MASTER

Amsterdam hidden wall
particularity of architecture in the urban cultural landscape

Kang, H.J.

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Amsterdam Hidden Wall
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23 June 2008

Hyukjin Kang

Thesis for MSc Architecture
Technical University Eindhoven
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Technical University Eindhoven

Faculty of Architecture, Building and Planning
Unit Architectural Design and Engineering
Chair Architectural Design and Urban Culture

Supervisors
dr. ir. Jos Bosman
dipl. ing. Hüsnü Yegenoglu
dr. ir. Kees Doevendans
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Hyukjin Kang
Introduction

This master thesis is about the hidden wall in Amsterdam. Especially, the wall, built from the beginning of Seventeenth century, is the object for the thesis. This fourth city wall of Amsterdam was demolished by Fortification Act (1875) which allowed city's expansion beyond the wall. Nevertheless considerable planning was involved in the city's expansion beyond the wall, Amsterdam followed another (later) plan to cope with the rapid development in the industrial era.

The present hidden line approximately follows that of the canal running on the administrative border of city Centrum. But, nobody can realize that there once was the wall. Even though the history of city wall is a main part of its cultural (historic) landscape, there are no signs of and no need to give it any identity.

This thesis also has a certain research interest. It is that of particularity of architecture in the urban cultural landscape. It is about the particular way of intervening architecture into the city as a cultural landscape. The hidden wall in Amsterdam was chosen with this concept in mind. The hidden wall is a part of the cultural landscape and this project will try to find the particular way of architectural intervention.

The thesis consists of two parts. The first part is a theoretical background for establishing a framework for design. And second part is design experiment. The subject for design experiment here is customs posts along with the canal which contain the programmes of exhibitions of culture in Amsterdam itself.

In the first part of theoretical background, I will discuss the architectural theories which are related to the sense of place, cultural landscape and space perception. How we deal with the memory of place is a key factor of this project. So, a phenomenological approach is essential. Then some literature studies will be included in the first part in support. Especially, Architectural Involvement in the cultural landscape is based on its physical reality which produces certain special relationship with its surroundings. I paid attention to human perception of architectural space which is a part of urban cultural landscape.
In the second part of this book, I will develop the design project. It is about the hidden wall of Amsterdam. The meaning of 'hidden wall' in the present will be introduced. It is important to establish the cultural relevance of making the hidden wall visible. And secondly, I will examine the history and memory of the hidden wall. The first particular interpretation will be involved in this process. Then, with the evaluation of study processes, the strategy for the final design phase will be explained. These design principles will be reviewed with the final designs. The design concepts in this project are also a particular way of establishing an identity of architecture.
Enmeshed Experience, from Questions of Perception.
PART 1
Theoretical Background

1. Research interest
2. Cultural landscape
3. Heritage managing design
4. Architecture of resistance
5. Space perception
6. Sub conclusion
Part 1. Theoretical Background

1. Research Interest

Particularity of Architecture in the Urban Cultural Landscape

A particular architectural impact on the urban cultural landscape, especially in the historical city centre, has to be influenced by contemporary cultural understanding and vice versa. Within this reciprocal circle as a specific interpretation, the particularity of architecture is going to be defined.

The research interest I introduce here is not the primary goal of this thesis. Because it is hard to define the meaning of particularity of architecture, this thesis can be seen as an attempt to review what kind of relationship can be established through theoretical studies through addition to design experiment. The fundamental concept for the particularity is based on speciality in a contextual understanding.

The subject I will try to develop and add to is the particularity through of architectural intervention. The definition of particularity I use here means not only the quality of being individual or unique, but also the special features in context. In addition, I have assumed that people, architecture and city are basic to an understanding of the urban cultural landscape. All these elements are strongly related to each other.

First of all, an understanding or experience of urban cultural landscape is essential. The human being makes up one of the three major facets of this research mentioned before. Because all the elements defy permanent definition, it is only possible to understand them on a contemporary time basis. It also falls under the M. Heidegger's terminology, Dasein, with its temporality, as a "being-in-time" and as always "being-in-the-world" (in-der-Welt-sein). At the same time, individual and collective consciousness make it possible to regard the city as an urban landscape. But, M. Christine Boyer mentions the existence of memory crisis in her book "The City of Collective Memory "(1994). Moreover, some international cities, like cosmopolitan taste, demand more complex interpretation.
For instance, the diversity of personal life is shown in these maps. These mental images of the city of Amsterdam show the characteristics as well. First of all, every map depends on geographical elements such as the canals, land-divisions, railways, and so forth. And each map illustrates a unique history and memory which is strongly related to place.

Secondly, the urban cultural landscape as a built environment must be considered simultaneously with the architecture and the city. In addition, the concept of an urban cultural landscape can be understood as a historic urban landscape as defined by UNESCO Heritage Committee. Its importance is in how people interact with the historic urban landscape. In this regard, space perception in the phenomenology of architecture will be needed.
Concerning this project, the centrum of the City of Amsterdam is on UNESCO’s heritage list. It is one of the most beautiful cities in the world with a glorious history. And the other thing I have noted that is the people who live there are not only Dutch but also foreigners in a ratio of 2:1. It means that the bias for forming a urban landscape itself has to take into account cultural diversity as well.

I am particularly concerned on how the city of Amsterdam relates to the old city wall where it currently coincides with the administrative border of the Centrum. The following two maps show where the wall was. Regretably, nobody can feel that historical sense of place today. The Fortification Act, 1875 allowed expansion beyond the wall. At the same time, it made it possible to demolish the old city wall along with its cultural significance.

And thirdly, the term of particularity, as I stated above, includes an understanding of the context which can be seen as an element of K. Frampton’s (1983) Critical Regionalism. But, when the building is located in the urban landscape, especially in a cultural landscape, G.J. Ashworth’s (2003), a heritage managing design approach is required. All of these efforts to understand cultural value must be related to the current situation. So, particular architectural intervention on the historical urban landscape should link with the effect of its impact on the surroundings as well as being effected by the surroundings. In other words, architecture will generate or be generated.
In the interests of research, I created an architectural project which embraces actual site and program. The project started by establishing the cultural value of Amsterdam's hidden wall. And my intention was that its particularly special architecture would be strongly linked to the urban cultural landscape.

Following chapters will include theoretical backgrounds to the project. In the next chapter, the meaning of cultural landscape is defined. Then, in order to understand the design principles, particularly in the heritage related design, the heritage managing design paradigm will be introduced. And, the space perception and architecture of resistance will be added to make a framework for design experiment.
2. Cultural landscape

Cultural landscape definition

Cultural Landscapes have been defined by the World Heritage Committee as distinct geographical areas or properties uniquely "...represent[ing] the combined work of nature and of man...", This concept has been adapted and developed within international heritage arenas (UNESCO) as part of an international effort to reconcile "...one of the most pervasive dualisms in Western thought - that of nature and culture".

Concept of cultural landscape

Urban cultural landscape as a built environment can be considered alongside architecture and the city. Kevin Lynch in "The Image of the City" (1960), Aldo Rossi in "The Architecture of the City" (1966) and Christian Norberg-Schulz in "Genius Loci: Towards a Phenomenology of Architecture" (1980) provide a continuous theoretical basis. In this regard, Dolores Hayden mentioned in his book "The power of Place" (1995) that cultural identity, social history and urban design are intertwined in this concept.

This concept is directly related with people's interaction to the built environment. Yi-Fu Tuan said that an individual's sense of place is both a biological response to the surrounding physical environment and a cultural creation. And the concept of 'place attachment,' indicates that the power of human connections to places may physically no longer exist. Cultural landscapes, as Carl Sauer (1925) developed them, are defined as the essential character of a place, and have much more specific meaning than just place.

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3 Yi-Fu Tuan (1977) Space and Place: The perspective of Experience, Minneapolis, Minn., Univ. of Minnesota Press, p. 6
4 Environmental psychologists Setha Low and Irvin Altman define that as a psychological process similar to an infant's attachment to parental figures. They also suggest that place attachment can develop social, material, and ideological dimensions, as individuals develop ties to kin and community, own or rent land, and participate in public life as residents of a particular community.
Henri Lefebvre provides a framework that can be used to relate the sense of place found in cultural landscape studies to the political economy. He argues that every society in history has shaped a distinctive social space that meets its intertwined requirements for economic production and social reproduction. This concept provides a strong theoretical basis for understanding social history as the production of space.

