The Lasting Notion of Street: Vary, Adapt, Engage.
Transforming Eilandenbuurt Apartments

Chi Yi LIAO

Studio: Transforming Housing Heritage,
Track: Heritage & Architecture (RMIT)

Tutor:
Ir. Lidwine Spoormans
Nicholas Clarke Pr. Arch.
External Examiner: Rein Have

Contact:
Chi Yi LIAO
c.liao.kw@gmail.com
Student No. 4249143
Delft University of Technology
Faculty of Architecture and Built Environment (Bouwkunde)
P1 (revise)

the last notion of street

Eilandenbuurt
A RMIT research and design approach on contemporary urban issue

After the crisis, bottom-up, small-scale approaches that require less capital became the norm of new experiments in urban renewal and conduct by municipalities, housing corporations, architects, and most importantly of all, the local inhabitants. Today in the cities local organizations play a role as a bridge between municipality, schools and the inhabitants. Veldacademie is one of such organization in Rotterdam and Carnisse district is one of the major target area in their research projects. Transforming Housing Heritage, an RMIT studio in architecture TU Delft, cooperated with veldacademie in the Transforming Housing Heritage studios.

In the first Transforming Housing Heritage studio and individual research done by Veldacademie members and associated master students including architecture and urban aspects. Topics including from house merging, urban small business, the VvE structure, to the potential networking methodologies.

My research topic

The Last Notion of Street is the topic if my design thesis and looking for the urban and social values brought by the physical street form, as implemented according to Witteveen and Van den Broek. The qualities in street level that is present in the Eilandbuurt before and after the 1940s is a potential to be reinforced as a pivot to solve problems presented today. Such qualities are unique today in the national scale as the design ideology has been forgotten after its completion.

In this P1 report I will compare the street pattern in the first 30 years of the 20th century and the pattern of portiek housing blocks design by Witteveen and Van den Broek, in the west half of Rotterdam Zuid. Such approach should fit into the general theme of Veldacademie that research and experiments in micro-scale design methods that require no huge investment in capital and construction, and the training of RMIT that architectural interventions without total demolition of the existing structure can not only apply to monumental buildings, but also benefit the social economical conditions when apply to residential building blocks.

Research Method in P1

Any physical built architecture can not be looked and categorized without the contextual societal body in mind. J.N. Habraken uses the term "type" to define any long lasting system that can be recognized in the built environment. Thus, typology is not only the categorization of physical shape but also the human activities and culture within.

In this essay I would like to use typology as the research stem to identify, compare and distinguish the types of built structures and street-level space in Eilandbuurt with other parts of Carnisse, Rotterdam Zuid.

Revise version note:
The text part in this revise P1 report are almost re-wrote. For clearance to reading the original text are showed in black and the new add and edited text are showed in black.

Most drawing plates are original but with new legends and text explanation.

Introduction

As the ideology changes through time, the Dutch portiek-housing blocks, emerged from the 1930s and massively built after the war, has been generally considered outdated in some perspectives.

To deal with collective housing blocks that is physically outdated or socially problematic to the city, the conventional solution is to demolish and rebuild the whole block. Yet such approach became less feasible when the private and public sectors withdrew their investment in large-scale urban renewal after the economical crisis in 2008.

This project seeks an alternative way to sustain the use of old housing blocks in Rotterdam Zuid with architectural modification. This project took a RMIT approach but expanded from single building to a larger scale – the urban landscape and neighborhood.

Witteveen layout the urban fabric of Rotterdam Zuid in the 1930s he continued the urban design ideology of Berlage and planned Zuid on a traditional street scale. Van den Broek's vision of the primitive minimal housing units are linked with the street level with a portiek that is more transparent then their portiek-housing and flat predecessors. Such ideas are implemented and together makes a unique urban landscape in Eilandbuurt compared to other portiek-housing neighborhoods in the Netherlands.
Problem Statement

A research done by a group in Utrecht focuses on social cohesion in Tarwewijk, Eilandenbuurt and Zuid. The research shows that small social activities like greetings and small neighborhood parks are more desired than big parks. And small neighborhoods are more needed as the houses are originally designed to deal with such social aspects. The approach I took is first to see the stair and floor in the close portiek can be understood as an extension of the street whose accessibility is controlled by the door on street level. As the spatial quality is limited for interactions between neighbors, it is the main problem to be addressed. Other values to be added include opportunities for small business using the existing ground floor and basement space.

