MASTER

Quartier Fontainas

design of an urban enclave as answer to the urban paradox

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DESIGN OF AN URBAN ENCLAVE AS ANSWER TO THE URBAN PARADOX

A Transparency Graduation Studio Project at the Eindhoven University of Technology, 2015/2016
R.C. van den Hoven
QUARTIER FONTAINAS

DESIGN OF AN URBAN ENCLAVE AS ANSWER TO THE URBAN PARADOX

Eindhoven, February 2016

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A Transparency Graduation Studio Project at the Eindhoven University of Technology, 2015/2016
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This thesis is the result of a project within the scope of the architecture graduation studio Transparency, hosted by the chair Rational Architecture within the faculty Architecture Building and Planning at the Eindhoven University of Technology. Within the studio, a sub-theme was formulated by writing an essay in the research phase of the project. The essay, titled “The Urban Paradox”, describes the friction and contradiction between the urge for shelter when being inside a building, and the desire for transparency when being outside. This friction, which is largest within a dense urban fabric, was the starting point for the design project in which an appropriate balance between public and private was sought. This balance between transparency and exposure is translated into the careful design of transitions from public to private. In this project, two main tools were employed to design those transitions. On an urban scale, the design of an ‘urban enclave’ (DASH, 2011) creates the first step in the transition from public to private. The urban enclave creates a divergent identity from the existing, surrounding urban fabric, which the inhabitants can relate to as their own within the city. The fear of exposure decreases when the public domain feels more like a collective space, towards which the inhabitants allow more openness, transparency.

The second tool in developing the transition from public to private, is the design of the ‘soft-edge’ (Gehl, 2010). The soft-edge operates on a smaller scale and is designed as the actual transition. The transition zones, ‘in-between-spaces’, mediate between the public and private domain by creating areas that aren’t public, yet aren’t completely private either. Similar to the collective space created by the urban enclave, buildings can be more open towards the transition zones without compromising on the comfort of the inhabitant.

With these two tools, the design of Quartier Fontainas, positioned within the city center of Brussels, attempts to answer both the urge for shelter, as well as the desire for transparency.
I would like to express my gratitude to prof. Dipl-Ing. C. Rapp for his insights and feedback throughout the course of this graduation project, as well as ir. R.P.J. Roorda and ir. B.C.I.M. Kuit March RA for their weekly tutoring. Furthermore I want to thank my fellow students, both studio members and non-studio members, whom I could always count on for their sincere feedback and criticism.

Finally, I would like to thank my family and friends for their support throughout this project, and the years of study prior to it.
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INTRODUCTION

This project is designed within the scope of the architecture graduation studio ‘Transparency’ at the Eindhoven University of Technology. As might be obvious and perhaps one’s initial thoughts when hearing the general topic of transparency, are the multiple definitions that belong to it. Therefore, in the first phase of the graduation studio, the research project (M3), the studio focused on crystallizing the idea behind and the several definitions of the term transparency. In order to do so, all studio members started by reading the book ‘The Circle’ (Eggers, D., 2013) to start thinking about the consequences the ever growing (digital) transparency might bring forth. Simultaneously, the studio started investigating, drawing and analyzing 13 buildings, all related to the theme of transparency in one way or another. The M3-book ‘Transparency’, produced by this studio, bundles all 13 analyzed projects (each drawn by one of the studio members), together with the 13 essays written to further develop the individual themes within the broader topic of transparency. In this introduction the architectural analysis of the M3 module is briefly reflected upon to pick out the few key points that were of particular interest to the design project. The essay that has been written in the M3 is integrated in its entirety in the next chapter of this book, as it plays a more distinguished role in the design process and thus has had a large influence on the final design. To make it possible to grasp the theme without having to read the entire essay, the key points of the essay will be summarized a bit later in this introduction as well.

To the right, you can see three images extracted from the analysis of ‘Casa Guerrero’ designed by Alberto Campo Baeza. What immediately stands out is the substantial contrast between opaque and transparent. The house which on itself seems fairly transparent, is enclosed by an eight meter high ‘courtyard wall’ which other than the (opaque) door, has no openings. The result is

Figure 1.1: Casa Guerrero (Cadiz, Spain, 2005) is enclosed/shaped by an eight meter high courtyard wall. This wall plays a dominant role in the duality of blind plane versus transparency (Blanco, 2003).

Figure 1.2: Opposite to the exterior walls, within the courtyard, Casa Guerrero strikes as a fairly transparent house.

Figure 1.3: The so called ‘sky-view’ diagram illustrates the impossibility to look outwards from the interior, taking the blind versus transparency a step too far.
the final design. In the essay an answer was to be found to the question:

"(How) can the urge for shelter/the fear of exposure be matched adequately with the desire for transparency, in order to create ‘good’ urban spaces and cities?"

The answer to this question was mainly found in the design of a so-called ‘soft-edge’ (Gehl, 2010). This ‘soft-edge’ is the designed transition from public to private, outside to inside (and vice versa). The design of such a transition can take many different forms and shapes, but all have the goal to mediate between the public and the private realm.

Along with formulating the sub-theme within the studio in an essay, part of the M3-assignment was to create a relief model with the same intent. Figure 1.4 shows a picture of the model, which displays an abstract design of a soft-edge, a transition zone from outside to inside. Together, the steps and the columns create a vague line of what is inside and what is outside, rather than creating a sharp and sudden border between public and private. Although the relief model wasn’t initially intended to be literally translated into the design, some elements of the final design unmistakably show similarities in the way of dealing with this soft-edge, the transitions.

