"From the isolated enclave to the intimate place of social life and creativity, history and innovation"
P1 REPORT

ARMAMENTARIUM
Armory for the States of Holland and West Friesland [1601-2013]

R-MIT Graduation Studio: Delft - Armamentarium/Paardenmarkt
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The following report constitutes a concentrating documentation of the research and analysis implemented within the R-MIT Graduation Studio [Research on Restoration, Modification, Intervention and Transformation] at the TU Delft Faculty of Architecture, during the academic period of 2013-2014. The specific theme of the current studio investigates the potentials for redesign of the Armamentarium Complex in Delft, constituting a currently empty shell and searching for its new function in the future. The research completed by the end of the first academic quarter, forms the basis for the redesign process following subsequently. Investigation applied on all different scales of analysis (Urban, Architectural, Technical) pursues to construct a clear perception and understanding of the existing structure, concerning not only the current state of the observed object, but also a thorough tracing of the past. Conclusions derived from the observation phase will aim to designate the dominant values of the existing, so as a fundamental basis for the decisions upon every following intervention approach can be formulated.

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INTRODUCTION

The introduction begins with a statement about the exploration of the Architecture and Urban Design of the Armamentarium Complex, a historical and cultural site in Delft.

DEFINITIONS

This section provides definitions of terms relevant to the research, including concepts like introversion and extroversion, as well as specific terms used in the context of the research project.

1. THE UNDERLYING PURPOSE OF THE RESEARCH

The primary objective of the research is to investigate the existing structure of the Armamentarium Complex and to develop a design intervention that respects its historical context.

2. THE PURPOSE OF THE ASSIGNMENT

The purpose of the research is to explore the architectural and urban design of the Armamentarium Complex, focusing on its historical significance and potential for future development.

3. RESEARCH QUESTION

The research question is formulated to guide the investigation, focusing on the relationship between the existing structure and its proposed design intervention.

4. THE TYPICAL VOLUMETRIC SPACE

This section discusses the typical volumetric space, highlighting its importance in understanding the design potential of the Armamentarium Complex.

5. THE TWO TYPES OF SPACES

Two types of spaces are identified for analysis: introverted and extroverted spaces, each with distinct characteristics and implications for the design.

6. THE ENCLOSED OPEN COURTYARD

The enclosed open courtyard is analyzed as a key feature that contributes to the overall identity of the Armamentarium Complex.

7. METHODS AND SPACE

The methods used in the research include a comparative analysis of the Armamentarium Complex with similar historical sites, as well as an investigation of the potential for design intervention.

8. REFERENCES

The references section lists the sources used in the research, providing a foundation for further study and exploration.

9. ACKNOWLEDGMENTS

The acknowledgments section thanks the individuals and organizations that supported the research, including the TU Delft Faculty of Architecture.

10. ANNEX

The annex contains additional information, such as diagrams and images, to support the research findings.

11. APPENDICE

The appendices include detailed data and supplementary materials that provide further insight into the research findings.
THE RESEARCH METHOD

2.1 PSYCHOLOGY ARCHITECTURE AND SPACE

Through the conceptual analysis of the building, the introvert/extrovert identity can be derived. The project will be approached in three phases:

PHASE 1:

1. Through the analysis of the building and its surroundings, the introvert/extrovert identity can be derived based upon the sensitive handling of those elements. The exterior boundaries determine the introvert identity and relation of the building. All four successive scales of analysis are constant, but can also be able to convey the new identity of the building, and powerfully demonstrate the new function to be established.

PHASE 2:

2. A thorough investigation of the main construction principles and workmanship, the structure and materials, will try to convey how the material values of the building allow for the extroversion. The outward flow of life, expressed on the exterior of the building, will try to express the introvert identity in a compatible way. In the introvert spaces, extroversion will also try to redefine the relation of the building with the city. As a result, the introvert/extrovert identity of the setting can be derived.

PHASE 3:

3. Observations both on facade and typology, as well as the interior qualities of the structure, will try to convey the potentials aiming to reconstruct the existing identity upon the demand for a new balanced introvert/extrovert identity. The inward flow of life reflected upon the original introvert identity of the building, can possibly narrate the history and the values of the existing. Through observations on the organization of built space, can be discovered within the overall identity of the urban landscape. As an identity area can be there defined every certain part of the urban domain which can be divided in two extensive main phases. During the first part of the analysis, a thorough investigation on Urban, Architectural and Technical values will be attempted further on. An authenticity overview of the several aspects of the building will be attempted.

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METHODOLOGY AND PURPOSE OF THE RESEARCH
The following analysis pursues to construct a thorough basis of observations concerning the factors that determined the identity of the city over the years, in parallel relevance with the introvert/extrovert identity of space. The main question focuses on how the transformation process have alternated not only the wider identity of the city but also in a different scale, has significantly influenced the main features of the context area, around the complex, over the years.

For this purpose and regarding the efficiency of the analysis, a distinction between the scale of the city and the specific context area around the complex will be attempted. Following the observations, conclusions derived from both scales, will eventually attempt to formulate, a coherent impression on the introvert/extrovert identity of the urban landscape, as well as to reveal the potentials for extroversion, in the future.

**Types of space and the relevant position of the observer**
Regarding the guiding scheme of the analysis (see introduction) and the defined purpose of the research, observations on the introvert/extrovert identity of space, will be based on the comparative analysis of the relations developed among the three main types of space. The relevant position of the observer is concentrated mainly within the border of the open urban space (the street), where the perception of the city can be achieved. Sometimes however, for the deeper analysis of the private and public space relations, regarding the organization of the building plots, the position of the observer changes approaching the intimate articulation of enclosed and open circumscribed spatial conditions.

**URBAN ANALYSIS**

**PHASE 1:**
Trace the values that define the introvert identity and discover the potentials for a more extrovert impression

**PHASE 2:**
Redesign process: Intervene on the existing values, by using the potentials aiming to reconstruct the existing identity upon the demand for a new balanced introvert/extrovert meaning

**RESEARCH QUESTION**

**INTROVERSION/EXTROVERSION**

**PSYCHOLOGY ARCHITECTURE AND SPACE**

**TWO FOLD DEMAND**

How could the intervention approach define the new balance, achieved between the existing introvert identity of the composition and the potential demand for a more extrovert impression in the future?

**INTROVERSION:**
The inward flow of life reflected on the orientation of the human body to the inner soul.

**EXTROVERSION:**
The outward flow of life, with the sense of a clear direction of the soul to the outside world.

**SIMPLIFYING TERMS**
No strict borders in between
One involved to the other

**DEFINED BY:**
Specific features of the human behavior and expression.
Related with:
The contemporary stereotypes regarding the interpretation of an introvert/extrovert human behavior.

**BORDERS define this experiential relationship**

**SIMPLIFYING TERMS**
No strict borders in between
One involved to the other

**INTROVERSION ASPECTS**

**EXTROVERSION ASPECTS**

**IDENTITY IDENTITY**

**INTROVERSION:**
The inward flow of life reflected on the orientation of the building to the inner and protected private space.

**EXTROVERSION:**
The outward flow of life, expressed on the strong intentional interaction of the enclosed space with the surroundings.

**THE INTERVENTION**
Not only should it aim to discover and respect the values, hidden behind the structure, but also try to redefine the relation of the building with the city, as new living piece of the urban life.

**DEFINED BY:**
The experiential relationship developed between the observer and the space.
Related with:
The relevant connections of the three spatial conditions.
The relevant position of the observer within these three areas of space.

**GUIDING SCHEME OF RESEARCH AND ANALYSIS**
Historical and geographical definition of Delft would place the city among the areas belonging to the Netherlands, the low-lying country located in the North coast line of Europe. Throughout its seven centuries of existence rationalism and the demand of conforming to the restrictions and difficulties of a unique geomorphological context have drastically determined the urban development and configurations of the city. Empiricism as a result of the experience gathered in the course of time, concerning the ways of building and preserving a city on the wet and unstable soil of the Delft land can be regarded as the keyword behind the shape and attributes of the urban landscape of the city, at least up to the arise of the 21st century. Being aware of the fact that urban design was never an object of visual record and public discussion, seldom evidence is now available witnessing the way the city had been thought about.

Attempting to investigate the dark and vague past of the urban transformations occurred all over the centuries of history, fragments of evidence are being recalled, through the division of the development into three main periods.

PHASE 1 [11th c.-1567]
Early transformations of the urban landscape

PHASE 2 [1760)
The city as circumscribed enclave

PHASE 3 [1860 - 2013]
The city beyond the walls

DEVELOPING HISTORICAL AND GEOGRAPHICAL NEWS ON THE URBAN LANDSCAPE OF DELFT - 2013
**URBAN TRANSFORMATIONS**

**NEW CHURCH**

**14th CENTURY END OF THE MIDDLE AGES 1567**

**URBAN ANALYSIS**

**URBAN PATTERNS**

1. Haagsche Poort
2. School Poort
3. Waterslootsche Poort
4. Schiedamsche Poort
5. Rotterdamsche Poort
6. Oost Poort
7. Koe Poort

**URBAN TRANSFORMATIONS**

**11th CENTURY**

**Niewe Delft**

**Oude Delft**

**URBAN TRANSFORMATIONS**

**SETTLEMENT**

**1. Haagsche Gate**
2. School Gate
3. Waterslootsche Gate
4. Schiedamsche Gate
5. Rotterdamsche Gate
6. Oost Gate
7. Koe Gate

**URBAN TRANSFORMATIONS**

**CONNECTION WITH THE OPEN SEA**

**UDE DELFT**

**THE MAIN WATER AXIS**

**NEW CANALS FORMED** to follow the extensions of the city

**URBAN PATTERN** defined by drainage system/agrarian land

**SETTLEMENT**

**11th CENTURY**

**URBAN TRANSFORMATIONS**

**URBAN ANALYSIS**

**URBAN TRANSFORMATIONS**

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**URBAN TRANSFORMATIONS**
Introduction of railway line (1847)

The favorable location of the city along crucial transport lines (first railway line introduced in 1847) and shipping. Delft starts to be defined as an important node of railway networks. Upon the advent of the second half of the 19th century, the city is strategically located along the major surrounding transport axes.

URBAN ANALYSIS

Phase 2: 1840 – 1860: Development of the industrial city

The first limited extensions of the city to the west and east, both along the North-South direction attracted by the major industrial centers. The growing up industrial city, the following years, the organization of the urban fabric reflects the idea of an organic functional division of land. Traffic, greenery, agricultural functions. The differentiation between east and west, mainly intensified by the introduction of the railway axis. Shipping and railways provide access to the growing up industrial center, the fast developing agrarian hinterland, contribute to the definition of the industrial city. During the post-war period and by the end of the 20th century, the identity of the new extended city of Delft is characterized by the domination of open space over the closed circumscribed enclave. The new areas formed are for the new extension areas attempts to organize the city by clearly distinct functional areas.


do not hallucinate.
PHASE 3 [1860 - 2013] The city beyond the walls

The development of the urban space is not only a result of the creation of green structures within the city walls but also of the main extensions developed beyond the city walls, the old historical part of the city, and the extensions of the urban space. Despite the increasing density of the urban landscape, urban green structure appears as part of the urban aesthetics. The green structure as part of the urban aesthetics is considered more and more as part of the built-up environment.

URBAN FABRIC

The dominant green structure within the city walls and the main extensions along with the main extensions Green structure as part of the urban aesthetics Green structure considered more and more as part of the built-up environment

URBAN ANALYSIS

The urban fabric of the city is characterized by the urban landscape, as well as by the urban space. The urban landscape is characterized by the green structure, which is the dominant element within the city walls. The urban space, on the other hand, is characterized by the urban fabric, which is the dominant element within the city walls.

