw big disasters and war's destroying entire empires, however people always want to renew and always will rebuilt or construct a new empire. The fact that is worrying me the most is the intense growth of 'real estate' companies that build massive high-rise communities. Communities that off course fulfil modern needs when we talk about density, hygiene and traffic problems, however they tend to create an individualistic society where culture and traditions often are lost.

Malacca, and especially the historic centre of Malacca became world heritage, meaning that most of the culture is preserved. We see the tendency over Malaysia that students prefer to preserve these buildings and it is a desperate attempt to perceive some of the

history. However, preserving buildings also results in a big stop in renewing, and the contrast between modern and old becomes greater and greater. Since day one I wonder if it is possible to build a new shophouse, a new small scale typology, or maybe we can say 'a new dwelling'. A house that off course will fulfil modern needs when we talk about hygiene and comfort, and maybe even an affordable solution. Maybe if it is made properly it can even fulfil the modern demands for density and population growth. But how do we design this typology?

My fascination started with the success of the shophouse, and I want to use this shophouse as a 'case-study' to develop a new shophouse. The goal is to find the basic successful elements in this shophouse, and use them as keystones for the development of a new shophouse. My goal is not to come up with a generic solution that can be placed everywhere, loose from its context, my goal is to find keystones or elements that are free from architectural form and only act as a set of 'rules'. With these rules, architects, people and designers can build a dwelling in a human scale, the small scale.

As the ultimate test I will try to design a shophouse, in the middle of the historic centre of Malacca that uses these keystones, these components, Malacca will act as a historic centre and Malacca will act as a test case for a new modern design: a "prototype".

Maarten den Teuling, June 10th 2009

EXPLORELAB

Explorelab is an experimental graduation lab on the Technical University of Delft. Instead of following the regular programs as: Dwelling, Public building, Interior Explorelab is created to give students the chance to work with a fascination. The architecture Master Program on the TU Delft is divided over a full year, where in the first half of the year a research has to be made, the second half of the year the focus lays on the design. Because the lab is experimental, it does ask a high amount of motivation from the students side, it is up to the student to make his planning for the year, and it is up to the student to find the right mentors to make the graduation year a successful year. Explorelab students are asked to work on their own projects inside the group of other Explorelab students and besides the graduation the lab organises workshops, excursions and guest lectures.

I was one of the lucky students who got picked to join Explorelab 8.





explorelab 8: top left to bottom right: Angela, Beau, Bob, Chiel, Lillian, Maarten, Mathis, Michiel, Nicola, Rolf, Sanne, Xavier.

Photos by Mathis Bout.

THESIS

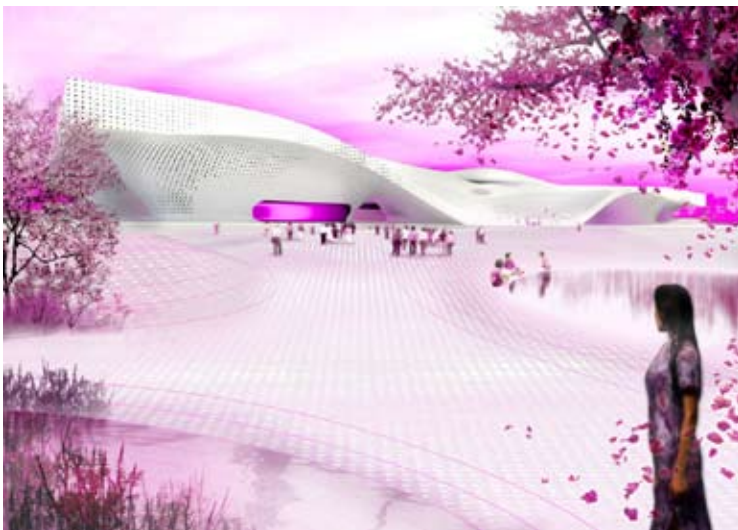


fig 1: Mecanoo in Taiwan (<http://static.worldarchitecturenews.com>) ,
fig 2, Headquarter of China Insurance Group, Shenzhen, China, Coop Himmelblau (<http://www.worldarchitecturenews.com>)

THE ISSUE

The Asian regions are increasingly important and set new standards for urbanism and architecture in the 21st century ¹, small province towns transform to a modern metropolis in the blink of an eye.

The metropolis strives to reach a mythical point where the world is completely fabricated by man, so that it absolutely coincides with the desires. The Metropolis is an addictive machine, from which there is no escape, unless it offers that, too... Through this pervasiveness, its existence has become like the nature it has replaced: taken for granted, almost invisible, certainly indescribable. ²

In the recent years Asia is facing the consequences of economic expansion and population growth. In particular, the Asian countries must develop housing environments that not only fulfil demand, but also produce living environments that are of the same quality as traditional vernacular building types. Many of these traditional vernacular building types can't fulfil the modern needs if they stay in the state they are designed, besides that, the greatest amount of these building types are destroyed for ever, they made place for immense urban plans, and high rise solutions. It may even seem that the utopic urban visions created in Europe around the 50's and 60's, but which were later forgotten, are now being realized in Asia. Eckhart Ribbeck call this region 'a laboratory for a new metropolitan architecture and a post-european urbanism that responds on the urban challenge in a new way.' ³

Many famous European architects have multiple jobs and clients in Asia. The tendency we saw over the last years, especially before the economic crisis started in 2008, was the creation of massive, hubristic mega-projects that most of the time completely ignore the local qualities and building traditions. The ignorance does show new, fantastic artworks, that are a pleasure for the eye and icons in the cities. Towns over Asia, for example Beijing, like to use the icons as landmarks or even events that act as the core of a new status symbol. ^{fig1,2}The main goal of the cities is to achieve a role in the league of the global players like western countries in Europe or America. Not only European architects are a 'star' in creating these icons, sometimes Asian architects or Western architects that indeed did research in the local qualities of the country they build in, translate these local qualities in huge symbolic architecture. Rüdiger Korff did research in Malaysia and its tendency to symbolic architecture focussed on the religion.

Symbolically it should express Malaysia's orientation towards Islam. References to Malay architecture are hard to find in Putrajaya. Only the roof shapes of some buildings (ministries, administrative buildings) have some references to Malay houses. In general the architecture of these buildings follows a rather common office-building style combined with the display of monumentalism. Particularly interesting is the Prime Minister's office, overlooking the central area in which the mosque is located. The monumentalism, using forms of neoclassicism with a huge dome, is reminiscent of government buildings in Berlin built during the late 1930's. It is surprising that few architectural forms from Malaysia, be they Malay, Chinese or Indian, are used in Putrajaya, even more so because it is to be the political and administrative centre of Malaysia. In Putrajaya, one can get the impression that there is a scepticism with regard to Malaysia's own cultural heritage. Arabian styles and monumentalism are perhaps an attempt to compensate for this scepticism.

The symbolism and monumentalism of other landmarks of globalization in Kuala Lumpur,

1: Ribbeck Eckhart, in: Lauber Wolfgang, Tropical Architecture, Prestel, London e.a., 2005

2: Koolhaas R, SMLXL, The Monacelli Press, New York, 1995

3: Ribbeck Eckhart, in: Lauber Wolfgang, Tropical Architecture, Prestel, London e.a., 2005

*like the Menara Kuala Lumpur, Petronas Towers, and the KLIA, all primarily modern functional buildings, express modernity. The well-designed international airport has some references to Malay architecture, with the huge roofs and pillars bearing some similarity to Malay adat houses. The top of Menara Kuala Lumpur, located on "Pineapple Hill", is shaped like a pineapple, indicating its local foundations, while the entrance hall has a crystal ceiling designed and constructed by an Iranian artist. Depicting paradise. This has less to do with Malaysian cultural heritage than a symbol for globalism among post-colonial Islamic states, carrying the idea of development towards a better future.*⁴

The big question remains of course if 'shaping' traditions is the only answer. Again these projects cost lots of money and effort to be built, and while they seem to follow traditional vernacular rules, in reality they don't. The qualities of vernacular building types like the shophouse are underestimated.

Until now the problems are ignored by the great architects, and they tend to see Asia as a playground or test ground where the European regulations did not overrule the building process yet. However the problems that these ideas bring on the question of sustainability, the questions of human rights, the economic crisis and intellectual reactions from over Asian regions foresee the start of a new era.

To start off with the economic crisis we can see that architecture usually reacts in slow motion to economic developments. At the beginning of the economic downturn, numerous projects continue to be built and delivered. Conversely, now, some projects will continue to hobble along for a while, but the course of the current crisis has been so abrupt that even projects that were already under construction have ground to a halt. We more and more see the image of the building cranes standing still, and the concrete construction sites that are abandoned and overruled by weeds. According to this line of reasoning, there is no point of waiting till the tight will turn, because it is the cause of the projects itself that made the money flow away. The fact that there is no longer any money for the hubristic mega-projects whose urgency was always dubious, is the hard proof of the issue. The shift from local strengths to a consumption-dependent society came to a hold. As a result we see the other tendency of Asian countries becoming more and more chauvinistic. Where 10 years ago almost every Asian country was focussed on the west, we see examples in Mac Donald's restaurants, American cars and huge shopping malls filled with Western brands,^{fig3} nowadays many Asian people are longing for their own culture again. It might sound very idealistic and romantic to demand for the return of the 'old times' and the real Chinatown atmosphere in cities, it 'is' unrealistic. The modern times raised all standards for people, and their living environment when we talk about hygiene, transportation and diversity of luxury items, and it is clear that we need to keep these high standards. However, the modern lifestyle and with them the modern architecture, changed the behaviour of the inhabitants of the big city in a rapid speed. The fissure between young and older generations never has been so big as today, and the big cities over Asia have the same way of thinking as the cities in Europe or America. With the emergence of high rise buildings, younger generations prefer to spend their leisure time in luxury shopping malls or in restaurants then spent time in their apartments. The size of the apartments in the biggest Asian

4: Korff Rüdiger Korff, Globalizations and communal identities in the plural society of Malaysia, Development studies, University of Hohenheim, Germany.



fig 3: Mac Donald's in Hong Kong: http://upload.wikimedia.org/wikipedia/commons/3/36/McDonalds_HongKong.jpg



fig 4 suburbs (www.laapush.org/1950s.htm)

fig,5 traffic jam Kuala Lumpur (<http://seefei.files.wordpress.com/2008/07/imgp4994.jpg>)

cities like Hong Kong almost feels like the size of a post-stamp. People prefer not to eat at home, but utilize home for sleep and shower only.

If we now shortly conclude we might ask ourselves the questions: what is the cause of the explosive growth of high-rise buildings if they have so many negative aspects? Off course it is impossible to give a proof on this question, because it has many reasons, however it is related to modern and hygienic rules, it is for a great part the cause of the intense urbanization and the lack of space to build on. The traditional low-rise solutions are unable to fulfil the demands of density if they stay unchanged. Other low-rise solutions might lead to the forming of huge suburbs that we can find all over America, or in Sydney Australia, ^{fig 4} and these suburbs introduce another problem named: sustainability. If towns spread out as low-rise towns, there is off course lots of liveable space, there is place for a garden, and for every family to come together. With this comes that every house will have the room for a car, or maybe even two cars, because the city is far away, and we all want to be independent. Unfortunately, the amount of highways that has to be build to prevent the road from blocking ^{fig 5} will be immense to. In Kuala Lumpur it already feels like you are always driving on a highway, one higher than the other, but still most of the time the roads are jammed. The amount of fuel that is burned on a day is gigantic and not only the fuel, but also the building of highways takes an immense amount of energy. The space that is needed to build highways and suburbs will destroy nature, and in that way the natural balance, and the air quality will become even worse.

As an 'architect' I see different solutions for the problems on the urban scale. The urban solutions are often top down solutions however architectural solutions are often bottom up. I believe that there must be a solution that will take time to proof itself, and a solution that is on the scale of architecture. In this research I therefore created a thesis, the main question, the main goal, not to prevent all the problems, but to react on the issues that occur in Asia. The issues that have to deal with the people, and not with the architects.

In times of rapid urbanization and globalization the 'small scale architecture' seems to be replaced by the 'urban mass'. Is it possible to create 'small scale' architecture again that can fulfil the modern needs?

THE GOAL

My thesis, or main goal states a lot of words in a single sentence and therefore needs to have some in dept explanation.

In times of rapid urbanization and globalization the 'small scale architecture' seems to be replaced by the 'urban mass'. Is it possible to create 'small scale' architecture again that can fulfil the modern needs?

As we all know we live in a world of large contrast, where on one side of the world cities have to deal with suburbanization, the Asian regions, and especially the region I am focused on: Malaysia, still has to deal with a large urbanization. Rural countryside's become more and more ghost towns, and the job opportunities, social qualities and connection to the western world make this an understandable choice. In these big towns people are introduced to the word: globalization, which off course has many positive sides. Because of globalization the average living standard world wide becomes higher, the introduction of internet makes it possible to communicate all over the world and therefore makes it also easy for architects to operate internationally. Because of this rapid urbanization the demand for housing and offices is immense, and architecture of a smaller scale, often older buildings, can't fulfil the needs for density and demand. Globalization brings in other cultures, and therefore other types of architecture, one building even taller than the other, and the other with even more extraordinary shapes. The process went so fast, that it feels like the city is 'eating' itself. The city turned into an urban mass, an *urban monster*⁵ Is it still possible to create this 'small scale' architecture? The positive sides are various, however negatives sides are various too. In order to test if it is possible the design must be able to fulfil the modern needs, however how do we define modern need? Modern needs can be interpreted in diverse ways nevertheless I see it as the following steps:

Liveable
Sustainable
Affordable

Liveable is the most vague of all three but can be seen in several categories. The first is the scale, in stead of having a small apartment in a huge large scale building I see that modern needs ask for a bigger space in a smaller building, or even better a private building.

Hygiene is the other categories in the liveable section, and especially in a tropical country as Malaysia very important. Because of the climate the chances of mosquito's that carry disease will always exist, besides the disease, the temperature and huge amounts of rain bring other problems concerning the hygiene with it.

The last category in liveable is closely related to sustainable and this again has to do with the tropical climate. Where in Europe people love warm weather, in Malaysia the sun and heat is always there, therefore the issue of liveable is different than ours, and has to do with cooling spaces in stead of warming spaces.

Cooling costs energy, and the gathering of energy is not always sustainable. Traditional vernacular building types, like the shophouse, were designed and adapted

5: Sohn H, The Emergence of Urban Monsters, Postmodern Sublime and the Unconscious of Architecture, Tu Delft, Delft, 2006

to the climate, and therefore liveable without extra cooling. However the introduction of new typologies and new demands introduced air-conditioning. This unsustainable method not only provides cooling, it also acts as a status symbol and often the air-conditioning is turned to the lowest level. It should be a challenge to design a typology that can be successful without unnecessary use of air-conditioning and therefore energy.

The last category: affordable can be interpreted in several ways. On the large scale affordable can be the introduction of social housing, or large urban plans for diverse income groups. However my goal is not to create a generic solution. In order to create a affordable solution we can think of having a sustainable design that minimizes costs. We can also think of the mixed use of housing and shopping, the creation of micro economies. Smart design can result in a small-scale solution that can still fulfil demands on density, in this case maybe the sharing of the same plot.

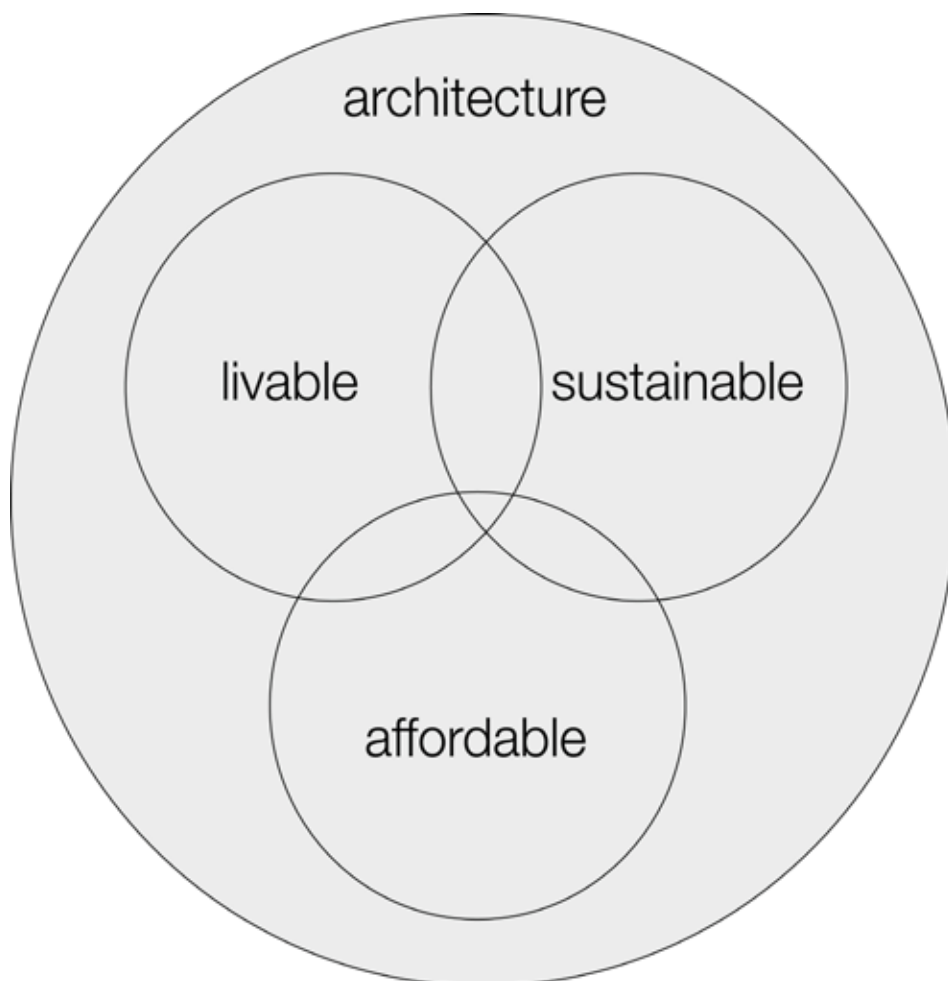


fig 6: diagram

What is clear from these items is that they are all closely related to each other. Liveable environments are often achieved by creating a sustainable solution, and on the other hand sustainable qualities will play an important role in the affordability of the whole. Architecture will be the tool to create a design that can fulfil all the needs. ^{Fig 6}

When we have the modern needs clear the question remains if the design I am aiming for is generic or just a single specific test object. To explain this in detail I have to introduce a new word in the list of needs, and this is 'Architectural freedom'. My goal is to create a set of rules that are free from form and therefore interpretable in different locations and even on different scales. It can best be explained as the design of a school uniform:

A generic solution will be the design of the looks for a school uniform, which will make everybody equal, however a set of rules can result in a different solution. In stead of saying how a skirt or pair of jeans must look there can be rules in the design. We can for example say: the uniform needs to have long sleeves and the top has to match the bottom. In this way the looks, colours, print, and even size are free, but everybody will have long sleeves and a matching outfit.

