Maassilo-housing a transshipment society

Reflection paper

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Introduction

The following reflection paper addresses the value assessment and redesigning methods of industrial heritage, focusing on the former harbour area of Rotterdam Zuid.

The is particularly looking at the case of the Maassilo complex, a major ensemble of silos and elevator towers, at the edge of the Maashaven.

Initiated as a group research within the studio of Heritage and Architecture at the TU Delft, the project would later develop into an individual brief of research by design. In this process, our main body of knowledge, would be based on a former cultural value report done by Transformers in 2008, as well as a series of archives acquired from the Municipality and the NAI. Moreover, as a means for deploying our architectural analysis of the building, a method was used for grasping its multiplicity. That was the use of Stewart Brand’s structure on reading a building as a hierarchy of ‘shearing layers’.

As a combination of Brand’s logic and some additions the group made, based on the specificity of the building’s features, the following hierarchy of layers was established, as a guideline for analyzing the complex:

<table>
<thead>
<tr>
<th>Surroundings (the urban context)</th>
<th>Structure (the load bearing system)</th>
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</thead>
<tbody>
<tr>
<td>Site (the direct surroundings of the building)</td>
<td>Space plan (internal layout)</td>
</tr>
<tr>
<td>Spatial composition (basic volumetric distinction)</td>
<td>Surfaces (the skin of the interior)</td>
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<tr>
<td>Skin (the exterior surface)</td>
<td>Services/Stuff (the remaining machinery and services)</td>
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Furthermore, as a theoretical framework for interpreting our architectural analysis, the group was introduced to the concept of value assessment, and the cultural value matrix.

This provided a useful platform for weighting down the different scales of cultural and technological findings as traced throughout the building. The matrix is based in the addition of a second context of a value classification as inscribed by Aloïs Riegl, into a y-x axis (as seen in the following page). This categorizes the values into:

- **Age value** (visibility of the layers of time)
- **Newness value** (visibility of triumph over the past)
- **Historical value** (valuable information from the past, as identified by experts)
- **Art value** (artistic meaning in historical artifacts)
- **Intentional Commemorative value** (human commemorative intervention)
- **Use value** (level of adaptability for new use)
- **Unintentional Commemorative value** (appreciation of unintended events in the story)
- **Aesthetic value** (everything contributing to the current experience of the building)
- **Rarity value** (uniqueness of certain elements)

The outcome of this study, would be comprised into specific value statements, which would raise key discussions and objectify as much as possible the essence of the building’s character.

Based on this, the first part of the paper reflects on the hierarchy of values, as found in the Maassilo, as well as the emerging conflicts, obligations and opportunities towards its identity. As a sum of personal conclusions on the key discussions of the assessment, the second part describes the proposed programme as a reaction to the main conflict identified, and the response to the main design challenge relating to the building’s character.
### Cultural Value Matrix

#### Site

- **Surroundings**: The Rotterdam south area is characterized by harbours and docked boats, which were prominent features of the area in the past. The names of streets, harbours, and neighbourhoods refer to the history of the area. The Rotterdam south area has been redeveloped into Kop van Zuid by famous architects, bringing new activities to Rotterdam-Zuid. A lot of new buildings (especially on the groundfloor and some have been replaced) have been introduced and the 15 Silo's have been moved to the middle of the area. The new high-rise buildings that have been appearing since the 21st century, have experienced a great contrast with the original industrial buildings.

- **Spatial Plan**: The spatial plan is highly related to the original function of the building. The big columns have been cut away on the groundfloor and some have been replaced. The big columns have been cut away on the groundfloor and some have been replaced. The big columns have been cut away on the groundfloor and some have been replaced. The big columns have been cut away on the groundfloor and some have been replaced.

- **Surfaces**: The equipment and utilities give an impression of the functionality of the building. These are elements that are more important for the different architect. For Haan the office building was a bit less important being the machinery and utilities give an impression of the technological possibilities in these concrete superstructures. The different volumes give an impression of the way the building was used. Many surfaces, including signs, are damage and very unique at the time. The machinery and utilities give an impression of the technological possibilities in these concrete superstructures. The different volumes give an impression of the way the building was used. Many surfaces, including signs, are damage and very unique at the time.