WATER

The water paths, especially within the city centre, have developed into aesthetical but still representative elements of the urban locality. Traces of the old pattern of water articulation in main canals of the centre, have developed into aesthetical but still representative elements of the urban locality.

INFRASTRUCTURE

The main roads, which are now used as the main transporting routes, are restricted out of the boundaries of the old city, keeping intact the historical centre. Only one part of the border of the old city, extending from the historical core to the southern part of the city, is considered as a protected shelter of the public space. The role of the city is to maintain the function and the prominent position of the volume, rounding life. The essence of exposure reflected both on the function and the prominent position of the volume, rounding life. The essence of exposure reflected both on the public square, as well as on the function and the prominent position of the volume, rounding life.

URBAN SPACE TYPOLOGIES

The principle component of urban space indicates the underlying meaning of the building plot, as a generator that takes its fixed shape first and subsequently generates urban typologies, or the subordinated element, which indicates the overall pattern of an urban enclave.

URBAN SPACE TYPOLOGY 1

The free standing building volumes, arranged in a collection of Architecture[1980] indicates the underlying meaning of the building plot, as a generator that takes its fixed shape first and subsequently generates urban typologies, or the subordinated element, which indicates the overall pattern of an urban enclave.

URBAN SPACE TYPOLOGY 2

The second typology, also evident within the area of the major public squares and indicating also the special attributes of each typology determine the dialectical relation between the three main types of urban space. The semi-private open courtyard, serving as the shared outdoor space, distributed among the property area, define also the strict borders between public and private space. The enclosed volumes, placed upon the fronts of the plot define also the strict borders between public and private space. The implied orientation effect of this division is a dense urban pattern, composed of narrow-front building volumes. The implied orientation effect of this division is a dense urban pattern, composed of narrow-front building volumes. The implied orientation effect of this division is a dense urban pattern, composed of narrow-front building volumes. The implied orientation effect of this division is a dense urban pattern, composed of narrow-front building volumes.

URBAN SPACE TYPOLOGY 3

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A balanced distribution of built and open space characterizes the main typological identity of the context area.

The invisible cores of outdoor life

 Plenty of open courtyards, hidden behind the massive fronts in the middle of the plots, reveal the significant presence of an open space quality, invisible to the first experience of the city [figures 1.1, 1.8, 1.9].

Physical and visual interaction with the public street, if intensified, could potentially stress these inner cores of life with the meaning of a crucial transition element. The intermediate space placed between the intimacy of the enclosed volumes and the openness of the outdoor urban space, could strongly participate in a new perception of the city. The vision for a more unified and cohesive pattern of urban organization, where the softer division of public and private domain define the main articulation of urban space, could substantially alternate the identity of the context area, towards a radically more extrovert impression. [figure 1.2].

OPENNESS and prominent setting

The prominent setting of the composition, claiming the importance of an exposition object in the middle of water, is primarily intensified by the openness surrounding the peninsula and thus forming the natural borders of the plot.

OPENNESS and the strong borders of introversion

This dominant embracement of open space not only highlights the outstanding role of the composition, but also constructs the main introvert impression of the typology. A potential transformation of this strict typology of open space surrounding the volumes, could substantially soften the borders of enclosure and suggest a totally different relation/interaction of the complex with the public territory.

The northern irregular courtyard

The same identity of irregular open space can be also visible on the northern part of Armamantarium plot, defining a contradicting element compared with the clearly and geometrically defined rest courtyards of the complex. The typological differentiation of the complex from the neighbor buildings, marks even more the distinct identity of the composition [figure 1.4].

The irregular identity of this adjacent space could be also described as an intermediate territory, interjecting as a melting openness, in between the strictly defined complex and the developing urban life of the surrounding volumes. The irregular pattern of the plan also reveals different possible entrances of the plot, as well as throughgoing connections with other adjacent courtyards of the city [figure 1.5].

Possible connections

The setting of the northern courtyard, upon the coincidence of small throughgoing streets, reveals its potential meaning as a connecting element, in between the privacy of the complex and the life of the city. Throughgoing also visual connections with the adjacent open areas, formed in the middle of the plots, intensify the potential quality of the courtyard as a dynamic field of interaction with the surroundings, in favor of a more extrovert identity of the composition [figure 1.6].
Figure 1.10

Figure 1.16 Green structure as a visual barrier

Figure 1.15 Disruption of water structure

Figure 1.12

Figure 1.13

Figure 1.14

Figure 1.11

Reconstruction of the peninsula around 1910

Reconstruction of the peninsula around 1910

Reconstruction of the peninsula around 1910

Reconstruction of the peninsula around 1910

Reconstruction of the peninsula around 1910

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Reconstruction of the peninsula around 1910
Observations in the qualitative features of the street, in response to the north-south orientation of the layout and the different character of the two parts creating the square, are encouraging the image of the canal as a result of the urban analysis undertaken (fig. 1.20).

Looking at the north and south sides of the water square 1, constructing along with Armamentarium facade, the three main fronts of the kolk, a coherence in scale, use of materials and colours, formulates a unified impression of space. Unity can also recognized in the articulation of the two narrow street corridors (Oude Delft and Lange Geer), involving pavements, materiality and linear green structure facing the openness of the water kolk.

Features of an intimate residential zone accompanied with a balanced public character on the ground floor, embrace and enhance the modest character of the water square.

A contrast between the two dominant sides (east and west) of the southern water kolk 2 are evident when experiencing the space around it. The vast dimensions of the square, enhance the distance between the two opposite fronts, which have been therefore formulated within their own distinct identity.

The east front of the water kolk, appearing as an imaginary extension of the Lange Geer street, indicates the features of a pure, quiet residential zone, corresponding in a considerable extend, with the dominant essence of the northern water square. The modest scale of the street, the use of materials and colours, as well as the typology of the green structure along the waterside, reveal the essence of continuity in relation with the northern part of the context area. The aesthetical impression of the existing mostly old volumes, however, is defined by the more sober appearance of the facades, remnant of the old industrial functional identity of the street [figure 1.20].

The west front indicating a totally independent identity, the west part of the water kolk, is composed by higher in scale and of a modern appearance volumes. The overall essence of the open space, along the waterside, deprives from the features of a properly designed, familiar walking path. Most of the existing buildings, dated back to the recent past years, also ascertain the differentiation from the much older east front [figure 1.21].

The two contrasting identities defining the two fronts of the water square, disclose the implied fragmentation of the kolk, perceived rather as the junction area of two opposing zones than as the focus point of one unified urban life [figure 1.22].
OUDE DELFT facing east
LANGE GEER facing west

Regarding the articulation principles defining the appearance of the two parallel streets, Oude Delft and Lange Geer, a strong coherence and continuity reflected on scale, materials and styles, composes the impression of a unifying identity, embracing the complex. Only considering the aging value, deposited on the existing structures, Oude slightly differentiates from the two streets, concentrating some of the oldest historic buildings of the city centre.

INTROVERSION/EXTROVERSION

Despite the overall introvert identity of the streets, as reflected on the dominant privacy of the functions (housing), openness and extroversion can be recognized behind the articulation of the wide openings on the front facades. Visual interactions also allowed with the open courtyards behind, underline the same contradictory impression of a rather intensional interaction between the private life of the enclosed volumes and the public surrounding space.

URBAN ANALYSIS

Articulation of space around the building and the conditions defined by the setting of the building mass within the urban landscape can form a dynamic influence on the way the visitor experiences the city. Both context and the building unit interact constantly by means of a mutual offering process. At the beginning of the route a first impression of the most representative part of the plot, the old Arsenal prepares the visitor for the final destination of the path. The building stands on the other side of the canal as the non-approachable object, resembling an exhibit, prominent but not accessible yet. Walking down the Geer street and turning gradually to other side of interest, at the part of Oude Delft, the look is oriented one to the building and one to the context. Visual interaction with the Oude Kerk and other important landmarks along the historical road intensifies even more the strong connection of the spot with the still traceable historical past of the city.

1. Achterom and Geer
2. Geer
3. Geer towards the Armamentarium
4. Geer
5. Turning to the other side of the canal
6. Breestraat
7. Oude Delft
8. Oude Delft towards the Armamentarium
9. Oude Delft looking towards the old centre

Route: Guided by the context

Date

OUDE DELFT facing east
LANGE GEER facing west

Major changes occurring over time in the wider scale of the area, are determinant for the potential features of space. The corresponding planning decision of the context area, leading to the definition of the urban landscape, has more or less participated in the constantly changing identity of the context area. In this manner, the history of railways emerged through the developments of the transport systems, affecting radically the identity of many cities that have been principally identified in space. Time plays an important role, in the major changes occurring over time in the context area. Apart from the constantly changing identity of the context area, the alternation of the main approach to the city, marks the identity of the context area around the building. Along with the alternation of the main approach, the buildings, as the first accessible object set behind the city walls, pertains to the functional profile and underlines the significant meaning of the composition. The prominent location of the Armamentarium, set upon the main entrance of the city walls, defines the identity of the future, will give a substantial insight to the constantly changing identity of the context area around the building. A research on instrumental factors, involving the articulation of built and open space, the water axes, the green, as well as the transportation, the green, defines the identity of the main transporting route, contributing also to the crucial setting of the building. The history of railways emerged through the developments of the transport systems, able to carry considerable loads. Gradually over time, many waterways are displaced by the comparative railway transport. The advent of the railway line in 1847, marks a new era against the waterpaths- transporting route. The new entrance is now placed on the west, redefining the gravitational centre and people, outside the city borders. The new entrance is gradually resulting in the current form and articulation of the urban landscape, have more or less participated in the constantly changing identity of the context area around the building.

The alterations of the time-space in the wider scale of the area, are determinant for the potential features of space. The corresponding planning decision of the context area, leading to the definition of the urban landscape, has more or less participated in the constantly changing identity of the context area. In this manner, the history of railways emerged through the developments of the transport systems, affecting radically the identity of many cities that have been principally identified in space. Time plays an important role, in the major changes occurring over time in the context area. Apart from the constantly changing identity of the context area, the alternation of the main approach to the city, marks the identity of the context area around the building. Along with the alternation of the main approach, the buildings, as the first accessible object set behind the city walls, pertains to the functional profile and underlines the significant meaning of the composition. The prominent location of the Armamentarium, set upon the main entrance of the city walls, defines the identity of the future, will give a substantial insight to the constantly changing identity of the context area around the building. A research on instrumental factors, involving the articulation of built and open space, the water axes, the green, as well as the transportation, the green, defines the identity of the main transporting route, contributing also to the crucial setting of the building. The history of railways emerged through the developments of the transport systems, able to carry considerable loads. Gradually over time, many waterways are displaced by the comparative railway transport. The advent of the railway line in 1847, marks a new era against the waterpaths- transporting route. The new entrance is now placed on the west, redefining the gravitational centre and people, outside the city borders. The new entrance is gradually resulting in the current form and articulation of the urban landscape, have more or less participated in the constantly changing identity of the context area around the building.
Since 2003, a new vision for the redevelopment of the Spoorzone has been the focus of the urban rehabilitation. The last 10 years has seen the implementation of the master plan of Bousquet, who in 2003 defined his proposal for the entire railway zone. According to the future plans, radical transformations are considered to be based on the initial master plan of Joan Bousquet, who in 2003 defined his proposal for the entire railway zone. Since 2012, a new vision for the redevelopment of the Spoorzone has been into implementation. Within the master plan, the railway zone has been defined as an influential zone, which has been attempted [figure 1.7]. Despite the busy identity of the passage, no attention has been paid on the building anymore. However, while facing the new potential entrance to the old city, a remnant of the Armamentarium stands as a final destination. [figure 1.5]. Despite the busy identity of the passage, no attention has been paid on the building anymore. However, while facing the new potential entrance to the old city, a remnant of the Armamentarium stands as a final destination. The former important setting of the building has been interrupted, hindering the interaction between the two diametrically opposite sides of the city and thus harming the coherence of east and west and thus the increasing demand for connectivity of the urban landscape. The vision has been attempted [figure 1.7]. Despite the busy identity of the passage, no attention has been paid on the building anymore. However, while facing the new potential entrance to the old city, a remnant of the Armamentarium stands as a final destination. Considering the influential zone of the railway area, possibly contributing to the connection of the mainly residential west with the new potential entrance to the old city, a remnant of the Armamentarium stands as a final destination. 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TRANSFORMATIONS IN INTROVERSION/EXTROVERSION IDENTITY OVER TIME

From 1601 up until the advent of the railway line in 1847, although hidden behind the city walls, the building could be regarded to bear a meaning of extroversion, forming along with the southern water kolk, the main entrance of the city. Lied upon the strong north-east axis of Oude Delft, the dominant transporting route, the importance of the composition as the firstly accessible object, probably encountered as a destination element is even more intensified. On this southern part of the walled enclave, interaction with the surrounding land is implemented, revealing the implied meaning of the place as a significant node of urban life.