Figure 1.4: The relief model was created in the M3 (the research module of the project) to capture the spirit, the essence of the essay in a graphic, architectural but at the same time abstract manner. The model shows a gradual transition from outside to inside, in which the steps and the columns together form a vague border rather than a harsh façade.
As mentioned, the research question that led to the final design of the ‘Quartier Fontainas’ derives from the essay. After adapting the question to be relevant in the context of architectural design, the following research question was formulated:

How to design an appropriate balance between the urge for shelter/the fear of exposure and the desire for transparency in a dense urban area?

In order to yield a comprehensive answer, the main research question is further specified into better manageable sub-questions:

(1) What tools are there to assist in creating the mediation between the public and the private?

(2) With the eye on the design of an appropriate balance between shelter and transparency, how should there be dealt with variations in the urban fabric? Variations in scale (urban grain), the degree of public activity, infrastructure and variations in the space available to create a soft-edge.

(3) How to design the transitions between semi-private and private? E.g. transitions in a building or within an ensemble of buildings.

In order to come to a concluding answer and therefore with a successful design, a design context, in the form of a location and a design brief, had to be formulated at the outset of the design module of this project (M4).

First of all, the location for the design project. Self-explanatory is perhaps that the project site should be located within a dense city where there is a substantial degree of public activity. In order to test the urban paradox in its entirety, a large friction between public and private is needed. Additionally, a large degree of unfamiliarity with the city which would become the context for the design project, where the balance between public and private was to be explored, was desired. The unfamiliarity with the location would force the research to investigate cultural influences on how to mediate between public and private, the role of the ‘genius loci’ if you like. A city was chosen across the border because I have encountered a multitude of Dutch cities in previous projects. However, one requirement was that it had to be within (reasonable) traveling distance, to ensure the location still wasn’t ideal. As the theme of mediation between shelter and exposure is one that takes place through the perception of the human eye, it is key that in the design a large focus can be put on the perspective of the pedestrian and the inhabitant. However, the location along the ‘Wetstraat’ (figure 1.5) however focuses much more on faster car traffic.

Now that most requirements regarding the location are set, a design brief must be formulated. Similar to the fact the location has to comply with a number of requirements, the program will have to fulfill a number of requirements as well. To investigate ‘The Urban Paradox’, a program is needed in which there is a high demand for shelter. Hence, as it is a city where much of the daily life takes place in the public domain, Europe’s and Belgium’s capital, Brussels, was selected as the city to ‘host’ the design project.

After selecting the city, a few more conditions where set to select a site within the city. Convenient in doing so, Brussels is a city with quite a few vacant plots within the urban tissue. To be able to answer sub-question (2), the project site would ideally be bordered by a range of variations in the urban fabric, in the degree of public activity and in the infrastructure. Figure 1.5 shows an aerial view of a vacant plot which was selected as a possible project site at the end of the research module (M3). As pointed out in figure 1.7 (the blue icon), it is located just outside Brussels’ city center, often referred to as the pentagon. Despite ticking all boxes stated above, the location still wasn’t ideal. As the theme of mediation between shelter and exposure is one that takes place through the perception of the human eye, it is key that in the design a large focus can be put on the perspective of the pedestrian and the inhabitant. However, the location along the ‘Wetstraat’ (figure 1.5) however focuses much more on faster car traffic.

Although we fulfilled the ‘public part’ of the research question in selecting a large city with a substantial degree of public activity, along with
the program of dwelling, at least one ‘more public’ activity should be added to the program. Not only does this enlarge the friction between public and private, but it also provides a situation in which we can answer sub-question (3); how to deal with transitions semi-public/private to private. Therefore the proposed program is a mixed-use project, but with a focus on housing. The program is fully explained in the chapter ‘design: Masterplan’ (p. 78-95).

Now, we will return to the search for a project location. Due to its location within the city center of Brussels, the Fontainas park (aerial view figure 1.9) is much more focused on the scale and perspective as well as featuring primarily pedestrian traffic. Even more so now the ‘Anspachlaan’ is transformed into a pedestrian zone instead of a car traffic artery within ‘the pentagon’. (The concept and results of this pedestrian zone is more carefully set forth in the chapter ‘research: Location’, p. 34-77.) Therefore, and because of fulfilling all aforementioned criteria, this is the selected site for the design project.

As there are multiple layers of analysis, research and design that have been done and were integrated in the project, the thesis consists of two main sections, research and design, after these introductory pages. The first section, ‘research’ consists of the three chapters ‘Transparency’, ‘Transition’ and ‘Location’. In the chapter ‘Transparency’ the aforementioned essay is displayed, the chapter ‘Transition’ describes the two main tools used to create the mediation between public and private, and the last chapter ‘Location’ deals with the so called ‘genius loci’; the key characteristics of the project location.

The second section, ‘design’, features two distinctive chapters. The first, ‘Masterplan’, describes and displays the urban design, the integration into the urban fabric and the program. The second chapter, ‘Building’, shows the building design and how it incorporates ‘The Urban Paradox’. At the end of the book, a brief reflection upon the project and the design are given, together with a conclusion on to what degree the answer to the aforementioned research question(s) have been found.
As noted in the introduction, the in the research module written essay is displayed in its entirety in this booklet, as it plays a crucial role in formulating the sub-theme within the Transparency studio. Both the research question as well as the answer to it partially form the starting point for the final design.

In this essay the urge for shelter, and therewith the fear of exposure, is set out against the desire for transparency that we experience when being in (public) urban spaces. The fear of exposure, not wanting to be seen, versus the desire of being able to see activities and take notice of what is going on. The place where the friction between the two seems to be the largest, is “... where city meets building.” (Gehl, 2010). Therefore, the focus of this study is on the design of the transition from outside to inside, public to private.

The question that we would like to answer, is how we should deal with this urban paradox in urban design and architecture. A study has been done to discover more about the origin of the fear of exposure by looking into ‘The Conscience of the Eye’ by Richard Sennett (1993). Thereafter, in the attempt of finding a sound attitude towards the design of the place where city meets building Jan Gehl’s ‘Cities for People’ (2010) is examined. Following from these two main sources for this essay, a few examples are studied to clarify and support the notion of the design of soft edges, transition zones if you like.