But, as the built environment increases in intensity and scale, human perception and memory, key elements in cultural landscape, are becoming increasingly diverse and temporary. Manuel Castells (1991) has noted in “The City and the Grassroots”, the new tendential urban meaning is the spatial and cultural separation of people from their product and from their history. Trends to disappear is the meaning of places for people.

In a similar vein, David Harvey describes the process of the destruction, invasion and reconstruction of places on an unprecedented scale due to changing material practices in production, consumption, information flow and communication coupled to the radical reorganization of space relationship and to time horizons within capitalist development.

History as a public memory is regarded as boring schoolboy stuff, and relegated to museums or theme parks. Geographer David Lowenthal (1985) calls the past a ‘foreign country’. If people were to find their own social history preserved in the public landscapes of their own neighborhoods and cities, then their connection to the past might be very different. However, memories are place-orientated. Place memory encapsulates the human ability to connect both the built and natural environments that are entwined in the cultural landscape. It is key to the power of historic places to help citizens define their public past. Place triggers memories to inheritants, who share a common past, and at the same time places can often represent a shared past to outsiders who might be interested in knowing about them in the present.

Visual images at least become basic to forming a cultural landscape. The way to attach to the place, the urban cultural landscape, de-

6 David Harvey (1991) From Space to Place and Back again: Reflections on the Condition of Postmodernity, UCLA Graduate School of Architecture and Urban Planning Colloquium, May 13, p.39
pends on not only human senses or existential memories but also on information or non-existential memories. But all these kinds of attachment are based on the place and produce strong cultural identity.

M. Christine Boyer (1994) indicates the existence of 'memory crisis' in her book "The City of Collective Memory". And she argues that architectural history can be manipulated for commercial purpose. In this regard, G.J. Ashworth (2003) defines heritage as the contemporary use of the past as 'commodity', and also as a product of interpretation. And he said that interpretation comes from three sources: history, memory and relics. He regards history as the recoding of selective aspects of a past, memory as the collective and individual memories of the past and relics as survivals from the past in the present.

On the other hand, the city itself has changed its meaning. Peter Weibel said in his article "The City in the Post-industrial Information Society: transforming from a place of production to a place of consumption that in the post-industrial society", "communication, services and investment became capable of generating more profit than material labor. At this point, the city changed from being a centre of labor to a centre of 'immaterial' labor, like services and communication. Consumption is part of this new kind of urban communication. The complete solution to the problems caused by the unsustainability of the modern city came through transforming the city from a place of production into a place of consumption."

3. Heritage managing design

Heritage definition

Oxford English Dictionary defined 'heritage' as 'that which has been or may be inherited.' And it is defined as "not only something we want to hand down to future generations, it is also something we want to appreciate and experience to the fullest extent" by Masser: and what "we can think of heritage is about a special sense of belonging and of continuity that is different for each person" by Millar. Ashworth defined it as the contemporary use of the past, because he was concerned how we interpret it. And Lowenthal thought heritage is those shrines and icons which daily multiply.

Heritage has many meanings because it is such a useful word to use or to interpret. Ashworth added its particularity for time, place and society as follows. Once the past is viewed as a heritage resource to be sold to consumers, it becomes clear that there are many reasons why elements of the past should be remembered and memorialized. Development of any particular heritage is only possible through particular time, place and society.

Urban heritage

Urban heritage as a link to history is a combination of physical parts, historic association and mythical story telling. 'Contemporary life, divorced from the roots of our history, can be an extremely superficial and meaningless experience' stated Worksett (1978). As hopes of progress fade, heritage consoles us with tradition. Heritage has been regarded as accumulated experience, an educational encounter and a contact with previous generations, and, according to Conzen, an 'objectivation of the spirit of society'. And according to Lowenthal: 'History explores and explains pasts grown ever more opaque over time; heritage clarifies pasts so as to infuse them with present purposes'. Ashworth and Voogd (1990:67), on the other hand, argue that heritage is an urban product, an assemblage of selected resources bound together by interpretation.

1 Ashworth, G.J. (2003) ibid, p. 246
Urban heritage cannot be narrowed down to individual buildings or monuments of historic interest, nor can it be interpreted simply as a totality of built parts. Urban heritage exists in the physical attributes of buildings, public spaces and urban morphology; it is experienced by users (inheritors) in the present and it is concurrently in the making of the next generation of heritage.

Conservation as urban renewal method

According to the increasing cultural value of urban planning, conservation is being valued more importantly as a method of urban renewal. In western cities, especially in Europe, conservation is a cultural necessity. Due to the increasing tendency of city dwellers to move back into historical city centers, urban conservation is becoming an ever more urgent issue. Its urgency stems in part from the general disappointment with modern urban areas that offer everything expected of a modern city, including close and easily accessible workplaces as well as a diversity of rich and diversified cultural activities. Lacking the appropriate infrastructure, life in these areas demands that every move be planned in advance to avoid being caught in traffic jams.

Urban culture is the result of human development, and one of the peaks in its achievement. When this common goal is agreed upon and understood, conservation of the urban fabric becomes a permanent feature in architecture, design and planning. On the other hand, we often do not see that conservation to be conservation of cultural content, and this creates many avoidable pitfalls and planning mistakes. This mainly occurs because of the prevailing tendency to consider separate buildings as cultural ‘objects’ and not as parts of the whole. So we need to understand the issues of conservation to implement heritage managing method.

And, we have to heed the following article by Orbasli, A.(2000)

“Today an information revolution is bringing more change to work, living and leisure in the urban environment. On the one hand heritage and identity are fighting for survival amidst rapid growth, and on the other hand leisure, culture and tourism industries are recognizing the historic urban environment as a commercial asset.”

Heritage managing paradigms

Heritage products are created by a commodification process through which tradeable commodities are produced from historic resources to satisfy various markets by selecting, packing and interpreting whatever resources from the past are required. The most commonly encountered rationale for preserving surviving building and sites is that they represent an accurate record of what has occurred in and what has been produced by the historical experience of the occupation of a place. The criteria for heritage selection are sought not in the intrinsic qualities of the forms but in the contemporary use made of them; they are extrinsic and derived from various political, social or economic benefits assumed to be a result of the process of heritage product creation.

The intrinsic purpose of conservation is the discovery and enhancement of distinctiveness in the shaping of local identities. Each building, district, town, as well as the people who use them is essentially unique. So there will be differences in conservation as preservation and heritage. Ashworth indicates these differences come from the way we view the past and its relevance to the present with different objectives: resources, selection criteria, interpreted products and strategy. He defines heritage as the contemporary use of the past as a commodity, and also as a product of interpretation. And he said that interpretation comes from three parts: history, memory and relics. He regards 'history' as a recoding of selected aspects of the past, and 'memory' as collective and individual memories of the pasts, and 'relics' as survivals from the past in the present.

The preserver, and presenter of the preserved, is only preserving and presenting what was, and is not responsible for any extrinsic values that might intrude. Heritage, however, is invariably multi-sold, and its interpretation is polysemic and unstable with the passage of time.

1. Different products can be created from the same resources by different interpretation.

2. The same resource is capable of being used to convey a variety of different messages either successively or considered as representative of past, and thus is worthy of being passed on to the future. It is itself an ephemeral judgment of a present that chooses which past it

wishes to represent it at that particular moment in time.

In addition, the Heritage Committee of UNESCO, recommended the following in the Vienna Memorandum.

"...special emphasis is to be placed on the Contextualization of contemporary architecture in the historic urban landscape and Cultural or Visual Impact Assessment studies should accompany proposals for contemporary interventions....from Vienna Memorandum,"

The Vienna Memorandum focuses on the impact of contemporary development on the overall urban landscape of heritage significance.

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5 The Vienna Memorandum is the result of an international conference on the subject of "World Heritage and Contemporary Architecture", which was requested by the World Heritage Committee at its 27th session (Paris, 30 June-5 July 2003, Decision 27COM 7B.108) and held from 12 to 14 May 2005 in Vienna, Austria, under the patronage of UNESCO and attended by more than 600 experts and professionals from 55 countries.
4. Architecture of resistance

Critical regionalism

The background of introducing of K. Frampton's Critical Regionalism is the prevention of loss of cultural identity through universal civilization.

The fundamental strategy of Critical Regionalism is to balance the impact of universal civilization with elements derived indirectly from the peculiarities of a particular place. It is clear from the above that Critical Regionalism depends upon maintaining a high level of critical self-consciousness. It may find its primary inspiration in such things as the range and quality of local light, or in tectonics derived from a peculiar structural mode, or in the topography of a given site.