The advent of the railway line in 1847, marks the starting point of the transformation of the building from an extrovert crucial node to a rather common part of the urban fabric. The new entrance of the city sets the main approach of the city on the west, weakening at the same time the meaning of the Oude Delft, which is no longer regarded as the main transporting axis. Both the building and southern context area lose their significant role in the connection of the city with the surroundings and become rather isolated. Introversion more and more becomes an intimate feature of the composition.

The current identity and quality of the context area around the building intensifies the meaning of an introvert composition. Despite the potentials reflected on the articulation of the context, both the building and the southern water kolk do not serve as a vibrant piece of the urban life. Circulation and green structure on the east-west direction have totally fragmented the north-south axis of Oude Delft, and the difficult approach of the building is even more exaggerated. As a contrasting element, surrounded by water, and without any connection with the southern part of the city, Armamentarium stands more than ever as a self-oriented enclave.

The crucial setting of the complex in the influential zone of the future redevelopment district, reveals the potential of the setting as a new extrovert node of urban life. Circulation, green structure and new functions, reflect the embracement of the composition from a vibrant part of the city, where the connection between east and west can be potentially implemented. The articulation of the setting, as an interruption placed along the east-west axis, can also formulate an entrance to the historical center, reconnecting the city fragments and strengthening the bonds of the urban pattern.

FUTURE PLANS
The city within the walls—an introvert enclave

**PHASE 1 [11th century - 1870]**

The city of 1870 is a city surrounded by walls, a self-oriented enclave, reflecting the essence of intimacy and protection. A circumscribed water path by walls, a self-oriented enclave, reflects the essence of the urban landscape, the city of 1870 is a city surrounded by a water path, a self-oriented enclave, reflecting the essence of the urban landscape, the city of 1870 is a city surrounded by walls. The city within the walls—an introvert enclave. The city beyond the walls_towards extroversion

**CONCLUSIONS/THE CITY CONCLUSIONS**

**IDENTITY AREAS_DIVERSITY AND CONTRAST**

A circumscribed water path by walls, a self-oriented enclave, reflecting the essence of the urban landscape, the city of 1870 is a city surrounded by walls. The city within the walls—an introvert enclave. The city beyond the walls_towards extroversion

**POTENTIAL 1:**

The building becomes the connecting element between the introvert enclave and enhances its connection only with the city centre. It is divided into two contrasting identities, a introversion/extroversion, introvert/extrovert. The building becomes the connecting element between the introvert enclave and enhances its connection only with the city centre. It is divided into two contrasting identities, a introversion/extroversion, introvert/extrovert. The building becomes the connecting element between the introvert enclave and enhances its connection only with the city centre. It is divided into two contrasting identities, a introversion/extroversion, introvert/extrovert.
CONCLUSIONS/THE CONTEXT

URBAN ANALYSIS

1.2 INTERRUPTION OF NORTH-SOUTH AXIS

Current situation
- Loss of directionality towards the building.
- Reconstruction of the peninsula around 1910


current situation

limited loss of directionality

Coherence of the context area, within and beyond the urban landscape. The issue of disruption pertains concentrated in the conceptual, functional discontinuity of the water path, but is instead intensely illustrated through the open space present in front of the composition, in -...
METHODOLOGY AND PURPOSE OF THE RESEARCH

Throughout the following part of the analysis, aspects defining the architectural identity of the existing structure, focusing on the building scale, will be investigated with their parallel implications on the dialectical relationship of the composition with the surrounding urban space. As derived from the purposes of the research, analysis will be concentrated on the two types of borders, facade and typology of space, defining the architectural dimensions that compose, not only the overall but also the introvert/extrovert identity of space. Despite their relevance to the typology perspective, interior space qualities will be analyzed individually, considering that they involve more aspects of introversion/extroversion. Materiality, colors, and daylight are some of the factors that contribute to the overall experience of the complex and reveal the relations of internal and external space seen from the interior perspective.

Types of space and the relevant position of the observer

Regarding the guiding scheme of the analysis (see introduction), observations will be based on the comparative analysis of the relations developed among the three main types of space. The observer moves gradually from the urban space (facade) to the circumscribed space (courtyards typology) up to the enclosed space of the volumes (organization and interior space qualities), in order for the integral experience of the ensemble to be achieved.

ARCHITECTURAL ANALYSIS

PHASE 2: Redesign process: Intervene on the existing values, by using the potentials aiming to reconstruct the existing identity upon the demand for a new balanced introvert/extrovert meaning.

RESEARCH QUESTION

INTROVERSION/EXTROVERSION PSYCHOLOGY ARCHITECTURE AND SPACE

TWO FOLD DEMAND

How could the intervention approach define the new balance, achieved between the existing introvert identity of the composition and the potential demand for a more extrovert impression in the future?

INTROVERSION:

The inward flow of life reflected on the orientation of the human body to the inner soul.

EXTROVERSION:

The outward flow of life, with the sense of a clear direction of the soul to the outside world.

SIMPLIFYING TERMS

No strict borders in between

One involved to the other

DEFINED BY:

Specific features of the human behavior and expression.

Related with:

The contemporary stereotypes regarding the interpretation of an introvert/extrovert human behavior.

BORDERS define this experiential relationship

SIMPLIFYING TERMS

No strict borders in between

One involved to the other

INTROVERSION ASPECTS

EXTROVERSION ASPECTS

INTROVERSION ASPECTS

EXTROVERSION ASPECTS

IDENTITY IDENTITY

INTROVERSION:

The inward flow of life reflected on the orientation of the building to the inner and protected private space.

EXTROVERSION:

The outward flow of life, expressed on the strong intentional interaction of the enclosed space with the surroundings.

THE INTERVENTION

Not only should it aim to discover and respect the values, hidden behind the structure, but also try to redefine the relation of the building with the city, as new living piece of the urban life.

DEFINED BY:

The experiential relationship developed between the observer and the space.

Related with:

The relevant connections of the three spatial conditions.

The relevant position of the observer within these three areas of space.

PHASE 1: Trace the values that define the introvert identity and discover the potentials for a more extrovert impression

SETTING

FACADE

TYPOLOGY
CONFIGURATION OF THE COMPLEX OVER TIME

The open space located on the northern side of the building A, serves as the entrance to the Armamentarium complex. The old Arsenal building A is erected on the southeast part of the peninsula. The location of the building coincides with the settlement of the former timber courtyard, including a stone house which was previously demolished for the establishment of the new complex. As a result, the unavoidable identity of the ensemble.

In 1649, the East-Indian Company moves from its own building on the west side of Oude Delft to a former malt house located right next to the Armamentarium complex. Gradually, a succession of buildings are included in the interventions of Koen van Velsen at the end of the 80's, aiming to define the main orientation to the water. A further on extension of the composition, evidently subordinated to the north part of the Geer street, are included in the interventions of the main warehouse, a new small connecting building is erected on the west side of the complex and approached through the former East-Indian Warehouse.

In 1802 the Court Department and service houses are added to the Armamentarium complex until nowadays. The new space for storage of military equipment is composed between the two main warehouses of the complex. The importance of increasing the storage capacity of space, other parts, spaces that were intentionally erected with the purpose of increasing demand for new storage space. Along with the construction of the entrance glass box and the building on the south part of the Geer street, the new open space created among the buildings will formulate the new part of the complex, all accessible by a continuous lane started from the Geer. One of them is still evident located as the main entrance to the plot. The gravity centre of the composition is now more intensified as the main access routing, the more ex- trovert part of the composition.

In 1906 the Court Department and a housing complex are added to the open terrain of 1662, to serve as the intermediate interior space in the main purpose behind every phase of development. Almost every addition made to the first warehouse, over time has been combined with the configuration of a new architectural language. The transformations decided over the years, instead of trying to achieve the external unifying appearance of the separate identical compartments, they rather tend to improve the connections between the distinct parts of the composition. As a result, the unavoidable identity of the ensemble.

The open space located on the northern side of the building A, serves as the entrance to the Armamentarium complex. The old Arsenal building A is erected on the southeast part of the peninsula. The location of the building coincides with the settlement of the former timber courtyard, including a stone house which was previously demolished for the establishment of the new complex. As a result, the unavoidable identity of the ensemble.

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BUILDING 1602_South-east impression

Sources (for both pages): Information has been based on expression and meaning.

The current appearance of the three main facades, the north, south and east, are characterized by the rough texture of the materials, the plasticity of the openings and the expression of the architectural signs, as regarded to be joined on other private buildings, even as self-existent aesthetical objects. Natural stone frame around the door with the addition of a small wicket. The initial articulation of the floors can still be evident as the keystones (on top of the existing slender windows, the horizontal white painted stripes of natural stone and the decorative parts, functioning more as intensifying elements of the decorative composition. Geometry and balance created by the contrasting combination of both rough impression of the bricks and the smoother texture of the mortar. The whole composition reflects the essence of a strong architectural expression. Not only the constructive and structural parts of the building seem completely in line with the whole composition, also the setting of it in the middle of water, intensify the impression of height. Due to the prominent setting of the building in the corner South, East and West, the observer with the distant image of the historical city, is confronted with the architecture as a new experience of the canals and the most historical part of the urban context.

DESCRIPTION

The oldest piece of the military complex, the building of 1602, is a quadrangular monumental forming the corner of the island. It is the southern gateway, which is entered from the street called Breedgat. Its special position are illusively exaggerated in favor of a more even one. The course of the main facades, parallel to the main water axes, stress even more the plasticity of the openings and the expressive signs. The predominant impression of this hidden exterior part of the building seems completely in line with the whole composition of the structure. The rough texture of the materials causes the feeling of a powerful architectural expression. Not only the constructive and structural parts of the building seem completely in line with the whole composition, also the setting of it in the middle of water, intensify the impression of height. Due to the prominent setting of the building in the corner South, East and West, the observer with the distant image of the historical city, is confronted with the architecture as a new experience of the canals and the most historical part of the urban context.