ABSTRACT

When walking in a city, through the streets, we like to see what happens behind the façades of the buildings we encounter along the way. Passing by shops, we want to see what is sold and to whom, passing by restaurants we are curious about the number of people inside, usually an (untrue) indicator of the quality of the food prepared, and when passing by houses, we would like to see what happens on the inside. Yet, at the same time, when we are on the other side of the façade, we prefer the opposite and be anything but exposed to passersby, especially in our homes. We want to feel protected from the outside world. On the one hand transparency, and thus exposure, is somewhat accepted in a restaurant and a shop, on the other hand some kind of shelter is desirable in any case. Apart from the curiosity, the desire for transparency is also a desire of feeling safe, feeling safe when being on the outside. This contradiction between transparency and shelter, a paradox if you like, troubles the architect and the urban designer. How to deal with this problematic duality; who to comfort and whose wishes to ignore? Explored in this essay is the paradoxical notion that a feeling of safety is accomplished by transparency on the one hand, and shelter on the other. This problem seems to be as much of an urban matter as it is a question that should be solved by architecture. As will be set forth later, it is where the building and the public space meet where the solution is to be found, or better, designed. Therefore the aforementioned paradox can be said to be an urban paradox. This essay attempts to find a compromise, a sound attitude towards urban architecture, a desirable way of dealing with transparency and exposure in (dense) cities.

To make it a successful attempt, the origin of the aforementioned fear of exposure is studied first in Richard Sennett’s ‘The Conscience of the Eye’, Following that, Jan Gehl’s ‘Cities for People’ is examined in order to identify the desire for transparency. The arguments and common grounds of Sennett and Gehl are backed up with a few case studies to form a better understanding, and to yield more practical tools towards the end of this essay as well.

The question to be answered in this essay, is: “How can the urge for shelter/the fear of exposure be matched adequately with the desire for transparency, in order to create ‘good’ urban spaces and cities?”

To provide an answer, first the origin and whereabouts of this fear of exposure are examined. As the urge for shelter, as we feel it nowadays, comes so natural to us, we might expect that this is a phenomenon that always existed. However, through history the mindsets of transparency, and of exposure, have evolved along with the cultural properties of the era they were in. Going back to medieval times, the church has been an important factor in many social and spatial matters of which many, although slightly altered, can still be traced back nowadays. The fear of exposure seems no different; after the fall of the Roman Empire, the Catholic religion grew, and so did the role of the church. The remaining public buildings from the Roman Empire fell in decay and lost their value and role. Disregarding the (cultural) changes through time afterwards, one could argue that the “feeling safe inside, turning inward”, found its origin within the (medieval) church; “What sustained them was building that ideal of the inside, in which the children of God were made safe from the street.” (Sennett, 1993) Thus, in the interior of the church they were protected from harm and dangers from the outside.

However, during the Enlightenment there seemed to be a greater desire for, and fascination with, transparency, and therefore it became more
accepted. Contrary to the attitude in the middle ages, there seemed to be no barrier to the outside. (Sennett, 1993) The curious cultural mindset during the Enlightenment triggered people to look out and accepted others to do so too.

During the industrial revolution, or to be more precise; during the machine age which followed the industrial revolution, another shift took place. The fear and pressure the machines and heavy industry invoked, resulted in the search for shelter once again, for safety, in the interior. The industrial revolution therefore seems to play a role in the shift from the `safety' found in the church interior which used to be a safe haven, to the domestic interior, as the role of the church and religion were decreasing. (Sennett, 1993) The notion that raising children, bringing them up, `molding human beings' as stated by Richard Sennett, was something that should be done in an environment which offered protection from destructive and disruptive outside influences. (Sennett, 1993) This mindset, perhaps the most concrete cause of the modern fear of exposure, seems to be captured in the following statement by Sennett; 

"In our culture, the free play of subjective life seems to require an enclosed environment rather than an exposed one." (Sennett, 1993)

Following this understanding of the fear of exposure, a more careful look at why this need for an enclosed environment causes such troubles on the account of urban design and architecture, is needed. One of the difficulties of the aforementioned urban paradox is the notion of "feeling safe". Feeling safe in urban areas works two ways, on the one hand you want to be safe from the street, and at the same time you want to be safe on the street. As examined, feeling safe from the street implies a certain level of shelter. At the same time, feeling safe on the street occurs when seeing other people, or people being involved in activities. Studies in Copenhagen have pointed out that activities in front of a transparent, 'active' façade happen far more frequently than in front of closed façades, as illustrated in figure 2.1. (Gehl, 2010)

"Visual contact between outside and inside adds to the opportunities for experience…" (Gehl, 2010) This quote, again illustrates that transparency is something that works in two ways. But as Jan Gehl is being aware that in the feeling of privacy, safety is an important measure; “… careful planning is paramount so that considerations for experiences and contacts are weighed against considerations for protecting the private sphere." (Gehl, 2010). 'Careful' is an important word in this notion, and is something Sennett agrees with as he states "Life on the modern streets involves the capacity to provoke uncertainty, as well as to account gently the presence of others." (Sennett, 1993). This careful, gentle approach Gehl and Sennett talk about, seems to be the very basis to come to a sound attitude on urban design. It is exactly this carefulness that leads to the 'soft-edges' approach of Jan Gehl.