In the Frampton's Critical Regionalism, he took the position that architecture has to take on a regional identity against a backdrop of universal civilization. With his six points for the architecture of resistance, he asserted what should be dealt with through architecture.

Six points for the architecture of resistance versus heritage managing design principles

Frampton suggested six points for the architecture of resistance for critical regionalism. This is a kind of existential standpoint to understanding both architecture and its relationship to place. The following indicates that relationship is in his words the resistance of the 'place-form'.

While the strategy of Critical Regionalism as outlined above addresses itself mainly to the maintenance of an expressive density and resonance in an architecture of resistance (a cultural density which under today's conditions could be said to be potentially liberating in and of itself since it exposes the user to multitudinous experiences), the provision of a place-form is equally essential to critical practice, inasmuch as a resistant architecture, in the institutional sense, is necessarily dependent on a clearly defined domain.

In this regard, he indicated that one cannot entirely discount the latent political and resistant potential of the place-form.

Six points mentioned by K. Frampton are Topography, Context, Climate, Light and Tectonic Form and finally Tactile Experience. The first 4 elements are related to surrounding environment, and latter are about architecture itself and its perception. All of these elements should be carefully taken into consideration when the architecture gains its identity as against to becoming 'placelessness'. For instance, at least, in the light of Mario Botta's 'building the site', the topography of a place should not be just flattened by bulldozers. Tectonics can also provide an important element. According to Stanford Anderson, he wrote:

'Tektonik' referred not just to the activity of making the materially requisite construction... but rather to the activity that raises this construction to an art form.... The functionally adequate form must be adapted so as to give expression to its function. The sense of bearing provided by the entasis of Greek columns became the touchstone of this concept of Tektonik.

With this concept of the tectonic, it remains for us today a potential means for distilling inter-play between material, craftwork and gravity, so as to yield a component which is in fact a condensation of the entire structure. Finally, the last element of his six points is tactile experience. This can be seen as a phenomenological and also existential approach to understanding architecture.

On the other hand, a heritage managing paradigm is taken into consideration in understanding its design principles. G.J. Ashworth mentioned that Heritage has many meanings due to its value in use or interpretation. See the previous chapter.

In the light of the heritage-managing paradigm by Ashworth, the result of heritage managing design is an alternative of interpretation of preserved building in its particular circumstances. In addition, he indicates that heritage managing design deliberately matches its aims to local memory, history and physical relics. However, to achieve a more particular identity, it seems worth of taking into consideration more concrete criteria.

The diagram in the picture above shows the potential combination. Six points are absorbed into the framework of heritage design. These elements can be a method for achieving particular interpretation.
5. Space perception

In this chapter, space perception in terms of phenomenology of architecture will be examined. This is an attempt to establish a relevant logical framework for architectural intervention on the urban cultural landscape. Understanding the mechanism of space perception is necessary because architecture would impact its surrounding landscape. How would the building be seen or experienced by human senses? And, how might the architecture have an identity which makes visitors feel comfortable? These questions could basic to the framework of architectural intervention.

The phenomenology of architecture has been a subject of discussion by architects and architectural historians. In the book 'Questions of Perception', Steven Holl, Juhani Pallasmaa, Alberto Pérez-Gómez examined the human intellectual experience of architecture in terms of phenomenology. In summary, human perception of space is a part the human experience of the spatial quality of architecture.

Firstly, the sense of touch was re-evaluated by Pallasmaa. In his book "The Eyes of the Skin"; he mentioned that "all sensory experiences perceived by the body are means of touching, for our sensory organs are capable of perception within a particular boundary line or a limit.," One example is the horizon. It encloses the space and serves as the boundary or the extent of what can be or what cannot be seen by our eyes. Merleau-Ponty posits that "to see is to touch with the eyes, that they are the means of touching the stars and the sun.," Likewise, to smell is to touch with the nose, to taste - the tongue, etc. Following on from this, our complete interactive experience of the world is made possible by tactility and intimacy. This allows the inhabitant, having a sense of belongingness, to interact with space. Pallasmaa further states that "despite our prioritisation of the visual, it is 'often confirmed by our touch.,'" Touch is the means in which our other senses can be understood.

In addition, he criticized the current industrial mass production of visu-

2 Maurice Merleau-Ponty in Pallasmaa, ibid, p. 79.
3 Pallasmaa, ibid, p.23.
al imagery by its tendency to alienate vision from emotional involvement and identification and turning imagery into a mesmerising flow without focus or participation. Warning of the cancerous spread of superficial architectural imagery today, he emphasized tectonic logic and a sense of the materiality and empathy of architecture.

With regards to the visual tendencies of contemporary architecture, Pallasmaa states as following "the ocular bias has never been more apparent in the art of architecture than in the past 30 years, as a type of architecture, aimed at a striking and memorable visual image, has predominated. Instead of an existentially grounded plastic and spatial experience, architecture has adopted the psychological strategy of advertising and instant persuasion; buildings have turned into image products detached from existential depth and sincerity."

If people's experience of architecture is to have a certain tactility, the architecture could be said to identify you with its own way of making tectonic logic and materiality. At the same time, people's experience of architecture is not something created inside a building. Building's interaction with the surrounding is also an important facet of experience. In other words, in Frampton's terminology of context, climate, light, these things can be borrowed. And, coincidently, the memory and imagination of the place are key elements of space perception. Pallasmaa said "We have an innate capacity for remembering and imagining places. Perception, memory and imagination are in constant interactions; the domain of presence fuses into images of memory and fantasy."

Steven Holl in 'Questions of Perception' argued that the relationship between the experiential qualities of architecture and the generative concepts "is analogous to the tension between the empirical and the rational," and he also explained the logic of pre-existing concepts meeting the contingency and particularity of experience. Before I review these logical fragments, I wish to introduce following remarks on the duality of perception.

According to Brentano, physical phenomena engage our "outer perception", while mental phenomena involve our "inner perception."

5 Pallasmaa, ibid, p.22.
6 Pallasmaa, ibid, p.24.
7 Pallasmaa, ibid, p.30.
8 Pallasmaa, ibid, p.67.
Mental phenomena have real, as well as intentional, existence. Empirically we might be satisfied with a structure as a purely physical-spatial entity, but, intellectually and spiritually, we need to understand the motivations behind it. This duality of intention and phenomena is like the interplay between objective and subjective, or more simply, between thought and feeling. The challenge for architecture is to stimulate both inner and outer perception, to heighten phenomenal experience while simultaneously expressing meaning, and to develop this duality in response to the particularities of site and circumstance.

The following eleven elements are a review of the work of Steven Holl in the book ‘Questions of Perception’.

1. Enmeshed experience: The merging of object and field

When we sit at a desk in a room by a window, the distant view, light from the window, floor material, wood of the desk, and eraser in hand begin to merge perceptually... We must consider space, light, color, geometry, detail and material as an experiential continuum... A complex interlocking of time, light, material, and detail creates the “whole” of cinema wherein we can no longer distinguish individual elements.

2. Perspectival space: Incomplete perception

Within the experiential continuum of enmeshed space, we understand distinct objects, distinct fields, as a “whole.” Our experience of a city can only be, however, perspectival, fragmented, incomplete. This experience - unlike a static image - consists of partial views through urban settings, which offer a different kind of involvement or investigation than the bird’s eye view, which is typically used by architects and planners.

3. Of Color

Situation, climate, and culture may determine use and subsequent experience of color. Further, we can imagine people having particular color concepts based on the qualities of light and air in their particular site and situation.

4. of Light and shadow

The perceptual spirit and metaphysical strength of architecture are driven by the quality of light and shadow shaped by solids and voids, by opacities, transparencies and translucencies. Natural light, with its ethereal variety of changes, fundamentally orchestrates the intensities of architecture and cities.

5. Spatiality of night

The twentieth century brought with it a sudden shockwave of vast quantities of night light which alters our perception of the shape and form of urban space.... An individual work of architecture in its city space may have an entirely different presence by day and by night, both equally important as the self-contained "object" claims a larger, less contained presence.

6. Time duration and perception

Philosopher Henri Bergson's extensive writings explore the idea of "duration," "multiplicity of secession, fusion, and organization." Bergson referred to "lived time" as "durée réel" (real time) and called space the "impure combination of homogeneous time." If, in the experience of day-to-day urban life, an architectural space forms the frame of measure for "lived time," then a particular place is given material and form, as well as "durée réel," through the construction of architecture; and the multiple ways in which time can be measured may find a unified, spatial resolution.