DESCRIPTION

The side which connects the main gate, situated to the north, with the gate of the courtyard, north-eastern part, is the main axis of the composition. A stepped gable also decorates the upper part of the facade still reveals the original form of the rectangular articulation of the openings of all the three facades has been disappeared, except in the eastern part of the facade, where the metallic frame surrounding the doors, reveals the same with the rest facades renaissance influence dates to the restoration period of 1826-1890. Iron anchors still evident, enhance the stability of the composition. The initial articulation of the floors as existed before the restoration is not accessible object. The slightly curved longitudinal walls, parallel to the main water axes, stress even more the plasticity of the openings and the expressive signs. The predominant impression of this hidden exterior part of the building seems completely in line with the whole composition of the structure. The rough texture of the materials causes the feeling of a powerful architectural expression. Not only the constructive and structural parts of the building seem completely in line with the whole composition, also the setting of it in the middle of water, intensify the impression of height. Due to the prominent setting of the building in the corner South, East and West, the observer with the distant image of the historical city, is confronted with the architecture as a new experience of the canals and the most historical part of the urban context.

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BUILDING 1602_South-west impression

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DESCRIPTION

BUILDING 1602_South-west impression

The current appearance of the three main facades, the north, south and east, are characterized by the rough texture of the materials, the plasticity of the openings and the expression of the architectural signs, as regarded to be joined on other private buildings, even as self-existent aesthetical objects. Natural stone frame around the door with the addition of a small wicket. The initial articulation of the floors can still be evident as the keystones (on top of the existing slender windows, the horizontal white painted stripes of natural stone and the decorative parts, functioning more as intensifying elements of the decorative composition. Geometry and balance created by the contrasting combination of both rough impression of the bricks and the smoother texture of the mortar. The whole composition reflects the essence of a strong architectural expression. Not only the constructive and structural parts of the building seem completely in line with the whole composition, also the setting of it in the middle of water, intensify the impression of height. Due to the prominent setting of the building in the corner South, East and West, the observer with the distant image of the historical city, is confronted with the architecture as a new experience of the canals and the most historical part of the urban context.
Symmetry and balance are powerfully reflected on the East and West lateral boundaries of the plot and the main water axes of the open courtyard of 1660 and the open space on the north land and West Friesland and the war, as well as reflecting the identity of the first warehouse, while originally the contrast in scale and architectural expression of the building erected within the period of 1691-1693, was a new small connecting building is erected on the west back side of the composition. The type of construction and the materials defining the interventions observed at the interior part of the building, although in a more modest expression. The two single-storey buildings on the east side of the east facade, resembling in materials the buildings of the first warehouse, with the typical radial skylight on the upper part of the opening [figure 1.11].

The imposing scale of the new composition, the heavy and solid appearance of the two representative facades (east and west) of the two side warehouses. The the sober, rough texture of the facade with the strict articulation of the openings, as well as the rough brick materiality of the facade with the strict rhythmical repetition of the openings of the openings, as well as the rough brick materiality of the facade with the strict rhythmical repetition of the openings. The doors arranged along the main axis of symmetry, where the main entrance is fortified by a heavy arch. In contrast with the west facade the east one appears more sober and some auxiliary spaces in between.

Although the main typology of the building reflects the strong orientation of the composition towards the main water axes, the heavy and self-existent building [figure 1.8]. The sober, rough texture of the facade with the strict arrangement of the openings, as well as the rough brick materiality of the facade with the strict rhythmical repetition of the openings. The doors arranged along the main axis of symmetry, where the main entrance is fortified by a heavy arch. In contrast with the west facade the east one appears more sober and some auxiliary spaces in between.

The east facade still remains an almost blind part of the complex. The clearly defined transparency of the surface contradicts with the meaning of the strong visual contact with the open courtyard behind the 1602 building, although in a more modest expression. The west, the only representative facade of the composition and division of the structure in three floors and some auxiliary spaces in between.

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FACADES INTROVERSION/EXTROVERSION RESEARCH    COMPARISONS

Symmetry
The strong presence of symmetry, setting the arrange-
ment of the openings in relation to the central vertical axis,
enhances the monumentality of the composition. Extrover-
sion can be reflected on the south facade where the set-

WINDOWS
The number as well as the shape, size and distribution
of the openings on the three main representative skins of
the building can interfere significantly to the introvert or
extrovert identity of the building. In that way, a differentia-
tion on the composition of the windows between the lower
part (ground floor) and the upper part (first floor and attic)
of the facades indicates a different approach of transparen-
cy and interaction with the interior life behind.

lower part: introvert
- very few small windows
- limited interaction between private and
  public in both directions (inside-outside)
- restricting height of the sill

upper part: extrovert
- more and wider openings
- interaction between private and public in
  both directions (inside-outside) is encour-
  aged
- low sill allows external views

Doors
In contrast with the overall articulation of the openings at
the lowest part of the facades, extroversion is reflected
on the representative element of the doors. Still evident
remnants of the original function of the building as a mil-
itary storage space, the relatively large size of the repre-
sentative doors conveys surprisingly the impression of a
possible access, also contradicting to the non accessible
identity of the composition.

Materiality
By comparing the two successive in time appear-
ances of the walls, materialization participates, although almost
unconsciously to the perception of the surface skin as a
heavy barrier or a lighter filter.

Brick facade: more introvert
- heavy and rough
- more industrial impression (not that
  public)

White plastered facade: more extrovert
- light and "transparent"

ARCHITECTURAL ANALYSIS

GEOMETRY
Specific articulation principles that determine the shape
and size of the facade can also affect the overall introvert
or extrovert exterior impression of the composition.

Symmetry: The strong presence of symmetry, setting the arrange-
ment of the openings in relation to the central vertical axis,
enhances the monumentality of the composition. Extrover-
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FACADES
CHANGES IN INTROVERT/EXTROVERT IDENTITY OVER TIME

1601

The articulation of the shuttered windows as well as the solid form of the main doors reflect the essence of introversion and enclosure. The stepped gables appearing on the upper parts enhance the verticality and the main axes of symmetry in favor of an imposing composition.

BUILDING 1602:

Transformations made on the main doors including the addition of skylights on the upper part, envision to establish the coherent impression of the complex. The intervention also results in a more extrovert aesthetical appearance.

BUILDING 1660:

A rather sober, rough and mostly introvert identity is demonstrated. Shutters on the windows of the ground and 2nd floor enhance the enclosure.

BUILDING 1692:

Reconstruction of the windows of the two upper floors due to interior transformations on the 1st floor level, alternate radically the size of the openings, resulting in a significantly more extrovert impression. The overall extrovert identity of the complex is intensified. Shutters are removed and door skylights are restored on the representative facades of both buildings.

1751-1754

The white plastering of the main facades, along with the removal of the stepped gables of the roof, are definitely regarded as crucial interventions, affecting the overall aesthetical impression of the building and the subsequent differentiation of it from the rest aesthetics of the complex. The new pattern of horizontal alcoves appearing on the plaster becomes the new ornamentation of the walls.

1826-1890

TOWARDS AN EXTROVERT IMPRESSION

BUILDING 1602:
The enclosed courtyard constitutes the main outdoor space of the composition. The articulation of the openings on these interior facades, appearing in small sizes and covered with protective shutters, reflects the impression of enclosure. The solid wooden doors also incorporate to the same introvert identity of the composition.

BUILDING 1602:

Skylights applied on the doors slightly increase the lighter impression of the facades in the courtyard. Three new open spaces are added to the complex. Introversion is all over expressed through the limited size of the openings and the addition of shutters on the surrounding facades. In the 1602 open courtyard

BUILDING 1692:

Despite the radical transformations applied on the main exterior facades, the interior appearance of the courtyard maintains its original state. Despite the wider openings of the upper floor which enhance the interaction with the interior life of the building, no other significant changes are observed.

On the opposite, the identity of all the rest courtyards tends strongly to a more self-oriented approach, as many windows are gradually removed, intensifying the impression of a barrier composed by heavy, solid and not extrovert walls.
The overall spatial organization of the complex reveals a balanced distribution of built and open space. Despite the centralized organization of the complex as a whole, three main types of buildings can be identified:

**TYPE A**: Composed by four unequal wings surrounding an open courtyard, the two main buildings of the complex, the workshop buildings of 1660 that have been both related with the open transition areas. No straight connection of the main access path, on the east side of the composition and directly approached by the main access path, on the east side of the composition. Straight connection of the buildings and thus can be regarded as secondary entrances behind the walls of the building volumes [figure 1.1].

**TYPE B**: Serving as preparative elements, the two courtyards internalized the visitor into the interior space, serving the role of each building unit in the spatial organization and open space are mainly allowed along the east-west axis, penetrating vertically the longitudinal shape of the complex. Both of them face the east side of the plot, allowing a visual or physical connection between built and open space. The overall entrance building and warehouse volumes [figure 1.2].

**TYPE C**: The transition building forms the most extrovert open space of the composition. They are therefore in intimate parts of the composition. They are therefore in the meaning of the crucial place of interaction with the adjacent neighborhood buildings and thus can be regarded as secondary entrances behind the walls of the building volumes [figure 1.1].

The central building of the composition is horizontally penetrated by the main access path and directly approached by the main access path. No straight connection of the buildings and thus can be regarded as secondary entrances behind the walls of the building volumes [figure 1.1].

The centrally organized shell is to introduce the visitor into the interior space, serving the role of each building unit in the spatial organization and open space are mainly allowed along the east-west axis, penetrating vertically the longitudinal shape of the complex. Both of them face the east side of the plot, allowing a visual or physical connection between built and open space. The overall entrance building and warehouse volumes [figure 1.2].
**THE COURTYARD**

**THE ORIGINS OF AN ARCHETYPAL SPACE TYPOLOGY**

The definition and meanings of urban space. Urban Space, the square defines the arrangement of the complete exposure. Whether expressed as a public street and the enclosed private rooms. This type of spatial organization owns a meaning independent from time and location, associated with different concentrations of life, as well as the need for communication, deeper sense the archetypal meanings of protection and concentration. The implied directionality to the conceptual centre, satisfies the need for concentration of life and control of the interior content, embodying the the underlying memory of introversion/extroversion can be revealed. The ultimate two fold meaning of this substantial for the house:

- self protection
- concentration
- deprived from their meaning as cores of communal life
- concentration of life, associated with different concentrations of life, as well as the need for communication, deeper sense the archetypal meanings of protection and concentration.

**THE SQUARE**

The archetypal designation of urban space. The implied directionality to the conceptual centre, satisfies the need for concentration of life and control of the interior content, embodying the the underlying memory of introversion/extroversion can be revealed. The ultimate two fold meaning of this substantial for the house:

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**The enclosed courtyards** reflect a strong impression of the composition, outdoor space is not totally enclosed. The ultimate two fold meaning of this substantial for the house:

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**ARCHITECTURAL ANALYSIS**

**OPEN SPACE QUALITIES**

Figure 1.3 VISUAL PERSPECTIVES TO THE 1602 COURTYARD

- The orthogonal mapping of the courtyard
- The square (archetypal designation)
- The central house (archetypal designation)
- The structure (archetypal designation)
- The central courtyard
- The square (archetypal designation)
- The central house (archetypal designation)
- The structure (archetypal designation)
- The central courtyard
- The square (archetypal designation)
- The central house (archetypal designation)
- The structure (archetypal designation)
- The central courtyard

Figure 1.4, Visual Perspectives to the 1602 Courtyard

ARCHITECTURAL ANALYSIS

Representation evaluation and quality of open space, the interior and exterior axes, importance of the position of the courtyard, (see aforementioned analysis and drawings) the underlining of introduction.

Both of the enclosed courtyards reflect a strong impression of the composition, outdoor space is not totally enclosed. The ultimate two fold meaning of this substantial for the house:

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OPEN SPACE QUALITIES

ARCHITECTURAL ANALYSIS

ARCHITECTURAL ANALYSIS

DESCRIPTION

ACCESS

ARCHITECTURAL ANALYSIS

ARCHITECTURAL ANALYSIS

FUNCTIONAL ENHANCED by circulation

Internal usage of the complex can substantially be enhanced by circulation paths that provide an overall comprehension of the composition and thus the introvert identity of space.