Design Approach

1. In this design project I explore the design and transformation of a more spacious and social-able portiek within the existing building.
Research approach

In the P1 research phase I focus on the definition and position of the subject into the context. The first chapter defines the type of Eilandenbuurt street pattern and building type in the historical and ideological context. In chapter two the portiek-housing is considered as a successor of traditional street and house configuration. The conclusion leads to the intervention, which is not fully addressed in P1 report but will be deeper in P2 phase.
The problem of today’s Eilandenbuurt is not easy to be defined as we have a more diverse theories based on different perceptions on urbanism, each may lead to a different conclusion. In this situation the design intervention need a more cautious position.

As a beginning of the project I start with the observation and examination of the existing physical environment of Eilandenbuurt, in hope to approach both the positive value and potential problematic within the built neighbourhood.

The ultimate goal of such approach is to answer one question: Can we find solution for the social issue today by searching within the values of the 1940s portiek housing in Carnisse?

In the structure of the ordinary J. N. Habraken uses the term “type” to describe a repetitive configuration between building components that can be seen in a specific region.

In Rotterdam Zuid there are two recognizable types: the street-building-garden profile configuration and the stack-up portiek housing.

To look into what shapes these types, this part explore the original topographical structure, planning strategies, design ideologies before 1940s, in which era the present urban form of Eilandenbuurt has mostly shaped, and the architectural ideology.
Except the paused between 1941 to 1945. Portiek-housing (portiek woning) in Eilandenbuurt and rest part of Carnisse district are raised in a short time between 1938 to 1950.

The portiek housing type can roughly separate into two sub-types: open portiek, generally known as "Haagse Portiek", and close portiek, which is our topic.

In Eilandenbuurt close portiek-housing are mostly design by Van den Broek in two phases, the first Algemeen Belang between Takkersestraat and Amelandseplein, and the Algemeen Belang II, filled out the rest plots in Eilandenbuurt, south from Urk, single noth to a part in Tarwewijk.

Before 1938 the dominant building type constructed in Carnisse are two stories town houses built around 1920s with two entrances, which present in the Oud Carnisse blocks west to Eilandenbuurt. To the east is an area with much different urban fabric, with free standing buildings including the Zuidplein shopping mall and bus terminal built around 1960s according to a much different design ideology.

In the far left this map shows the Vogelbuurt, which follows van den broek’s portiek typology and the design is done by him and four other architects.

I Types and Patterns - Eilandenbuurt and surrounding

Building time and Typology

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The modern urban fabric of Rotterdam Zuid is no exception as other typical Dutch cities, with multiple layers that reflect the pattern of reclamation and urbanization process in time. Bases on the dyke and polder system later transformed into street and urban green, Witteveen extended existing fabric with the north-south urban-block pattern, links them with east-west routes, and connect to the metropolitan with a super road structure.

**Intro - Compositional Approach**

The urban fabric of Eilandenbuurt is a part of a larger picture includes Carnissa and Charlois and part of Tarwerwijk. This fabric is woven with three basic layers: the original town street of Charlois, the residential blocks and the artery road system that urban theorist Frits Palmboom describes as super structure. According to Susanne Komossa, the city planner Willem Gerrit Witteveen, who made extension plan for Rotterdam Zuid in 1936, follows the idea of “compositional approach” that use the original water system in the polder as the new urban green.

The curved street is originally formed along a dyke and today most of the small shops and supermarket are concentrate along this curve. The residential blocks are extending from north to south, this pattern gives every houses building along the long edge of the block sufficient sunlight throughout the day. Beside picturesque experience of open and close geometry, the east to west routes transport the passenger from Zuidplein and also provide business for the retail boxes that built on the edge of residential stripe houses.

The artery road links the Zuid to the centre, but for the neighbourhoods it is more like a solid boundary that cut the area into three pieces.