7. Water: a phenomenal lens

To find a balance between the science of water and the exhilarating qualities of experience, consider the many states and transformative properties of this substance. We should consider water a "phenomenal lens" with powers of reflection, spatial reversal, refraction and to transform rays of light.

8. of Sound

The live reverberation of the echo and re-echo within a stone cathedral increases our awareness of the vastness, geometry and material of its space. We could redefine space by shifting our attention from the visual to how it is shaped by resonant sounds, vibrations of materials and textures.
9. Detail: the haptic realm

The total perception of architectural spaces depends as much on the material and detail of the haptic realm just as the taste of a meal depends on the flavors of authentic ingredients. As one can imagine being condemned to eating only artificially flavored foods - so in architecture the specter of artificially constituted surroundings imposes itself.

10. Proportion, scale and perception

A re-assertion of the human body as the locus of experience as well as a firm aim to re-establish roots in the perceptual world and its inherent ambiguity presents us with new questions of proportion and scale in the development of future architecture.

11. Site circumstance and idea

The above "phenomenal zones" function like a manifold of parts, presenting the question of a whole more substantial than any of its individual components. Each challenge in architecture is unique; each has a particular site and circumstance or program; and for each, to fuse site, circumstance, and a multiplicity of phenomena, an organizing idea ... a driving concept ... is required. The unity of the whole emerges from the thread that runs through the variety of parts, whether it be one discrete idea or the interrelation of several concepts.

Object and Background

There was an interesting medical report on the western and eastern human brain which shows that different parts of brain are activated by the same visual stimulus. This report shows that westerners paid more attention to the object whereas eastern people saw the background as an important element in perception. It means that interpreting or interacting to the environment may be based on different cultural bias.

When Brentano's duality encounters the place memory, the way of architectural intervention should interact with the place in the historical urban landscape. With this in mind, the enmeshed experience, one of Steven Holl's phenomenal zones, is one possible avenue for architectural intervention.

With the particular principle of architectural intervention, all elements of constructing a building should be conceptually unified to exhibit a tangible perceptual experience. The concept of tangible filter in ar-
Architecture is based on the same reaction as when the human body acts as a locus of perception. The body is the medium through which architectural space is perceived.

In the same way, architecture is the way we perceive spatial memory when it is located in the historical urban landscape. The body of architecture should contain this logic of tectonic and emotional structure if it is to touch those who experience it. From the tiny detail to the structural logic and materiality, all these elements of architecture are the fragments of a phenomenal organizing body.
6. Sub conclusion

Emotional touch in historical urban landscape

Susan Sontag argues that touch “without this sensation, architecture can only be deemed as similar to a photograph.” There will be no play between body and space, no emotions involved and no personal participation. Space will only be flattened by the eye as if in a two-dimensional form, such as in a photograph.

Human senses are the way we perceive architectural space. Compared to other senses, the sense of touch reacts to the physical reality. In this reason, as a three dimensional space, architecture is regarded as an object is easily touched by the human body. But, tactility has an integrative meaning which is organized by comprehensive perception. From the details to structural method, materiality and tectonic logic, all these elements or the phenomenal zones of Steven Holl must be considered to make the architecture touchable.

Through the senses, people’s experience in architecture should be a generated memory or imagination. If architecture can give a tactile experience, this experience can generate new memories. And moreover, if the memory is a part of the cultural landscape, architecture can be regarded as a phenomenal lens.

For babies, to learn how to walk is a process of conceiving the limits of their bodies. Of course there are series of processes such as using the muscles, balancing, and so on. One of the important things they notice is their body. And it is the first step to growing up as an individual in the world. But, after a certain period, their perception of space is changed by experience. In addition, as they become social beings, the experience is even more totally influenced by social, cultural, historical memories.

The human body is the edge that touches the world. Architectural space is also experienced by the body. If this idea is expanded to the relationship between architecture and its landscape, architecture could be regarded as a body which is touching the urban landscape. In turn, ur-

1 Susan Sontag in Pallastmaa, ibid, p.31
2 This term of phenomenal lens is originally used by Steven Holl for describing ‘Water’ as an important phenomenal zone. He emphasized the role of water space which makes space more poetic one.
ban landscape could be touched through architectonic intervention. The logic of tectonic and materiality and its emotional experience is the means of expressing what architecture tries to give to its visitors. Architectural intervention in the cultural urban landscape should not break this reciprocal circle. If the architectural experience is a part of cultural landscape, for example as a phenomenal filter, the tactility of architecture should embrace that principle which makes for continuity in the perception of space.
Architecture's involvement in the cultural landscape

As a tangible body
PART 2

Design Experiment

1. City wall in the present
2. Interpreting the place
3. Design Process
4. Design Strategy
5. Design result and review
Part 2. Design Experiment

1. City wall in the present

Arial view of Amsterdam with some significant buildings
Actually, no one would ever know that there was once a wall where the high-lighted line is in the picture. But, if the both sides of canal line was carefully examined, there is some evidence to recall that old shadow of the wall. First of all, the two former gate building are obvious clues of the forgotten wall. Some buildings that look like castles are also there.

The map of Amsterdam metro shows how geographical characteristics can be shown. The light blue colored parts of this map are water. In addition, by revealing the canal line of the old city centre, this picture has scale. This canal line may have other meanings for the boundary of the Centrum. But culturally, it also shows the history of city wall. If the history of city wall as a public memory or place memory wants to gain real cultural value, its present meaning must be relevant or have function.
Vestiges of the wall / conservation

This part is a result of site visits to find evidence of the influences left by the vanished city wall. Firstly, the physical remains evident are the gates located just next to the canal.

These two buildings have a large gate which opens on to the both sides and is located adjacent to the bridge. Because the canal acts as a moat for defense as well, the bridge also provides an important element in evoking historical memories. These two buildings and the bridges can be seen as historic relics.

The bridges along the canal are of two types, one is for pedestrians and the other for public transport. Each bridge there has antique details on the hand rails, gate towers, even benches. And these change its scale depending on the importance of the bridge and gate. The following pictures show some details on the bridges.

Because of their small size, they are hardly noticeable. And modern buildings make it difficult to pick them out as historic remains.
Some of the buildings which are located along the canal have a typically characteristic form. Sometimes, the shapes of building resemble ramparts. Massive buildings cluster alongside the canal and you can find buildings whose shape reminds you of castles. It seems useless to seek any relationship between these forms and historical evidence of a city wall. But it is at least true that the geographical shape of canal has influenced architectural form.

This kind of architectural influence stemming from the old city wall is not only found in its shape but also in the buildings’ detail. The buildings either side of the canal have different types of detail or styles based on their date of construction. Some of them have significant details which are similar to those of a medieval castle wall. The following pictures show some details illustrating this. These architectural phenomena could be said to be a result of conservation in terms of preserving a historic sense of place.

The evidence from this trip shows possible ways in which the city wall can be seen as a cultural story line.
On the other hand, in other cities real relics are remains of their heritage, and give historical meaning to visitors. For instance, the remaining rampart wall in the public park in Maastricht give visitors that memory. And it is an important element of Maastricht's cultural landscape.

Potentials

Although the city wall has been demolished, there is still a physical barrier. This kind of discontinuity is due to city regulations along the canal side. Next to the canal there is always a road and a public pavement.

Two types of urban planning next to the canal are typical. The relatively wide road running alongside the canal forms a barrier. And because of the road, the pedestrian path in between the two physical barriers of road and canal becomes isolated. Despite its potential for use as a public amenity space, it is only used for parking.

Current activities noted on the canal bank are canal cruises, tourist kiosks, stalls, etc. And there's a special zone for house boats. These facilities can be seen as basic elements that interact within the cultural landscape. Because people can see history through those activities, urban cul-
tural landscape becomes meaningful as a result of 'place attachment'. In this way these facilities could also be an important way of establishing a cultural landscape.

Of course, geographical or urban allocation of green zones is important. As an open space or public space, this green zone adjacent to the canal can take on the role of forming a cultural landscape. There are several types of land use to the inside of the canal. In some places a road faces onto the canal, others have no buffer zone between the buildings and the canal. The canal-facing road has a tiny pedestrian park as well. And an arrow-shaped landscape can be found on rare occasions. These open public spaces could be used as place to bring the past back to people.

And, tourist attractions along the canal also have a role to play. Because they attract visitors, these could be jumping-off points for cultural landscape. Rijks Museum is one of the great attractions in Amsterdam, and also, along with the Van Gogh Museum, the museum park is a place that every tourist visits. So, these tourist attractions could be linked into a part of the cultural corridor.