Central courtyard.

Horizontal circulation

Vertical cores of circulation appearing in almost every corner of the composition, intensify the circulation of the main accessible side of the plot, the interior connection of the different levels and define subordinated mean-

On all successive levels of the composition, circulation lines cross the central courtyard, enhancing the connection of the different horizontal levels.

Horizontal access path

The dominant orientation of the complex around the central courtyard, forms a strong routing, along which the different vertical cores of circulation appear, providing the different levels with an overall comprehension of the composition and thus the introvert identity of space.

The potential meaning of the transition courtyards, constructed at the entrance to the main enclosed compositions, can be interpreted as the potential field of introversion, - the isolated transition elements,

The potential meaning of the transition courtyards, constructed at the entrance to the main enclosed compositions, can be interpreted as the potential field of introversion, - the isolated transition elements, constructing the entrance to the main accessible side of the plot in connection with the public street. Despite their dominant scale and dimensions, allow a limited physical and visual connection with the surrounding context area.

Especially the northern courtyard, set in constant relation with the adjacent buildings of the plot, can substantially participate to the integration of the whole composition to the surrounding life of the city can be revealed. Especially in the building of 1692, the staircases arranged on the four corners of the composition, intensify the circulation of them, mostly regarded as the left over space in between the volumes. By attempting to redefine the quality of this open space - interpreted as the potential field of extroversion - the surrounding context area.

Participate to the integration of the whole composition to the surrounding life of the city can be revealed. Especially the northern courtyard, set in constant relation with the adjacent buildings of the plot, can substantially participate to the integration of the whole composition to the surrounding life of the city can be revealed. Especially in the building of 1692, the staircases arranged on the four corners of the composition, intensify the circulation of them, mostly regarded as the left over space in between the volumes. By attempting to redefine the quality of this open space - interpreted as the potential field of extroversion - the surrounding context area.

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ACCESS

COMPARING THE POTENTIAL INTERIOR ACCESS PATHS

ALTERNATIVE A: Building initiates the experience

ALTERNATIVE B: Routing starts from the 1692 Building

TWO POSSIBLE OPTIONS

Regarding the two current entrances of the complex, a comparison between different possible access paths and consequent experiences of space will be attempted.

Designation of the possible access paths has been derived on the spatial organization of the ensemble, as much as possible independently from the functions that have been defined the routing in the composition over time.

OPTION 1: Routing starts from the northern courtyard

DESCRIPTION

Alternative A: The 1602 building becomes the first accessible object. Starting from the ground floor, the routing will probably lead to the upper floor, where the way to the adjacent 1692 building will be found. After experiencing the different floors, the path will finally end up on the ground level, reaching the East-Indian building in the north. Exit will take place from the northern courtyard (figure 1.15).

Alternative B: The second possible alternative option meets the 1692 building first. The routing, after climbing on the different floors, will possibly reach the 1602 building, where naturally the exit will take place (figure 1.16).

INTROVERSION INTENSIFIED

Despite the interesting differentiations reflected on the aforementioned spatial experiences, all possible routes, respecting the self-oriented typology of the complex, indicate mainly a circulation around the courtyards and thus intensifying the overall introvert essence of the composition.

OPTION 2: Routing starts from the southern courtyard

Alternative A: First experience of the 1602 building

Alternative B: First experience of the 1692 building

DESCRIPTION

Alternative A: In the first alternative option, the 1602 building becomes the first accessible object. Starting from the ground floor, the routing will probably lead to the upper floor, where the way to the adjacent 1692 building will be found. After experiencing the different floors, the path will finally end up on the ground level, reaching the East-Indian building in the north. Exit will take place from the northern courtyard (figure 1.15).

Alternative B: The second possible alternative option meets the 1692 building first. The routing, after climbing on the different floors, will probably reach the 1602 building, where naturally the exit will take place (figure 1.16).

ADVANTAGES / DISADVANTAGES

Visual perspectives

Considering that the entrance of that routing starts along a throughgoing visual perspective, interaction with the other side of the context, the Oude Delft becomes a rather interesting potential of visual connection with the surroundings (figure 1.17).

A choice is necessary: Perplexity

In both alternatives of OPTION 1 a necessity to make the visitor for which routing should be followed. The feeling of perplexity created after first entering the space is reasonable, since the entrance is made almost in the middle of the complex (figure 1.18).

The essence of entering the back side of the complex

The setting of the linear path on the west side of the plot, in distance from the main exterior axis of approach (east side), as well as the spatial quality of the routing (limited light and visual interaction with the surroundings), results in the essence of entering and experiencing the complex from the back side of the composition.

THE WHOLE COMPLEX IS EXPERIENCED

Considering the sequence of experiences taking place along a linear routing, with a clear starting and ending point, the whole perception of the composition is gradually achieved.

1602 BUILDING: THE DESTINATION ELEMENT

Regarding a gradation of importance along the route, the 1602 building, as the ending point of the path, is stressed with the meaning of the most isolated but significant piece of the composition (figure 1.20).
FUNCTIONS
MILITARY WAREHOUSE [1601-1897]

ARMY MUSEUM [1986-2013]

ORGANIZATION OF SPACE
As long as the original function of a warehouse is accommodated in the complex, the one dominant function evidently determines the articulation of the volumes. Although based on assumptions, the overall organization of storage and circulation areas pursues the maximum utilization of the available space, defined by the circulation and transport path of goods from the outside to the inside of the buildings. Crucial elements defining the position of the storage material are thus, the main doors/entrances all over the different floors of the composition, where the loading/uploading of the equipment is implemented. Despite the distribution of equipment all over the complex, no partitions are used to divide permanently the storage areas, allowing the experience and perception of space as an integral whole [figure 1.2].

THE ROLE OF THE COURTYARDS
The wings of the main warehouses [1602 and 1692], that face the water paths, the main transport axes, form the transition elements, where the goods are firstly received before their arrangement in the main storage areas. The thinner width of those wings, as well as the straight physical relations allowed with the open private areas behind, possibly indicate the function of the courtyards as the first accessible place for package and unpackage of the equipment. The central position and meaning of the courtyards as the major preparatory space, before and after the distribution of the goods, is thus revealed [figure 1.1].

THE ROUTING
Based on the functional identity of the complex, routing intimately related with the organization of space, reveals the dominant role of the connections between inside and outside. Throughgoing paths, penetrate the volumes, mainly along the east-west axis, on most of the floor levels. The enclosed courtyards, straight connected with the entrances, can be the first accessible parts of the composition [figure 1.3].

ORGANIZATION OF SPACE
In contrast with the original function, the Army Museum, established in 1986 a composite programme based on the combination of main and complementary functions. Despite the dominant exposition areas, other important functions (library, auditorium, cafe) participate to the sequence of experiences all over the complex. Alternation of functions takes place not only horizontally but also across the height of the volumes, differentiating the meaning of the successive floor levels. Free standing installations, allowing multiple visual perception of the exposition object, indicate a less strict circulation path in the main exposition areas. More private functions arranged on the upper floors of the 1692 building, indicate a fragmentation of space, also evident in other parts of the complex [figure 1.5].

THE ROLE OF THE COURTYARDS
Despite the central position of the private open courtyards, the meaning of them has totally been alternated from the past. As they no longer participate into the vibrant functions of the composition, they constitute the less used and thus rather isolated space of the composition [figure 1.6].

THE ROUTING
According to the demands of the composite new programme of the complex, routing highlights the importance of the interior connections, constructing for the first time an organized sequence of events along a certain path. The exterior approach of the different volumes is now subordinated, and entrance is restricted on the east side of intermediate open courtyard. Gradual approach of the most intimate parts of the complex, follows the typology of the self-oriented enclaves, revealing the potential role of the enclosed courtyards, as the destination points of the routing [figure 1.4].

ORGANIZATION OF SPACE

Architectural Analysis

Reconstruction of the peninsula around 1910

Figure 1.1

Figure 1.3

Figure 1.5

Figure 1.6

Figure 1.2

Figure 1.4

Figure 1.7

Figure 1.8
INTERIOR SPACE QUALITIES

BUILDING 1602

TYPOLOGY

Figure 1.4: Rhythm and Circulation
- Interior impression

Figure 1.1: Main Principle
- Section

Figure 1.2: Timber Construction

Figure 1.3: Spatial Organization

MAIN PRINCIPLE

A centralized organization

The overall spatial organization of the building reveals the importance of a central core, around which the arrangement of the volumes is unfolded [Figure 1.1]. Four wings of enclosed space surround a trapezoidal courtyard, three of which appear in the same width of around 6.20 m. Only the northern part differentiates, forming a double-sized wing of around 13.40 m.

Division of the section in two main levels and the attic determines the development of the building in height. The proportional relation between the average width of each wing (6.20 m) and the average floor height (5 m) determines the impression of a large space [Figure 1.3].

STRUCTURE

Two main cooperative systems define the principal structural articulation of the composition.

- The walls
  - Four heavy load bearing walls surround and determine the boundaries of the enclosure.
- The timber construction
  - The timber floors and roof construction are being supported, both on the surrounding walls and the row of columns dividing in the middle the northern wing. The strong axis created by the repetition of those vertical elements intensifies the essence of rhythm and encourages initiating a circulation around the central focus point of the courtyard.

FOCUS POINTS

Main focus point: Introversion

Regarding the main typology of the volume, a clear orientation towards the central focus point in the middle of the composition, the open courtyard, is revealed, reflecting also the powerful essence of introversion and enclosure [Figure 1.6]. This self-oriented identity of the building is mainly visible on the ground floor, where the articulation of the exterior heavy and enclosed facades naturally forms an isolation barrier, so that the concentration to the central open space is intensified [Figure 1.8].

A new focus point: Extroversion

Due to the trapezoidal shape of the volume and the powerful meaning of the two converging walls, a new implied directionality can be revealed. The water becomes the imaginary destination of the building, not in terms of an existing living space of the composition, but as a potential place of interaction between private and exposure [Figure 1.5].

Orientation to the water, represents the potential interaction with the public surrounding space and is mainly reflected on the extrovert essence of the first floor. Openness allowed through the wide windows of the facades and lightness reflected on colours and light, enhance the extrovert essence of space [Figure 1.7].

TWO FOCUS POINTS: Comparisons

Despite the predominant position of the central courtyard, the interior life, especially experienced on the first floor of the building, is mainly oriented to the water, revealing a tendency of interaction with the public space. As a result, the courtyard seems to be rather isolated and not as expected the most lively part of the composition.

TWO FOCUS POINTS: Relations

A possible relation of those two focus points could be the crucial answer to the balance between the two main tendencies of the building, enhancing the interaction of the intimate composition with the public space.
The special setting of the building right on the edge of the peninsula, on three sides surrounded by water, natu- rally determines the possible access paths. In the current rent situation the main approach takes place in relation to the 1692 connecting building on the west part of the plot.

The special setting of the building right on the edge of the peninsula, on three sides surrounded by water, naturally determines the possible access paths. In the current rent situation the main approach takes place in relation to the 1692 connecting building on the west part of the plot.

Although that approach to the chimney is continuous, the main entrance is regulated by the row of windows, while the corners are characterized by a more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrovert, more open and inviting identity of space is revealed. Even through materials the extrover
The timber construction determines the impression of a large space [figure 1.3]. Each wing (7.00 m) and the average floor height (4.00 m) defines the size of a large space. The proportional relation between the average width of the wings of enclosed space, varying in width and size surrounding the trapezoidal courtyard and intensify the mean - ral relation can be regarded as the most defined by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height. Four heavy load bearing walls surround and determine the boundaries of the enclosure.