**Old Dyke streets**

Before Witteveen, the town street in today’s Oud Charlois is developed along two dyke lines: the Zuidhoek extended from Oud Kerk to south, and Wolphaertsbocht curved toward the west and the east. The West part of Wolphaertsbocht is later demolished and developed into modern port area, yet the East wing is absorbed into Witteveen’s plan as one of the main urban axes. Most commercial activities today are still concentrated along Wolphaertstraat, including small shops and big supermarkets. Oud Carnisse is another area where traditional street pattern are visible. Short-width houses are still existing and extends part of the commercial activities from Wolphaertsbocht.

**Residential Blocks**

Possibly in concern of the sufficient capture of sunlight, Witteveen’s residential urban blocks for the Zuid follows a visible pattern that is longer in the north-south axes and short in the east-west axes. As a result, the residential part of the urban fabric shows a tendency of north-to south strips.

Of most portiek house here, the corner on the street level are left for commercial use which can be seen as a continuity of the traditional Dutch town street pattern. In the residential blocks another type of commercial street is the tram routes. The space where tram-rail site is also an green space but not for people to use and cross free. The actual street are separate into two streets on each side of the rail.

**Artery Roads (super structure)**

The artery roads are a solid boundary for the neighborhoods. It looks like open space but not serve the pedestrians like other urban open space but for cars only. The smaller “street” on the two side of the roads are only for residential, except some small officc- es, most commercial space today are concentrate on the block corners especially the corner connects to Wolphaertsbocht.
Background - Carnisse and surrounding

Types and Patterns - Witteveen’s Compositional design

There are four systems decided the urban fabric of Rotterdam Zuid: Dyke, polder, super road structure, and the residential blocks.

“Kom” (bowl) is a feature of polder structure in Zuid. The irregular typography of its clay base soil. Unlike the parallel structure of the north, the parameter of polder system in Zuid are cut into individual areas by higher dykes.

Witteveen’s revised plan for Zuid, 1936

The street system largely follows the original dyke system. In this plan the dyke and large drainage became the main street and road. The inner area of the “bowls” becomes the residential district. On top a new road system for car traffic connect (and separate) each district and links the metropolitan area.

The portiek housing blocks

Except the existing buildings before the implement of new plan, the new buildings are dominated by portiek house. The north to south orientation of stripes forms the repetitive pattern of building layer. Among these portiek-house Van den Broek’s won work and other similar close-portiek are the dominant type in Carnisse.
The historical context of Holland makes its unique house and street pattern and is still visible today. Although abrupt by Modernism for a short period, the building and street pattern is in its revival today.

Definition of street

In Oxford American dictionary we can found the typical definition of street:

1. a public road in a city, town, or village, typically with houses and buildings on one or both sides.
2. (the street/streets) the roads or public areas of a city or town.
3. relating to the outlook, values, or lifestyle of a city or town.

In culture and societal: street embodies the informal, un-traditional activities and values. The orthodox values and present control are usually powered and protected by the buildings (the city hall, the police station, the factories and corporation offices), and the “street” is the place for the alternatives and oppositions to be exist.

In this chapter we will go through the emerging of Dutch streets in physical form perspective. The other meanings of the street will be discuss in chapter 2.

In politics: In compare to the private controlled town and city. In a public area the freedom and control of the individual are limited. The influence of the private can temporarily extend and occupies the public area, if the public has a common agreement to allow it.

The two Dutch major cities and the smaller cities with a “drecht” or “tricht” in their names started on the spots where a smaller river stream confluences into a larger river. Amsterdam and Utrecht in Amsterdam, Rotterdam and Maass to Rotterdam are typical examples. The streets in these cities are built on the embankment of the stream.

In react to different geological conditions, the early settlement in start their first street(s) in three types: river/ canal street.

The Dutch major cities and the smaller cities with a “drecht” or “tricht” in their names started on the spots where a smaller river stream confluences into a larger river. Amsterdam and Utrecht in Amsterdam, Rotterdam and Maass to Rotterdam are typical examples. The streets in these cities are built on the embankment of the stream. On the other side, Amsterdam draws on the end of housing blocks and the rest of the cities, the retail spaces are actually two individual streets.

These street are devided in the middle by tram rail and the retail boxes next to bus stops have more opportunity to sustain their business. Van den Broek’s idea of retail streets.

The buildings are individually built with narrow width. The base level of urban fabric. Beside provide the street serves little satisfaction for houses, parking space is a separate box that is planned at the corner of blocks and on the end of the street. This is not moderated.