- **Skin**: The structure shows clear decay, has been missing in which the process of grain storing back to an original state which is clearly an increased height of silo's in later phases are examples. Rust, algae, and decay are visible on the building. The codes painted on the Silo's, the blue and yellow silo, and signs like ‘gifgas’ on the building are important works in the oeuvre of the architect. For Haan the office building was a bit less important being the machinery and utilities give an impression of the technological possibilities in these concrete superstructures. The different volumes give an impression of the way the building was used. Many surfaces, including signs, are damage and very unique at the time.

- **Structure**: The façade shows clear decay, has been missing in which the process of grain storing back to an original state which is clearly an increased height of silo’s in later phases are examples. Rust, algae, and decay are visible on the building. The codes painted on the Silo’s, the blue and yellow silo, and signs like ‘gifgas’ on the building are important works in the oeuvre of the architect. For Haan the office building was a bit less important being the machinery and utilities give an impression of the technological possibilities in these concrete superstructures. The different volumes give an impression of the way the building was used. Many surfaces, including signs, are damage and very unique at the time.

#### Complementary values

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<tr>
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<th>Value Matrix</th>
<th>Inter-Value</th>
<th>Communicative Value</th>
<th>Social Value</th>
<th>Articulatory Value</th>
<th>Aesthetic Value</th>
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Historical Overview

Built in different phases from 1910 to 1964, the Maassilo shaped one of the largest in situ constructions in Europe for the storage, treatment and distribution of different types of grain. As the first building connected to the Maashaven, a primary instrument for a key grain transshipment company (Gransilo N.V.) and instigator for the worker districts of Rotterdam Zuid, the complex has played a catalyst role in the consistent history of Rotterdam as an international harbor city.

One of the last icons of this unconditional functional context of the past, the Maassilo is caught at the edge of a major infrastructural border between two disparate entities: the future gentrified area of Katendrecht and the inert, working class neighborhoods of Tarwewijk and Bloemhof. Confined by the surrounding infrastructure, the building was also secluded from the development of these two areas, nowadays making its historical value for the socioeconomic development of the city hard to trace.

Currently being in the process of officially becoming industrial heritage, the building has been partially occupied by the music venue Now&Wow since 2003, which has utilized its ground and attic levels. Even though establishing a cultural initiative which has brought attention to, this actions however involved no particular commemorative discussions.

The complex is also intertwined with the future plans for the Maashaven, as approved by the Municipality and Port Authority. These are directed towards the idea of a public ‘Tidal Park’, which would also allow the remaining activity of inland shipping to continue and possibly include floating housing.

Value assessment- statements & key discussions

The revealed hierarchy of values which, as concluded by the cultural value matrix, encapsulates the identity of the building, was translated into the following statements:

1. History. Socioeconomic relevance to the development of the city
2. Presence. Imposing effect and urban prominence in the surrounding areas
3. Rarity. A unique ensemble of a silo typology

“Gate between north and south”

With the activity of the port being moved to the west, the Maassilo is nowadays caught between an intensely gentrified area in the north (Katendrecht), and an underdeveloped working class area in the south (Tarwewijk). Its inescapable mediating role in this urban fabric makes it essential for the building to balance, and possibly conduct the socioeconomic diversity of the surrounding districts.

“Concealment and Readability”

While being inside the Maassilo, the experience of the place is shaped by the exposed surfaces (funnels, columns, etc.), and the occasional awareness/reveiling of the suspended voids. The enhancement of this interplay can be a very effective method of establishing a new spatial experience for the public, by superimposing or re-interpreting the existing atmosphere.

“Public and Private”

The building’s fundamentally closed-off profile reflected its highly specific function. However finding a public function which requires concealment can take advantage of its disposition as an enclave.

“Mass and Movement”

The building’s designed flexibility in structured open plan spaces (ground floor and attic) and integrated flexible detailing, is its inherent tectonic language. Emphasizing or re-introducing this in a new design can prove both multifunctionally resilient and commemorate the building’s character.
Research question & Design Approach

How can the Maassilo act both as an object of historical continuity, and urban mediator?

The primary challenge for the Maassilo complex lies in the gap between the building’s historical and aesthetic identity within a highly diverse urban realm. Carrying an inescapable mediating role, the Maassilo is called to act as an integrating object of historical continuity, and social resilience. For this reason, the highlighting of its historical and rarity value as an ensemble, forms an essential foundation for its possible re-design.