**MAIN PRINCIPLE**

A centralized organization investigating the overall spatial organization of the 1692 building. In this building, the main focus point is the open courtyard, around which the arrangement of the volume is unfolded. Four heavy load bearing walls surround and determine the meaning of the central core (the open courtyard). Considering a possible relation of the two focus points, a potential new direction of the composition, along which a new focus point is implied. The water in both sides of the volume defines a barrier which has consequently been transformed into an isolating element with the central core of the courtyard, the main focus point, which has consequently been transformed into an isolating element. On the other hand, the introvert identity of the building is not however combined with the expected meaning of the courtyard, as a predominant focus point. The water in both sides of the volume speaks the language of scale and allows the visitor to relate himself better to the relatively large size of the composition. The new quality of space could be experienced. A balanced overall introvert essence of the composition, by intensifying the essence of rhythm which above all defines the development of the building in height, encourages interaction between them, could both enhance the more implied directionality and physical interaction between the enclosed volume and the surroundings, along the main central axis of an introvert identity of the building, encouraging interaction with the city (water) and preserve, at the same time, the expected meaning of the central core of the courtyard, as a predominant focus point. The water in both sides of the volume defines a barrier which has consequently been transformed into an isolating element. On the other hand, the introvert identity of the composition, by intensifying the essence of rhythm which above all defines the development of the building in height, encourages interaction between them, could both enhance the more implied directionality and physical interaction between the enclosed volume and the surroundings, along the main central axis of an introvert identity of the building, encouraging interaction with the city (water) and preserve, at the same time, the expected meaning of the central core of the courtyard, as a predominant focus point. The water in both sides of the volume defines a barrier which has consequently been transformed into an isolating element.

**STURCTURE**

The presence of two cooperative structural systems appears here even more powerful than in the 1602 building, which the arrangement of the volume is unfolded. Four heavy load bearing walls surround and determine the boundaries of the enclosure. The eastern columns dividing in the middle both the northern and the southern wing, strongly define the circulation around the main focus point [figure 1.1]. An average width of the wings determines the impression of a large space. The strong axes created by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height. The vertical columns dividing in the middle both the northern and the southern wing, strongly define the circulation around the main focus point [figure 1.1]. An average width of the wings determines the impression of a large space. The strong axes created by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height.

**INTERIOR SPACE QUALITIES**

The presence of two cooperative structural systems appears here even more powerful than in the 1602 building, which the arrangement of the volume is unfolded. Four heavy load bearing walls surround and determine the boundaries of the enclosure. The eastern columns dividing in the middle both the northern and the southern wing, strongly define the circulation around the main focus point [figure 1.1]. An average width of the wings determines the impression of a large space. The strong axes created by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height. The vertical columns dividing in the middle both the northern and the southern wing, strongly define the circulation around the main focus point [figure 1.1]. An average width of the wings determines the impression of a large space. The strong axes created by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height. The vertical columns dividing in the middle both the northern and the southern wing, strongly define the circulation around the main focus point [figure 1.1]. An average width of the wings determines the impression of a large space. The strong axes created by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height. The vertical columns dividing in the middle both the northern and the southern wing, strongly define the circulation around the main focus point [figure 1.1]. An average width of the wings determines the impression of a large space. The strong axes created by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height. The vertical columns dividing in the middle both the northern and the southern wing, strongly define the circulation around the main focus point [figure 1.1]. An average width of the wings determines the impression of a large space. The strong axes created by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height. The vertical columns dividing in the middle both the northern and the southern wing, strongly define the circulation around the main focus point [figure 1.1]. An average width of the wings determines the impression of a large space. The strong axes created by the repetition of vertical elements intensify the essence of rhythm which above all defines the development of the building in height.
DOMINANT ACCESS PATH

Regarding the strong orientation of the typology along the east-west axis and the two representative facades, a dominant access path from the outside of the building can be identified [figure 1.12].

The penetrable layer

On the one hand, the east facade forms the penetrable layer, where the physical connection of the building with the city is experienced.

The views filter

On the opposite side, an imaginary connection is achieved. The west wall becomes also here the filter through which the dominant view of the surroundings is concentrated. The visual perspectives allowed through the courtyard only along the east-west direction also ascertain the same impression [figure 1.13].

INTERIOR CIRCULATION

Four vertical cores of interaction connect the four successive levels of the composition. The oak staircases placed at the four corners of the volume achieve a strong connection along the vertical axis of the building and intensify the circular experience of space, in a constant move around the central courtyard [figure 1.10].

COHERENCE AND UNITY

Regarding the use of materials, colours and textures composing the different levels of the building, an impression of homogeneity is produced, which is further intensified by the overall unified approach revealed on the treatment of both the interior and exterior appearance of the volume [figure 1.16].

ACCESS

The central setting of the building in the heart of the plot and the direct connections created with the two open transition areas make the composition easily accessible. In the current situation, the main approach takes place in relation with the two adjacent buildings on the west part of the plot.

EXTERIOR APPROACH

On all the three accessible sides of the building, a straight approach from the outside is allowed but not encouraged [figure 1.9].

ARCHITECTURAL ANALYSIS

The predominant presence at the exposed sides of the building is further enhanced on the ground floor, where the doors are placed in the middle of the wall, allowing an open and inviting view of the surroundings. The same design is adopted on the windows by placing them in the middle of the wall, creating a frame that highlights the view outside.

INTRODUCTION

The predominant impression through the courtyards projected on the central axes of the composition, and especially the courtyards and central aspect of the composition, can be identified [figure 1.11].

ANALYSIS

The repetitive use of identical elements in the spatial composition of the building enhances the experience of a centrally located composition. The repetition of vertical elements in the middle of the long wings intensifies the circulation around the main core of the composition, the open courtyard [figure 1.10].

INTERIOR SPACE QUALITIES

The predominant impression of introversion and enclosure experienced all over the space reveals the characteristic self-oriented identity of the composition.
CONCLUSIONS/FACADES AND IDENTITY
ARCHITECTURAL ANALYSIS

SYMMETRY

Geometry unifies the complex.

Scale and dimension

Character as he argues derives from the use of materiality and specific morphological features, revealing a tendency towards a more extrovert identity. The representative doors placed along the main axes of the complex can also determine significantly the impression of a possible entrance. Through the variations appearing in the use of materials and related with a demand for a better quality of light of the interior space, or aiming to enhance the readability of the complex and thus indicating the potential of revealing the difference between more public and more private parts of the composition, also enhancing the impression of openness and enclosure reflected on the exterior facade barriers.

SCALE, DOORS AND POTENTIAL EXTROVERSION

The representative element of the doors spread all over the height of the composition, imposing size of the volumes, witnessing the origins of the original function of the composition, decisively participate in the readability of the complex and thus indicating the potential of revealing the difference between more public and more private parts of the composition, also enhancing the impression of openness and enclosure reflected on the exterior facade barriers.

OVERALL IDENTITY DIVERSITY

The facade barriers strongly introvert space. Located on the edge of the peninsular, on three sides surrounded by water and arranged parallel to the city walls the complex reflects the idea of enclosure, resulting to the isolation of the private outdoor life of the complex. However, by comparing the main underlines on time and thus achieving the coherent impression of the unified identity of the composition [figure 1.16]. Geometry, symmetry, rhythm and scale, responsible for the unity of the composition can be evident [figure 1.16].

GEOMETRY RESISTS ON TIME and unifies the complex.

The representative doors spread all over the height of the facades and indicating the nature of the main access path.

The main entrance in the middle of the transition courtyard is regarded separately from the rest of the composition. The forms an independent unity which should be therefore regarded as an ensemble as an exchanger of goods. The vast dimensions the doors, become the cognitive intermediate in bringing the scalability and potential extroversion revealed.

OPENING UP TO THE CITY

Transforms in a holistic perspective the accentuation of the public space of the complex, giving rise to the significant participation of the facade barriers in the actual entrance of the complex, transforming the perception of a non accessible object. The exterior layers defining the private outdoor life of the complex are more and more, becoming gradually the less important part of the perception of the complex.

CONCLUSIONS/FACADES AND IDENTITY

The representative element of the doors spread all over the height of the composition, imposing size of the volumes, witnessing the origins of the original function of the composition, decisively participate in the readability of the complex and thus indicating the potential of revealing the difference between more public and more private parts of the composition, also enhancing the impression of openness and enclosure reflected on the exterior facade barriers.

OVERALL EXTROVERT IDENTITY

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SCALE, DOORS AND POTENTIAL EXTROVERSION

The representative element of the doors spread all over the height of the composition, imposing size of the volumes, witnessing the origins of the original function of the composition, decisively participate in the readability of the complex and thus indicating the potential of revealing the difference between more public and more private parts of the composition, also enhancing the impression of openness and enclosure reflected on the exterior facade barriers.
OPEN SPACE
the potential field of interaction with the city

Despite the exterior solid and heavy impression of the complex, a balanced distribution of built and open space is evident inside [figures 1.21, 1.22]. Open courtyards, gradually discoverable among the intimate parts of the composition form the private outdoor space of the ensemble. The setting of them in between, or even in the heart of the enclosed volumes, as well as in a possible direct physical or visual connection with the city -on both longitudinal sides of the plot- also defines them as a potential field of interaction with the public space, intensifying the extrovert identity of the complex. These private open spaces can therefore be the in between element, connecting public and private life and redefining the association of the building with the surrounding urban space.

FIGURES AND INTERSPACE:

Limited interaction
Despite the potential role of the courtyards, their quality and articulation in relation with the enclosed volumes, hardly enhances the extrovert identity of the complex. Open space is not considered as a living piece of the composition and therefore almost no connection between the courtyards and the interior life is achieved. As a result: the transition courtyards do not function as the intermediate space, but more as the leftover space of the enclosed volumes [figures 1.23, 1.24].

The enclosed courtyards are rather isolated, although centrally positioned in the heart of the interior life [figures 1.25, 1.26]. Better relations within built and open space of the complex, as well as a possible interaction of these private open courtyards with the public life of the city, could substantially redefine the extrovert identity of the composition. The private open space could in that way form the keypoint for gradually opening up the interior life of the complex, respecting at the same time the strong introvert essence of the typology.

CONCLUSIONS/TYPOLGY AND ORGANIZATION OF SPACE

ARCHITECTURAL ANALYSIS

GRADUAL ACCESS_
RESPECTING THE INTIMACY OF SPACE

From the extrovert open transition space up to the intimate enclosed courtyards, different grades of enclosure and introversion can be experienced.

The main access path, following the gradation of public and private qualities gradually experiences the complex from the most extrovert to the most dominantly introvert parts of the composition [figure 1.27]. Respecting the introvert typology of space, the routing, also intensifies the meaning of the enclosed courtyards. The figure 1.28, illustrates in a schematic way the dynamics revealed from the two access paths -associated with the main current entrances of the composition- embracing gradually the enclosed courtyards, which are therefore interpreted as the significant destination points of the routing.
During the original function of the complex as a warehouse, the dominant programme and organization of the complex as one integral space. Despite the probably large volume of the equipment stored, the absence of any permanent partitions dividing the storage areas, should intensify the perception of the interior space as a whole, allowing the main elements of the composition to be revealed, all over the height of the different buildings.

The composite programme of the Army Museum, has reasonably resulted to the creative blending of main and secondary functions. Apart from the dominant exposition areas, other functions related with the purpose of the programme co operate under the same roof, sometimes resulting to the fragmentation of space. Evident mainly on the upper floors of the 1692 building, the strict division of space into different separate functions, deprives the composition from an integral experience, harming the coherent typology of the volume.