My goal is to create these 'rules' in the form of architecture. Off course it is impossible to start from scratch, and here the shophouse can be introduced. The shophouse is a typology that grew and developed over the years, and therefore the growth can continue. Goal is to find the basic qualities of the shophouse, the qualities that cannot be defined in design or size, but qualities that can lead to the creation of 'rules' or building components. The shophouse therefore will act as a 'case-study' to create a 'small scale' solution that can fulfil the modern needs. My new design will be a 'prototype' for the world and for next generations.

The continuity of tradition linked to the evolutionary process of culture itself and the adaptation of other concepts of habitation have paved the way for a plural and hybrid architecture, extracting fragments from historical form as simplifying them, in order to apply them freely later on, unconsciously adapting them to some contemporary global necessities that are the results of exhaustive study of each program. These programs are based on functions that create the building, but at the same time, it is the building itself that can dictate new functions. ⁶

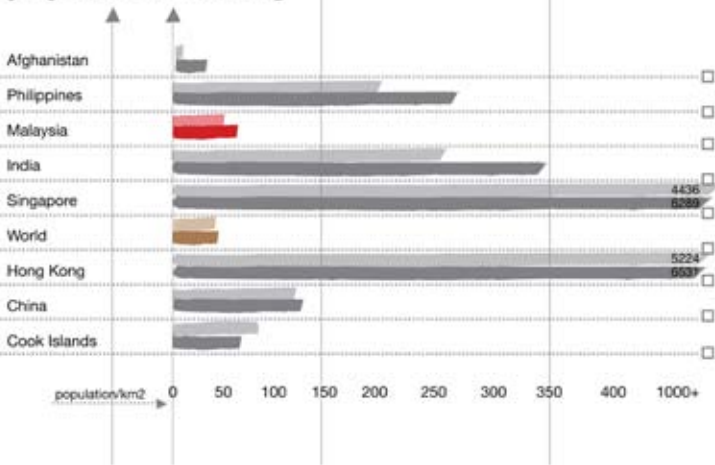
6: Sejima K, Nishizawa R, Houses, SANAA, ACTAR, MUSAC, Barcelona, 2007, p.173



shophouse in contrast with highrise (www.flickr.com)

MALAYSIA AND MALACCA

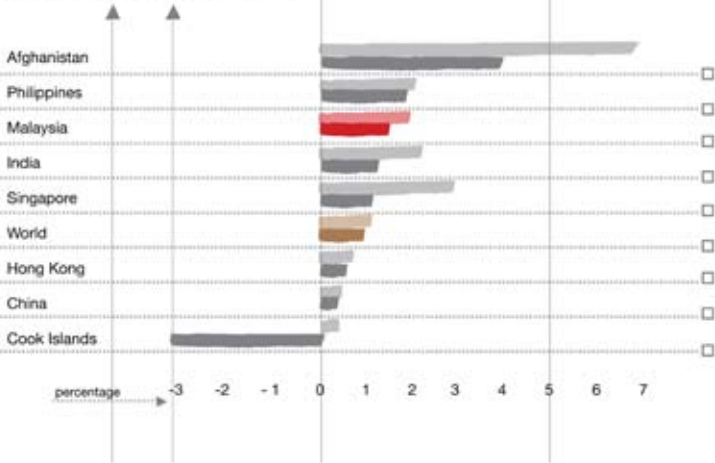
population density



source: ESCAP yearbook 2007

top- 1990
bottom- 2006

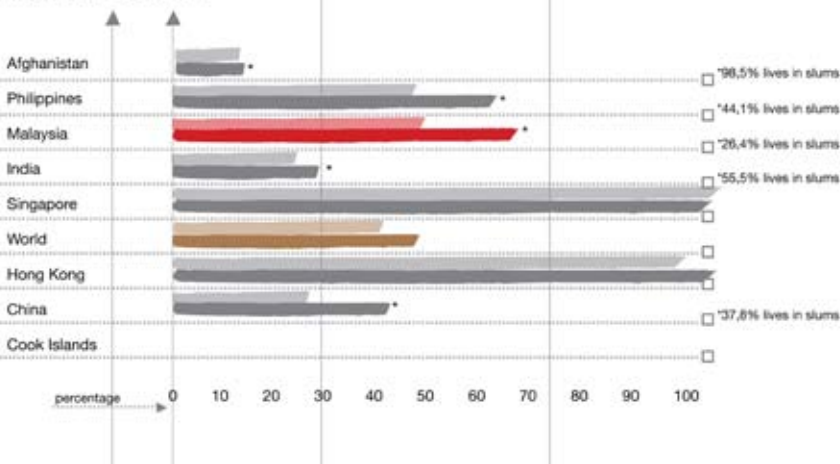
population growth



source: ESCAP yearbook 2007

top- 1990-1995
bottom- 2000-2006

urbanization



source: ESCAP yearbook 2007

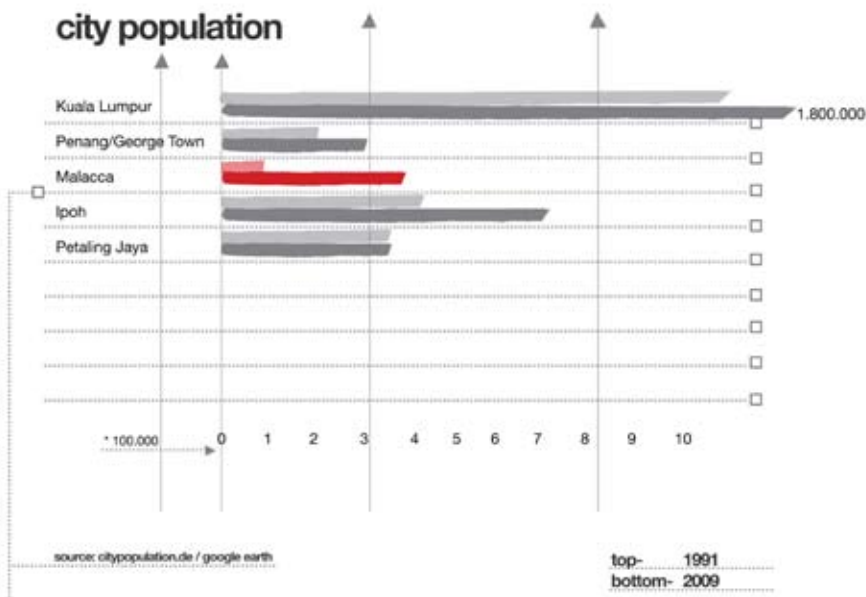
top- 1990
bottom- 2006

FACTS

The goal of the project is to design and engineer a new form of the shophouse based in Malacca, Malaysia. In order to show the urbanization and population growth in Malaysia and Malacca, it is important to compare this to other countries and with the world's average. The data is gathered from the ESCAP yearbook of 2007 and shows the results over two time periods. The two time periods give a clear view if the population is still growing, or decreasing. The countries picked to compare are showing the biggest contrast, or on the other hand are the most logical to compare with Malaysia. The full data can be found in the ESCAP yearbook, in this thesis I present four items:

- population density
- population growth
- urbanization
- city population

When we look at the population density, and population growth of Malaysia we can conclude that Malaysia, compared to other Asian countries is not very dense. This has to do with the amount of nature and rough countries sides that can't be build. The population is still growing, however it is coming to a hold compared to earlier years. On the other hand, the urbanization in Malaysia is massive, and it is still getting greater, as told before, the rural country sides become empty, and especially the younger generations move to the big towns. When we now look at the growth of towns, we can see that Kuala Lumpur is the strong leader, however percentage wise, Malacca is in a period of immense growth. The combination of urbanization and the growth of Malacca make it clear that Malacca is at a stage of changes. Great amount of new inhabitants, and also tourists will make it only a matter of time before the high rise apartment blocks and hotels will arise. This makes Malacca an highly interesting place for the experiment of a small scale new generation shophouse.



LITTLE HISTORY MALAYSIA AND MALACCA

Before starting the typological research about the shophouse, we have to understand some historical background of Malaysia and Malacca. The understanding of the geopolitical history of Peninsular Malaysia is essential for the in this case understanding of the emergence of the shophouse typology. The reference for this history is taken from “ A History of Malaysia” ¹

Modern Malaysia was formed only in 1963, the country comprises a peninsular of 11 states separated from its Borneo territories of Sabah and Sarawak by the South China Sea. Singapore that used to be part of Malaysia became independent in 1965.

Malaysia is not far from the equator and therefore it has a tropical climate. The characteristics features of the tropical climate are uniform temperature, high humidity and copious rainfall that mainly arise from the maritime exposure of the country. Winds are generally light. ² Coastal plains fringe extensive jungle highlands, much of them inaccessible. These rugged terrains, still home to aboriginal peoples, hinder communication and have historically fragmented the peninsular between the east and the west coast. Fig 1

The region's position at the convergence of two major sea routes ensured very early



1: Andaya B, Andaya L Y, A history of Malaysia, Palgrave Macmillian, 2Rev Ed edition, 2001
2: www.met.gov.my Weather description from the Malaysian Meteorological Department

trading and cultural contacts with India, China, Africa and later on Europe. Annual monsoon winds brought ships in search of aromatic woods, tin, tortoiseshells, spices, pepper and other products. The Malays in turn bought foreign glass, pottery and fabrics. The exchanges were not only in materials, Hinduism, Buddhism and the Islam affected Malay animistic beliefs and village social organization. Foreign ideas were absorbed and adapted by the scattered Malay entrepôt kingdoms.

Malay trading kingdoms were sending envoys to the Chinese Emperor from the 6th century AD. Srivijaya (in Sumatra Indonesia) rose from about the 7th century as the principal entrepôt state, sending regular tribute to China and thereby ensuring profitable trade. It also controlled piracy in the straits and commanded allegiance from vassal Malay states. After Srivijaya's importance in the 13th century, Malay ports jostled for dominance. The next entrepôt to rise was Malacca in the early 15th century, to have significant influence over the entire peninsula. The Malacca straits formed the sea route from both India and China and Malacca was easily defended. Its harbour sheltered deep and its river connected it with the hinterlands trade routes and gold mines. The town was founded around 1400 and quickly became market-trading city. China, interested in dealing with a single trade entrepôt, fostered Malacca's development and guaranteed its protection from the Thais. Malacca surpassed its rival ports during the 15th century. Its style of government, its arts, dress and social customs were widely imitated. Malaccan Malay became the language spoken by courts throughout the region.

In the later 15th century the Portuguese entered the spice race in the later 15th century, bypassing their former source: Venice. They aimed to establish a new spice route via the Cape of Good Hope and eclipse the Muslim trade. Malacca was captured by the Portuguese in 1511, and the Sultan had to flee. Now Portugal dominated the economic and political affairs of the Straits of Malacca. ^{Fig 2}

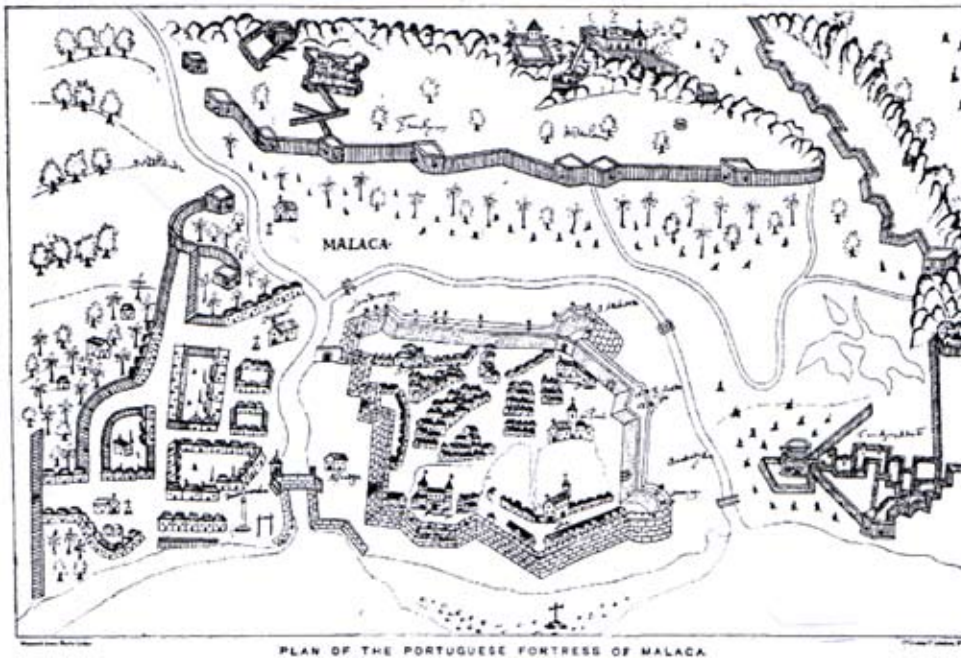


fig 2: The map of the Portugese fortress of Malacca, Twentieth century impressions of British Malaya by Wrightm A (1908), p.67

By the end of the 16th century, the Dutch were also expanding into South East Asia. The Dutch East India Company (in Dutch language VOC) was formed in 1602 and was able to enter into alliances, wage wars, appoint governors etc. The Dutch (assisted by Johor) besieged Malacca, defeating the Portuguese in 1641. Under the influence of the Dutch Malacca, however, did not regain its trading eminence, since a reinvigorated Johor asserted its former dominance in the region during the latter 17th century.

Chinese trading in the area increased in the 18th century. Europeans bartered tin and spices for Chinese tea, an essential social beverage in Europe. Remote areas of the peninsula like in that time Kuala Lumpur, Taiping and Ipoh were opened up by tin and gold mining. Territorial border disputes were provoked and political authority was difficult to sustain in far-flung territories. Although there was recognition of an inherent shared culture and belief system among Malays, regional allegiances and factionalism were stronger.

By the mid-18th century, the Dutch were experiencing severe organizational and financial problems and declining trade. In addition, the British were competing with them. The British East India Company was ensuring steady supplies of cloth, and this enabled British traders to outlive Indian merchants. While the Dutch refused to trade in armaments, the British had no compunction against doing so. The Anglo-Dutch war (1780-84) in Europe compounded rivalry between the two countries in the Malay archipelago; but by the end of the century, the Dutch East India Company was bankrupt.

Following Napoleon's conquest of the Netherlands in 1795, the Dutch requested the British government to take over their territories in the East, to prevent the French from gaining possession. Britain would hold them until the Dutch were restored to power in the Netherlands. The British had no interest in seeing Malacca or other Dutch territories prosper again, and concentrated on building up Penang as a successful trading force. By the early 19th century, the Dutch were angling for trading foothold again. British rivalry was aroused, especially among those who disagreed with the return of Dutch possessions after the Napoleonic wars.

Sir Thomas Stamford Raffles saw Malaysia as vital and thought that a British entrepôt had to be set up in the region, a necessary base along the maritime route to China. The place was Singapore, ideally sited for trade. In 1819 Raffles signed a treaty with the territorial chief of Singapore, which allowed the British to set up a factory on the island. The British policy in Penang and Singapore was free trade, unlike the Dutch who imposed tariff restrictions. Singapore's free trade attracted commerce away from Dutch Batavia, and the British-run island overwhelmingly dominated regional commerce. Increasingly the economies of Malay states during the 19th century were tied in with the British trading bases. By the early 19th century, both Chinese and British merchants of Singapore were investing capital in profitable commercial agricultural plantations and tin mining, export ventures tailored to European markets. The distance between Singapore and London was shortened by the steam ship, and in 1869 the Suez Canal.

The Chinese, forming more than half the population by 1845, dominated Singapore. The majority was put to labour in tin mines estates, unpaid until their passage from China had been worked off. The Chinese were renowned for their industry and enterprise, and quickly controlled trading and commercial activities wherever they settled. They had access to capital, which even rich Malays could not manage since available funds went on maintaining large retinues and displays of wealth, imperative for any great man. Even to compete in established Malay mining and agricultural interests, Malays had to borrow from Chinese.

The Chinese population in the archipelago was not homogeneous. Major divisions and rivalries were generated by different dialects, secret societies and clan loyalties. Malay rulers could not readily control the complex Chinese communities, and bitter Chinese factional fighting threatened the general social order.

The British on the other hand remained great influence, in fact Britain was moving towards greater administrative involvement in the affairs of its trading territories during the 19th century. To forestall other European interests, the British signed a treaty with the Dutch in 1824, dividing the Malay region between them into spheres of influence, separated by the Malacca Straits. The British territories of Penang, Province Wellesley, Malacca and Singapore were administratively joined as the *Straits Settlements* in 1826, in one of several moves to centralize and rationalize bureaucracy and communications on the peninsular.