The potential of the hidden city wall can be seen in the city of Amsterdam as the standpoint for the cultural landscape. If the vanished city wall takes on a cultural meaning, that hidden line becomes clear. Because cultural value has an increasingly powerful meaning in the sustainable development of Weigel (see the former chapter), the hidden city wall now has significant potential.
Cultural value of city wall

The enduring separation of town and countryside was sustained through much of history by a fortified wall. Representing an enormous financial burden for its builders, emphatic bounding was undertaken only when vital for military and economic protection. Access to town and market was controlled by the city gate: a memorable threshold for travelers, and the basic instrument for customs collection. Where the walled frame opened to embrace a working harbor, quays and protruding docks feathered the margin where town and water meet. The industrial era proved to be the unmaking of insular city form.
defense and customs collection were pushed out to distant national frontiers. Factories and suburbs leapt the constricting bonds, bringing down city ramparts and, with them, the fundamental notion of urbanity these had contained.

In the medieval days, the city wall could be regarded as a protection for the people who lived inside. And, the gates and customs buildings were entry points between inside and outside. So, these were symbolic. However, when the walls disappeared, they had to change their function or be demolished.

This gate in Paris is a good example. It was designed by Ledoux in the last 18th century. The gate always was an eye-catching structure with these columns and customs buildings. Interestingly however, is that these customs building had lost their function when the city expanded its size across its previous boundaries. and the buildings were transformed for use as living accommodation. Functional transformation of the buildings on borders is not just a story in the past. Currently, after making a unified community, European countries opened their borders. As a result, border customs buildings lost their function in the same way.

One other thing needs to be kept in mind. It is related to cities' expansion. For example, there are three types of expansion for city walls. Firstly, sometimes, the city wall (or edge) was surrounded by
a green belt, such as agricultural fields or recreational parks, to escape the increasing density due to population growth. And secondly it was used as a means of restricting the city development. And the third was annexation to control urban sprawl. All these methods relate to each other. In addition, if the two expansion plans for Amsterdam below are reexamined along with this concept, it will become apparent that the plan of Van Niftrik is the better of the two.

Two Expansion Plans around 1875

Fortification walls lost their military function due to the advances in weapon technology. The Fortification Act of 1874 allowed for the demolition of walls and fortifications. Sometimes, thanks to the landscape style, which has relatively low maintenance costs, a public route was established, and made the city more imposing.

After 1850, Amsterdam was gradually enlarged by private builders. Many fragmented building plans were carried through by raising the ground level and by the construction of streets. These were affected by the way polders divide up the land. In particular, this gradual expansion brings with it water technology problems, owing to the stinking pools which appear between the embankments. The first expansion plan (1866) of J.G. van Niftrik, with baroque squares and lanes, does not fit in with the methods of the land speculators. The plan of J. Kalff
AMSTERDAM HIDDEN WALL

Particularity of architecture in the urban cultural landscape

(1875), which simply follows the lines of land division by the polders, was implemented.

There are some interesting points in Van Niftrik's expansion plan. This picturesque urban design is clearly different from that of an inner city plan. So, this difference establishes a stronger boundary to old city centre. And it also contains some green zones for such use as recreational parks. This green open space could become a buffer zone used as density control. On the whole, compared to the J. Kalff's plan, the plan of Van Niftrik has greater virtue.

Cultural meaning of hidden wall

In the medieval era, the city wall was a symbol of protection for the citizens' safety and privilege. With the advance in weaponry in the modern era, this need for protection became lost. At the same time, the cities started to form united nation states. It meant the territory of nation took on a more significant meaning than that of the city. This process was accompanied through the modernization of city itself. Better transport systems allowed people to move to the outskirts of the city center in search of better living conditions.

This phenomenon has changed again in the post-industrial era. Especially in Europe, the cities are regaining their importance. As the world globalizes, the need of cultural identity becomes evident. For instance, as a world heritage site, Amsterdam has to maintain its identity and this is something that must be protected.

The meaning of a re-generated wall, a mental wall, is as a boundary to protect cultural relevance. In this project, I assumed the customs post recall this mental wall. Each post has the special function. Just like the customs office (toll gates) in medieval times, I suggest a customs post. Here customs has a double meaning - tolls and habits from the past. It is a kind of small museum for presenting Amsterdam's cultural identity.
Analysis of the current situation along with the canal
To select the project scope, the current situation along with the canal was examined with concern to the cultural meaning of the hidden wall. First of all, there are three important approach lines to the city. On the right side of the map, each point indicates city gates. Two of them are exactly where the gates were. The gate in the middle of the wall currently a connecting point between the city and Vondelpark is also one of the most used connecting points in the present. From the Central Station to Museumplein, as one of the most vivid urban corridors in Amsterdam, this linear movement and its crossing points with the canal (hidden wall) could become the main axis to generate cultural meaning.

- Memory and History of the place
  Hidden wall, 3 main approaches, Urban transforming
- Relics: physical remains
  Gates, Buildings affected by hidden wall
- Program for activating movements
  Green parks, Tourist attractions, Public spaces, Canal cruise, Boat houses, etc.

With this general understanding, to find obvious points where to generate cultural value seems to be related to the bridges. Because they are the only things that connect the inside and outside of the former boundaries of the city, they should be examined with regard to feasibility, historical relevance, current use and so on.
Bridge 9 / 11 are selected with their relevant potential for architectural site

Part 2. Design experiment
Current Activities and Suggested Customs Posts

- Tram Stations
- Parking Building
- Canal Cruise lines
- Cruise Stations
- Boat House Area
This map shows the relationship between the selected points for customs posts and current activities. First of all, the canal cruise line from the central station reveals one of its stops clashing with the first customs post. It also continuously connects with Vondelpark, and the second post is located near the houseboat area. The red spots on the map are the tram stations where people get off. And in the same way, the black marked building is also a starting point for people’s movement because it is used as a parking lot. Possibly, the Central Station, Vondelpark, parking building, stations, tourist attractions, could all become starting points of movement.
Project Scope

As a result of previous analysis, the project scope has developed. Firstly, following table shows issues and suggestions on urban and architectural level.

<table>
<thead>
<tr>
<th>Issues</th>
<th>Urbanism</th>
<th>Architecture</th>
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<tbody>
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<td>→Programmes for public open spaces</td>
<td>→Programmes for generators</td>
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<td></td>
<td>→Substitution for parking space</td>
<td>→How to make a series of specialties</td>
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<td>→How to unify a continuity of urban details</td>
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<td>→How to activate traffic dead space</td>
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<td>Suggestions</td>
<td>→Continuous Urban details</td>
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<td>→Facilities in open spaces</td>
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<td>→Street furniture design</td>
<td>→Collecting and Showing memories</td>
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<td></td>
<td></td>
<td>Particularity of Architecture ?</td>
</tr>
</tbody>
</table>

Design Concept for Urban details

- Bollard
- Lighting
- Sheep
- Litterbin
- PlantBox
- Paving
- Seating
- BicycleLock
- Kiosk

Underground Pathway
Canal side Park
In the project scope at the left side, the project site has been narrowed in at the particular area around Museum Plein. There are two generating points and one place for a kiosk. And additionally, if the road could be put underground, this area could be transformed into a green park adjacent to the canal. This idea was developed with the following suggestion. But, as long as the project goes on, making another urban layer was a waste of time because the layer where the generators should work was already the present one not a new one.

This urban suggestion includes the underground pathway and the canal side park with continuous freeflow lines. It also will be useful in providing parking space underneath the park. But this plan is only introduced as a suggestion, not as the basis for an architectural site itself. And the project will focus on establishing particular principles for designing customs posts.
City wall in the present

Up until now, the meaning of 'hidden wall' in current situation has been examined. And, the current site was also examined with regard to the cultural value of the hidden wall. This process of producing a concrete project made it possible to identify the area's characteristics. Because the generators should be located where they now are, the current situation is a first layer for the customs posts. And the second layer is the hidden wall.
2. Interpreting the place

In this chapter, using the concept of particularity of architecture, the process of interpreting the place will be addressed. First of all, the place of city walls in the history of Amsterdam was examined. By tracing back its history, I tried to find the meaning of the wall. At the same time, the topographical transformation on the selected area was reviewed. In addition, I added the architectural typology of general housing of Amsterdam to discover tectonic clues.