Leidsestraat in Amsterdam, where pre-war street form and the mixture of living, commercial and retail functions are preserved untill today.

Although the building types are updated through 20th century, the typical street of a block and the curve links to the west edge of Amsterdam is still visible today. Witteveen presented his urban plan in 1936 and laid the structure of future expanding of Leidsestraat. The plan is implemented down to the detail of Witteveen’s vision on building types.

Under this plan, architects built the function separated housing and incorporated limited shops in the building profile. The artery road is a solid barrier of the two sides. Unlike typical European streets.

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As the Dutch trading cities expand they dig branch canals, gracht, for water traffic webs for transporting goods. Singels are dig around the walled city. The clue of the mutual importance between the water and street can be found in the naming trend. The street right next to the waterway are named after them, ending with gracht, single, or in cases like the Oud Delft which takes over the name of the drainage canal itself. If both the banks have a street, they share the same name.

Features of typical Dutch street

Embankment, streets and buildings are closely ensembles as a “type” that each element should not be independently see and values. The buildings have two access, one on the land side and one on the water. Is another feature we can see in this street type. As the profile of water-street are densely defined, the sequence of space between public street and private house are compressed. In Amsterdam the transitional space is defined by stair cases lead to the higher ground-floor level and semi-underground basement. In Rotterdam it is defined by the rise of the ground floor and the partially setback of the porch space.

The narrow width of the building façade is another typical feature of traditional Dutch house type. It supports a more intense use of the street. In the same distance, the typical Dutch street houses more shops and houses, concentrate the activities on the street.

The 19th century ideal of Street

The expansion of cities in nineteenth century is a transition of norm. Road traffic replaced the waters as the stem of urban street system. When Berlage proposed his vision for Amsterdam, what next to and enclose the streets are not typical linear houses but closed housing blocks and open squares. The city is not a functional logistics system but an ensemble of geometry landscape. Under this new norm, and the eager need of housing stock, a new type took shape in the expansion area in Rotterdam and Amsterdam.

The patterns in Zuid after the 1940s are not far from the traditional Dutch city street pattern.

Street is the consistent theme in Witteveen’s plan for Rotterdam Zuid. The junction of Zuiderplein today is the only exception. In other part the Zuiderplein, the street and its variations – singels, tram route, and pedestrianized with side streets, are still the basic element that ensembles its urban fabric and have not changed from 1940s to today.

In the residential part of Zuid urban fabric the perception of street is re-enforced by the dominant

protek housing block, reluctant to embrace the later radiant city, or anti-street ideology which place buildings on the open gardens instead of street. In the next part of the report we will go through the architectural ideology and place Van den Broek’s design ideology in the history context.
Portiek-house is a transition between traditional town house and the “stripe house” idea as the modern collective housing flat follows, both in the building time and physical form.

But despite of the similarity in appearance of the latter, the research in this chapter tries to find: How much characteristics in Van den Broek’s portiek-house are inherent from the traditional town house.

In the previous chapter we identified two types of building in and surrounding Eilandbuurt: the town house constructed before 1920s and the portiek-house built between 1939 to 1950, and their distribution and relation to the different street patterns. In this chapter we look into the connection between house and street and how Van den Broek’s design decisions preserve the traditional street characteristics in the era of ideology shift.
The aim is to provide a large quantity of housing for new city dwellers of Rotterdam who seek working opportunities in the expanding Rotterdam port. Back to the early 20th century the living condition of the center area is in intolerable. There are many new ideology emerged in both the architectural and urbanism design. The seek of a more hygiene solution is one the main goal. Adequate sun light, air ventilation and accessibility are to be assured in all the housing design. Functionality is another design principle, lead to the functional segregation in urban planning and the minimal housing unit in the architectural design. Housing act implemented from 1901 allows both government and private contractor to efficiently develop an area and provide large number of dwellings.

In the early 20th century Vienna the urban and housing design ideology shared a similar approach. These diagram shows a clear illustration of geometry urban landscape design and the functional layout in a housing unit.

Monumental Urban Design vs. Functional House

A housing block proposal in Amsterdam dated in 1936 break the closed block into a repetitive row of flats and open gardens.

Portiek-house as a building type vs. Portiek house as an urban block type in the Dutch housing context.