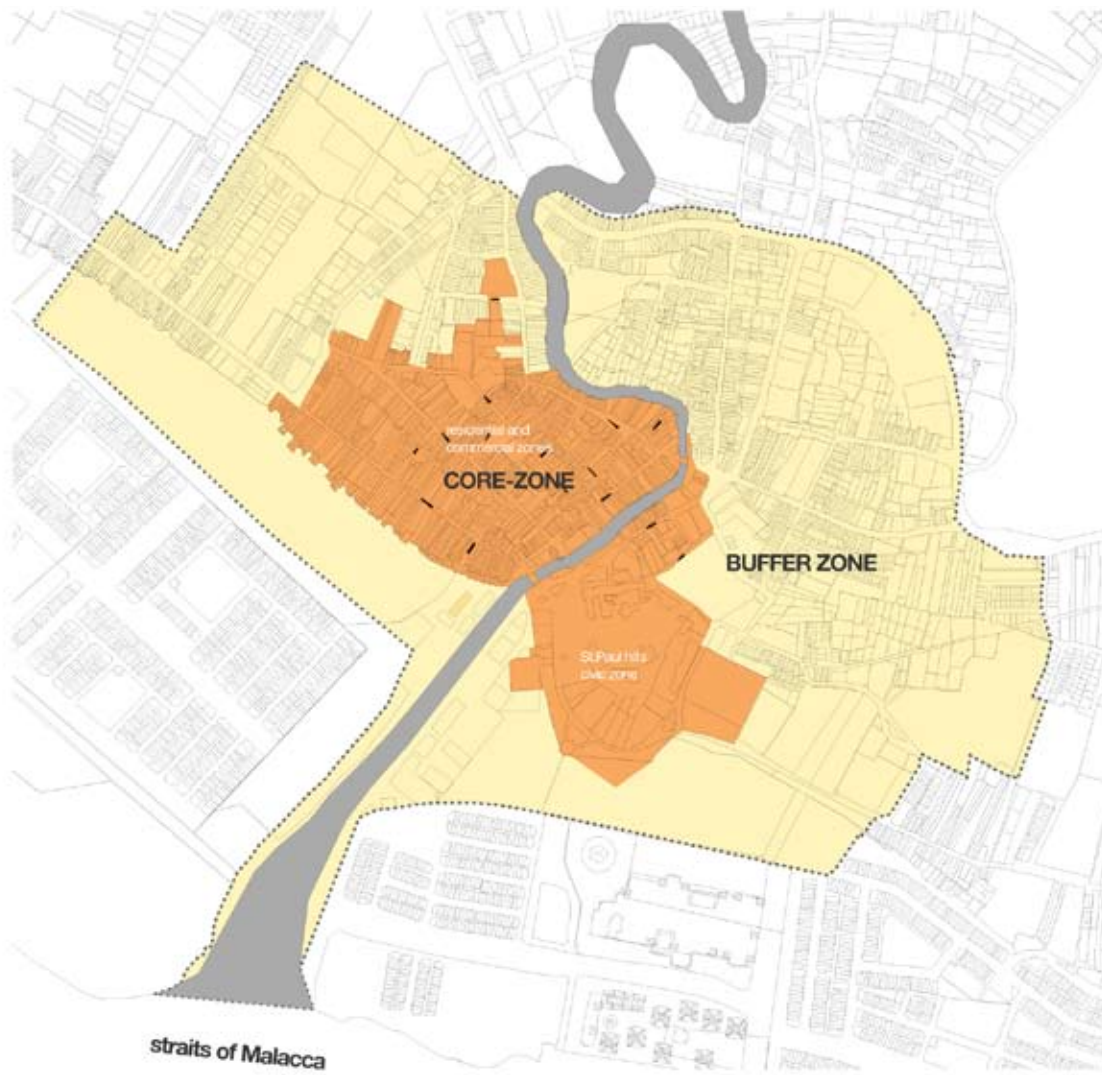
In their colonial administration, the British were intent on ensuring law and order, building communications and creating effective legal and administrative mechanisms. These goals were in the larger cause of efficiently exploiting the area's resources. All British policies from encouraging immigration to work in the tin mines, rubber plantations and build roads, to making secret treaties with the Thais to block German interests in north-eastern states, were directed towards controlling the lucrative investment and trade exports. By 1919, the entire Malay peninsular was controlled in some form by the British. Their policy towards the different ethnic groups significantly determined the complexion of a subsequent divided society. Europeans governed. The Chinese and Indian migrants were seen as essentially transient, ultimately to return to their native countries. While British encouraged them to come (and even measured economic progress by the numbers of Chinese settlers entering the country), they did not allow Chinese or Indian involvement in administration. This was a point of resentment, particularly among wealthy, Western educated Chinese. On the other hand, the British did regard it as useful to educate a certain number of well-born Malays to participate in the civil service. The function of the Malay peasantry, most of whom worked on small holdings, was to provide rice for the growing population of labourers.

UNESCO WORLD HERITAGE

The history of Malaysia and especially Malacca is very rich, and because of this reason the historic centre of Malacca has been placed on the list of World Heritage.

It is clear that in most Asian cities the high-rise 'virus' did win from low-rise solutions. This is understandable in both social and economic aspects. Therefore it might sound highly unrealistic and idealistic to come up with a small-scale solution. Architects often are idealistic, and tend to follow their own fascinations, however it is most commonly that these small-scale solutions won't be able to fight up against the high-rise economic 'real-estate' projects. Conversely in Malacca, there are opportunities, realistic opportunities to succeed in creating small-scale architecture. The fact that the historic centre of Malacca became world heritage opens new and realistic possibilities.

When a building, or a specific site becomes heritage, the chances are still prominent that it will have a negative effect on the building or site. Making it heritage might turn it into a tourist attraction. Most architecture that has a spot on the list of world heritage is a result of years full of renewing. Especially the Malacca shophouse can be seen as a typology that transformed and changed over the years, every time to adapt to new needs, cultures and technologies. When the shophouse becomes heritage it is not allowed to change its current situation and therefore the 'renewing' of the shophouse and historical centre has been put to an hold. The preservation becomes important, but needs specialists to take care of, however many specialists are not available, and it is clear that at some sites the shophouses are starting to fall apart. The world heritage does save the centre from new developments of large hotels, or apartment blocks because UNESCO made some rules for the sites that are on the list. In order to explain this, we have to know the basic rules of the UNESCO world-heritage list. On the map ^{fig 3} we can see that the historical centre of Malacca is divided into two zones: the buffer-zone and the core-zone. The buffer-zone is listed as heritage, however with good reasons it might be possible that this zone will be demolished and could be replaced by new 'high-rise' buildings. The core-zone however is well protected, and it is certain that in the next following years this zone won't be demolished. However, when we look at some sites in this location it is clear that some shophouses are falling apart, and most likely it will be impossible to restore or renovate these into the old shape. Exactly on these sites I see the opportunity to design a new shophouse, and show that the 'new' shophouse can be an example of small-scale architecture that can fulfil the modern needs. In order to design on these spots the design has to match the rules that UNESCO has on the core zone. UNESCO had certain rules on the maintaining of the core-zone, which as its most important the preservation of the historic character. What this 'character' exactly is, can be interpreted in diverse ways, and these character, or characteristics are all elements that made this place and the shophouse so successful and historically rich. In order to find the main aspects of the shophouse, and therefore the characteristics the next step is to research the shophouses in a typological research. At the end of this research the main characteristics are found, and they can act as the building blocks for the new design. They are mostly free from architectural form, but when used carefully they won't disturb the historical character of the site and will make a new step in renewing.



source : <http://whc.unesco.org>

 Core Zone	38.62 hectares
 Buffer Zone	134.03 hectares
Total	172.65 hectares

fig 3: UNESCO map of the heritage zone of Malacca.

STRATEGY

On the next pages we will find the research of several shophouses that can be found in Malacca. Within the Core Zone of the Historic City of Malacca there are more than 600 shophouses and townhouses. All these shophouses can be divided into several categories where most differences in design can be found in the façade. Most shophouses have similar spatial and floor plan configurations. In order to study the shophouse over time they are divided in several styles, as follows;

Dutch Style. (17th – 18th century)

Southern China Style. (18th – early 19th century)

Early Shophouse Style (1800 – 1850)

Early Transitional Style (1840 – 1900)

Early Straits Eclectic Style (1890 – 1920)

Late Straits Eclectic Style (1920 – 1940)

Neo-Classical Style (19th – early 20th century)

Art-Deco Style (1930 – 1950)

Early Modern Style (1950 and onwards)

The first part of the research will be an overall story about the shophouse, this explains the basics that can be found in many of the typologies. Based on photos and information found at different sources in Malaysia the basic floor plans, sections and all the different elevations/facades of all the nine different shophouses are drawn. This will give a visual recognition and will show the most important changes over time.

During the research, several main aspects came to the light, and some of them managed to survive all the generations, some did not. These aspects are translated in symbols. These symbols, also, will show the changes over time visually.

THE SHOPHOUSE

The shophouse and its residential counterpart, row houses, are not indigenous forms in Malaysia, but evolved from several cultural circumstances and climatic considerations. The history of the urban settlement in Malaysia has not been as long as in Europe, but in the large urban settlements such as Malacca, Penang and Kuala Lumpur the shophouse is the most common type of building. They act as an indicative landmark of any Malaysian town, big or small and mostly they are also the basic unit of any Chinatown areas. *The very term is indicative of the essentially multi-propose functions of these buildings, combining business areas on the ground floor with residential quarters on the upper floors,*¹ and are mainly built for the Chinese merchants.

The shophouses are one of the first typologies that made the combination of high population density and intensity of economic activity possible. The buildings are typically very long in floor plan with a narrow frontage on the streets. The number of shophouses build side-by-side with common party walls and often identical façade are often inspired by early Chinese residents in Malaysia. The streets names are often the amount of shophouses found in a row, for example, Carnavon street, named 'ten houses street' in Penang and Chulia Lane, named after a row of seventeen houses of the same size. The floorplan and section are built on a basic pattern and don't change much over time, however the elevations show the architectural differences over time. The long narrow building sites cover the building plot completely and the standard size of the width of the structure is from 4 to 6m. The front is often a five-foot walkway (which will be explained in detail later) and the back faces a narrow lane where night soil and refuse may be collected without disturbing the shop front. The combination of both residential and commercial functions create a lively and vibrant urban setting, and the display of the merchandise in the five-foot way, was very important in creating this atmosphere. The aroma of the food, the sound they produced and the sense of colours filled the spaces and enriched the sensory effect of the townscape. ^{Fig 1}

During the Dutch rule a typical Chinese townhouse had two storeys. The façade of the upper floor set back, and the lower floor and the upper floor had their own roofs. The entrance was located in the centre of the façade, and there were windows on either side. The entrance consisted of a double door in order to cope with the tropical weather and keep privacy” the pintu besar was the main door, and the pinty pagar was the added door. Above the doors and windows there were openings for ventilation in numerous shapes and patterns. A large screen was placed behind the reception hall, functioning as a filter for the private spaces from the reception hall. The partitions between the commercial and residential areas are often simple wooden frameworks that give the impression of a border. ^{Fig 2} Whatever the ground floor arrangement, the typical shophouse always has an air well, open to the sky, about halfway back from the street. The air well was a vital element of the shophouse for several reasons. As a structural element, it served not only to admit light and a constant draught to keep the house cool in a hot and humid climate but to divide each story into distinct semi-private compartments occupied by different generation tiers or separate families sharing the same house. Especially in the Singapore shophouse this lead to several discussions.

1: Kohl, D, G, Chinese Architecture in the Straits Settlements and Western Malaya, Heinemann Educational Books, Asia, 1984)

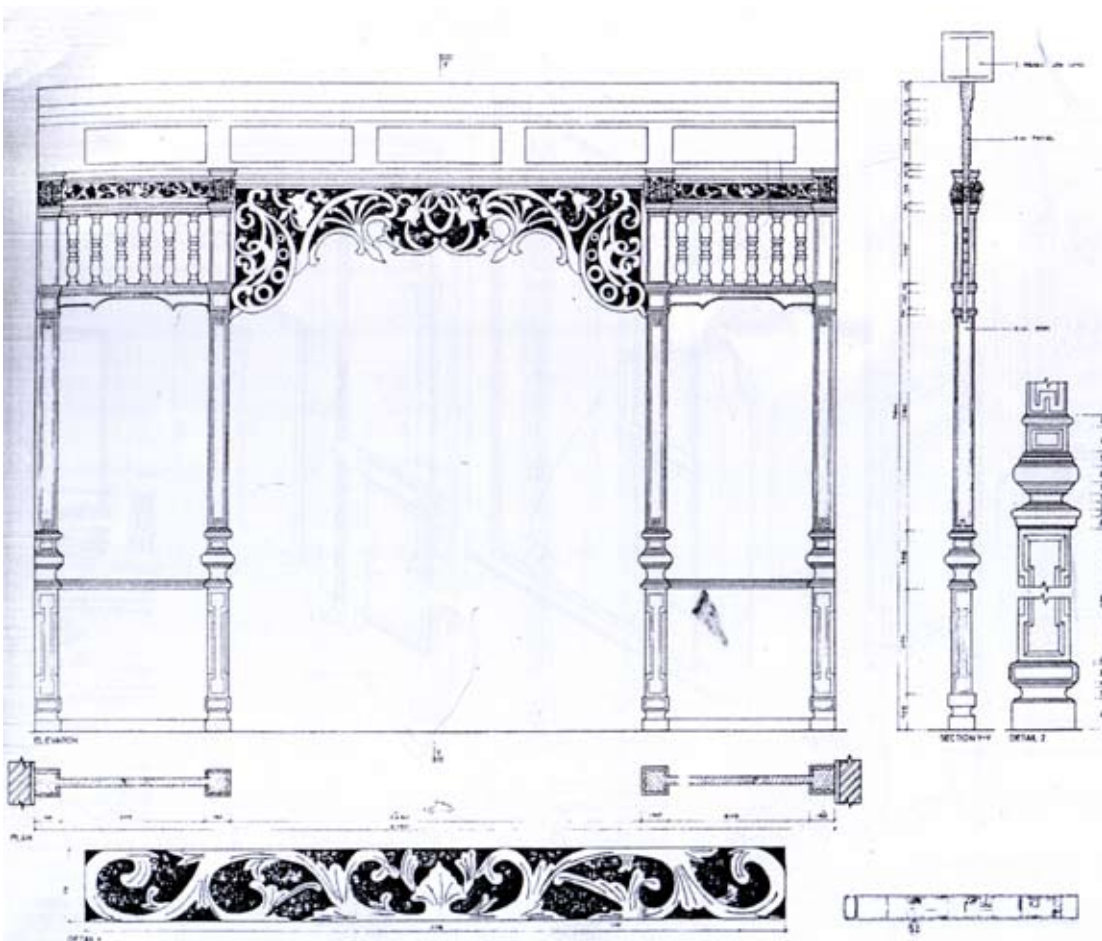


fig 1: townscape shophouse : photo by Maarten den Teuling

fig 2: (Measured drawing you seen antique gallery, Faculty of Built Environment, University Malaya, Department of Architecture

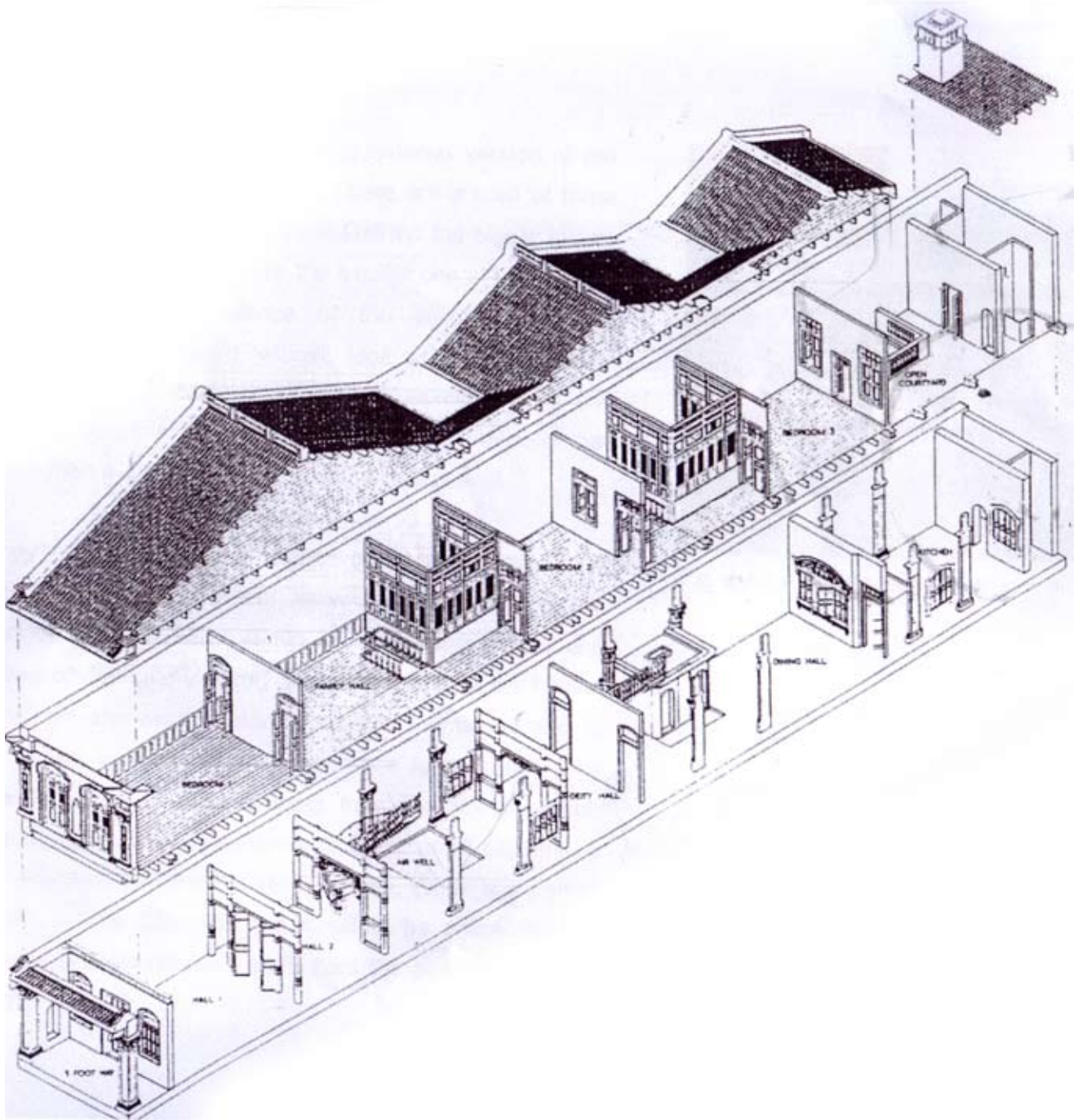


fig 3: axonometric view over the shophouse
(Measured drawing you seen antique gallery, Faculty of Built Environment, University Malaya, Department of Architecture

The municipal authorities, however, considered the air well rather objectionable, and in cases of reconstruction, insisted on closing them and providing an open-air space equivalent to one-third of the total area at the rear of the house, the air well not counting as contributing to the amount of open space demanded. From the municipal perspective, an opening encapsulated as a private space within the house was far harder to regulate than open located outside the house structure itself, partly as a back lane accessible to municipal servants. Indeed, Dr. Middleton alleged that the air well within the Chinese house was often roofed over and cluttered up, serving little purpose as a ventilation opening (Housing Difficulties Report). In effect, by rearranging the spatial layout of open and enclosed spaces within the house plot, back-lane schemes converted essentially private spaces into public places accessible to the municipal gaze. They imposed a prescribed legible order on the building block by opening up and exposing what was previously hidden, private, and inaccessible. These schemes aroused strong resentment among residents as they threatened private control over usable space. ²

Each of the air wells or courtyards had a staircase with decorated banisters and ornate floor tiles. There was the main hall behind the first courtyard, where they kept the altar for their ancestors. The wet areas of the kitchen, bathroom and toilet were usually connected with the dry area at the farthest ^{fig 3}. The top-floors were normally made out of wood, and wooden beams acted as a construction. ^{fig 4}

There is a distinct difference between the shophouse and the row house. The row house was the residential counterpart of the shophouse. The old Straits-born Chinese families, also called Baba's, still maintain many of these houses in Malacca as ancestral homes. They are a typological variation of the shophouse, in which the ground floor shop is adapted to the living, dining and reception functions of the house. The construction and other aspects are the same as the normal shophouse) ^{fig 5}
Also these plots can be very deep in dept, and sometimes even extend to a depth of 60(!) meters.