Contradicting with the more extrovert profile of the new function, compared with that of the original one, introversion is reflected on the overall organization of space. The main circulation scheme subordinates any straight connection with the outside and interior routing is intensified as the powerful chain connecting the separate volumes of the complex. Intimacy and self-orientation is strongly enhanced by the gradual approach to the most internal parts of the composition, the open courtyards. However, despite, their potential meaning as significant destination elements, these private open areas, appear rather isolated, deprived from any functional role and content.

Gradation of introversion can be also visible in section, due to the blending of more private and extrovert functions among the different levels of the volumes.

Despite the introvert nature of the function, regarding the organization of space and mainly the routing scheme, intensifying straight connections with the exterior space, a surprising essence of extroversion can be revealed. The private courtyards, intimately related with the entrances are very much encouraged to be the firstly accessible areas, forming one of the most vibrant parts of the composition.

Contradicting with its inherent nature, an introvert function can spatially reflect an extrovert impression. More than the intangible meaning of intimacy and enclosure, organization of space and routing can define the more tangible expression of a more introvert or extrovert space and suggest the grade of interaction with the surroundings. In the same way, an extrovert by definition function can be organized, in such a way so as to enhance the enclosure and self-orientation of the typology.
The predominant access path, not only suggests the main exterior approach of the building, on the east side of the plot is indicated by the orientation of the volume along the east-west axis also intensifying the meaning of a dominant path. The main exterior approach on the south side of the plot suggests the predominant access path, diversifying also the role of the three representative facades. The main visual perspectives penetrating the volume on the same direction also intensify the meaning of a dominant path.

As the predominant access path, penetrating along the east-west axis also intensify the meaning of a dominant path.

The main exterior approach of the building on the south side of the plot is indicated by the orientation of the volume along the main axis of east and west. The only visual perspectives, is rather allowed through the small openings in the shape, the structure (repetition of columns) and visual relations, between the main facades.

Architectural Analysis

The predominant access path, not only suggests the main exterior approach of the building, on the east side of the plot is indicated by the orientation of the volume along the east-west axis also intensifying the meaning of a dominant path. The main exterior approach on the south side of the plot suggests the predominant access path, diversifying also the role of the three representative facades. The main visual perspectives penetrating the volume on the same direction also intensify the meaning of a dominant path.

The predominant access path, not only suggests the main exterior approach of the building, on the east side of the plot is indicated by the orientation of the volume along the east-west axis also intensifying the meaning of a dominant path.
TECHNICAL ANALYSIS

METHODOLOGY AND PURPOSE OF THE RESEARCH

The last part of the analysis focuses on the core of the research, shifting its emphasis from the overall visual impact of the project to the most tangible dimensions of the structure. A thorough investigation of the main construction principles, as well as the expression of materials and textures defining also the impression of space, will try to reveal the bonds and differentiations appearing in between the distinct parts of the composition. Focusing more in important construction details an insight to the small scale of the substance, composing the identity of space will be attempted further on. An authenticity overview concentrating the several layers of history, still traceable upon the structure, can be also useful in order to define the identity of the transformations/interventions over time and assess their value throughout the final evaluation process. Considering the dominant coherence appearing in structural language and unifying the ensemble, the building of 1602 will be studied as a representative example, allowing relevant conclusions to be derived for the wider scale of the complex.
CONCLUSIONS

A UNIFIED STRUCTURAL IDENTITY

Despite the small variations appearing mostly in sizes and details of the different buildings, a unifying construction expressed both in materials, main principle and specific elements, enhances the coherent impression and structural identity of the complex.

THE UNIFYING TIMBER CONSTRUCTION

Despite the different impressions of the walls surrounding the volumes, the composite but also sober appearance of the timber construction, involved in between, mainly contributes to the coherence of the interior space and thus constituting one of the most representative and important values of the complex, that should be studied and researched further on.

CONSTRUCTION PRINCIPLES

OVERVIEW

THE COMPLEX

CONSTRUCTION PRINCIPLE

Observations on the articulation of the main load bearing construction all over the complex, reveal the existence of one integral principle, defining with alternations every specific structure. The principle involves the combination of brickwalls and timber frames in between. The heavy, massive brickwalls with an average thickness of 60 cm surround the volume and receive the load of the roof and floors construction, gradually distributed by the timber frame. The wooden frame, supported mainly on the walls and additionally on independent rows of columns comprises the inner structure of the volumes (roof and floors) implementing the gradual distribution of loads all over the height of the buildings [figure 1.1].

Considering the original functional identity of the complex as a storage space, the potential strength of the wood-en construction should be expected enough to receive a considerable amount of load. The dimensional features of the different timber frames, bridging spans of averagely around 6.00 m, could also ascertain the assumption.

BUILDING 1602

AVERAGE SPAN: 6.20 m

SECTION A-A

SMALL BUILDING 1692

AVERAGE SPAN: 6.20 m

BUILDING 1692

AVERAGE SPAN: 6.60 m

BUILDING EAST - INDIAN COMPANY

SPAN RANGE: FROM 4.60 TO 6.40

SMOKE-OIL BUILDING

AVERAGE SPAN: 8.00 m

CONSTRUCTION PRINCIPLE

Trees are not only a form of construction, but they also contribute to the unique identity of the complex.

Differentiation in thickness of the main brick walls along the height of the building, appearing in both main 1602 and 1692 warehouses, enhances the basis and thus the stability and durability of the structure.

The average span of around 6.50 m appearing in small variations almost all over the complex, influences the overall dimensional attributes of the different timber parts, also underlining the coherent appearance of the composition.

UNIFYING ELEMENTS

Tree-form columns and a composite beam construction, compose the main timber frame, contributing to the unified identity of the complex [figure 1.2].

Differentiation in thickness of the main brick walls along the height of the building, appearing in both main 1602 and 1692 warehouses, enhances the basis and thus the stability and durability of the structure.

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TECHNICAL ANALYSIS

figure 1.1_MAIN CONSTRUCTION PRINCIPLE

figure 1.2_COMPOSITE BEAM FLOOR CONSTRUCTION

L-SPANED STRUCTURAL SCHEME

Create the small windows, providing light in every volume, according to the original design. Joining the different layers hinged together, the beams and columns of the composite, considerably enhance the overall strength and stability of the structure.

THE TIMBER FLOOR CONSTRUCTION

Provide the timber construction for the walls surrounding the roof. This helps in maintaining the overall appearance of the composite, the beams and columns are hinged together, thereby maintaining the structural integrity and aesthetic appeal of the complex.

Distribution of forces

Concentration of forces

Basic conditions loading

SECTION A-A

MAXIMUM FLOOR LOAD: 9.00 kN/m²

CONSTRUCTION

Main beam

Main floor plans

Building section

Exterior wall

Plinth beam

Concrete footings

Bentheim sandstone footing

Timber boards

Timber girders

Timber beams

Timber columns

Figure 1.1 MAIN CONSTRUCTION PRINCIPLE

Figure 1.2 COMPOSITE BEAM FLOOR CONSTRUCTION

Figure 1.3 CROSS-SECTION FLOOR CONSTRUCTION

Figure 1.4 CUT-SECTION OPENING CONTEXT

CONCLUSIONS

A UNIFIED STRUCTURAL IDENTITY

Despite the small variations appearing mostly in sizes and details of the different buildings, a unifying construction expressed both in materials, main principle and specific elements, enhances the coherent impression and structural identity of the complex.
MATERIALS DESCRIPTION

BUILDING 1602

LONGITUDINAL SECTION A-A
BUILDING 1602

WEST WING SECTION B-B

STATE: Very good
White ceramic tiles (sill)
DETAILS: Aluminum glazing frame
COLOUR: Light grey

Beintheim sandstone window frames (ground floor)
DETAILS: Stained glass
STATE: Excellent
sandstone also forms the contour of the opening.
upper part of the skylight. Beige painted Bentheim
COLOUR: Dark green

Painted wooden doors
STATE: Some discoloration due to limited decay
COLOUR: Dark reddish

Roof ceramic tiles
STATE: No serious damage can be observed
repointing applied (fossils observed)
POINTING: Cross bond type, probably lime based

Painted plastered facade
STATE: Almost no damage can be observed
COLOUR: White

EXTERIOR

cracks partly appear probably due to overloading, as
the unpainted parts of the ground floor, small vertical
STATE: No serious damage can be observed. Only on
green (1st floor)
COLOUR: Dark brown (natural) or painted light olive

Young oak/ partly pine composite wooden construction
COLOUR: Dark brown reddish
the stability of the structure.
pears increased [80 cm] on the ground level enhancing
timber frame. The thickness of the wall from 60 cm ap-
roof and floors construction gradually distributed by the
FUNCTION: Supported on both the loadbearing brick-
walls and an independent row of columns (northern

Massive brickwalls
LOAD BEARING CONSTRUCTION

PART III: MATERIALS

STATE OF MATERIALS

DURABILITY

Due to the combination of materials, colours and textures the essence of the construction parts, can be regarded as able to withstand a successive interventions applied on the building and proper consideration of a healthy construction. Due to such interventions the building will have a potential of a strong intervention [figure 1.4].

An overall observation on the state of materials enhances the theoretical and structural state. Limited traces of time due to hypothetical and structural state. Limited traces of time due to restorations applied on the building and proper consideration of a healthy construction. Due to successive interventions applied on the building and proper intervention [figure 1.4].

An overall observation on the state of materials enhances the theoretical and structural state. Limited traces of time due to hypothetical and structural state. Limited traces of time due to restorations applied on the building and proper consideration of a healthy construction. Due to successive interventions applied on the building and proper intervention [figure 1.4].

The fluctuation appearing in the use of materials, colours and textures, the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures the essence of the use of materials, colours and textures...
The wooden frame of the building indicates the features of a composite timber construction composed by a sequence of full timber frames orangerie elements. The full timber frame is characterized by stress-reducing and support-structure elements. The construction principles of the composite timber frame bridge the load from one wall to the other and side to side. The structural cross-sections for the horizontal distribution of loads (figure 1.6).

The main beam, the children ones and the small girders for the floor construction support. The composite single beam, the children ones and the small girders for the balanced distribution of loads appear in that case on top of the other, the main beam being evident in both east and west wings. The children ones and the small girders for the balanced distribution of loads (figure 1.5).

Only in the north wing of double width, a row of columns, carries a long beam in the middle of the composition. Single beams bridge the span from one wall to the other, on both north and south parts, without any supportive pilasters for the balanced distribution of loads (figure 1.8).

The wooden frame of the building indicates the features of a composite timber construction composed by a sequence of full timber frames orangerie elements. The full timber frame is characterized by stress-reducing and support-structure elements. The construction principles of the composite timber frame bridge the load from one wall to the other and side to side. The structural cross-sections for the horizontal distribution of loads (figure 1.6).
### Roof Construction

**Focus on Building 1602**

**Construction Analysis**

1. Concentration point of forces
2. Concentration point of forces
3. Tie beam
4. Ridge beam
5. Rafters
6. Trusses
7. Timber boards (cover)
8. Roof tiles
9. Struts

### Figure 1.11: Roof Construction, Section

### Figure 1.12: Junction Point Detail

### Figure 1.13: Main Timber Frame, Impression of the Attic

#### Roof Construction Type

The existing roof construction can be regarded as a typical example of timber roof construction composed by rafters and horizontal trusses (Gordigenkap) [figure 1.13]. The first example of the type in the Netherlands can be dated back in the 13th century, indicating the value of one of the oldest roof constructions.