City wall in the history of Amsterdam

Medieval age

From the middle of the 15th century on, houses were gradually "turned to stone". Immediately after the Great Fire of 1452 a bye-law was passed prohibiting the building of wooden-sided walls. In spite of continuous attempts to ban the use of wood as a universal construction material, wooden facades did not disappear from the cityscape until well into the 17th century. The painting by Cornelis Anthoniszoon (Amsterdams Historisch Museum) shows Amsterdam to be still a city built of wood.
In 1481, at the instigation of Maximilian of Austria, work started on the construction of a stone city wall with towers at regular intervals along the canal. This huge project took many years to complete. In fact the project was not finished until 1494. Remnants of this medieval line of defence are the Weigh House (Waag) at the Nieuwmarkt (i.e. the former St. Antoniespoort), the Munttoren (i.e. the former Regulierspoort) and the Schreierstoren.

**Urban expansion 1585**

In 1585 Antwerp fell. It was no coincidence that in that very same year Adriaan Anthonisz., one of William of Orange’s advisors, was ordered to design a new city wall. This first expansion plan after the Alteratie was made necessary for military reasons: the medieval city walls no longer met the requirements of modern warfare. Between 1585 and 1593 a state-of-the art city wall was built. As a consequence of the project the city was enlarged at the western edge of town by a strip of land 60 metres wide (the area between the Singel and the current Herengracht). In the east the Lastage area was added to the city. As a result the size of Amsterdam amounted in total to 168 ha.

**City wall in the 17th century**

Haarlemmerpoort, one of three city gates to medieval Amsterdam, was finally pulled down in 1837. But, in the next picture drawn in 1615, the form of former city wall is clearly visible. This was the result of the expansion plan in 1585. It was still a massive wall but more basic in form.
In October, 1663 the sale began of the plots on the Leidsestraat and Utrechtestraat, followed in December by that of plots on the new canals. Many owners of canal houses bought one or more plots in the side streets as well. In 1665 for example, Hendrick Hooft bought a plot which is now Herengracht 556 as well as six houses and a coach house with gate on the Utrechtestraat. The older part of the ring of canals had been subdivided into 30 feet wide plots. The stage-two plots, however, were 26 feet wide. Most owners, therefore, bought two adjacent plots, allowing them to build large double houses 52 feet wide. As a result the buildings in this part of the ring of canals were more spacious from the start.

But the scale of the latest expansion plan proved too ambitious. A large area east of the Amstel river remained open terrain and was finally turned into a recreational area (the Plantage). Apart from several large charity institutions and a spacious park, no more building activities were undertaken until the 1860s. In actual fact the Zoo (Artis) is a remnant of the original use of this open terrain.
Topographical growth of Amsterdam & City wall

The following five maps in this chapter illuminate the stages of Amsterdam's physical growth. The source materials come from a historical survey made in the 1930s by the municipal Department of Public Works.

On the 1544 map, one sees the town ringed by ramparts and bastions. These defensive structures were erected in the second half of the 15th century. Some of the existing wall is similar to one of those in the previous chapter. This map also shows the very heart of Amsterdam.
In the 1612 map, it is interesting to note that the eastern expansion had probably not yet been finished when the demand for more space made further extension necessary. The contour line in light grey shows a wall with four bastions that had been planned but was never built. On the other side of the map, the western section of the future Herengracht can already be traced as a moat-like canal within the ramparts. Due to their original situation, the houses along this stretch are, even today, less deep than those built along the later reaches of the canal. If one compares the situation in 1612 with that of 1544, it is apparent that the outer walls have been made much more substantial and the encircling canals much broader (and deeper). The bastions were larger and projected outward more strongly than the earlier ones.
In 1613 the another expansion was begun. The first section of the half-moon around the old inner city was rapidly built up because of the acute need for housing. The already swollen population was augmented by streams of immigrants. On the 1655 map one can see the Jordaan (the boot-shaped area to the left), and the Westelijke Eilanden to the north of it were almost fully developed. The Jordaan had much more of a village atmosphere than the wealthy neighborhoods between Herengracht and Prinsengracht. In both new sections of the city, however, the richest and most handsome houses were located on the canals, the poorer dwellings along the streets.
In the 18th century Amsterdam had perhaps become less important than before as a commodities market, but it had become the financial centre of the world. For all this, the physical expansion of Amsterdam diminished. If one compares that 1795 map with that of 1655, a slowdown is evident, even in the 17th century. By 1795 the half-moon was still not fully built up. Many open areas remained in the eastern part of the city. Particularly noticeable, there are the rectangular blocks of the Plantage, the garden reserved for the recreation of citizens. In the 19th century, when other parks were laid out in Amsterdam, the Plantage was largely taken over for building.
With the regeneration and growth of the economy, there was soon an urgent need for an expansion of the city beyond the 17th century ramparts. One of the designers of new quarters was Dr. Samuel Sarphati, to whom Amsterdam is indebted in many respects. He worked on a smaller scale, however, than did the municipal engineer, J.G. van Niftrik, who in 1865–66 drew up a plan that envisioned a belt of residential and industrial neighborhoods separated by parks, broad streets and spacious squares around the old city. His design is here reproduced. Unhappily, it was never carried out. In its place was substituted the later and much less imaginative plan of J. Kalff, Director of Public Works. Thus, lacking of comprehensive, integrated vision, 19th century Amsterdam grew without the planning that would have made it a true heritage rather than a dowdy inheritance.
The historic meaning of city wall of Amsterdam is directly related to the city's growth. The city wall on which the project focused is the result of the fourth expansion of Amsterdam. With regard to the previous five maps of Amsterdam, the meaning of the city wall has been changed by the city's economic and political situation. Probably after the 17th century, the city wall lost its meaning for defense. It became merely symbolic with windmills on its bastions. In other words, the wall line in the late 18th century didn't have a significant role, so that it was easy for it to just disappear.

In the following three maps of Amsterdam, traces of the wall were revealed. On the map of Plan Gosewinckel 1873, the wall had already started to be demolished even though this was done before Fortification Act, 1875. It means there was no longer need to preserve the city wall. Although there were some remaining bastions along the canal, the city wall had already started to be encroached on. The wall lost its significance.

In the third map of De Amsterdamsche Boulevards 1892, two of newborn urban elements can be discovered. Two of important elements are the Central Station of Amsterdam and the Rijkmuseum. This map also shows the important link between these two elements. And, with regard to the city wall, almost every bastion seen in the second map has now disappeared.
Over-mapping on the project site

Even though no physical remains exist today, two of buildings can be discovered when the maps are overlapped. These two buildings seem to have been affected by the old city wall. Both of them were constructed on the bastions. In other words, although the city wall was demolished, something which was affected by the wall still exists. Those buildings indicate the relationship of those locations and shapes to the original wall.
By superimposing the current map on the old map, there are still two buildings which were affected by that invisible line. These could be a meeting point of two different layers of time. And the two customs posts which are selected through analysis of the current situation could be used to connect to that lost wall. Two customs posts should link the invisible wall to the current urban fabric.
Movements on the project site

As a matter of fact, there is a lot of urban activity around the project site. In this thesis, I picked up three following movements as representative. The first one is movement from the city centre, and this is one of main activity corridors in Amsterdam. From the Central Station to Rijksmuseum, this axis has probably the most active movement. Second one is movement on the canal. This is peculiar to Amsterdam. The third one is movement through green zones, such as Vondelpark. Each of the three movements provide people with their own particular spatial memories as part of the urban landscape.
Material survey in the project site

Material is one of the important elements in giving tectonic meaning. This diagram shows the materials which were used in the buildings along the canal. One of the most frequently used materials is brick. Almost every traditional building was made from this red brick. And its typical tactility is one of main characteristics of architecture in Amsterdam. Some modern buildings have also used concrete and glass with all its modern imagery.

Interestingly, compared to other heritage-listed cities, Amsterdam has a unique characteristic which can be seen in pure diversity. Every building has its own style. Amsterdam is no city of universal style but its identity is defined by diversity itself. In the light of this diversity, the use of material needs to be considered with greater care.

For this reason, the material for the customs posts was selected because of its neutral qualities. For the customs posts, being absorbed into the environment is better than becoming just another visible object.
Typical building methods in Amsterdam show the tectonic characteristics of Amsterdamer building. The tectonic method consists simply of two parts. One is a decorative facade for establishing a building's identity and the other is a pragmatic building frame of rigid brick walls with wooden slabs in between them.

One of interesting things is the method of fastening the slabs to the wall. Anchoring systems not only support the slabs securely but also give visual impact to the wall. This method of fastening becomes ornament on the wall.