In the book 'Cities for People' an attempt is made to provide solutions to the paradox of shelter and exposure. The 'soft-edges' approach of Jan Gehl is the most prominent, and can be translated into multiple design methods, depending on the context of the design. With the term soft-edges, an urban design approach is promoted in which there is some kind of 'soft' transition zone between the outside and the inside, a gentle transition from public to private. The ground floors of buildings in public spaces create the boundaries, or the edges of public space. Therefore, the quality of their design and position has great influence on the quality of that public space. This zone, where the architecture meets the city, consists of the squares you cross and the streets you pass as illustrated in the introduction of this essay. So exactly that location “…where city meets building." (Gehl, 2010), is the space where people tend to stay. Thus, apart from creating and defining space, the edge is
where people are and most of the time want to be. Therefore it is the design of these edges, what should be closely examined in urban architecture. This is common ground for Gehl and Sennett, as Sennett poses that "The social center is at the physical edge." (Sennett, 1993).

The creation of a transition zone, a soft-edge, creates a solution in urban design because when carefully designed, it can create both (the illusion of) shelter and (the illusion of) transparency. So it is not necessarily an answer to either complete transparency or complete shelter, but rather a compromise in which both parties feel as if their desires have been adequately met. Now following are two examples to better illustrate how this design of soft-edges can take shape. First of all, we take a closer look to a way of dealing with urban dwellings in a densely built city. Figure 2.2 shows a building designed by KCAP on the GWL-terrain in Amsterdam, an area revitalized in the 1990’s in a moderately dense part of the city. As the goal of the urban plan of the new residential area was to have a very strong social cohesion amongst the inhabitants, the architecture found there is very much an attempt to formulate an answer to our urban paradox. An attempt is made to match the transparency needed for the desired social cohesion with the urge for shelter people have in their homes. The answer is a soft edge created by the use of a green transition zone. The plants and trees in front of the quite tall residential building make the transition from outside to inside less harsh. The upside of this design is that people inside the building don’t feel fully exposed due to the protection of the plants and trees on the same time the people outside can see some of the activities on the inside.

In figure 2.3, the canal houses at the Prinsengracht, transition zone in a densely built urban area. These canal houses and the water, the space that is available is used for the road, for parking and a narrow strip has been reserved for a sidewalk. So clearly, there is not nearly as much space available as at the green soft-edge of the GWL-terrain. Now, as becomes clear in figure 2.3, the ground floor of almost all the buildings along the canal are lifted about half a floor height from street level. Whether this has been a conscious urban design decision is perhaps doubtful, as it seems more a practical tool to be able to let light enter into the souterrains. Nevertheless it is the height difference between ground floor and street level where the stairs in front of the canal houses are needed for, and it are those stairs that create the soft-edge, the transition zone. It is this zone that creates an in-between of being outside and getting inside. Now to conclude, the height difference also deals with the matter of transparency and exposure. Namely, the passerby on the street does not feel excluded because he can see part of the interior of the canal houses, from where at the same time the residents do not feel fully exposed as the stroller has a lower level and so, appears not to have the ability to see all of the interior through the windows he passes.

Now that we have taken a look at the canal houses, let us get back to the example we just started with, the 9-Staatjes. The nine shopping streets do not particularly stand out in their creation of a soft edge, nor provide they the perfect study of how to deal with transparency and exposure as such. Rather, it is a level deeper that creates an interesting site instead of the ‘linear perception of my restaurant walk. This is a street of overlays.” (Sennett, 1993) The street of overlays creates an interesting site instead of the ‘linear perception’, and by doing so forms a greater satisfaction in the desire for transparency.

To conclude this essay, we cast our mind back to the problem and question posed at the outset of this essay. We started off with questioning how to deal with the paradox between the desire of transparency and the fear of exposure. The question that was posed was how to deal with this contradiction, and if there even is any ade-
A part of the question, or the research, was to find out what the fear of exposure exactly is, and where it comes from. Sadly, this remains slightly unclear. Nevertheless, we have found that the attitude towards transparency, exposure, seems to be part of a certain ‘zeitgeist’ and thus shifts through history. It seems, from what we have seen, that it is a back-and-forth. From accepting and being fascinated by transparency, to a fear of exposure and search for shelter and safety, and back again to a more open mindset. As set forth in the introduction, it seems that now, we are currently living in a time where the fear of exposure tends to win from the desire for transparency, a result, as it seems, from the industrial era. Following this logic of the back-and-forth, there might be a shift again. Or has there perhaps been one already? The architecture graduation studio ‘Transparency’ at the Technical University of Eindhoven, within which this essay has been established, is based on the ever-growing transparency caused by technological development. This transparency however, different from the ones that have been studied in this essay, seems to be an entirely digital form of transparency. Social media, surveillance cameras, companies as Google and so on, make it that almost everything about us is known by someone. The question therefore seems to be how this new kind of transparency is reflected in the ‘real’ physical world, in architecture. A question not to be answered here and now, and perhaps answered in one of the other essays. Nevertheless it is something to wonder and perhaps worry about, about what the role of the urban public space that we have been discussing here becomes.
INTRODUCTION

Derived from the essay, a well-balanced mediation between public and private can be created through the design of a gradual transition from outside to inside. In the final design, there are two tools that have been employed to establish this transition.

On an urban scale, the design of an urban enclave is the first step in the transition from public to private. More thoroughly set forth in the following pages, an urban enclave in this case is a place divergent from the surrounding urban fabric it is set within. The divergent character makes it recognizable and easy to identify with for inhabitants.

On a smaller, more architectural scale, the concept of the ‘soft-edge’ is used. The ‘soft-edge’ is, other than the urban enclave, more of an actual, physical, designed transition from public to private and vice versa.