On the other hand its extreme physicality creates a guiding force on its own. The historical value of the silos’ building technology, in relation to their high use value, structure-wise, raises a profound conflict. Hence the design approach would also have to negotiate appropriate ways of utilizing the load bearing capacity of the silos, while preserving their present order and aesthetics.

Starting points

As a means for addressing the volumetric distinction between the different phases, a mixed-use approach appears necessary. Furthermore, as a way of creating consistency between old and new, the footprint of the conveyor belts, as found in the basement and attic, can act as a guide for an intervention strategy while respecting the building’s past activity (and sense of movement).

Programme

Addressing the historic aspect of the Maassilo as a major instrument in the context of transshipment, the programme proposes the relocation of the existing central office for the Rhine & inland navigation (CBRB) inside the building.

Taking advantage of the concealed central part of silos, this also involves the ‘curving-out’ of conference rooms and auditoriums, for meetings with the rest of the European board members and commissions.

With these main functions occupying the main and upper levels of the complex, the ground floor would act as a public interior and transition zone, providing flexible space for exhibitions and displays of the existing machinery.

Operating as a 'transshipment society', the programme aims to investigate how such an official European network of gathering and knowledge, can commemorate the building’s historical importance for Rotterdam while also assuming a public character towards the surrounding districts.
Main challenge & Response

Synchronizing the multi-purpose nature of the programme with the straightforward composition of the silo ensemble, formed the main challenge.

More particularly, the need for creating spatial compartments and allowing new logistics, while respecting the building’s most important values, raised a profound tension in the design process.

As a general response to this conflict, the design proposes the translation of the existing zoning of ground floor, silo and attics, to more in-between, mezzanine levels. Providing flexibility of circulation, this new sectional organization would also allow visual continuity and an experience of climaxing procession throughout the building’s new activity.

Addressing the hierarchy of values, various decisions had to be made throughout the different layers of the building.

Opportunities & Dilemmas throughout the design

Site (ground level):

-the need to establish a new entrance by not compromising the building’s seclusion from the surroundings, was addressed by extending a new ramp, in the southeast part of the Postma phase

-this would bring the visitor to a first mezzanine level, enhancing the open plan experience of the ground floor and suspended funnels.

-the need for further shaping a parking space in the existing waterfront area, would also trigger the opportunity for a public terrace extending from the mezzanine and providing an experience of the elevator towers from a closer distance.

Spatial composition/Structure (main levels):

- the different geometries of the silo cells were seen as an opportunity to guide the shape of the main conference halls

-the need for providing a central void, as a reference point, was dealt as an opportunity for highlighting the distinction between the 1st and 2nd phase.

- the created colonnade from the cutting-out of the silos creates a spatial sequence that enhances the experience of concealment and exposure to the silo structure and surfaces
Skin (Roof & Facade) upper levels

- As the fifth facade with the less value importance for the understanding of the structure, the roof would offer the main source of direct daylight at the meeting point of the two building phases.

- The necessity for providing openings which would allow the offices views to the harbor would raise an important dilemma for the design of the waterfront facade. By creating a row of internalized triangular openings, imitating the external shape of the silos, the solution emphasizes the historical/aesthetical value of the skin more as a declaration of the building’s depth and sense of mass.

Surfaces/ Services

- Emphasizing the distinction between the volumes and climate zones, at the connection of the Stok and Brinkmann phase was an opportunity for creating a internal glass facade under the new skylight.

- The created floor space at the lower levels also provides space for re-locating the machinery of the attic, along with the already exhibited at the basement.

Conclusions

In cases of post-industrial settings which equally involve complex value assessment and social necessities in diverse urban locations, the nature of re-programming is catalyst, and can/should guide the new architectural language.

The way these settings of unconditional functional context, can act as bodies of civic engagement has been so far investigated at the Hafencity in Hamburg, the port of Marseille, and still remains an intriguing question for a lot of European harbor areas.

As a major example of such a post-industrial context, the Maassilo can act as a protagonist scenario of how to deal with social diversity by re-establishing historical identity and sense of place.

With cases of such immense scale, a good design approach would be to work in layers, constructing a language of interventions, of multiple scales (from site to surface e.t.c) which remains consistent with the existing spatial qualities. That involving the solution of objective necessities, such as new circulation and daylight conditions, to more subjective and commemorative interventions, such as the facade.
Bibliography


Transformers (2008), Cultuurhistorische verkenning graansilo Maashaven. Rotterdam.