The facade doesn't have any functional role. It is mainly to do with the visual. However, the shape itself mirrors its cultural identity.

Finally, the roof frames are part of the spatial memory of the building. The spatial memory inside of the loft is a result of tectonic method.
3. Design process

In this chapter, my earliest phase of design experiments is introduced. Each design has a strategy for intervening in the urban cultural landscape. These steps were also useful for developing design strategies through theoretical studies. So, I have included the earlier designs as actual processes.

1. Free form Scheme

Particularity \(\leftarrow\) [contextualization] + specialty
: Specific interpretation of built environment
Continuity of Program (New and Existing)

Method for making a specialty: **Free Form**
- New architectonic form
- Contrast to the surrounding built environment
- Adaptability of new material

The free-form scheme is based on the idea of using whatever shape suits the building. This method of using individuality allows freedom in the design approach. Because the generators should give the visitors a series of visual impacts, their shape needs to be identifiable.

And, to achieve continuity in shape, the logic of free form frees us to use morphing as a possible resource. This is particularly important because the curved bend of the canal provides a basis for generating a free-form shape.

Additionally, newly developed materials when used in free-form produce distinctive character.
Free-form shape, as a design method for the generators, has the possibility of adapting surrounding factors. The design process was developed in the following way:

**Step 1: Space Shaping**
- Making a continuous space shape by transforming from movements into a form
- Form is a shape of behavior

1-1 Space Programming
- Traditional Function / Area Table
- Programming analysis
1-2 Activity Programming
- Space wrap: a series of activities

**Step 2: Transformation into Architecture**
- Structuring / Materialization

2-1 Structural wrapping
- Analysis of Space shape which is resulted from the previous process
- Continuous Rigid plates
2-2 Material and Design development
- Materialization, Design development, Detail design, Architectural Drawings

Especially, using the concept of free-form, the transformation from the movement into the space is a key design methodology. So, the space wrap was developed within the overall potential design concept of structural wrapping.
In the process of free-form shape, three-dimensional studies were done as follows. Each space of architectural program was regarded as a basic element of space composition. Then, adding factors from surroundings, the free-form shape was developed.

These images show how the building was transformed. The first image is a spatial composition with specific spaces. It was composed three-dimensionally with concern to the relationships between functional spaces. The second one is a result of morphing next to the canal line. Only the main exhibition hall was transformed in this image. And the third one results from generating continuous movement inside the building.

The above images show the process of morphing. This transforming process allows the possibility of making its tectonic logic concrete. However, the method of free-form shape already includes the characteristics of both uncertainty and immateriality. It means it is hard to find the tectonic connection between the shape and the sense of place because tectonics are in essence illogical.
The free-form scheme has specialty because of the shapes it uses. On the left the view from the road between buildings also shows the importance of visual impact. Because perception of space depends not only on the visual, my design method was aimed at producing a more tangible space. In addition, I even needed to factor in detailed hidden facts in order to come up with any interpretation of space at all.
2. Hidden wall scheme

After research on history of Amsterdam, the topographical growth of city becomes important. On the project site, topographical changes were also discovered. Importantly, a key element of the second scheme centres on the fact that the 17th century canal is no longer the present day canal.

Here is a basic concept for the hidden wall scheme.

### Site and Programming
Specific interpretation (with specific cultural value)
Memory / History / Relic
Current Programs

+ Programming

### Design Concept for making a particularity
Alignment to the hidden wall
Pseudo-Relic
Interacting with Canal
Façade as a urban story teller

The former step (Site and Programming) has been presented already in the previous chapters. To produce a design concept for making a particularity, four design concepts become important factors in this second scheme.

The first design concept is alignment to the hidden wall. Because of where the building is now located, a possible method of reacting to the hidden line could be an alignment. If the buildings were located on top of the hidden wall, their relationship to current activities could be lessened.
Second concept is a pseudo-relic. Because there are no physical remains, the tangible relic was introduced. It is not only a story-teller but also an icon to aid the morphological integration of urban furniture, such as light posts and benches.

The third concept for design is related to the way of interacting to the canal. As a physical barrier, the canal is a representatively meaningful element in the cultural landscape. Because of this, interaction has to be carefully controlled. To do this, wall and slab construction allows visual openings toward the canal.

Interior image of the building shows the relationship of inside program and outside views.
And the fourth concept is about the facade. A facade isolated from the building produced a homogeneous facet which is facing the hidden wall. At the same time, this facade would act as an urban storyteller. Following images are examples.

The tectonic structure of the building simply consists of structuring, sheltering and facade. Structuring was a continuous wall structure which allows the interaction with the canal. Then every functional zone is covered by glass windows. Finally, the building was enveloped by facade walls which have no function such as waterproofing, insulation, protection, etc. So, the facade could be independent and play a special role such as boarding, a sign, an urban banner.

Step 1 Structuring

The structural walls continuously make a certain interaction with in and outside views.
Step 2 Sheltering

Customs Post 1

The sheltering is the process of making inner spaces for the program.

Customs Post 2

Model in site, Customs Post 1
All concepts used here have been developed with regard to question of space perception.

Model in site, Customs Post 2
4. Design strategy

Through both of the theoretical studies and the design experiments, I now introduce here a strategy as a result. This concept is basically related to space perception. The architectural intervention in the urban cultural landscape is a process of giving the visitors new memories through their perception of architectural spaces. So, architecture is a phenomenal filter to understand the urban landscape.

Architecture as a tangible body in the urban cultural landscape

To understand architecture as a phenomenal lens is the first principle of the project. This diagram shows how architecture can be involved in the process of generating memory. Definitely, architecture is experienced not only by its contents (program) but also by all its elements (every phenomenal zones). In terms of experiencing architecture, the meaning of tangible body is the desire to represent the reality of architectural space.
There are two levels of particularity which I here illustrated in the diagram. The former, interpreting site, is a process which I dealt with in the previous chapter. Briefly, it is the process of building up potential cultural values in the present. In this thesis, the meaning of the hidden wall in the present has been examined. And the second level of particularity is about the design concept. It means that design principles are needed to synthesize all phenomenal zones. These principles have also been evaluated by design experiments in the previous chapter.

For the final phase of design experiment, the following three principles have been established.

**Positioning in two phenomenal scales**

Architecture has two phenomenal scales, one is urban scale and the other is human scale. Experiencing the city and experiencing the architecture have different characteristics. Both of spatial experiences are commonly based on the relationship between the self (human being) and the world (built environment). But, when someone walks into the building, the level of experiencing space is changed.

The design concepts in the second design experiment, alignment and pseudo-relic, were revised with this concept. Alignment of building to the hidden wall is only perceived from an aerial view, whereas the pseudo-relic can be seen in perspective. Some part of the actual hidden line is also suggested to be revealed to provoke the sense of

At the same time, special parts of two customs posts has been designed as a pseudo-relic. To conserve the continuum of pseudo-relic, the same material was used. In addition, the material, Corten steel, for pseudo-relic was selected as representing a nostalgic feeling of the past.
Particular tectonic principles

If architecture were easily understood in terms of its structural logic, it could become a tangible reality. At the same time, this logic has to have a certainty. This is one of crucial parts for making an emotional experience of architecture.

The tectonic logic I used here refers to the characteristics of building methods in Amsterdam. Especially, the anchoring system is transformed into a structural solution for the building. The typical building method was detailed in the previous chapter.

A spatial memory of building in Amsterdam is closely related to its architectonic characteristics. This is the reason why I chose the particular tectonic principles from typical building methods in Amsterdam.

Enmeshed spaces

This is one of methods for providing tactility of architecture. The architectural elements which would be enmeshed in the space are not only the physical body of the building but also the light, wind, sound, smell of them. All phenomenal stimulus should be involved in the process of enmeshed experience. Therefore, all phenomenal zones of architecture must be carefully designed to introduce an emotional touch into the visitor’s mind.
5. Design result and review
Site planning

The site plan below shows that how two customs posts are influenced by the hidden wall. With regard to the difference of two perceptional scales, the building’s alignment to the wall can be only seen from the top whereas the revealed wall can be seen in the perspective. These two phenomenal perceptions should be integrated in visitor’s mind. As a result, this mental imagery give a clue that allows the hidden wall to be recognized as a historical reality.