THE TRANSITION

RESEARCH:

THE URBAN ENCLAVE

Figure 3.1: The massing of the ‘Quartier Fontainas’ shows how a variation in the urban fabric creates an own identity within the city. The approach of the Urban Enclave is to create a divergent identity from the existing urban fabric for the inhabitants to relate to as their own. This in order to form a first step in the transition from public to private.
Establishing a program for the design at the Fontainas park in Brussels, several reference projects were studied. Although (initially) not focused on selecting projects that might be categorized as an urban enclave, most projects displayed a strong deviating character from their surroundings. Despite being unfamiliar with the terminology ‘Urban Enclave’ at this time in the project, the first intention to create a deviating fragment of city was established. In an interview with the two film makers of the film ‘Barbiciana’ (2014), a close up on the life in the Barbican estate in London, a crucial part of the spirit of how an urban enclave functions was captured:

‘...so you have a lot of people coming in your castle, yet you keep feeling safe.’ (Bêka, I., Lemoine, L. (2014))

Bêka and Lemoine, who as ‘outsiders’ lived in the Barbican estate for 30 days, in this interview express how the Barbican functions as a fortress in which you feel very safe inside the busy city that London is, yet remaining very well connected to this city.

The feeling of being inside a fortress but at the same time being connected to the city, is not only accomplished by the buildings shaped to form a closed parameter. An important element that makes an urban enclave work as it does, is its identity. The unique architectural style, together with the deviating urban scheme, allows the inhabitants to relate to the Barbican as their own, as it stands out against the rest of the ‘public’ city. By relating to a place as their own, people feel more comfortable and are less fearsome of being exposed. The urge for shelter is less facing an area you relate to as your own. Therefore, when designing a housing project within a dense and busy urban area, the ‘tactic’ of an urban enclave can create the first step in gradual transition from public to private.

The term ‘Urban Enclave’ first appeared in this project after being introduced to the DASH magazines (Delft Architectural Studies on Housing). The ‘DASH05. The Urban Enclave’ (2011) can be seen as an anthology of the typology. Reading the magazine, and thereafter doing a moderately deeper study of several projects in it, crystallized what elements are key for a successful design of an urban enclave. As mentioned, the identity both the urban scheme and a clearly recognizable architectural style establish, can be seen as the core ingredients of a successful enclave design and can therefore be found in all reference projects. The way the enclaves are connected to their surroundings however, seems unique for each one of them.

As the context the projects are set in differs, it is self-evident that the connections with that context are unique as well. However, it is not only the execution that is different, it is the underlying concept that fundamentally differs as well. When looking at an older example of an urban enclave, the ‘Groot Begijnhof’ in Leuven (Belgium, built in the early 13th century), the typology ‘urban enclave’ is more a coincidence rather than it is a well motivated tactic. The ‘Begijnhof’ (a place somewhat similar to a monastery but without the few (formal) gates. As Leuven grew, finally the ‘Groot Begijnhof’ was incorporated in the city and the enclave became an urban enclave. Because of its walls and ‘gated entrances’, the ‘Begijnhof’ has got one of the most autarkic character of the studied projects, despite the architectural style and the urban scheme not being fundamentally different from the city surrounding it.

More openly connected to the city is the ‘GWL-terrein’ in Amsterdam (built between 1993-1998). Built on an old industrial area, which also was incorporated in an expanding city, the project now predominantly exists of housing. Though some remainders of the old industrial heritage have been preserved, the project mainly exists of new buildings. The masterplan, designed by KCAP, set rules for multiple architects to design a building within it. The materials used, together with the grid the buildings are positioned in, create a very strong, unique identity within the city. It seems that the clearly recognizable character makes it unnecessary to protect the enclave with walls and formal entrance gates.

So, concluding, in using the tool/typology ‘urban enclave’ to create a transition from public to private, the design of such an enclave should find a balance between identity and enclosure in itself. A stronger identity allows a more open connection with the surrounding, a closed enclave isn’t in need of such a strong deviating identity.
THE SOFT EDGE

As stated, there are two tools used designing an answer to the urban paradox. The aforementioned urban enclave is a tool that helps create a transition on a larger, urban scale. Although the friction between public and private can be seen as an urban issue, the design of the soft-edge, the second tool, takes place on a more architectural scale. As the ground floors of buildings in a city create the boundaries, or the edges of public space, the quality of their design has a great influence on the quality of that public space. This zone, where the architecture meets the city, consists of the squares you cross and the streets you pass as illustrated in the introduction of the M3 essay. As cited in the essay, physical transition between public and private is: “... where city meets building.” (Gehl, 2010). In addition to being the border between public and private, this edge where city meets building, is also the place where most activities in public space take place. Therefore the appropriate design of this edge is even more important.

Although the transition from public to private is predominantly shaped by a physical border, the design of a soft-edge can perhaps be seen as an illusion as much as it physically mediates between exposure and shelter. Designing the transition therefore does not necessarily answer to complete transparency nor complete shelter, but rather compromises in such manner both parties feel as if their desires have been adequately met. Mediating between the urge for shelter/fear of exposure and the desire for transparency, means dealing with the human perception. So in designing the edge between public and private, not only the physical edge is to be designed, but also the perception of it.

As seen and explained in the essay, a gradual transition by means of a soft-edge can be accomplished in multiple ways. In the outskirts of the city where there is more space at hands (and less public activity), the application of a front yard is sufficient in dealing with shelter and exposure. As seen at the GWL-terrain (figure 2.2, p. 21), a slightly raised ground floor, together with a garden, functions as the soft-edge. This in order to mediate between public and private in a much denser area, where also more public activity takes place. Together with the earlier set forth typology of the urban enclave, the attempt in making a gradual transition from public to private at the GWL-terrain seems successful.