The following pages will show the research per shophouse type, for a great part of the information, local parties introduced my to the website: <http://buildingconservation.blogspot.com>

This website has valuable information, however there is a lack of sources and bibliography that made me adapt the information and combine it with other books and site research.



fig 4: the topfloor of the shophouse (www.flickr.com)



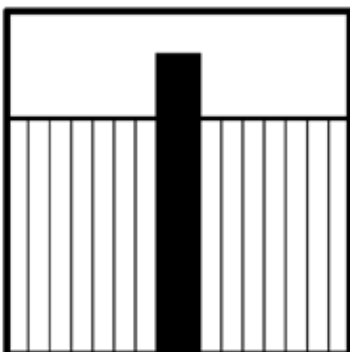
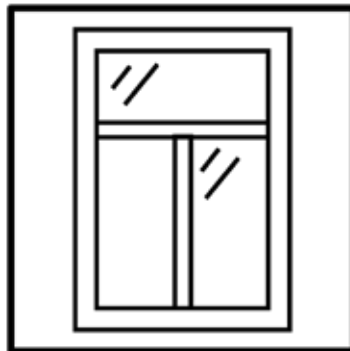
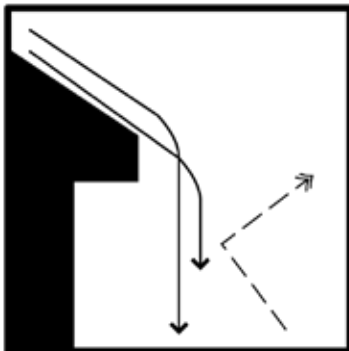
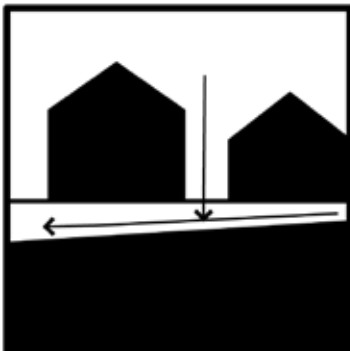
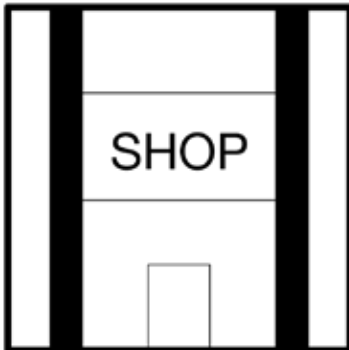
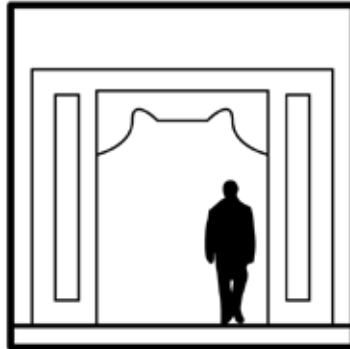
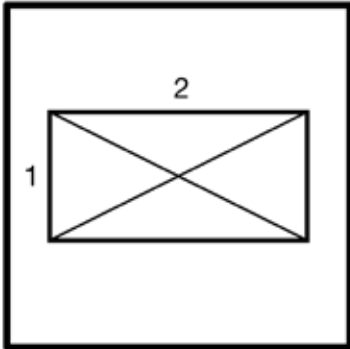
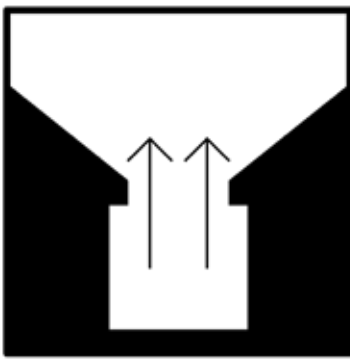
fig 5: one of the oldest row houses in Malacca (heeren street) Photo by: Maarten den Teuling

SYMBOLS

To create a visual overview over the key elements of the shophouse, several symbols are designed. Each symbol represents a certain quality that is found during the research. On this page a brief explanation of every symbol, that will make the understanding easier.

The symbols explained top left, to bottom right.

- Air well is included.
- 5-foot way is included (or covered, connected walkway in earlier types).
- Shophouse contains several loose buildings that are connected via outdoor spaces. This comes from the character typical of ancient Chinese cities of grouped residential areas around pedestrian alleys. The village itself is often circumscribed by a perimeter wall for security and definition of the boundary.
- The shophouse is designed following Chinese proportion systems.
- Screens added in the 5-foot way, and often inside the gardens.
- Screens/frames as separation between public and private space.
- High degree of ornamentation.
- Shop is included.
- "Flat" façade: since the introduction of the flat façade only the façade changed, floor - plan and section remain the same.
- Water drainage system under the house.
- The cantilevered roof creates a cooling 'water drop' when rainfall occurs.
- Separation walls are included, always higher than the roof.
- Introduction of glass windows.

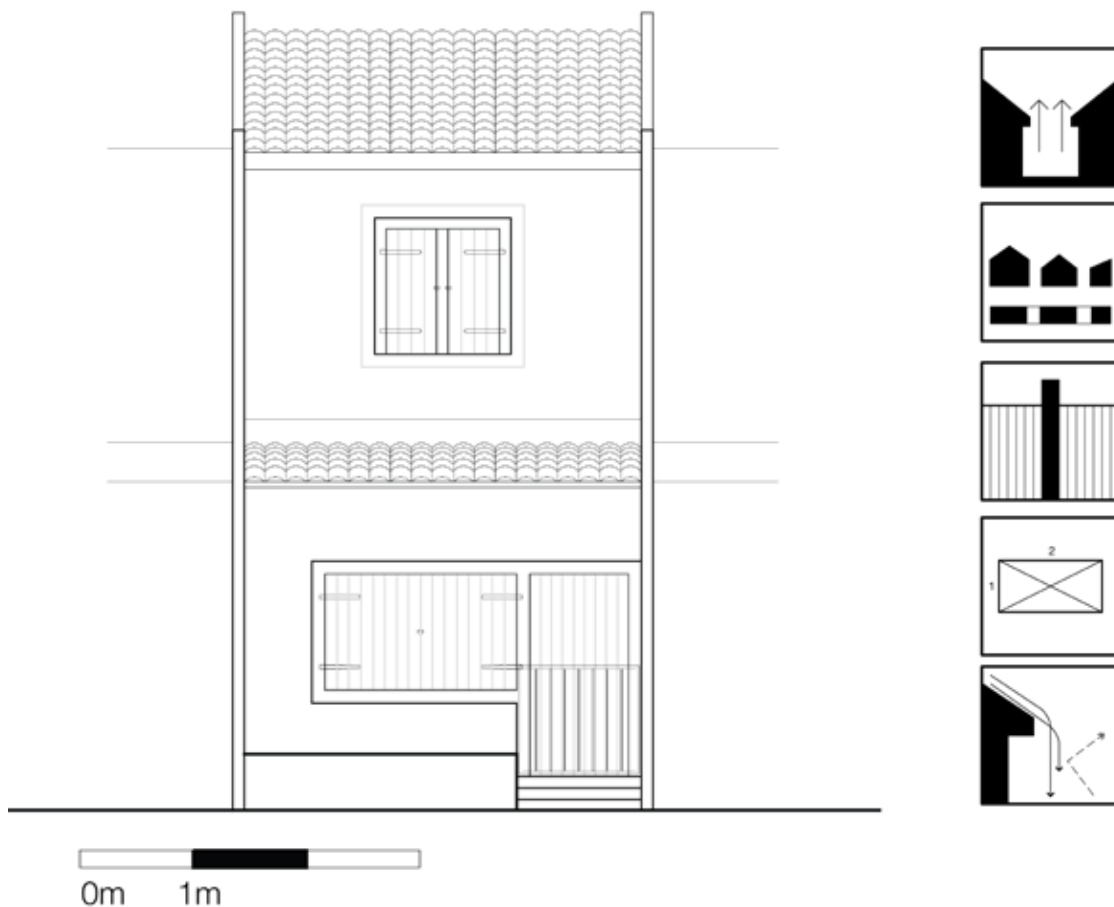


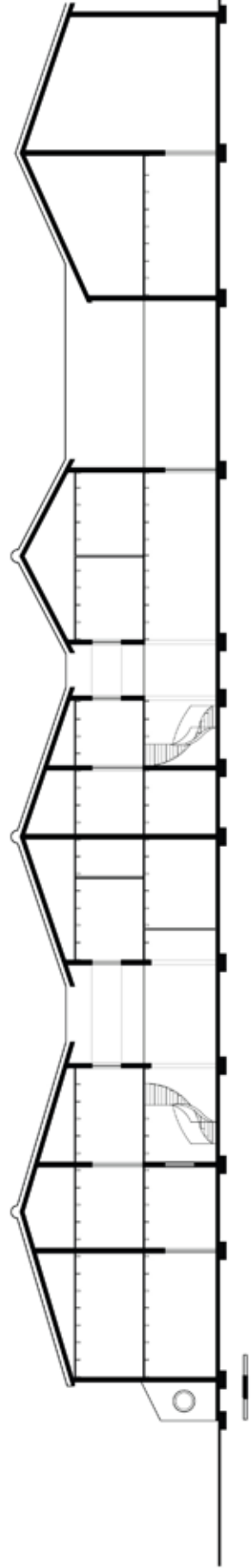
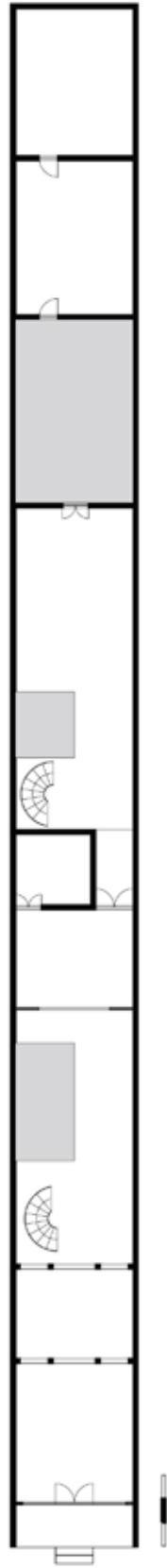
THE TYPOLOGIES

DUTCH STYLE (row house) 17 - 18th century

Within the Historic city of Malacca, the Dutch style is the earliest type of shophouse that can be found. The Dutch style is originally built by the Dutch in the 17th century. The first example of the exchange of cultures is found in the materials because the walls are made out of Dutch-brick. Another Dutch tradition is the plastering of the walls, this is done with lime wash. Lime wash is a traditional surface finish for lime plaster, brick and timber buildings. It is a protective coating which prevents dampness from being trapped in the wall. The roof structure made out of wood. The roof is finished with V or U- shaped interlocking clay tiles, the tiles are arranged in an overlapping manner to allow hot air from inside the house to escape. Most of the Dutch style shophouses do not have a shop included, here the ground floor is often used as a residential floor, therefore we can also call this a row house. Another important feature that will continue in most of the typologies is the use of party walls between the shophouses. For security reasons the party walls between the shophouses prevented fires to 'jump' from building to building. The walkway in front of the house is not connected to the adjacent buildings, as a result most of the Dutch style shophouses have a private entrance. The façade is simple and symmetrical, the door is centralized and the windows are often in the shapes of squares.

- no shop included (purely residential)
- V or U-shaped interlocking clay tiles to allow ventilation.
- made out of Dutch brick and timber roof structures
- private entrance
- simple often symmetrical façade.





SOUTHERN CHINA STYLE 18th early 19th century

Southern China Style. (rowhouse/shophouse)

Most of the Chinese population in Malaysia, and in particular in Malacca, comes from the Southern China Provinces. The Southern China Style shophouse continues on the Dutch style by using the same materials for the walls (brick and plaster with lime) and roof structure (wood). The first big difference is the introduction of the shop on the ground floor, most Chinese people are good businessmen, with the introduction of the shop a micro-economy is born. Architecturally the Chinese influences are exceedingly visible and the architecture followed the tradition of the Chinese National or northern style. *This architecture embodies the spiritual notion of harmony with nature.* For the Chinese it is very important to have outdoor spaces, that often are surrounded by walls.

In old Chinese traditions *high courtyard walls of ten to twelve feet high introduce seclusion and introversion within the protected confines of the enclosed courtyard garden space, which is an extension for the dwelling for the purpose of relaxation.* ¹

Sometimes more than three air wells in total are created and they continue the Chinese belief that when a man is close to earth, health will prevail. Other important elements of the house, like the ancestral hall is linked to the air well. The ancestral hall was the most important element in a Chinese building. It was here that ceremonies related to dead were performed. The room consisted of an altar and straight back chairs lining the walls. According to custom an air well must be placed before the ancestral hall so that the first person to pray could call in the spirit of the deceased. The sitting room came next in importance. It was here where guests were received. It was usually along area that was split in sections, for men and women. The air wells are about one foot lower than the level of the surrounding floor, which allows for rainwater to collect as it rains off from the inwardly sloping tile roofs of the house. “ Besides the poetic meanings of the air wells they provide an almost unlimited potential as a visual component in the building. They cast away the regularity of the building of a certain degree of irregularity.” The amount of light and fresh air they create in the narrow designed shophouses is another highlight. The later versions of these type have a drainage system, which was running under the house, to cool down the entire house.

Under the influence of the simple, geometric buildings, the air well naturally took on a square shape.

The manifestation of the spiritual harmony with nature can also be found in symbolic ornamentation around the building. These ornaments are used to convey luck, show directions, seasons, the wind and constellations. Also on the roof we can see the exposure of structural elements and the use of colour.

1: Too A, “Didactic Streetfronts and Backlanes - The Shophouse Typology (1), in *Majalah Arkitek*, Vol.2, No.3, May/June 1990, p51



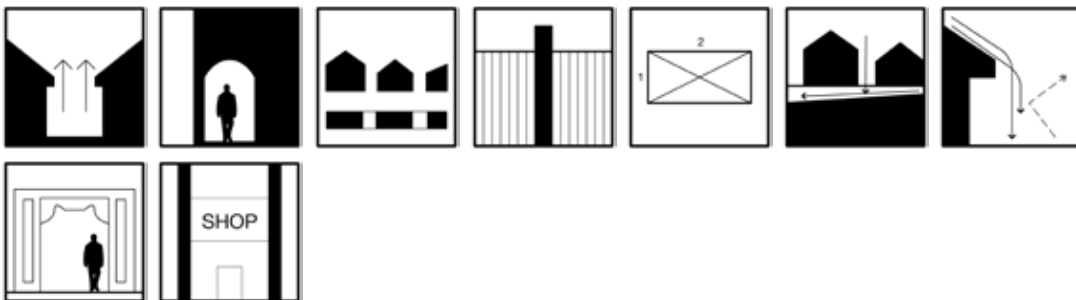
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“The proportion is defined as the equality of two ratios”. In a research paper (Measured drawing you seen antique gallery, Faculty of Built Environment, University Malaya, Department of Architecture) found the faculty of Built Environment from the University Malaya measured drawings of one shophouse (You seen Art gallery) are made. In these drawings it is clear that the Chinese shophouses all are built following certain proportions. “The standard proportions applied are either square or rectangular and represent the earth-round concept”. When we take some floor plans, and later on sections as example we can clearly see that the Chinese shophouses are based on the traditional Chinese proportions such as 1:1, 1:2, 2:3, 3:4. Also important to know is that proportions are free from scale, and therefore can be used in all different scales of buildings.

In a case-study about the Antique Gallery in Malacca, we can see that “its elongated narrow plan brings out that the breadth is 1/9 of its length, not including the back lane and the five-footway. Since there are no distinguished structural columns, but load bearing walls, throughout the building, the proportioning system is established by the area of the interior spaces. The air-wells are all of 1:1 (length is equal to the breadth). Their total sizes are only 1/11 of the entire built up area of the building. This is to control the quantity of daylight entering the interior and considering the amount of rain of the site.”²

Also in the section of the antique gallery we can see the standard ratios found in the roofs and heights. The treatment of human scale in space and spirit is well implied by the use of these proportions.

- including the shop
- Drainage system under the house.
- Chinese style architecture
- Air-wells and gardens
- Symbols in façade and roof (ornaments)
- Each staircase is placed in the garden

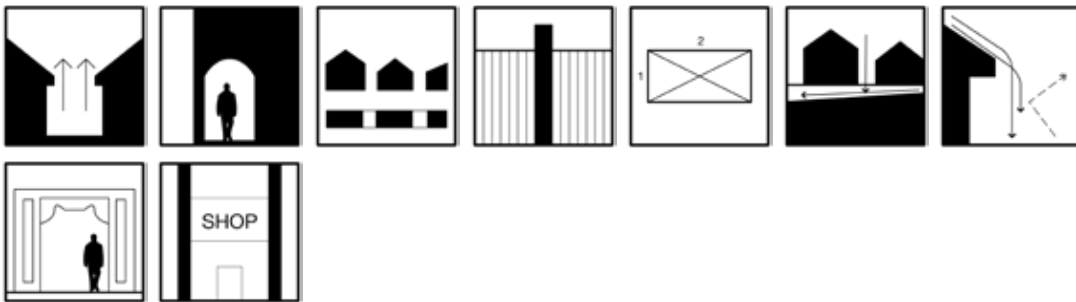


2: (Measured drawing you seen antique gallery, Faculty of Built Environment, University Malaya, Department of Architecture)

EARLY SHOPHOUSE STYLE 1800-1850

This two storey type of shophouse is built on the street edge, the ground floor is recessed and in this way forms a pedestrian walkway. This walkway is connected to the adjacent buildings, and the private entrance is lost. This type of shophouse is, like the Dutch and Chinese, relatively simple and detail and low in scale. This type of shophouse is provided with a masonry dividing wall, the wall is slightly higher than the roof, which makes it a good fire-barrier. The prevention of fire is important with the wooden roof structure and tiled roof. The façade can be divided in two parts, the top and bottom part. The upper floor façade is supported by squat pillars and forms the pedestrian walkway. The façade is mostly made out of a timber construction and has a continuous row of panelled or louvered shutters. "the spandrel is of either timber (for the early type) or masonry while the upper beam is generally placed directly above the window opening, leaving no room for frieze. With exposed roof rafters it forms an overhang and simple fascia board." "The upper floor façade is bordered by plain masonry pilasters at each side". The ground floor has a full width opening.

- connected walkway
- masonry dividing wall
- recessed ground floor
- panelled or louvered shutters on higher façade





0m 1m

EARLY TRANSITIONAL STYLE 1840-1850

Also this shophouse is built on the street edge and has a connected walkway. During the time when the British ruled Malacca this walkway became restricted. The British decided to make rules for the measurements of the walkway and made it a law that the walkway had to be at least 5 foot wide. Since the eighteenth century, Raffles' verandah-way regulation, first enforced in Singapore, was applied to Malacca. The key point of the regulation was to provide pedestrians with a walkway indented into the ground floors of the buildings. Because the minimum width of the walkway was five feet, it was called the five-foot way. Since the veranda-way regulation was introduced to maintain unity and to provide as many rooms as possible, in most cases rooms were created above the five-foot way. This changed the façade which had been articulated into the time of Dutch rule into flat façade. The flat facades were built in diverse styles including the neoclassic, art deco, and modern styles. Malacca, however, was not developed as much as Singapore and Penang, which were developed as the central cities in the Straits, so there remain many townhouses and shophouses in downtown areas that were built regardless of the verandah-way regulation. To prevent radiation of the hot roads the street side of the five footway was often 'semi-closed' with screens. The screens were made out of bamboo and stopped the radiation from entering the house.