All elements in this site plan are means for recalling history of the wall. People’s memories in this landscape would be enhanced by a sense of place and vice versa.
The material which is used along the entire bare part of the wall is Corten steel. It represents the passage of time by the continual rusting patina of its surface. Its red colour not only caught the eye but also produces a feeling of poetry. The materiality of Corten steel is characterised by the process of its erosion.
**Architectonic Solution**

From the typical building methods in Amsterdam, I have developed the concept of ‘anchoring’ as a structural solution. It provided a clue for establishing a structural logic on the facade of the building.

This is a structural diagram of the customs post 1. It shows a structural system: two of the vertical support-walls and horizontal beams are for supporting slabs. This structural system is exposed in between inner building and facade so that people can easily recognize its structural logic. By revealing the girders, I intended to add emphasis to the slab support system.
This diagram shows the relationship between the structure and the facade. Although the facade wall is separated from main building, it plays an important structural role by supporting the beams. As a result, the inner spaces become free of structural problems.

In addition, the structural system is revealed inside the facade wall. So, visitors can see the whole tectonic system of the building through this exposed structure. And the material of facade (Translucent Concrete) which is used to show ambiguity would enhance this characteristic by stirring curiosity.
The structural system in the second customs post is similar. Additionally, the roof truss is used to make a pointed ceiling in the exhibition hall on the first floor. This truss reflects back to those in traditional buildings.

This is one of the methods to reveal the structural system of the building. The first step in creating tactility is clarity in legibility of structure.
Double layer building

The principle of composing spaces is characterized by a double layer. It is more distinguishable in customs post 1. This aspect will be revealed in the following series of sections of building.

The blue zones in the sectional drawings represent functional spaces inside the building. These spaces have been inserted through two layers then have thus created in-between spaces for outdoor activities. The outdoor spaces inside the outer skin could be regarded conceptually as an indoor space where people contact the natural environment.

Moreover, these two layers have a different design concept. It is related to function. Inner layer wall has repeated partitions and windows whereas the outer skin has irregular openings.
The partition walls in the inner layer are non-weightbearing walls. These are used as exhibition partitions. At the same time, the windows between them are open to the outside.

These two images are inside views from the same place. But, each view has a different focus. One is on the partition board and the other is of the outside to the canal. Actually, the outer view is controlled by the irregular openings on the facade skins to make more compact exhibition spaces.

The stairs are located in the in-between space between two layers so that this double layered space will be perceived in the movement of visitors.
Phenomenal difference in day and night

The concept of the double layer also brings about a perceptual difference between day and night. This difference is also the means of presenting the phenomenal entity of the building.

The different pattern of openings on each layer maximizes this effect. And also, it makes a strong contrast of light and shadow in daylight. The buildings use light to make it a tangible unity.
Material

Basically, all building materials should be selected for the means of establishing a proper tectonic logic. In this project, neutrality is a main concept of the materiality of the building with the exception of two materials. The first is that of pseudo-relics. The exposed hidden wall is covered by Corten steel. Corten is also used for some parts of each customs post.

These pictures show which part of the building is made with corten steel. This material is used for producing a perceptual continuity between the hidden wall and the customs post on the human perceptual scale.
The other important material is a translucent concrete which is used in the facades. Translucent concrete, is a combination of optical fibers and fine concrete. Thousands of fibers run side by side transmitting light between the two surfaces of each element.

This material's ambiguity represents the wall as a filter and not a solid barrier. It is also bring about a differing perception depending on distance. When it is seen from long distance, it is perceived as a solid panel. But from shorter distance, it shows a blurred image of the inside of the building.

The translucent concrete was divided according to its technical data. Maximum size of the material used here is 450 X 1800. And it is connected by an open-joint system.
Water of reflection

In both customs posts, I factored in a pond near the main entrance. It represents the moat in the historical wall. At the same time, it is a phenomenal lens in one of Holl’s zones to produce spatial enrichment.

By reflecting the building’s image and the reflected glare on the surface of the building, the space becomes more real and poetic.
Spaces for interaction to the canal

Although inner skin of the building has a line of repeated windows onto the canal, there are also places for interacting with the canal.

Customs Post 1

Especially, in the middle of the stairway, a terrace is located from which people can view the canal.

Customs Post 2
Customs Post 1

Customs Museum + canal cruise station

This spot selected to generate a particular urban landscape is on the one of the canal cruise stations. And it is near to the pedestrian bridge which connects to the Vondelpark. This building would make existing movement inspire the urban memory.
Floor Plans: Customs Post 1

1. Entrance Hall
2. Office (Ticket)
3. Shop (Info)
4. Exhibition Hall
5. Admin. Office
6. Lecture Hall
7. Lounge

Design result and review  91
Customs Post 2

Customs Museum + houseboat experience

The site is a starting point to the houseboat zone. Compared to the first customs post, this location is less used. The roadway probably reduces urban intimacy here. So, the building uses somewhat different design strategies. First of all, the building is divided into two parts, then located on the both sides of the road. It is also an attempt to connect two urban amenity areas. In addition, two separated buildings play the role of an urban gate.

Urban Activity Corridor

Green zone

Houseboat zone

Canal Cruise line

Site Plan

92 Part 2. Design experiment
Floor plans: Customs Post 2

1. Entrance Hall
2. Office/shop
3. Pavilion
4. Exhibition Hall 1
5. Exhibition Hall 2
6. Terrace

Design result and review 93
Interrelationship between the exposed wall and the customs post 1
AMSTERDAM HIDDEN WALL

Particularity of architecture in the urban cultural landscape

Customs Post 1

in the project site
Customs Post 2
in the project site

Interrelationship between the exposed wall and the customs post 2
1F Stairway with a view to the street

**Perspective:** Customs Post 1
AMSTERDAM HIDDEN WALL

Particularity of architecture in the urban cultural landscape

Design result and review  99
AMSTERDAM HIDDEN WALL

Particularity of architecture in the urban cultural landscape

Perspective: Customs Post 1
AMSTERDAM HIDDEN WALL

Particularity of architecture in the urban cultural landscape

Perspective: Customs Post 2

Design result and review 103
Approach from playground

**Perspective:** Customs Post 2
AMSTERDAM HIDDEN WALL
Particularity of architecture in the urban cultural landscape

View from the street

Model: Customs Post 1
Part 2. Design experiment
Model: Customs Post 2

View from the canal
AMSTERDAM HIDDEN WALL
Particularity of architecture in the urban cultural landscape

Design result and review 111
Part 2. Design experiment
AMSTERDAM HIDDEN WALL
Particularity of architecture in the urban cultural landscape

View from the park

Design result and review 113
Conclusion

With the research interest, I have examined the particularity of architecture in the urban cultural landscape. First of all, I would like to say that the particular method of interpreting and design which I used here is one of possible alternatives of architectural intervention.

The method I selected for the project is quite related to the concept of space perception. Even though there are many concepts of perceiving architecture, I thought that tactality of architecture is the essential nature to link with the sense of place. Existential feeling of the place could be enhanced by reality of architecture through interacting its surroundings.

In this process, The particularity of architecture is an alternative for embodying the idea of tangible body. The reason why I focus on the particularity is that it is key element for organizing an emotional touch to its visitors. New memories from the suggested buildings is a result of imagination based on their perception. The emotional touch means that something integrating their feeling logically in certain circumstance.

With the project 'Amsterdam Hidden Wall', I have examined how particular design principles involve in the design process and how it is influenced by the process. This can be said as a selection procedure. In fact, choosing the hidden wall in the project site is a result of this selection. And, establishing design principles are same.

The customs posts along with the canal could make the hidden wall visible, then give its visitors the cultural values. By re-enclosing the heritage city centrum, Amsterdam would give people her historic, cultural greatness. It is a possible way of architectural intervention in the era of cultural consumption. In the light of sustainable urban development, cultural interpretation of place provides a potential in the process of architectural intervention.
However, this thesis doesn't include the recent characteristics of particular way of architectural intervention in the cultural landscape and its cultural, political, economical, social backgrounds. And also, human's perceptual characteristics in Internet era could be a subject to develop the concept of particularity.
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Amsterdam Hidden Wall

Particularity of Architecture in the Urban Cultural Landscape

Project Site Plan

Scale: 1/1000

Hyukjin Kang
Second floor plan
Scale: 1:100
Amsterdam Hidden Wall
Partiality of Architecture in the Urban Cultural Landscape

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Faculty of Architecture Building and Planning / ADE

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Amsterdam Hidden Wall

Exhibition of Architecture in the Urban Cultural Landscape

Section A
Scale: 1/100

Section B
Scale: 1/100

Section C
Scale: 1/100

Technical University Eindhoven
Faculty of Architecture Building and Planning / ADE

Hyukjin Kang