Another example of the soft-edge described in the essay, can be found at the Amsterdam canals. The ground floor of many of the iconic ‘Grachtenpanden’ (canal houses) are raised half a level. As the space available at the Amsterdam canals is very limited, there is no room for a solution similar to that of the GWL-terrain. In this case, the raised floor level creates a soft-edge that functions both on the physical aspect as well as it mediates in the perception of transparency. The steps on the pavement, going to the entrances, form a physical transition zone. On the steps you are not in a private domain just yet, but you are out of the public domain at the same time. Hence, the actual transition. In the perception of transparency, the height difference itself is what creates a mediation between shelter and exposure. The inhabitants, the people inside the building, feel safe and sheltered as they stand higher than the people on street level. Simultaneously, the pedestrians do not feel excluded completely, as the half-level raised ground floor still leaves some opportunities to have a look inside; catch a glimpse of what is going on.

Throughout the design module (M4) the design of the soft-edge gradually took shape. Seen in the isometric section in figure 3.8, the use of the raised ground floor was integrated in the design in the early stages already. Also testing transitions from semi-private to private, the design of a gallery was integrated and developed. In this study of the gallery became clear that the use of columns, creating an arcade, can function as a soft-edge as well. As the selected building to further detail borders the street on one side and the enclave on the other, different types of transition spaces were created, as seen in figure 3.8.
Figure 3.9: The gallery on the second floor creates a transition zone between semi-private and private. The visual connection with the square and the street make it a place of movement, transition. The columns make it a place more intimate. Both elements help create a gradual transition, a soft-edge. Figure 6.19.b (p. 122-123) shows the gallery in the final design.

In figure 3.9 a sketch of a further developed gallery design is shown in the spirit of the transition between semi-private and private. The sketch shows a strong connection with the public space (in this case within the urban enclave). Simultaneously the aforementioned columns, the arcade, provide a substantial degree of shelter from that public space.

The building selected to further detail is positioned in such way that the space available and the need for a transition zone differs on all sides. Therefore, the design of the soft-edge differs in each façade as well. In figure 3.10 a sketch-model is displayed that was developed to investigate multiple possibilities in creating the soft-edge. The ‘boxes’ extruding the frame make the building lack a uniform façade boundary. Although the extruding boxes haven’t made the final design in this form, it is part of the overall development of the soft-edge design.

In the chapter ‘design: Building’ (p. 96-162) the design of the soft-edge, the transition, is more completely set forth.
**RESEARCH: LOCATION**

In the introductory pages of this thesis (p. 11-16), the motivation for the selected project site has already been dealt with briefly. To allow for a complete answer to the research questions posed in the introduction to be found, several requirements were set. Along with the required dense urban area the project should be set in, there is the desire to design a project in the spirit of ‘urban densification’. Therefore a closer look was taken if the Fontainas park actually is an appropriate location to further ‘densify’ the compact city Brussels already is.

When looking at the current situation of the Fontainas park, question marks raise immediately if this site has always been in use as a park. The quality of the park is fairly low, and therefore so is the use, especially for a park inside the center of a dense city. Also, the way the buildings surrounding the park are positioned and ended, gives the presumption the Fontainas park was once a closed building block (figure 4.4 and 4.5). To further research this finding, a brief look upon Brussels' history was cast.

The city center of Brussels, the pentagon, was thoroughly restructured between 1867 and 1871 (*Stad Brussel*). The plan, often referred to as ‘The Covering of the Zenne’, included covering the heavily polluted river that ran through the center. Inspired by Paris’ ‘Plan Hausmann’, several dominant lanes were introduced in order to get rid of, or at least improve, the maze of alleys Brussels was made of. As can be seen in the maps in figure 4.1 and 4.2, the parameter of the building block that now contains the Fontainas park had already been shaped before the covering of the Zenne. It was until the introduction of the ‘Central lanes’ the building block retrieved a more dominant position in the city structure. The site, since the restructuring of Brussels, borders a secondary lane on the north/west (the ‘Van Arteveldestraat’) and on the south/east it forms one of the squares (the Fontainas square, figure 4.6) positioned along the main lane, the ‘Anspachlaan’. The Anspachlaan, which can perhaps be seen as the ‘Avenue des Champs-Élysées’ of Brussels, when making the parallel between The Covering of the Zenne and Plan Hausmann.

Knowing the Fontainas park has not always been in use as a park, a more recent historic study was done to investigate how the Fontainas park came to its current state. Studying the historical areal views of Brussels (figure 4.3) learns the site was indeed a fully built Brussels building block until at least the 1950’s. It was in the 1970’s the first steps towards a more empty Fontainas park were set. From there, more buildings on the site were demolished through the years. Visiting the site, new development plans for the Fontainas park, announced on posters, were found. Retracing those plans on the Internet (*Heraanleg van de site Fontainas, 2013*) learned the plans weren’t yet approved on. Nevertheless, it showed the municipality of Brussels, one of the initiators, came to the conclusion the Fontainas park should be revitalized, complementing the city’s structure.

The historical aerial views and maps, the new development plans and the quality of public space the Fontainas park lacks, form the arguments that make this site very much suited for a so-called urban densification and revitalization.

**INTRODUCTION**

Although the goal is to design an urban enclave that deviates from the surrounding Brussels’ urban fabric, the project location and its characteristics are further studied on the following pages. To create a character deviating from the existing, a substantial understanding of the existing should be present. In addition, as explained in the previous chapter, an urban enclave needs to be balanced in standing on its own and being connected with the city. Also on this account, a better understanding of the context is essential.
Figure 4.1: A Brussels city map of the Pentagon in 1837. The parameter of the building block that now contains the Fontainas park was already shaped before 'The Covering of the Zenne'.

Figure 4.2: Due to the introduction of the Lanes in Brussels, the site established a more prominent role in the city structure; bordering the 'Van Arteveldestraat' at the top, creating the Fontainas square along the 'Anspachlaan' at the southwest.
Figure 4.4: Several buildings in and around the Fontainas park show their ‘scars’, once being part of a larger, completed building block. The new design tries to respect the current situation as much as possible, nevertheless buildings of which the quality is too low, such as the building on this image, will make place for the enclave.