In contrast with the Chinese style, ornamentation is minimal, the upper consoles are often decorated with floral motifs, and the spandrel has simple decorations. We can also find green glazed ceramic vents and the pilasters are often plain. It is clear that the pilasters are adopted from the Tuscan and Doric style. The upper floor façade often has the shuttered or louvered row, however we can also find louvered or shuttered windows. Cornices or horizontal mouldings along the beams make the structure appear heavier than it actually is. Also in this shophouse the dividing walls are made out of masonry and the upper floors are made out of timber beams with a tiled roof.

- introduction of the 5 foot way
- façade became a 'flat-façade'
- radiation screens. Fig 1
- Doric, Tuscan influences
- Windows (French windows??)
- Low in ornamentation

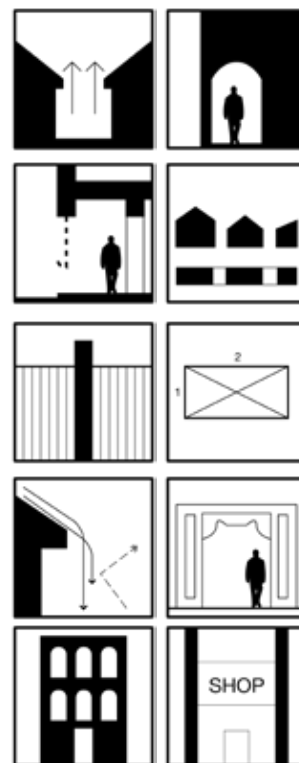
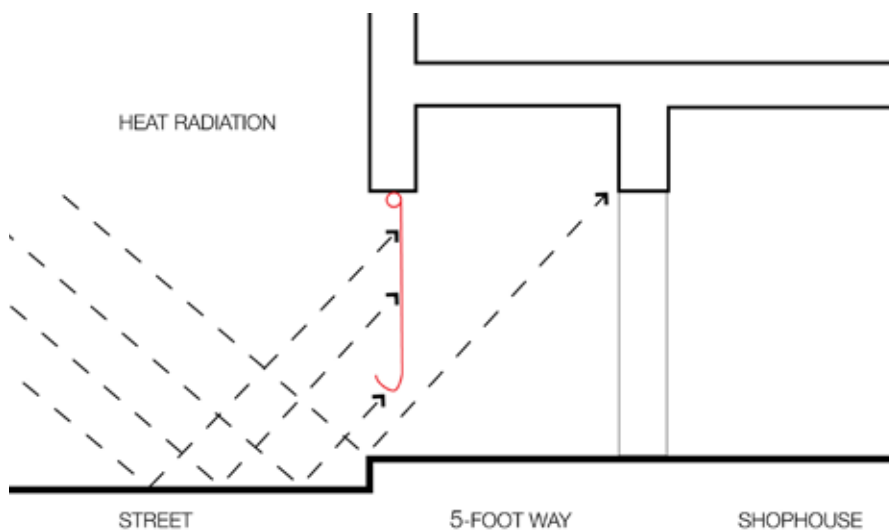
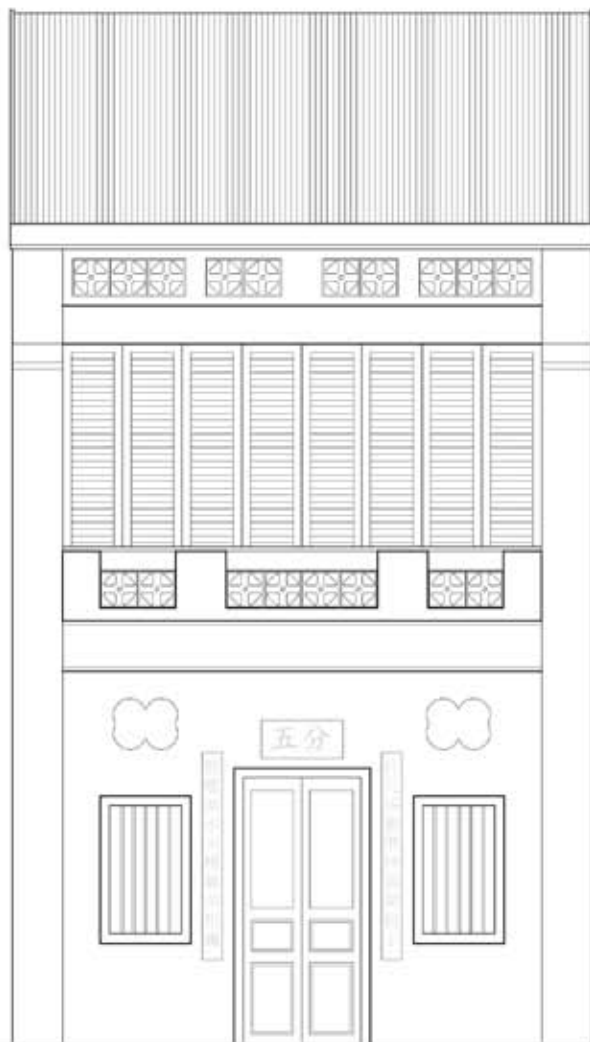


fig 1: radiation screens



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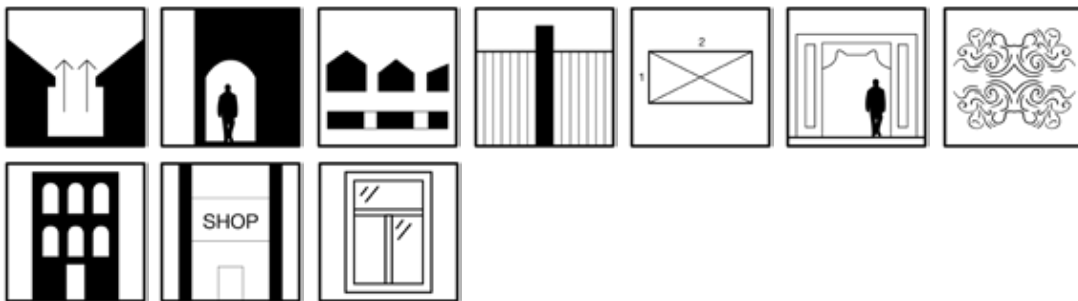
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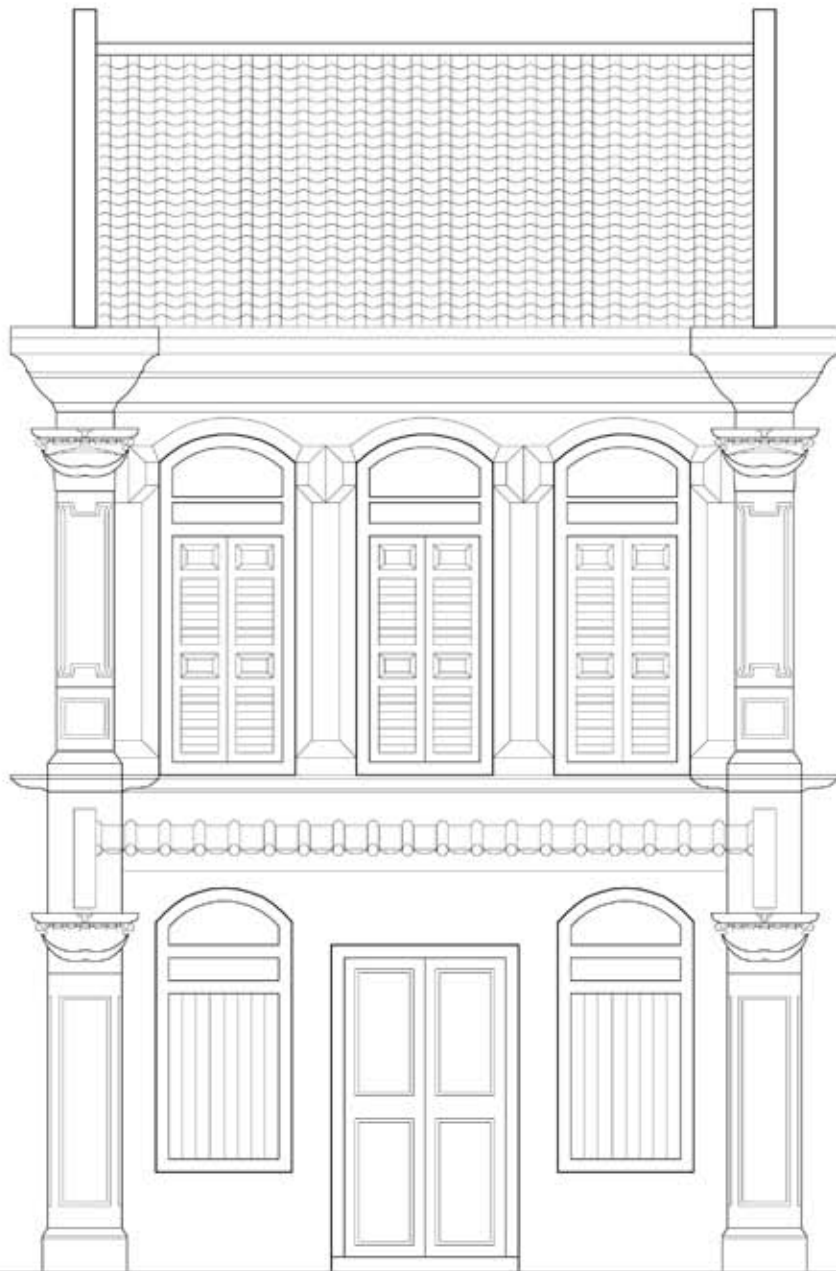
LATE STRAITS ECLECTIC STYLE 1920-1940

Many of these shophouses were designed during and after the Dutch period especially by wealthy Straits Chinese. They got rich because of their trades and wanted a house to portray their wealth. A rich owner may have had two or three houses in a row to house their growing family or to create living quarters for the servants which can be distinguished by their less intricate design.

This style is most spectacular in the use of ornamentation. "The tripartite arrangement of three windows on the façade reduces the actual wall space to the minimum and provides maximum ventilation". In later examples the wall surface is completely disappeared and replaced by columns or pilasters that frame the windows. Interesting to see is the indigenous façade that borrowed items freely from various ethnic traditions. The roof eave is often fringed with Chinese panel frescoes combined with Malay timber fretworks. On the floor we can find brightly coloured ceramic tiles and all over the building the plasterwork is delicately moulded into bouquets, festoons and other elaborate ornamentation. Also here the use of reinforced concrete allowed larger spans and cantilevered details. The structure remains the same as the Early Straits Eclectic style.

- spectacular multicultural ornamentation
- maximum ventilation in walls
- from 1920 onwards incorporation of reinforced concrete
- mostly owned by rich families

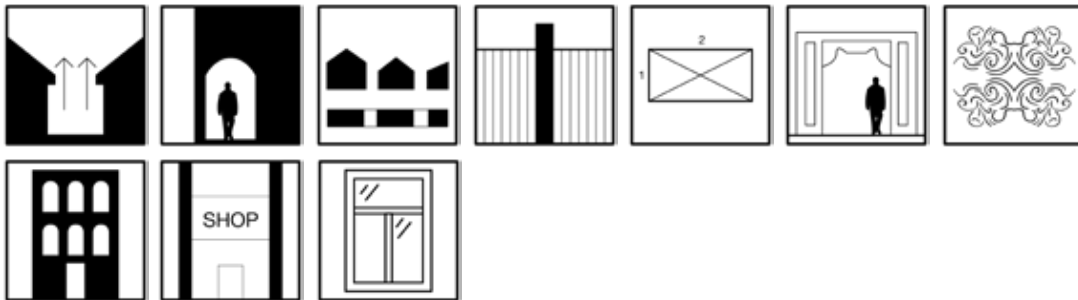


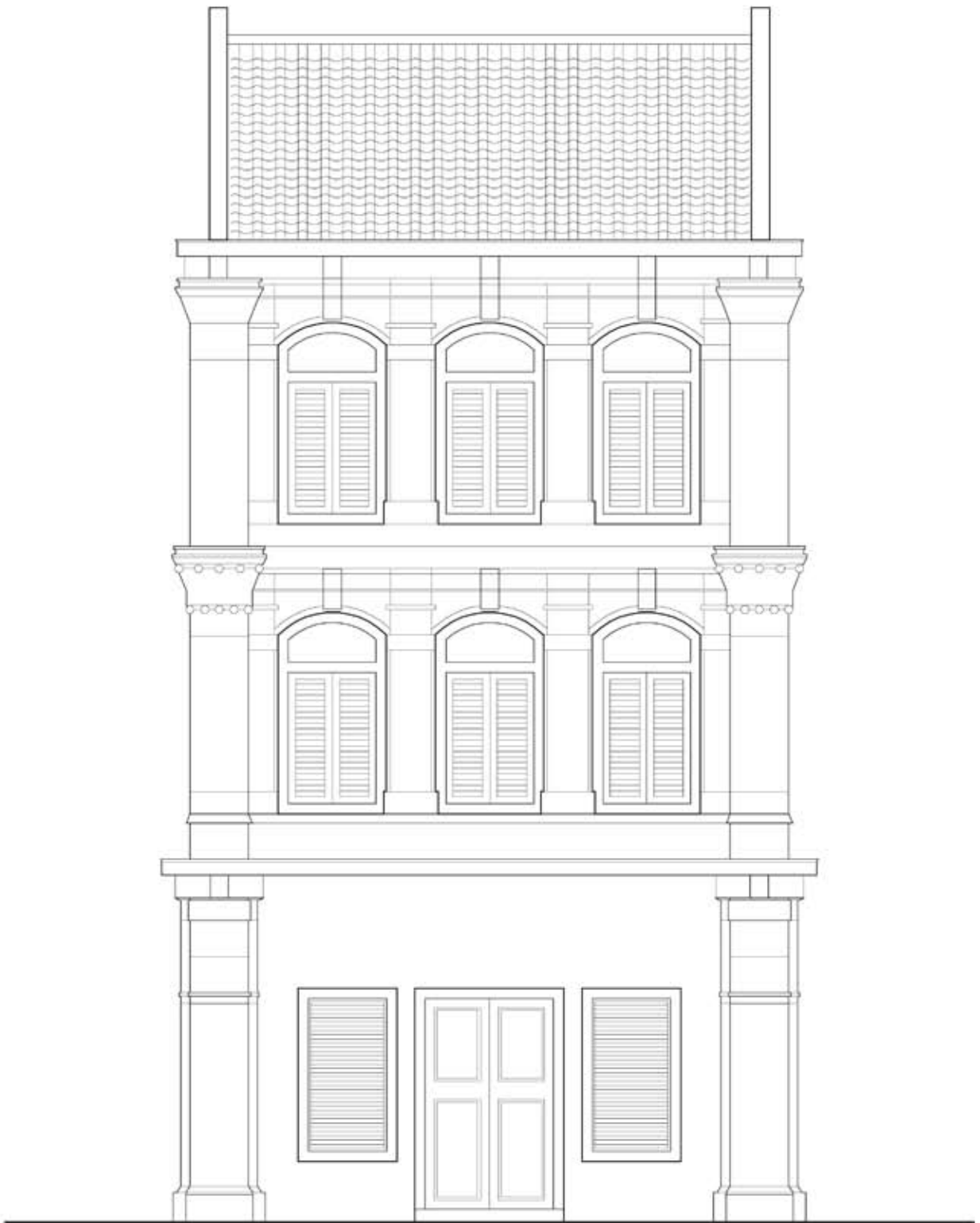


NEO-CLASSICAL STYLE 19th - early 20th century

“The Last phase of European Classicism of the late 18th and early 19th century characterised by monumentality, a sparing used of ornament and strict used of the Orders Of Architecture. Studiosly proportioned which sometimes incorporate portico, colonnade and cupola(s) in the design. Evidently, the style which was carried through into the early 20th century was influenced by Anglo-Indian Architecture through colonial British with East Indian Company which brought influences practical to their tropical experience, which are typified by high ceilings, large porches and painted in pastel or white finishing on exterior and interior walls that can be seen in the colonial government buildings and bungalows for European masters in all major cities such as buildings along Weld Quay. Most non-tropical forms used is the Palladian system of neo-greek column, pediments and fenestration, neo-Roman arches and domes, and Renaissance parapets, turrets, cupolas, quoins, surrounds, staircases and balconies.”

- last phase of European classicism
- rich in ornamentation
- influences of many cultures





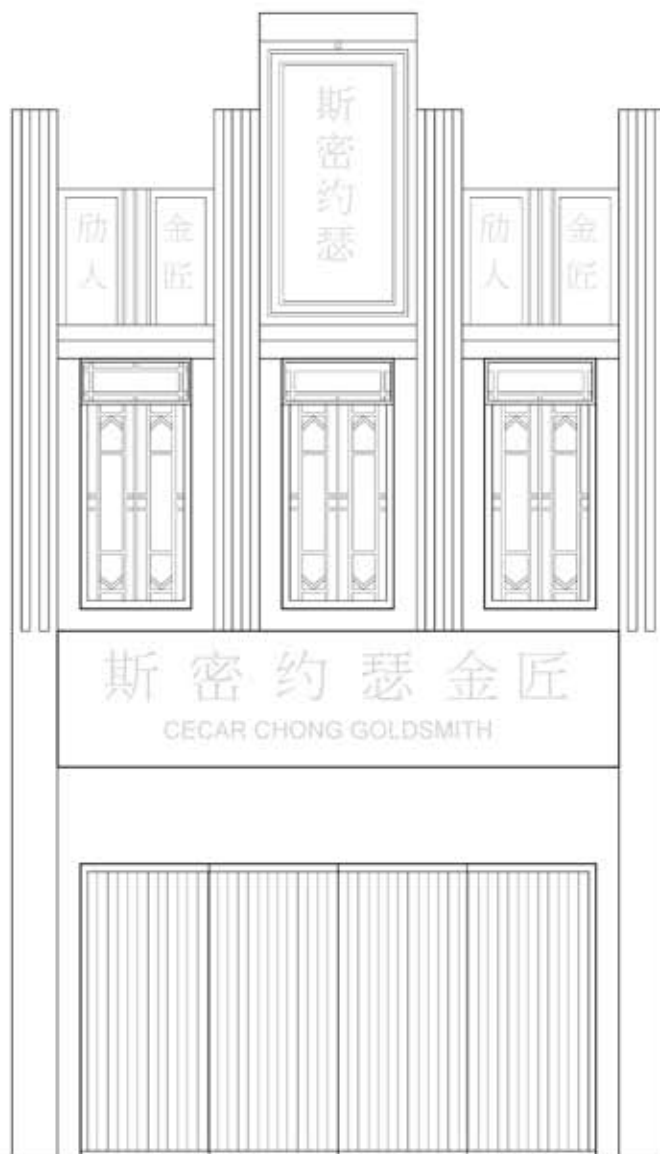
0m 1m

ART-DECO STYLE 1930-1950

Art Deco is a decorative style widely used between the 1930's and 1950's. The style is characterised by the use of straight lines (typically three parallel) arranged either vertically or horizontally in conjunction with other geometric elements, creating a strong vertical or horizontal emphasis to the structure. A granulated render adapted from and regionally known as "Shanghai Plaster" was introduced at this time and was commonly utilised. The exuberant classical decoration of earlier style became much more restrained and in many cases was stripped completely. Windows are arranged in groups rather than the typical three bays commonly observed in the earlier shophouses style (casement shutters). Highlighting the date of construction on the facade of the building as well as the use of metal frame windows is typical of this period of architecture. Structurally, buildings of this style are or reinforced concrete masonry rendered or Shanghai plastered. Development or reinforced concrete resulted in cantilevered sunshades and high pediment or parapet wall.