Close block vs. stripe-house

In witteveen’s idea the right building form should close the whole block like a traditional Dutch city landscape with shops at the corners. As the buildings formed a “wall” surrounding the street, the void space of street is defined. Yet there will be conflict when considering the sun light and ventilation which can not be guaranteed for every room for the corner house.

The alternative solution is the “stripe-house” design and Van den Broek is promoting it. The collision of two strong ideology lead to the form in today’s Eilandenvoort and Vogelbuurt as the back gardens are open at the short side of the street and retail space are fit into independent boxes.

Portiek-house is the solution came to the 1930s Zuid and fitted into the urban plan of Witteveen, who’s design ideology are latter regarded old-fashion compare to the new anti-street design ideology. Van den Broek, who promote the “stripe house” instead of the closed block Witteveen prepared for him, result in the unique configuration between flat and traditional street.

The functional ideology is override the conservative design of Berlage and Witteveen in the post war era and the quality of traditional Dutch street and house are minimized in the 60s and 70s urban planning and high-rise flat. The idea of functional segrega-

dion dramatically shaped the Zuidplein area next to Eilandenvoort in the form of transport terminal and mega scale shopping mall. In Witteveen’s idea
Portiek-housing

Ultimate/minimal housing plan

J.H. Van den Broek promoted the idea of “ultimate plan” and stripe house as a desirable new solution to mass housing in the 1930s. Unlike other architects who tried to mimic traditional urban corners when combining retail space with the repetitive residential units as Witteveen desired, Van den Broek’s response is evident stripe and separate boxes. Yet he did not violate the urban block boundary by Witteveen but his architectural expression evident to his ideology.

Portiekwoning

The buildings design and built around 1940s are strictly follow one: the residential buildings are built along the longer edge and the shorter are left for shops. Most of them have a corner shop regardless it is beside an urban open space or not. In the middle are the unbuilt private gardens.

It can be explained by the ideology of the early twentieth century. As urban population rapidly increased, the problem of crowded town houses in center and slum in the riverbank was an urgent matter for the government, and as the housing act put in active, the sufficient sunlight and ventilation is one of the main concern for the new mass housing.

In this way, the 3 to 5 level main buildings can catch the sunlight from street and garden, and each room in the house can have a good ventilation also.
One of Van den Broek’s answers to the street is the high portiek window that works like a lantern during the evening. Unlike the conventional design, Van den Broek made the window as wide as the whole staircase with steel framing, similar to a glass curtain window that is later popular in public buildings and factory design. This gives his buildings a strong character that can be identified among other close portiek flats and also provides an design opportunity to let the buildings correspond with the street life.

Van den Broek’s interpretation of mix-use in living and retail due to a transition in ideology between traditional urban block type to the modern “strip house”, Van den Broek had his own interpretation of Witteveen’s block and urban geometry. He uses boxes that is attached to the “end” of his stripe house and let the garden visible from the street instead of built a “wall” of retail houses to close the block to appear like a traditional town block. Though he took a stripe house approach, but he still place the building façade close to the edge of block and forms a street space. Unlike the later “An-ti-street” stripe houses we can see in other area of the Zuid, Van den Broek still preserved part of the functions and characters of the “street” that Witteveen have in mind when laid down the city plan.

Today these boxes serve the passenger from the Bus stops and formed small scale commercial hot spots along the bus route.

The juxtaposed doors is one of the feature of Dutch town house in Rotterdam Zuid until 1920s. One door leads to the individual house on street level and another link to the first floor with a stair right behind the door. Doors are right next to the street with no porch space. Therefore each house have a direct access to the street.

In Van den Broek’s “kiosk” portiek-house an extra space - the staircase with a door on street level - is added between the street and the house doors for access to the stacked housing units. The social and territorial characteristics of this shared space is arbitrary. It is used by the people of its six house units and the maintenance is financially support by the house owners’ association (VvE). In Van den Broek’s design the large high window allowed the high visual connection between the street and the individual doors in the portiek. But the front door on the street level controls the access of non-residents. The lighting of the staircase also provide extra luminance on the street at the evening. (Illustrated at left page)
Materialization

Steel

The materialisation of Van den Broek’s Algemeen Belang I and II composed with a lot H and U and L channel profile steel as both structural and aesthetic elements. H beams and columns are used to support wide span window and floor, which is partially visible beneath the balconies. Smaller profile steel are used to framing portiek high windows, stair handrail and the attic beams for pulley. Although they give a special identity in the materialisation of the two projects, yet such aesthetic value is not easy to maintain and lasting.