Figure 4.3: The opposite of ‘densification’ seems to have happened on the location that now is referred to as the Fontainas park. In the 1950’s the location was still a densely built building block. Through the years it became more empty, up until the present. The design of Quartier Fontainas reverses this trend.
Figure 4.5: Another, fairly obvious scar of once being a building block. The gap along the ‘Van Arteveldestraat’ on this picture, in the design of Quartier Fontainas is rebuilt, but simultaneously used to create a connection between the ‘Anspachlaan’ and the ‘Van Arteveldestraat’.

Figure 4.6: The aforementioned Fontainas square is one of several along the ‘Anspachlaan’. The gap to the right of the head quarters of the CGSP/ACOD (a Belgium labor union), is where the Fontainas park ‘touches’ the square. This spot is one of the key points in the design, as it will be (one of) the main entrance(s) to the urban enclave.
Jan Gehl’s ‘Cities for People’ (2010) has been one of the main inspiration sources for this thesis and the essay in which the theme has been developed. It is in this book the focus on the human perception with corresponding speeds and views was found. The Anspachlaan, earlier a busy and often congested road within the city center of Brussels, was found to be redesigned, or redeveloped as an extension to the inner city’s pedestrian zone. Therefore the Fontainas park, bordering the Anspachlaan, can even better investigate the Urban Paradox from the pedestrian’s point of view. Figure 4.7 shows the situation of not more than a year ago. Figure 4.8 shows a part of the new pedestrian zone on the Anspachlaan, in use as such since June 29th 2015.

Although the Anspachlaan, wins in quality of public space, the car traffic will divert to other routes. One of those alternative routes will be the Van Arteveldestraat, bordering the park on the north-west side. This road is one of the few routes left that run through the pentagon and is open to motorized traffic. Other than the situation before the introduction of the pedestrian zone, figure 4.9 shows the Van Arteveldestraat (red) as a fairly busy street connecting north and south Brussels, while the Anspachlaan is now a low-speed pedestrian zone, occasionally opened for local traffic.

Figure 4.7: The Anspachlaan not more than a year ago: a car-traffic artery within the Brussels pentagon.

Figure 4.8: The Anspachlaan since June 29th 2015. A pedestrian zone. Due to the use of scrap wood and the games being played, there is a bottom-up, informal atmosphere.

Figure 4.9: The Van Arteveldestraat (red) will take on the role as car-traffic backbone within the city center (the pentagon) of Brussels. The Anspachlaan (green) now functioning as a pedestrian zone, will focus much more on slower speed and the related human point of view.

Figure 4.10: As the Anspachlaan loses its function as car-traffic artery within the pentagon, the Van Arteveldestraat (north-west of it) will become more crowded as it will (partially) take on this role.
Figure 4.11 displays the circulation plan of Brussels' city center after the introduction of the new pedestrian zone on the Anschaplaan, as proposed by Stad Brussel. The dark purple hatched elements indicate the newest extensions of the pedestrian zone. Extracted from this plan are the two pictures underneath it. The appointed locations in the circulation plan are two points in the city structure between which the pedestrian zone seems to be positioned. However, the purple hatch shows the pedestrian zone doesn’t really run all the way to the lowest point, the Fontainas square, yet. The design of the urban enclave will be based on the situation depicted in figure 4.12. The black arrow indicates the extension of the pedestrian zone up to the Fontainas square. In this situation, the two points indicated in the circulation plan can actually play the role of start and stop to the pedestrian zone. Figure 4.12 furthermore shows how the buses (red lines and dots) are redirected (as planned by the Brussels' municipality). The plan therewith indicates the intensification of traffic on the aforementioned 'Van Arteveldestraat', as well as the 'Zespenningenstraat' positioned to the northeast of the project site. On this street a bus stop is positioned, bringing an extra stream of pedestrians through and around this street as well. The blue dotted line indicates the route local car traffic is allowed to take within certain time windows during the day.

Extending the pedestrian zone up to the Fontainas park is an interpretation of the new circulation plan and later planned developments based on it. The master plan of Quartier Fontainas is based on this final extension, as this will most probably be the future scenario, as well as a preferable scenario. It also increases the variation in the urban tissue surrounding the Fontainas park.
It is claimed by many that the city of Brussels lacks an own identity. Even posed in the three-part documentary ‘Archibelge’ (2015), is the question if Belgium is the ‘ugliest’ country in the world, and if therewith Brussels as its capital is the ‘ugliest’ city. The answer found in the documentary, at least for the second question, is a ‘no’. Brussels, instead of having one strong identity, rather consists of a multitude of different identities which live alongside each other. It seems that this multitude of different identities, cultures living alongside, is in itself what creates the overall identity and there with the charm.

So, the identity of Brussels is that of a fragmented city. Fragmented on multiple scales even, as the city in its entirety is split in two. The northern part of Brussels is Flemish and the southern part is Walloon. So also in the very basis, the identity of the city is fragmented. In this fragmented city the maze of alleys, that before the restructuring of Brussels formed the better part of the total infrastructure of the center, still finds it way through the urban conglomerate the city is. Unique in Brussels is the quality of (semi-) public spaces to be found when passing through the alleys. An alley, with an almost hidden entrance, can run up to a courtyard, a small boutique or a bar.

Going through an alley to find a surprising urban quality might best be described as the typology of the ‘Hidden treasure’. In figure 4.13 an entrance sequence towards a bar in Brussels’ city center is displayed. From top to bottom: (1) Walking down the street, many advertisements are clearly visible, from this point the alley can hardly been seen. (2) Approaching the alley, it is still not very inviting to the public crossing the shopping street. There is a small sign indicating the alley, but this is so small it disappears amongst all the other advertisement in the street. (3)(4) Although the quality of the space itself is very poor at this stage, it is when entering the alley, for the first time the expectations begin to rise of what may lie on the other side of the alley. A now better readable sign in the alley points where to go for a Belgian beer. (5) (6) Finally, after passing the alley, which without knowing what lies behind it very few people would enter, ends in a courtyard with a typical Belgian bar.