- characterised by the use of straight lines
- Shanghai Plaster
- highlighting the date of construction
- mostly build in reinforced concrete



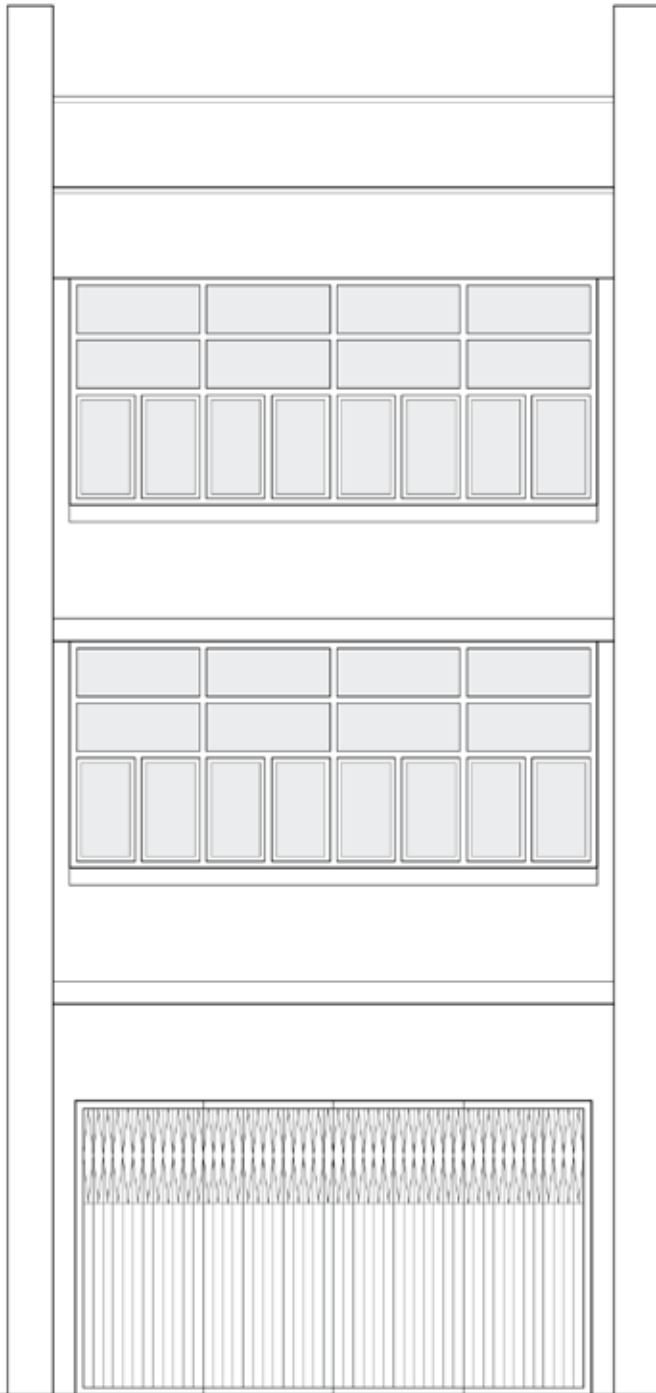


EARLY MODERN STYLE 1950 - onwards

Following the development in western art and architecture from the end of the 19th century to its pinnacles in the 1920's and 1930's. It actually embraces a wide variety of movements, theories, and attitudes whose modernity resides in a common tendency to repudiate past architecture. Walter Gropius, Le Corbusier, Mies Van de Rohe were the important figures in the general trend towards a radically ornamented, simplified approach to architectural style. Built with reason, form by character and the aesthetic quality of which came from the simplicity of their form and the abstract relationship of solid surfaces and large, clean cut openings rather than from applied ornament or decoration. The trend soon caught up in the country after the war. Although in moving design away from the quaint and craftsmanship, local influences were not disregarded but were adapted to form a unique modern style. Structurally, the buildings of this style use reinforced concrete.

- motivated and simple modernist design
- reinforced concrete
- design moved away from craftsmanship
- local influences still used but transformed into a unique modern style





0m 1m

RESULTS

CONCLUSION

*The continuity of tradition linked to the evolutionary process of culture itself and the adaptation of other concepts of habitation have paved the way for a plural and hybrid architecture, extracting fragments from historical form as simplifying them, in order to apply them freely later on, unconsciously adapting them to some contemporary global necessities that are the results of exhaustive study of each program. These programs are based on functions that create the building, but at the same time, it is the building itself that can dictate new functions.*¹

The shophouse as a traditional value in a contemporary world, that was the goal for this research. As we can clearly see, the shophouse itself is not only a typology, it is a development from ideas, cultures and techniques, combined and transformed to, every time again, be successful in each era in history. The basic floor plan and section proved to be successful and managed to survive many years of changes, most of the qualities however that changed are visible in the façade, and the grand 'architectural' elements slowly adapted to new building techniques and needs. The last phase of the shophouse came in the modern time, and from here on the shophouse lost his most important qualities. The needs for density, comfort and more could simply not be answered with the state of the current shophouse. However, at this period, we again are at the time of changes, do we continue to build high-rise buildings? Or are the needs for a smaller scale back again?

Malaysia is struggling with the preservation of historic buildings like the shophouse, however, preservation and conservation of historical buildings needs years of experience. Lots of shophouses start to fall apart ^{fig 1} and slowly disappear in time. I believe that the answer is not the preservation of the shophouse, but the continuation of it. The shophouse always adapted in time, and every time changed qualities that had to be changed, never forgetting to learn from earlier qualities and traditions. I believe that we have to do a step back; we have to search for the basic qualities and, free from architectural form, simplify them, and translate them into the modern needs. What these modern needs are also change over time however at this stage this is, liveability, sustainability, and affordability.

In this typological research the basic qualities of the shophouse, the keystones are found and translated into symbols. In order to create a new design with these keystones we have to test them according to the modern needs, what always happened in the previous times. On the next page we have a genealogy of the development of the shophouse, showing which keystones remained successful, and which disappeared rapidly. It is important to know this, because old ideas might be useful again in this time. When we combine this genealogy with the testing of modern needs, a selection of keystones can be made to start designing. This design can be adapted to each and every location in South East Asia, big cities, or small towns, and I will continue with a design in Malacca. In the middle of the historical centre a new type of shophouse will be designed and engineered; a prototype.

1: Sejima K, Nishizawa R, Houses, SANAA, ACTAR, MUSAC, Barcelona, 2007, p.173



fig 1: shophouse 'falling apart' (www.flickr.com)

GENEALOGY



Dutch style
1600-1700

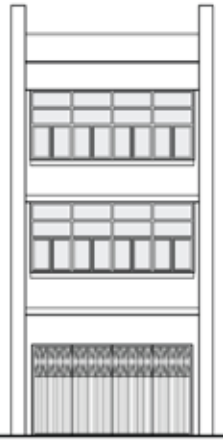
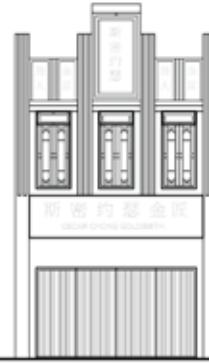
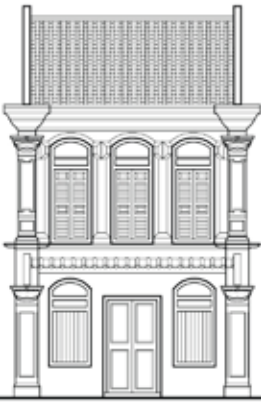
Southern China style
1700-1800

Early shophouse st.
1800-1850

Early transitional st.
1840-1900

Early straits eclectic style
1890-1920





Late straits eclectic style
1920-1940






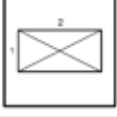






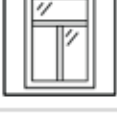
Neo-classical style
1850-1950

Art-deco style
1930-1950






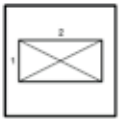







Early modern style
1950-



KEY ELEMENTS CHECKED

	livable	sustainable	affordable	architectural (<i>attractive</i>)
	shaded	shaded		shaded
	shaded			shaded
	shaded	shaded		
	shaded			shaded
	shaded			shaded
				shaded
	shaded	shaded		
	shaded	shaded		
	shaded		shaded	shaded
			shaded	shaded
			shaded	shaded
	shaded		shaded	
	shaded	shaded	shaded	shaded

DESIGN GOALS

	omitted	primary use original form	primary use transformed	secondary use original form	secondary use transformed
			shaded		
			shaded		
					shaded
			shaded		
		shaded			
		shaded			
					shaded
			shaded		
			shaded		
	red				
			shaded		
		shaded			
	red				

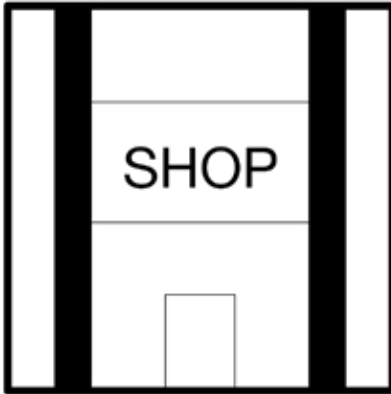
CONCEPT

The design of the 'prototype' has a solid foundation with the use of the found key elements. Some elements can be copied directly in the primary form, some will be simplified or re-engineered to modern standards and some will be avoided. In the scheme on the previous page we get a clear understanding of which element I will use, dismiss, use in primary form, or in secondary form. The use of all the elements will show if the traditional elements are complete, or maybe some new elements have to be developed.

On the following pages I will explain my conceptual design for the 'prototype' in Malacca by following the elements that are used. With elements only it is impossible to create architecture, so the elements plus the use of the creative process in combination with the context will at the end result in a design.

IN DETAIL

The first element that can be used without transformation is the inclusion of the shop plus the dwelling. While visiting the historic centre of Malacca multiple times, it was clear that a good bookshop was missing. A bookshop can be of great value for the historical centre, and the atmosphere of a bookshop normally is a peaceful escape from the busy society. It is the ideal place to hide, or to find a quiet spot to read, and an ideal space for intellectual discussions.



The location of a design is elementary for successful qualities. The site, or context does not only shape the actual form of the building, it also defines demands for privacy, entrance, architectural aesthetics etc.

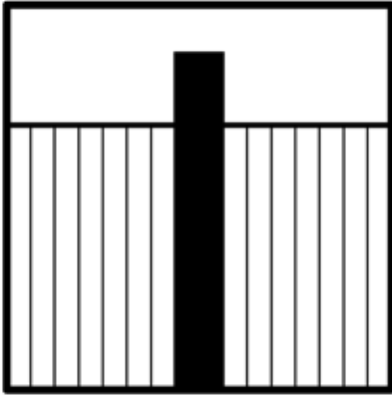
Since the historical centre of Malacca is protected, UNESCO heritage ground, luckily there won't be the change to demolish an existing shophouse. Nevertheless I found one spot where the original shophouse is in such a bad shape, or even does not even look like a shophouse anymore, that restoration won't be useful and won't change the historical image and visible qualities at the location. This 'shophouse' ^{fig 1} is located at one of the oldest streets 'Heeren street' ^{fig 2} and consists of a very long narrow traditional site. The site is perfect and challenging.



fig 2: the location (own image)

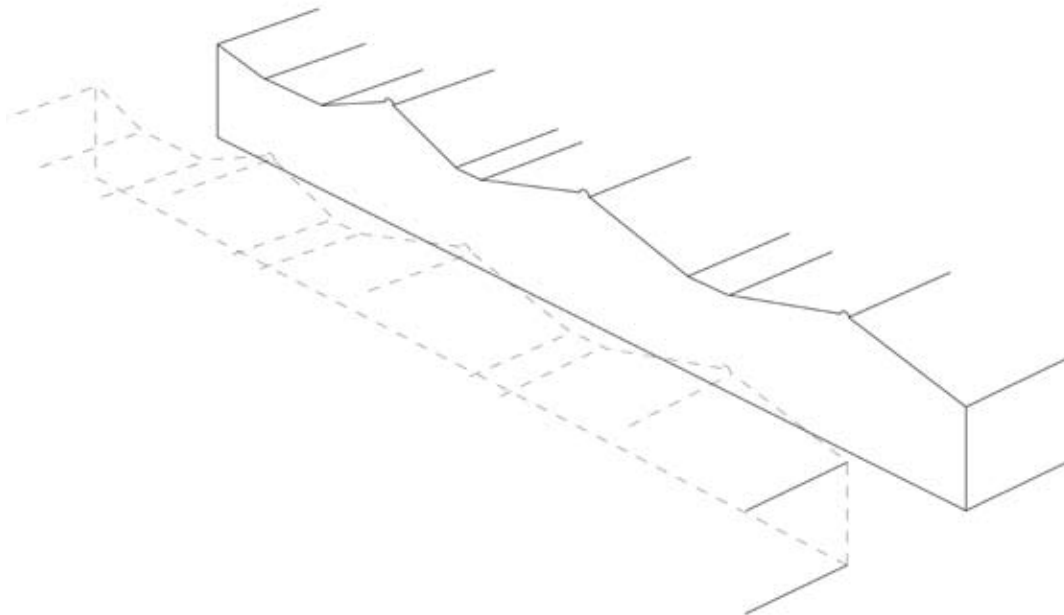


fig 1: the site (photo by Maarten den Teuling)

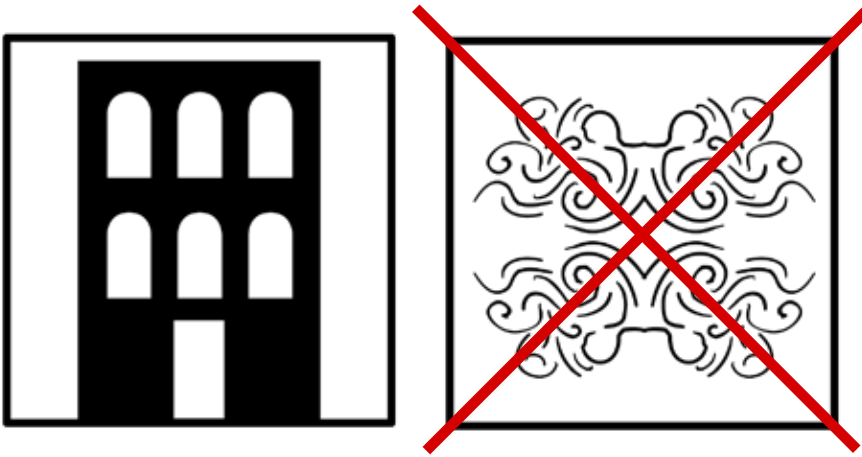


In the traditional shophouse and Chinese culture the dividing walls were from high importance. *high courtyard walls of ten to twelve feet high introduce seclusion and introversion within the protected confines of the enclosed courtyard garden space, which is an extension for the dwelling for the purpose of relaxation.*¹ The walls created a secure surrounding, which is ideal for a dwelling in combination with a bookstore. Not only cultural, but also for security reasons the party walls between the shophouses prevented fires to ‘jump’ from building to building.

The rich history of the walls, and the walls being in perfect shape made me decide to remain them, this can be a beautiful contrast with the new modern design. ^{Fig 3}



1:Too A, iDidactic Streetfronts and Backlanes - The Shophouse Typology (1), in Majalah Arkitek, Vol.2, No.3, May/June 1990, p51



The introduction of the 'flat façade' in the shophouse made it possible to design a façade and create a certain look in the street. My goal is to preserve the traditional look of the street, and try not to interfere with great contrast. On the street side of the plot I will place a simple designed 'flat' façade in the same proportions and scale as the surrounding buildings. ^{fig 4} Inspiration is found in the work of the Portuguese architect Aires Matheus ^{fig 5} which uses existing walls, and paints them white, after the walls are white new 'holes' and voids are created.