Today these steel parts, exposed to air or hide in the brick facade, suffer from rusting and even damage the brick facade. With some unclear reason Van den Broek design the facade he chooses to hide the steel beams behind the brick and wooden window frames. As the use of steel parts is still in a relatively new at the time, such experiment is not perfect in architectonic design and lead to difficulty in waterproofing and draining.

Damage and past maintenance is visible form facade in many of the blocks and the treatment are not necessary success. At the place where the steel beams hide, most block shows a row of replaced bricks, indicate the trace of opening for treatment on the steel. Some of the balcony steel cantilever beams are covered with concrete.

Brick

Brick is the other major element used in Eilandenbouw. The compositional design of facade walls are done with the articulating by different orientations and faces of bricks. A Different colour of bricks are used on the basement level to show an appearance of foundation. Compare to other houses built in the same period in Eilandenbouw, Van den Broek’s brick facade design does not compose with concrete lintels and ornaments.

The colour of bricks in all Algemeen Belang buildings are not united, different from project phases, original contractor, maintenance and treatment by individual VvEs in the past 60 years. They are generally yellowish and show a sandy and crystal appearance.

Wood

The original high windows are steel framing yet the normal windows are made with conventional wood frame, which is rare but still present in Eilandenbouw, some with good condition. Today many of the windows, both high windows and normal windows are replaced with plastic and aluminium products and the original design of framing composition (division) are not replicated after replacement.

The original design of portiek door and mail boxes are not easy to identify as they are changed in most blocks, but the composition is preserved. In the interior the wood doors and partition and ornament are largely used. As they are solidly built, mostly of them preserved through time if the owner do not change the partition.

Other material

Glazed tiles for window and and lead plates roof drainage is used but in a minimal proportion. Terrazzo are used in portiek stairs and floors to decorate the concrete.

The materialisation described here are not exactly the same from blocks to blocks due to the construction are fragmentally divided and contributed to small contractors in the Algemeen Belang projects.
In the two phase of Algemeen Belang project Van den Broek experimented different level of flexibilities and orientations in each block. The differentiation of construction contractors and later maintenance also enriches the varieties in appearance and architectonic details within single building type in Eilandenbuurt.

Building technology used in Van den Broek’s three-level portiek-house are mainly inherent from existing load bearing brick structure with wooden flooring. However technologies like steel framed high window and steel beam and column are partially applied to the structure system. The Overall structure is still a load bearing system.

In this chapter we research in how Van den Broek maximise the flexibility on the floor plan for a mass produced urban block.
Structural Assembling

Algemeen Belang II
Type A

Load-bearing wall structure
The primary source is the 22cm thick wall. Every component is on shown above each other and every floor rest on each other in a repetitive way.

Horizontal Assembling
The floor assembling is close to traditional construction except the wet floors (kitchen, bedroom) are built with concrete. Partitions are built with either brick(on concrete floor) or wood (on wooden floors).

Vertical Assembling
The load bearing wall and stair case are the only components that continue vertically through the whole height of the building. The partition/shear wall and the stair case are the only components that continue vertically through the whole height of the building. The partition/shear wall and the stair case are the only components that continue vertically through the whole height of the building. The partition/shear wall and the stair case are the only components that continue vertically through the whole height of the building.

Variation on Facade

I Types and variations - orientation and mirroring bay

Variation Type
Balcony facing street
Layout switch
Bedroom facing street
In response to the orientation of street and the sun, Van den Broek used two different strategies in Algemeen Belang I and II. Both way the overall structure is intact and only few components are adjusted.

Living rooms are preferred to be placed in west, but the orientation of doors will be reversed for the house in opposite side of the street.

Balconies don’t have a preferable side but for the street level units it is better to be at the garden side.

Van den Broek tried different approach in two projects. The 1938 Algemeen Belang he tried more than three types, including one that the orientation of the whole plan is mirrored between 1st and second level.