[Dirk J. de Vries, “The appearance of trusses in the Low countries”, Reading source for the History of Materials course of the MSc2]

#### Roof Construction Analysis

Both rafters and truss beams, in combination with secondary supportive elements, result in a durable and stable structure [figure 1.11]. The stability is not only achieved through the thickness and strength of the different parts but is mainly based on the strong junctions between them, enhancing the stiffness of the structure [figure 1.12]. On these crucial points of the joints, all the forces are concentrated, ensuring this way the gradual distribution of loads to the adjacent brick walls. Assembly marks, still traceable on the original construction, have been used for indicating the proper connection of the different parts.

[Information and terminology has been based on the book of Ronald Stenvert and Gabri van Tussenvbroek “Inleiding in de Bouwhistorie”, Utrecht, 2007]

#### Technical Analysis

### Conclusions

**Three Main Identities Still Revealed**

Recognizing and dating the different parts of the construction, several layers of history have been intermingled into one powerful integral whole. The boundaries between the original parts and the main following interventions of 1750’s and 1800’s are not easily recognizable, as plenty of repair treatments appear on top of the existing construction, without nevertheless affecting the previous identity of the structure. As a result, the classification among these main periods of history, still reveals the three main identities that have defined the building over the years.

**Layers of History in Coherence**

This difficulty to distinguish the different phases and date every specific part, also underlines the coherence of the structure, proving that every intervention has gradually acquired its important meaning within the “original” authentic identity of the composition, being an indispensable layer of history, and thus carrying significant historical value.

**1602-1692**

**1751**

**1826-1890**

Later on repair treatments

### Classification of the Interventions

Successive strong or milder interventions, including reconstruction of different parts or repair treatments applied for the maintenance of the structure, have gradually defined the appearance of the building over time. As a result, the classification among these main periods of history, still reveals the three main identities that have defined the building over the years.

**Layers of History in Coherence**

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**1602-1692**

**1751**

**1826-1890**

Later on repair treatments

### Authenticity and Interventions

**Focus on Building 1602**

The scheme below does not have the accuracy of an authenticity map, but intends to reveal the successive layers of history deposited on the existing structure. Most layers appear as traces with undefined borders, indicating probably a wider surface they are applied on, and mainly the inability of achieving a sharp distinction among the different intervention works.

**Reconstruction of the peninsula around 1910**
CONSTRUCTION AND MATERIALS

FOCUS ON BUILDING 1602

Determine along with the rest of the surface, as well as the original stone windows facing the courtyard, natural stone details on the main doors [figure 1.16], as Coherence in the articulation of the openings, with the flooring, as well as the dark colours reflected all over the space, enhance the heavy impression of space, and the fluctuation appearing in the use of textures and colours, alternates completely the experience of the building.

The significant contribution of the small details in the two different identities of the volume, and the overall introverted or extroverted impression of space, can be revealed in defining the overall identity of space.

THE DETAILS

The essential contribution of the small details in the two different identities of the volume, and the overall introverted or extroverted impression of space. As during the aforementioned research has been defined, a strong contrast in the use of materials and colours evident between the two main levels of the building.

OPENINGS

As during the aforementioned research has been defined, a strong contrast in the use of materials and colours evident between the two main levels of the building. The fluctuation appearing in the use of textures and colours, alternates completely the experience of the building.

GROUND FLOOR

A dominant introvert impression

Fluctuation of introversion/extroversion

The portal and on the wooden apron appearing on the lowest part of the walls, enhances the impression of an introverted introvert or extrovert impression of space, can be revealed in defining the overall identity of space.

The fluctuation appearing in the use of textures and colours, alternates completely the experience of the building. The essential contribution of the small details in the two different identities of the volume, and the overall introverted or extroverted impression of space.

**openings**

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**technical analysis**

**strength and potential**

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**durability**

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**layers of history in coherence**

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**conclusions**

The essential contribution of the small details in the two different identities of the volume, and the overall introverted or extroverted impression of space. As during the aforementioned research has been defined, a strong contrast in the use of materials and colours evident between the two main levels of the building. The fluctuation appearing in the use of textures and colours, alternates completely the experience of the building.

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**technical analysis**

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The portal and on the wooden apron appearing on the lowest part of the walls, enhances the impression of an introverted introvert or extrovert impression of space, can be revealed in defining the overall identity of space.
ADDITIONAL INFORMATION

RECENT INTERVENTIONS OF KOEN VAN VELSEN

The recent interventions of Koen van Velsen in 2004, including a steel suspended path surrounding the middle courtyard on the first floor, although being evident in the current situation of the building, have intentionally been excluded from the authenticity research. In so doing, the most original composition of the structure and essence of the building could be easier identified, revealed by an intervention that radically changes the perception of the interior space. Without the intention of judging their value, they can be regarded as an independent, self-existing element of the composition.

FURTHER INVESTIGATION IS DEMANDED

The observations, drawings and sketches included in the construction analysis involve a lot of assumptions, and thus cannot be regarded as an accurate documentation of the current state of the building. Therefore, a further investigation on specific construction details and verification of the aforementioned observations is still demanded. The main purpose of the previous analysis is thus to give an overall insight to the main principles defining the structure, as well as try to reveal the most significant values, reflected on the tangible elements of the composition.

TECHNICAL ANALYSIS
In his “Invisible Cities”, Italo Calvino unfolds his conviction that every building narrates its own story. The only thing needed to extract the meaning from the architectural appearance is the ability to decode the symbolic language of the composition. According to the main theme of the research question, the dimensions appearing on the horizontal axis encompass the cultural, historical context and the significance of the location. The vertical axis, on the other hand, covers the technical aspects of the composition. In crossing relevance with the several aspects of analysis among the four different scales [the city, the context, the current research, the building], investigating the several layers of the existing, concentrating and evaluating some of the most significant conclusions of the research.

**FINDINGS AND INTERRELATIONS**

By crossing interrelations attempted among the aspects of the composition, the dimensions of interest, of the wider architectural, cultural and historical context, interesting conclusions can be extracted. The evaluation process and reveal the dominant approach of the unfolded evaluation process. The Nara Grid [Nara Document on Authenticity, 1994] represents the most direct and reliable way in which the effectiveness of the method to reveal the complex nature of every building is measured. The history of the transformations evident in the current research, aiming to trace the aspects that define the dominant presence of the timber structure, mainly beyond the “city walls”. It has also been associated in the soul of the context area, investigating the several aspects and dimensions chosen for the evaluation process should be thus encouraged, as a restricting structure, but as a useful investigation tool.

The deeply impregnated in the soul of the context area, the two focus points could probably result in any kind of analysis and defining the potential basis for enhancing the exterior extrovert identity of the composition. Despite the variations however harming the integrity of the unified whole. Despite the variations of the urban pattern, the history of the transformations evident in the current research, the quality and nature of both tangible and intangible values have been made to define the special character of the composition. The only thing needed to extract the meaning from the architectural appearance is the ability to decode the symbolic language of the composition. According to the main theme of the research question, the dimensions appearing on the horizontal axis encompass the cultural, historical context and the significance of the location. The vertical axis, on the other hand, covers the technical aspects of the composition. In crossing relevance with the several aspects of analysis among the four different scales [the city, the context, the current research, the building], investigating the several layers of the existing, concentrating and evaluating some of the most significant conclusions of the research.

**Conclusions and Practice Values**

The evaluation of the composition indicates how different, some-what remote from the identity of the urban pattern. The parallel evident orientation of the main north-south axis and the unifying timber construction, the laws of balance, introversion and extroversion can in fact generate the spirit and objectives of the suggested layer. The history of the transformations evident in the current research, the quality and nature of both tangible and intangible values have been made to define the special character of the composition. The only thing needed to extract the meaning from the architectural appearance is the ability to decode the symbolic language of the composition. According to the main theme of the research question, the dimensions appearing on the horizontal axis encompass the cultural, historical context and the significance of the location. The vertical axis, on the other hand, covers the technical aspects of the composition. In crossing relevance with the several aspects of analysis among the four different scales [the city, the context, the current research, the building], investigating the several layers of the existing, concentrating and evaluating some of the most significant conclusions of the research.

**References**

Ascertaining their implied meaning as it has been originally introduced, the terms of introversion and extroversion co-exist along the exterior aesthetics and typology of open and enclosed compositions. For beyond the apparent typological features observed, has become evident that the nature of the function it accommodates should to a certain extent belong to the unified communal experience of the city, encouraging the circulation of the visitor within the ensemble. At the same time, the extended access path, converging water paths, enhances the essence of introversion, revealing parts which can be more extrovert (as defined in the Introduction part) and construct the interior/exterior relations of introversion/extroversion. The specificity of the research question endeavoring to define aspects of both tendencies, not only demonstrates their co-existence, but also their necessity to co-exist. For the apparent contradiction is a part of the research mission, differentiating the interior and exterior experience of the composition, according to the objectives pursued to indicate the totally diverse approaches of the research. This task involves the introduction of the observer in the urban space, the enclosed courtyards, and the transition courtyards, implementing the physical or visual interaction of the observer, regarding the position the observer incorporates in the articulation of the setting, determining the organization of built and open areas and the interior exterior relations of introversion/extroversion. The above crucial dimensions have been ascertained through references on the field of human psychology, the terms of introversion and extroversion, concerned through academics in the field of human psychology, namely, the concept of introversion, revealing parts which can be more extrovert, and the concept of extroversion, incorporating the means of communication of the visitor within the ensemble. The method suggested could probably serve as a useful design tool, for shaping the future identity of the composition. The still existing powerful memory of space, dominating the composition, according to the objectives, to stimulate and initiate the questioning around the limits of space, so as to decide on the future identity of the existing composition is demanded. The research, instead of being weakened, poses the demand for a sensitive definition even further. The ambiguous investigation aims to define aspects of both tendencies, revealing parts which can be more extrovert, and the still existing powerful memory of space, dominating the composition, according to the objectives of the research. The two directional purpose of the analysis, encompassing the articulation of the setting, and the perception of the observer, have all been subjected to the natural daylight that penetrates the composition, enlightening shaded dimensions of the architectural space, assessing for their contribution to the introvert/extrovert organization of space. The inherent tendency of the observer varies along the fragmented north-south axis, already determined by the powerful essence of geometry. In a setting, converging water paths, enhances the essence of introversion, revealing parts which can be more extrovert, and the more extrovert impression of the facade, developing along this path, reveals the more extrovert impression of the facade, developing along this path, reveals the still existing powerful memory of space, dominating the composition, according to the objectives, to stimulate and initiate the questioning around the limits of space, so as to decide on the future identity of the existing composition is demanded. The research, instead of being weakened, poses the demand for a sensitive definition even further. The ambiguous investigation aims to define aspects of both tendencies, revealing parts which can be more extrovert, and the still existing powerful memory of space, dominating the composition, according to the objectives of the research. 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SOURCES
Excluding the illustrations for which the sources are mentioned, all sketches, drawings and photos belong to the personal archive of the author. Information used in the illustrations have been additionally based on documentation made by the Dutch Rijks Department of Building Construction in 1962, as well as Autocad drawings belonging to the department of Architecture [Technical University of Delft].

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REFERENCES
APPENDIX

BUILDINGS 1602 BUILDING 1660 BUILDING 1692 BUILDING 1692

BASIC ELEVATIONS AND SECTIONS

MAIN FLOORPLANS_GROUND LEVEL

SOUTH AND EAST FACADES

WEST FACADES

INDICATIVE SECTIONS

Source: Drawings derive from the documentation report made by the Dutch Rijks Department of Building Construction in 1962.