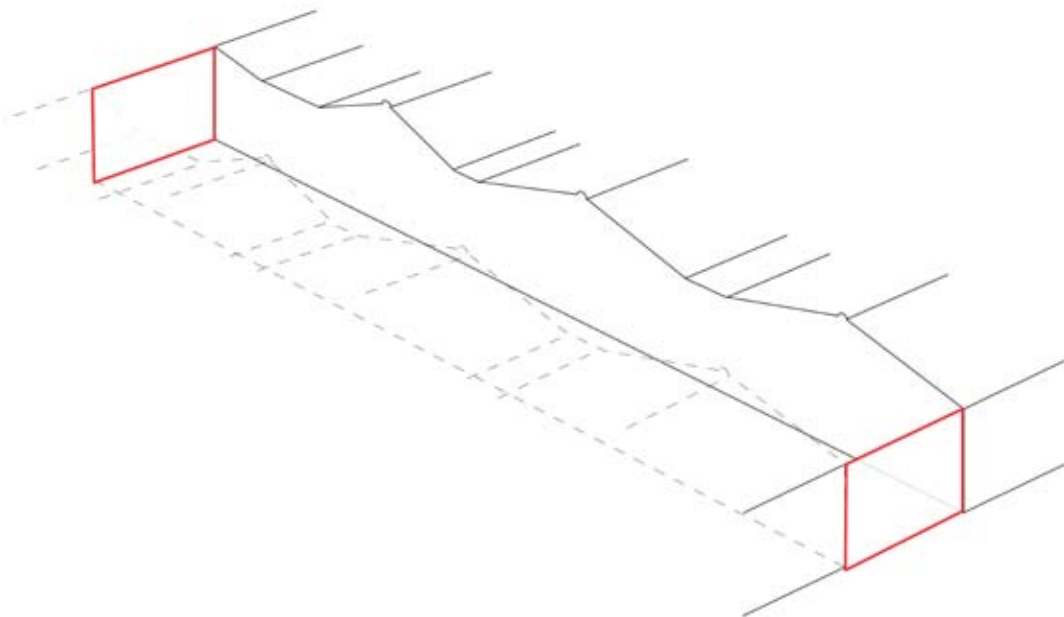
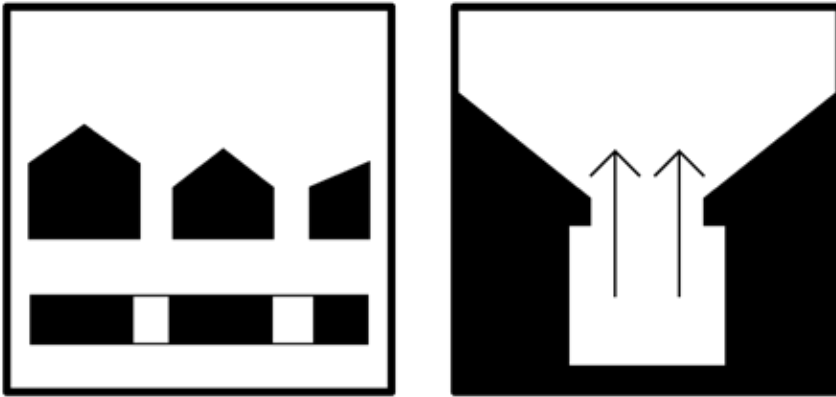


fig 4: facade



fig 3: <http://www.airesmateus.com>



In most of the shophouse we can find different buildings separated from each other by gardens and air wells. This comes from the character typical of ancient Chinese cities of grouped residential areas around pedestrian alleys. The village itself is often circumscribed by a perimeter wall for security and definition of the boundary. The decision is made to preserve this character of having outdoor spaces, that also provide proper daylight and ventilation inside the long narrow plot, just like the air well, and mini patios and gardens to separate building. The simplification of the traditional buildings resulted in the placement of blocks in between the walls. ^{Fig 6} The outdoor space will act as a 'non physical skin' that together with the separation party walls create a building as a whole. ^{Fig 7}

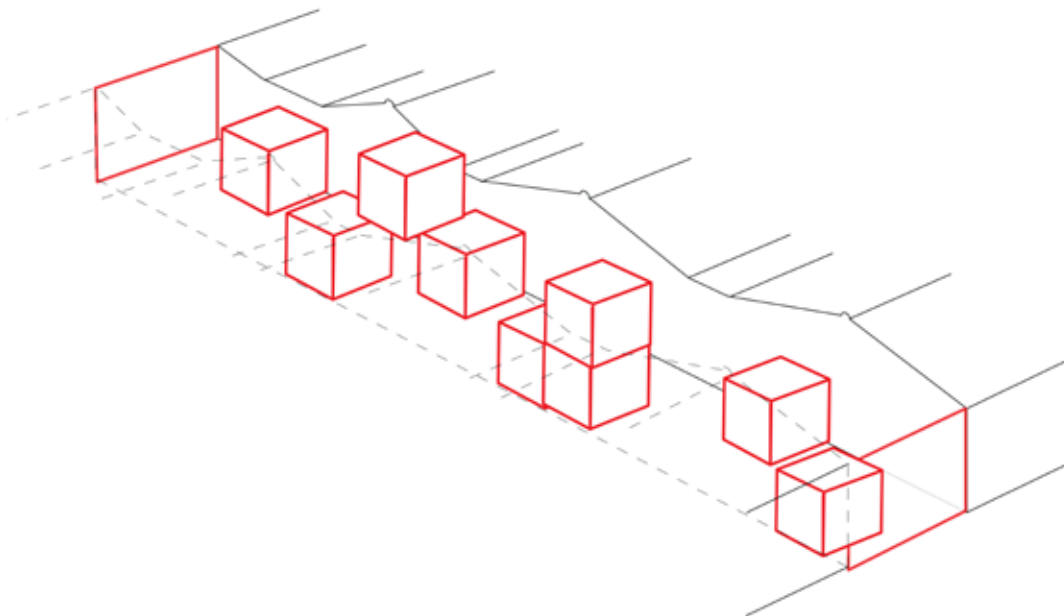
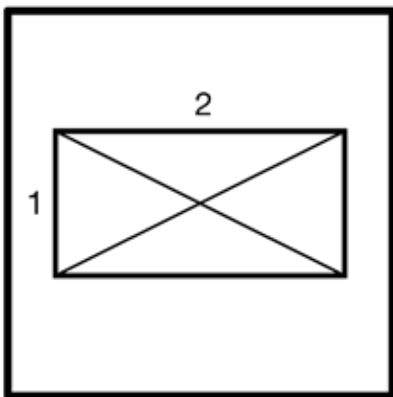
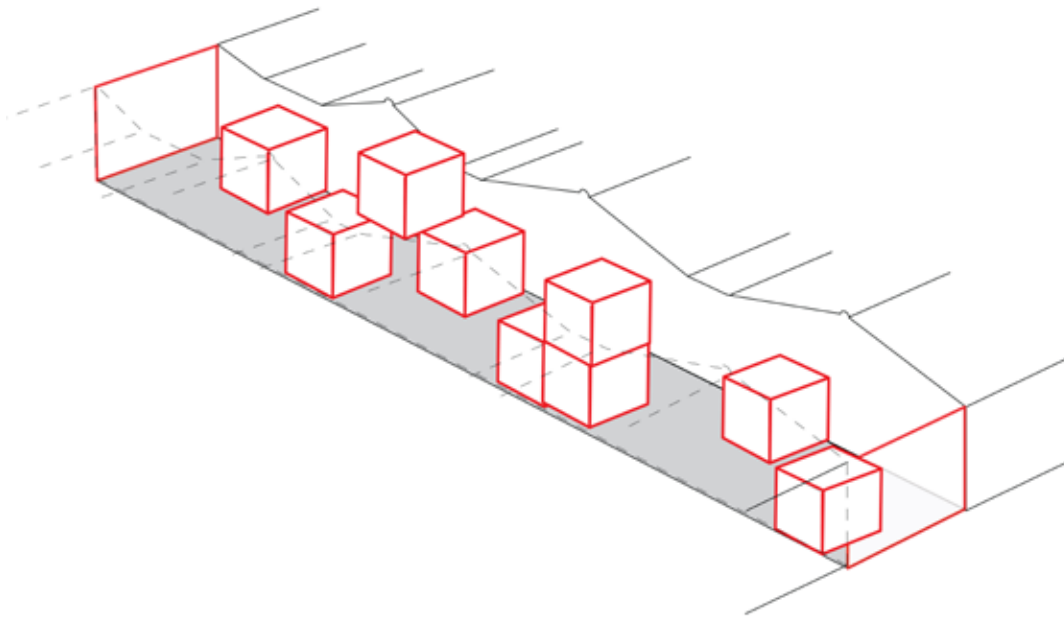


fig 6: placing of blocks



The 'blocks' that represent 'space' are not randomly from size, however the traditional proportions in which many of the shophouses are created are used. In order to limit the immense amount of possible blocks, a short study is made to the ideal proportions. The result is that two proportions are picked to design with, that can create a architectural high quality space: 1:1 and 2:3. Proportions are free from scale, so the amount of possibilities is still unlimited. To limit the possibilities even more the decision is made to create blocks of 3 different heights, each with its own functions.

2,5 meters high (inside space) for sleeping, toilet etc.

3,0 meters high for normal living functions

3,5 meters high for the shop and public functions.

Fig 8

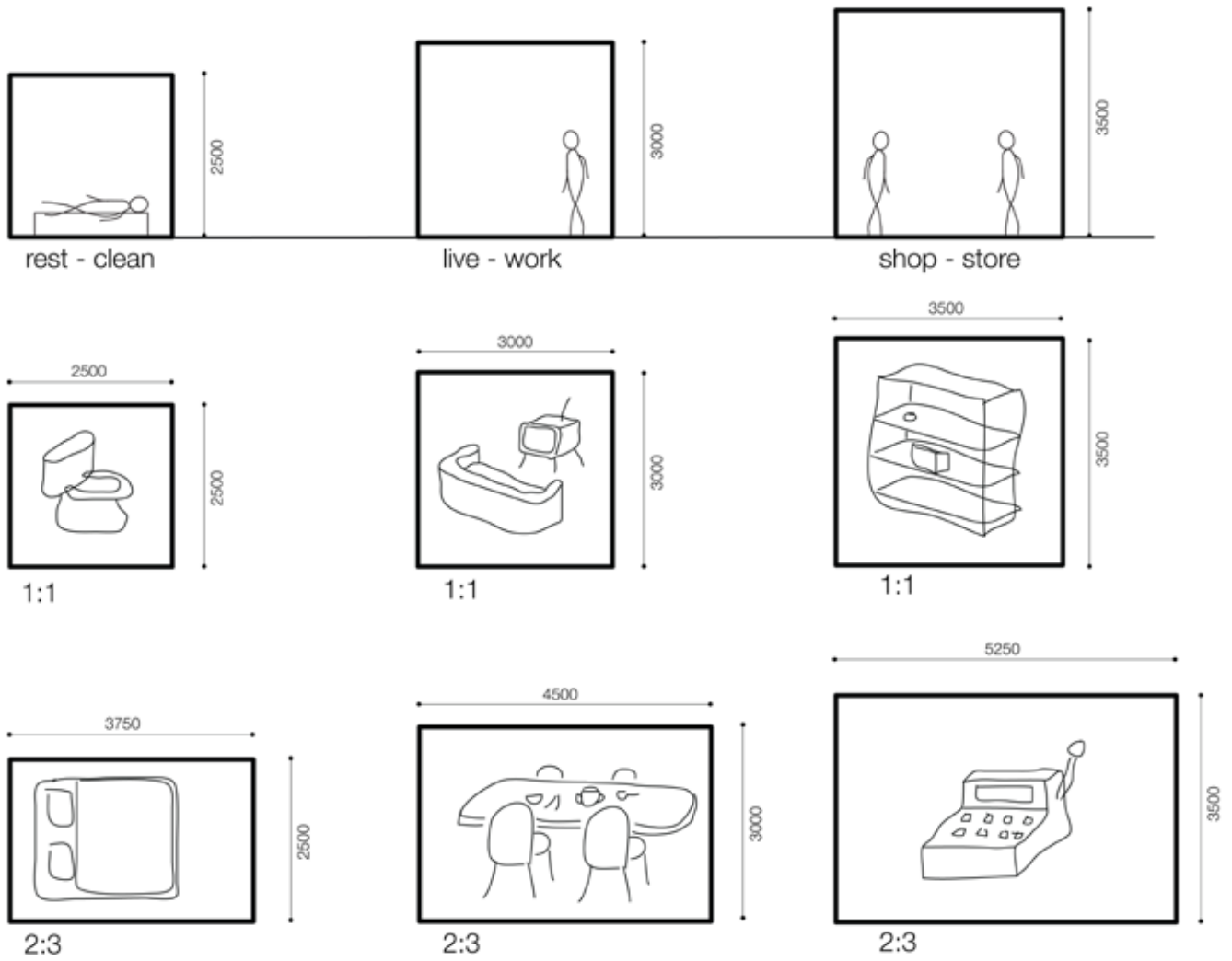


fig 8: heights and proportions

The combination of the blocks still results in a high amount of possible solutions, therefore rules are made for the combinations both horizontally, and vertically.

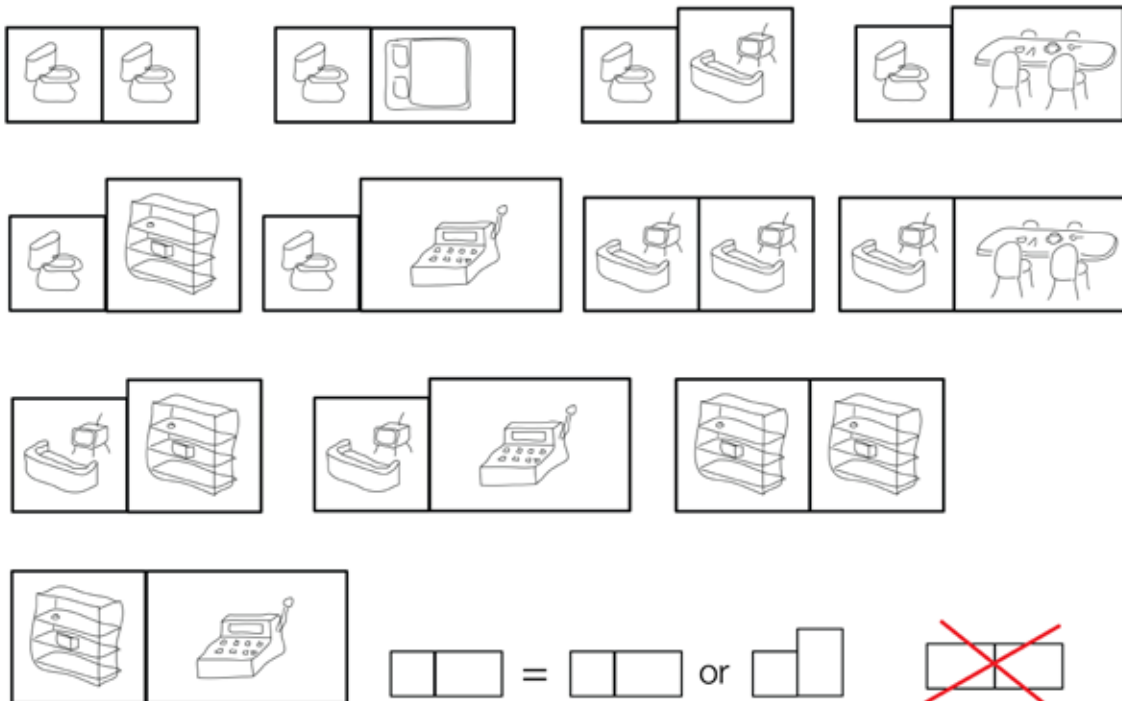
Fig 9, fig 10

All the 1:1 blocks can be placed on, and next to each other, with a maximum of 2 blocks. The Chinese proportion 1:2 will be the result of this combination.

It is also possible to have a 3,5 by 3,5 block on top of the 2,5 by 2,5 block, in this way a natural cantilever is created, and will make it possible to walk outside while being dry during rainfall. The route can therefore be divided in three stages: walking inside, walking outside covered and walking outside uncovered. Fig 11

All combinations of 1:1 block plus 2:3 blocks are possible, as long as the maximum height does not extends outside the height of the old party wall.

On the long side the 2:3 blocks are not supposed to be connected, the result will be a very long space.



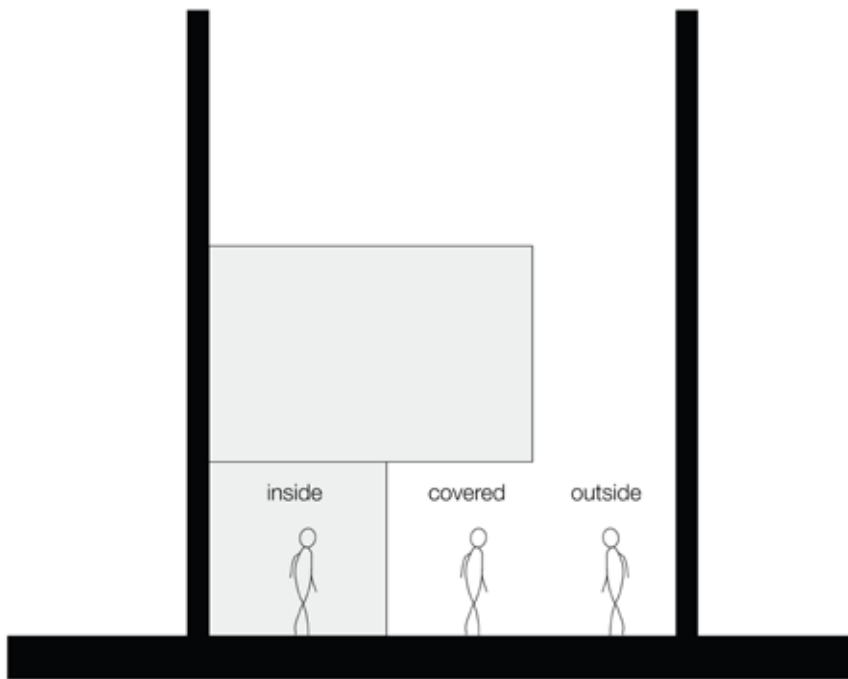
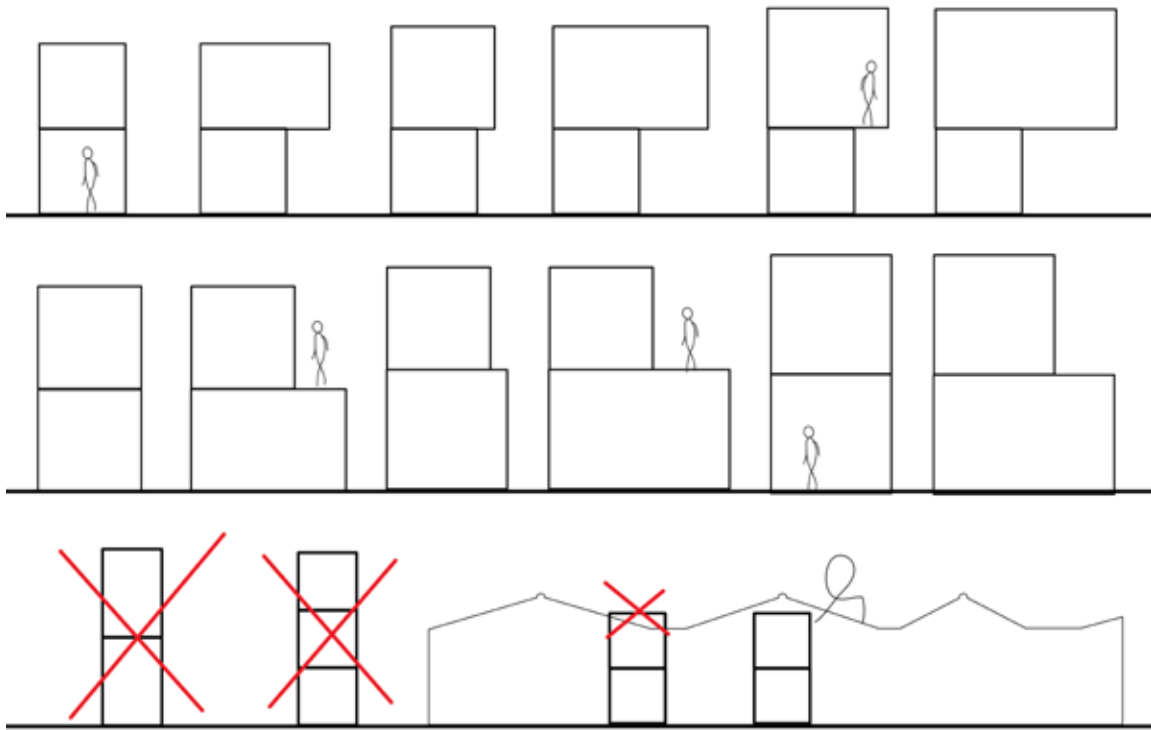


fig 10: vertical
fig 11: routes



Vertically the blocks are not supposed to be higher than the existing party/dividing walls, however horizontally they can stick out of the site. The cantilever in combination with the façade that will be separated from the building can result in a connected walkway that can be connected to the existing 5-foot ways. ^{Fig 12}