In 1940 Algemeen Belang II the load bearing structure is fixed and the whole portiek and balconies are mirrored, narrowed down to two types.
Conclusion

Notions of Street concluded

1. Street and Building in Dutch Culture

The historical context of Holland makes its unique house and street pattern and is still visible today. Although abrupt by Modernism for a short period, the building and street pattern are in its revival today.

2. Street as Public Realm

Trade and living are closely joint in original Dutch buildings and cities. The mix use of street-level building space not only supports traditional trade activities but also supports the later knowledge-based industries. Yet, the introduction of functional divided urban planning in the 20th century brings an extinction to this long-lasting social-economic ecosystem and brings new problems to the post-war urban scene.

3. Street as Public Domain

In Witteveen’s 1936 plan he preserves the idea of traditional urban pattern, in the concern of both landscape composition and social ideology - street is the living room for all classes. In Carnisse, the fact that Eilandbuurt and Voge1buurt are dominant by private-owned houses makes the conventional housing transformation initiated by housing associations (wonincorporatie) ineffective and also makes the small changes initiated by autonomous neighborhood associations and individual entrepreneur a more relevant solution.

4. Street as structure of Urban Fabric

The modern urban fabric of Rotterdam Zuid is no exception as other typical Dutch cities, reflects the pattern of reclamation and urbanization process. Bases on the dyke and polder system later transformed into street and urban green, Witteveen extended weaving fabric with north-south urban block pattern, links them with east-west routes, and connect to the metropolis with a super road structure.

5. Building as a Component of Street

J. Van den Broek promoted the idea of “ultimate plan” and stripe house as a desirable new solution to mass housing in the 1930s. Unlike other architects tried to mimic traditional urban corners when combining retail space with the repetitive residential units as Witteveen desired, Van den Broek’s response is evident stripe and separate boxes. Yet he did not violate the urban block boundary by Witteveen but his architectural expression evident to his ideology.

6. Transformation in Building Level as an answer to Street

The boundary between Van den Broek’s building and the street are either sharp and soft – depends on personal aesthetic and perception in space and publics. If we promote re-vibrant the street life as a mean to sustain the neighborhood, a diverse use of building spaces on street level of Van den Broek’s housing type could be the pivot.
D Street as Public Domain

Access Hierarchy

This hierarchy of street is based on the usage of inhabitants in levels:
The artery road - Pleinweg - that connects Zuidplein to the Maastunnel, and the Metroline connect to Rotterdam and Den Haag, serve the traveler to Zuid.
Then the middle level there are the bus (tram) route that travel between "wijks", serve the inhabitants from Zuidplein to the Oud Charlois.
There are street connect the bus route to access the individual blocks, shared by the inhabitants in the neighborhood. The lowest level in this map is the streets that are only serve the inhabitants whose house are at the street.

In relation to public domain

The street is not only a mean of access but also the "living room" of the inhabitants. For example, the lowest level street are shared by the inhabitants and gives a sense it is belonging to them. The higher street level where all shops are will be more a public area for all inhabitants from the neighborhood of Eilandenbuurt.
I Types and Patterns - Niche in Eilandenbuurt

2. Street as Public Realm

Trade and living are closely joint in original Dutch buildings and cities. The mix use of street-level building space not only supports traditional trade activities but also supports the later knowledge base industries. Yet the introducing of functional divided urban planning in the 20s century brings an extinction to this long-lasting social-economical ecosystem and brings new problems to the post war urban scene.

Back to 1920 Dutch architect Brinkmen built a street in the sky for his collective housing and the theme repeated in the CIAM conferences and later widely adapted by its member architects including Alison and Peter Smithson and Le Corbusier.

As the physical form of street are widely translated into different variation in architectural works, its urbanism quality and function are not necessarily follows.

In the essay book The Dutch Urban block and the Public Realm Susanne Komossa argues the transition from traditional small-scale and mix-use type to the modernism pure-functional type finally eliminate the small business from the city and cause the lose of public realm in parts of the Dutch cities. Similar argument can be seen in Jane Jacobs's writings in 1970s. The problems in cities planned under the idea of separate function has started to been examined and the traditional urban type and the importance of street is re-considered as an answer to the problems. The traditional urban fabrics that survived the false urban renewal are appreciated again. For new large scale construction in the first decade of 21st century the refined idea and meaning of street is again intro-duced in building complex as an important architec-tural element.