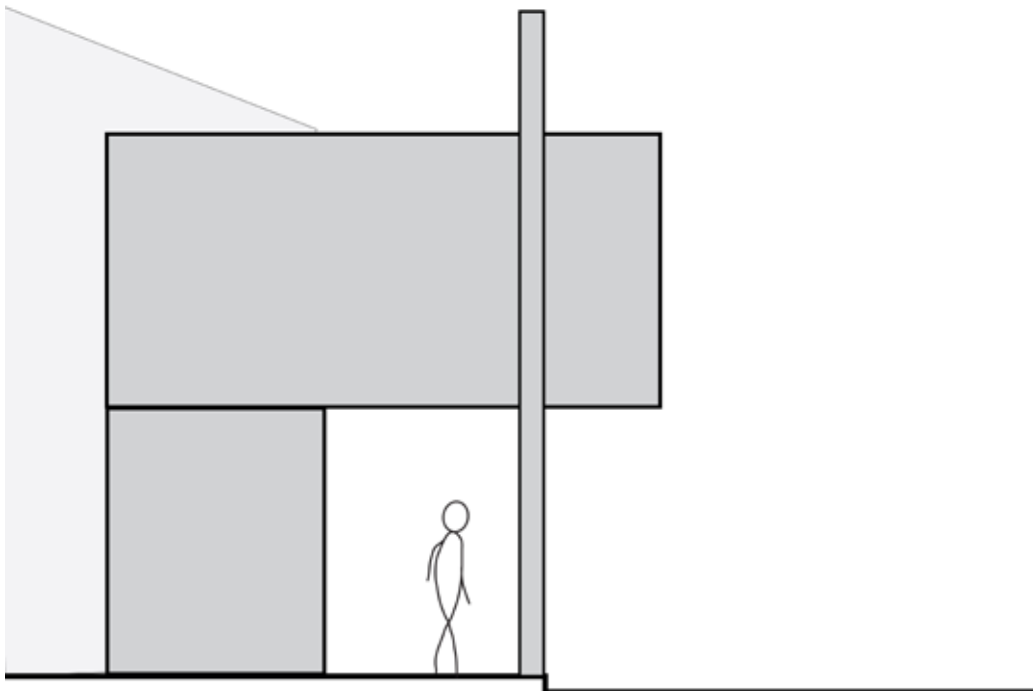
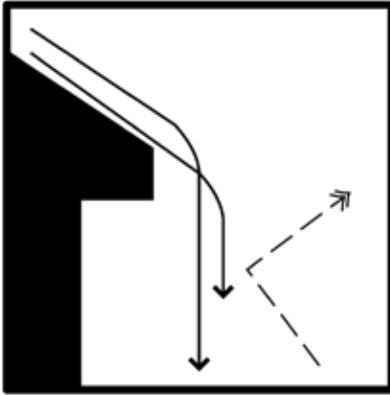


fig 12: creation of walkway



In the older types of the shophouse a cantilevered roof provided a water drop when it rained that has a result the cooling of spaces. Since a block has a flat roof, and since Malaysia is located on the equator, heavy rainfall will make it hard to engineer a flat roof in the European style. The roof can be in a certain angle, enough for the water to go in the wanted direction, and there the water can fall down as a 'cooling water drop'. ^{Fig 13} The direction in which the water will fall will again be a limitation for the placing of the blocks if a 'dry' route is wanted.

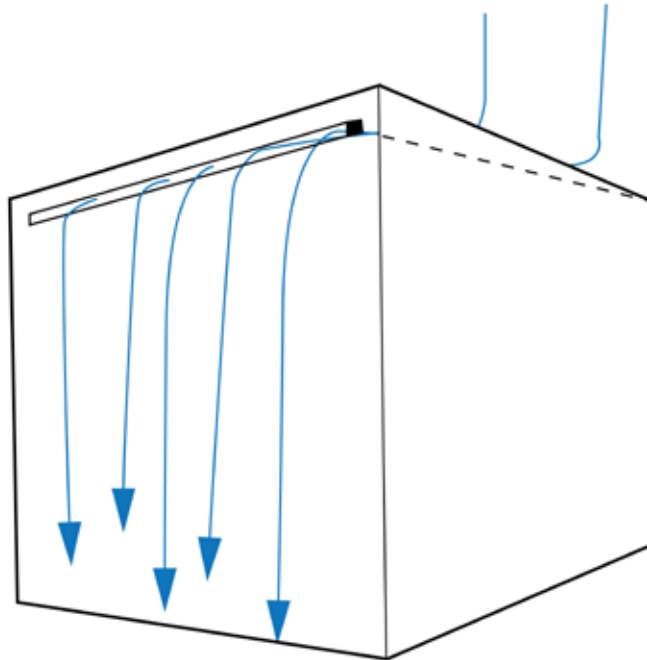
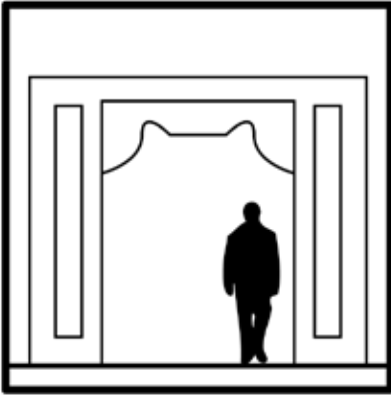
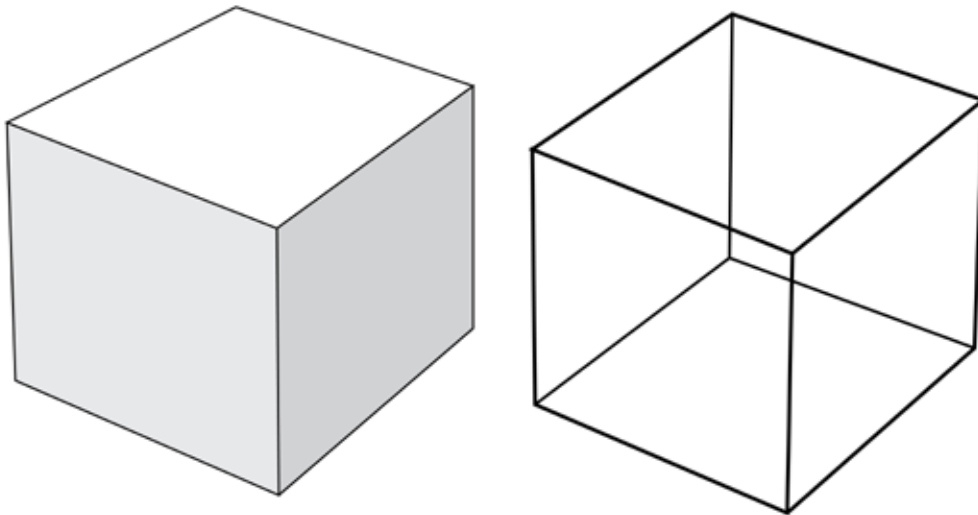


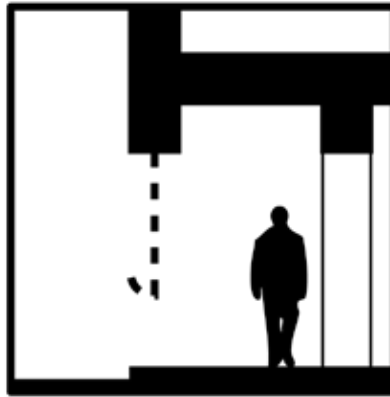
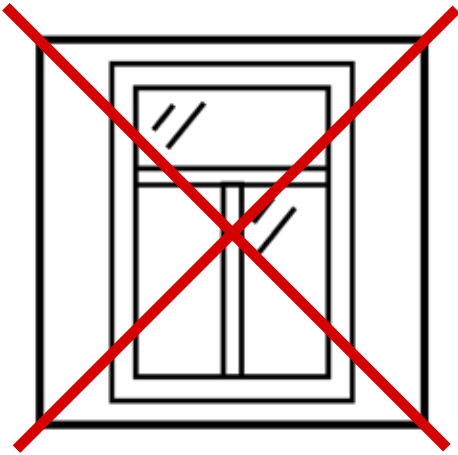
fig 13: water drainage



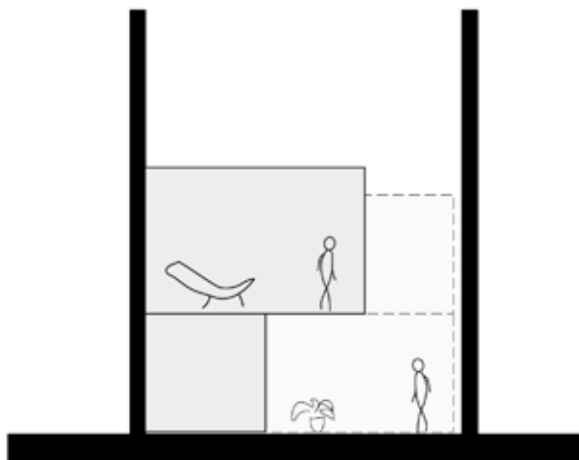
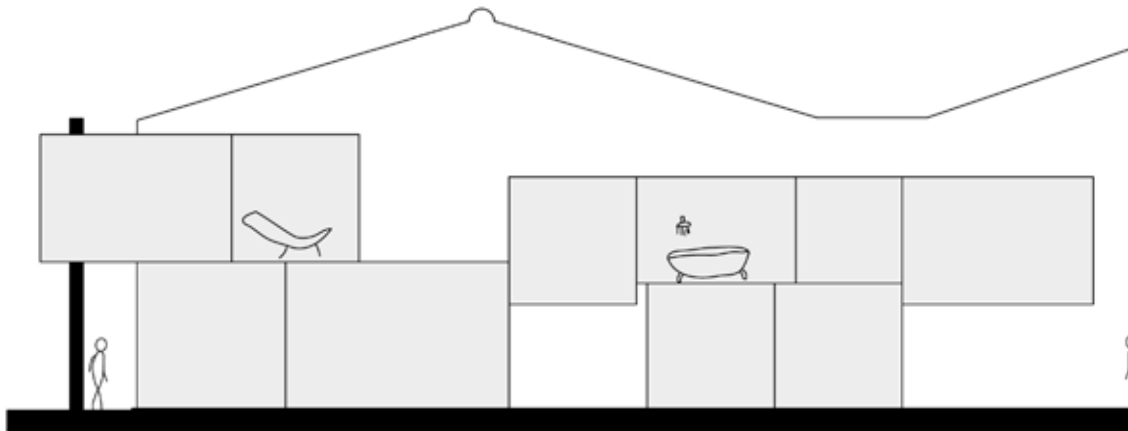
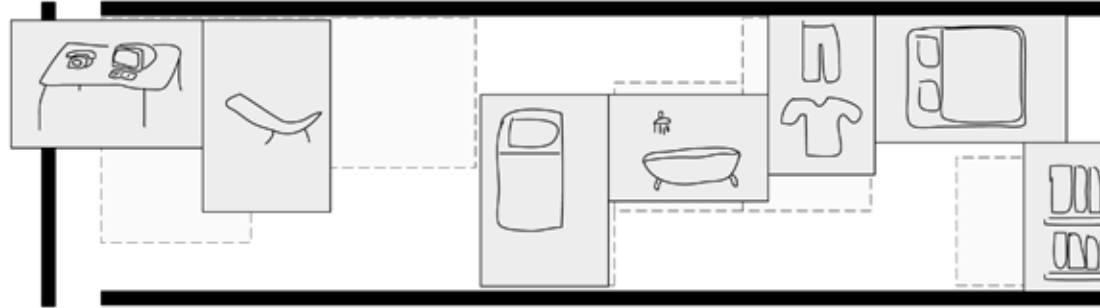
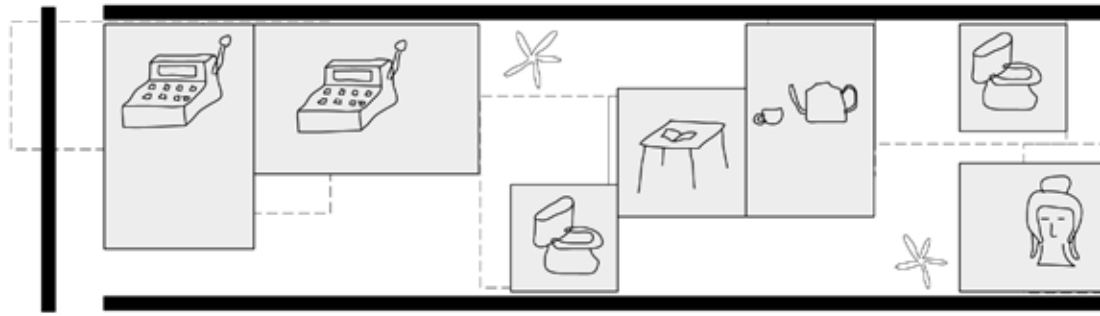
In the traditional shophouse the border between the public (shop) and private (dwelling) space was made by visual but sometimes non-physical borders. To create a buffer a ornament was placed that acted as a 'screen'. Also the changes in flooring, for example gravel next to the tiles made the border between public and private space visible. The combination of a water drop that will end in a gravel/grit filled box will create the same border in the modern design.

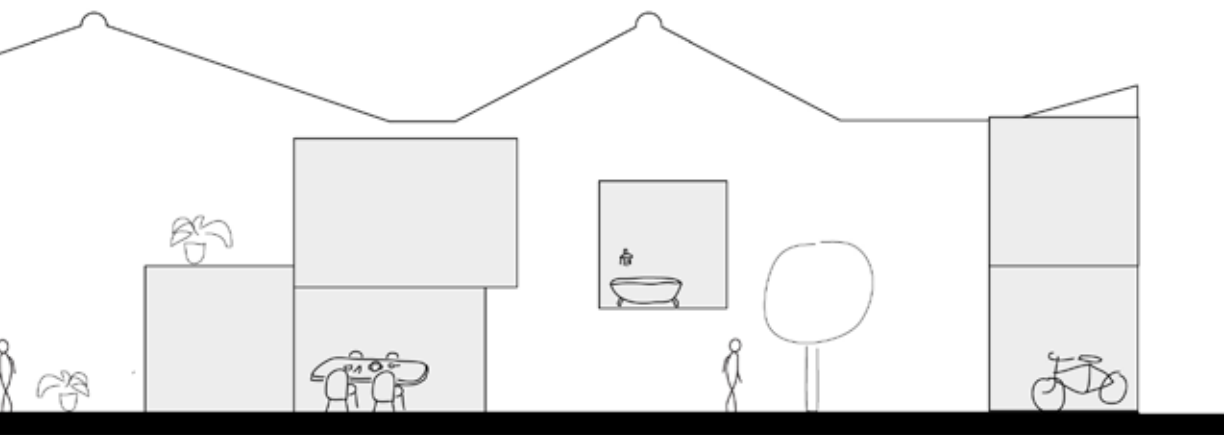
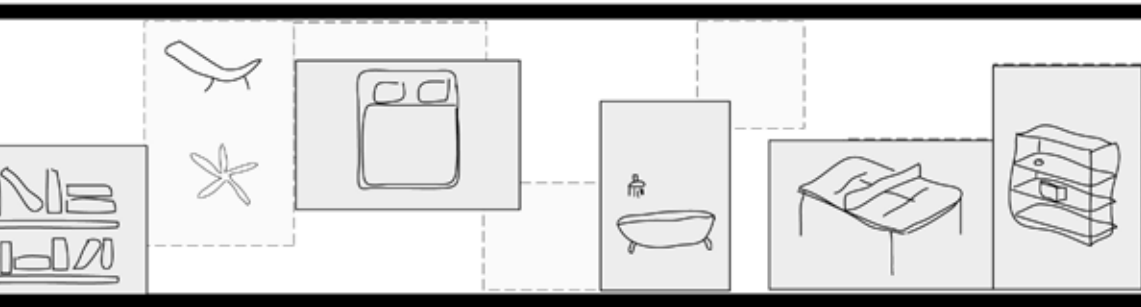
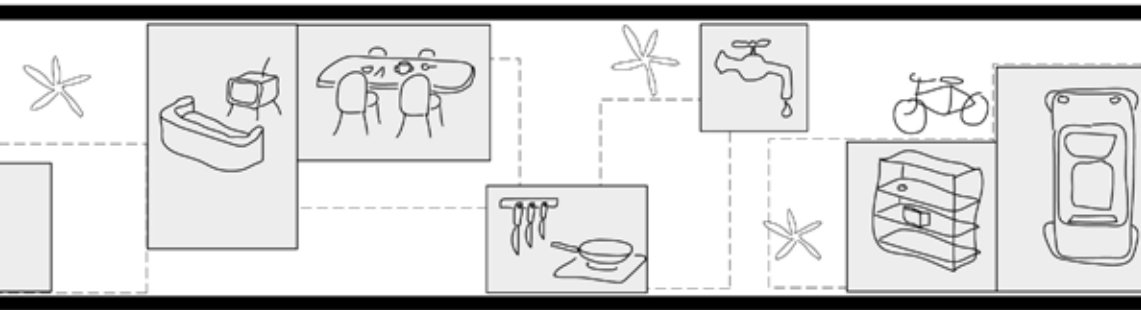
The blocks that represent space however, do not always have to be 'inside space', it is also possible to create the 'frame only' that might act as a private or public outdoor space. ^{Fig 14}





The last step that is made will go on in detail. The glass windows are omitted for my modern design. Glass is used in countries with different temperatures, however the temperature in the tropical regions is always around 30 degrees. When people want daylight they normally open the window, when they don't want daylight they close down the window with curtains, to still have ventilation, or shutters. The problem of mosquito's that often carry disease is always persisting, so insect screens, sometimes permanent are placed in front of the windows. My goal is to engineer a new type of 'insect screen' that is permanent and will let all the daylight enter the room. If the room has to be closed, shutters can be placed in front of the window. In this way the room will always be ventilated, and the use of air-conditioning can be kept to a minimum.







LAST WORD

The necessity of research in the field of architecture is the core of many discussions. Some see architecture as a scientific field while others see it as a form of art. When I started the research I was doubting if it would really assist me in the design, however this paper and the creation of it made clear that it is very important to research. With a good methodology it is possible to come to conclusions free from any architectural creativity. The research now acts as a base, a foundation and knowledge from historical values. Translating these types to architecture is the creative process, the form of art that is impossible to schematise or standardize. This creative process will be the next step and the knowledge that I gathered about the shophouse will assist me in this.

Furthermore I would like to thank my tutors, Andrea Peresthu and Leontine de Wit so far for assisting me. The methodologies Andrea Peresthu gave me, together with the understanding of my fascination motivated me to continue the research.

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