The term street and its physical and non-physical qualities in these argument have a vague definition and refine from time to time. But we can conclude some basic element that is so evident that do not change in time and cultures: Streets are combinations of built and un-built, both the buildings and the open space define a street. A scale that is friendly for both pedestrian and car, a mixture of function and program, a mixture of old and new buildings, diverse activities through day and night.

Domain

3. Street as Public Domain

In Witteveen’s 1936 plan he preserves the idea of traditional urban pattern, in the concern of both landscape composition and social ideology – street is the living room for all classes. In Carnisse, the fact that Eilandenbuurt and Vogelbuurt are dominant by private-owned houses makes the conventional housing transformation initiated by housing associations (wonincorporatie) ineffective and also makes the small changes initiated by autonomous neigh-borhood associations and individual entrepreneur a more relevant solution.

Control / Territory
1. There are many small portiek-house neighbourhoods in the Netherlands, but the ones in Eilandenbuurt are unique from others.

2. On urban level Witteveen's urban design approach and idea show the last notion of street in pre-war urban history. In Maastricht Van den Broek answers such idea with an early version portiek housing type with a transparent shared staircase (portiek), but urban pattern and spatial quality can rarely be seen in other Rotterdam urban history.

3. The portiek can be seen as an extension of the street and by making it more spacious it can be used as a place to meet our neighbours. By increasing porosity between the boundaries can alter the spatial experience in the building and on the street. This is the same with the house floor area. As the spatial quality is limited for interactions between neighbours, it is the main problem to be addressed. Other values to be added include opportunities for small business using the existing ground floor and basement space.

4. Opportunities:

   - The portiek can be seen as an extension of the street and by making it more spacious it can be used as a place to meet our neighbours. By increasing porosity between the boundaries can alter the spatial experience in the building and on the street.

   - Design and transformation of a more spacious and social-able portiek within the existing building.

   - Design Approach in P2 phase: The design and transformation of a more spacious and social-able portiek within the existing building.

   - As the spatial quality is limited for interactions between neighbours, it is the main problem to be addressed. Other values to be added include opportunities for small business using the existing ground floor and basement space.

5. Challenge: the floor space is already too small in today’s standard, how to persuade the inhabitants that decreasing floor area and by making it more spacious it can improve the living.

6. Value added:

   - The approach I took is first to see the stair and floor in the close portiek can be understood as an extension of the street whose accessibility is controlled by the door on street level.

   - The housing types in Carnisse district attracted starters and immigrants today because of the limit of floor space. A research by Utrecht University shows the desire of social cohesion between neighbours among the inhabitants.

1. Value assessment: There are many small portiek-house neighbourhoods in the Netherlands, but the ones in Eilandenbuurt are unique in its configuration with street.

2. Analysis physical:

   - Base on the ideology of street life, on urban level Witteveen’s urban design approach for Carnisse shows the last notion of street in pre-war urban history. In architectural design an early version portiek-house type design by Van den Broek answers such idea with a shared staircase closed yet visually transparent from the street. Yet the boundary between street, portiek and house are sharp compare to traditional building in the same area.

3. Aim: Increase social cohesion between the neighbours.

4. Opportunities: The portiek can be seen as an extension of the street and by making it more spacious it can be used as a place to meet our neighbours. By increasing porosity between the boundaries can alter the spatial experience in the building and on the street.

5. Challenge: The housing types in Carnisse district attracted starters and immigrants today because of the limit of floor space. A research by Utrecht University shows the desire of social cohesion between neighbours among the inhabitants.

6. Value added: Social cohesion can then be promote by the spatial design. Secondary the street level and basement can be housing local small business which are limited in individual boxes today.

Design Approach in P2 phase: The design and transformation of a more spacious and social-able portiek within the existing building.
Bibliography

History

1. Van Tijen en Maaskant; Brinkman en van den Broek. Woonmogelijkheden in het Nieuwe Rotterdam. 1941.

Theories


Carnisse

Jos Hartman Afstudeeropgave ‘Carnisse Verbonden’, 2012

Web

N.J. Habraken’s official website
http://www.habraken.org/