Naturally, not all alleys in Brussels lead up to a high quality urban space as depicted in the entrance sequence towards the bar. Nevertheless, this typology can be found more often throughout the city. It belongs to the city as it plays a dominant role in preserving the identity, the character of a space enclosed by many other identities. In the chapter ‘Research: Transition’ (p. 26-33) the importance of the enclave’s connection with the city is stressed. Described in that chapter is that a balance should be found in having a strong identity on the one hand, and having (open) connections on the other. As Brussels is a city with many identities packed close together, making an area stand out might be fairly difficult, as everything is different from each other already.

Adopting the alley typology for the enclave’s entrances will help preserve the new identity that will be added to the city. Together with this, a uniform architectural style will be needed to stand out to the fragmented tissue of the city. Although there will be a more-public activity added to the program which will need public to function properly, the alley-typology is in place. As is the case with the bar, the inhabitants of Brussels know where the ‘hidden treasures’ are. It is only for the outsiders, the unfamiliar tourist, these spots will be harder to be found.
Building on the character of the fragmented city stated on the previous page, a closer look has been cast on what the quality of this fragmented city is. How it finds its way in a Brussels' building block, and how that can be useful in the design of Quartier Fontainas.

To make the urban enclave work, it should convey a strong, uniform image towards its context, the city. To prevent the uniform from getting monotonous, the notion of the 'street of overlays' (Sennet, 1993) can be of use. In the essay, this street of overlays is described as a multitude of narrow buildings, creating a dominant 'verticality' in the street façade. Similar to the example in the essay of the '9-Straatjes' (9-streets) in Amsterdam, the fragmented city has the same dominant vertical component in its appearance. The ensemble of multiple narrow buildings creates an alternation along a street and therefore prevents the street, the façade, of getting to monotonous. Also, all buildings have a front door at the street, making the possibility of interaction along the line where city meets building. The interaction along with the alternation in the façade answers the pedestrians' desire for transparency, without compromising on the fear of exposure. It is therefore that a study has been done to find if there are other elements in the Brussels' building block that convey this 'verticality' other than creating an ensemble of multiple narrow buildings. The goal is to find key characteristics that can be implemented in the design of the urban enclave.

The presumption that there are more elements that play a role in the dominant verticality of the Brussels' building block derives from looking at the buildings along the Anspachlaan. Figure 4.16 shows a building block along the Anspachlaan, and other than many blocks in Brussels is made up of one façade. Nevertheless, a vertical direction seems fairly dominant in the appearance of the block. At the same time, when looking at façades in the Van Arteveldestraat, north/west of the project site, a building wider than most in Brussels, lacks this quality. Of course the time and the style the two examples are built in are completely different. Nevertheless the building along the Van Arteveldestraat (figure 4.26), presumed to be a late 1990's building, seems to attempt a verticality with its façade composition.

To come to a consensus on what 'ingredients' are crucial to a successful façade composition, both examples from the Anspachlaan as well as the Van Arteveldestraat are analyzed. In the following pages an attempt has been made to abstract these key elements by breaking down the façades into the elements that play a role in creating the composition.

Note, the implementation of elements found in the Brussels' building block is not an attempt of copying or employing the architectural style of these building blocks. The analysis is merely to see what elements of these buildings, of the architectural style they are built in, can be employed to successfully design an urban enclave, and thereby (indirectly) contribute to the transition from public to private.
Along the Anspachlaan three buildings have been selected to analyze the quality of the Brussels' building block. The three selected buildings range from very rich decoration/use of ornaments, to fairly sober. This range has been selected to investigate if these ornaments play an important role, or if the composition itself is dominant.

Starting this analysis, a roof plan of 5 building blocks was drawn. The result (figure 4.15) is a confirmation of the urban conglomerate. Width, depth and roof shapes all differ for each building. Another thing this plan learns, is that the building blocks that consist of many individual buildings, have got fully cluttered through the years. The desire to extend a dwelling, a shop or an office, could be answered as the building block consists of many separate buildings. When the owner of one of these building desires a larger house over a well lit garden, the loss of quality for the complete building block doesn’t out-way the profit of extending his house. Where in the case of a ‘one-building’ building block the effect on all users/inhabitants is considered. Therefore, courtyards will be less cluttered and the quality of the space remains much higher, but it means less flexibility and individuality.

As the city of Brussels consists of so many identities, many of its inhabitants cherish the individuality that comes along with it. Therefore, the possibility to extend or modify a building should (to a certain extend) be in the hands of the inhabitant. Nevertheless, the quality of the collective and public spaces in the enclave should be protected, protected from getting cluttered. In the final design, a frame is established in which the inhabitants get the freedom to extend or modify within. This will allow for the desired individuality as well as it preserves the quality of the enclave’s collective and public spaces.

Returning to the analysis of the façades, figure 4.15 indicates the aforementioned selected buildings. On pages 58 up to 63, the selected buildings on the Van Arteveldestraat will be introduced.
Another two buildings are selected to complete the analysis. The last two buildings are positioned along the Van Arteveldestraat and have been built in a later era and (therewith) different style than the other selected buildings.

In the following pages, after the introduction of the last two buildings, an analysis on multiple layers has been drawn. At the end of this chapter, a concluding paragraph is written.
The first layer of the analysis is the vertical alignment, focused on the positioning of the façade openings. All buildings along the Anspachlaan have the openings vertically aligned with the exception of the ground floor.

Along the Van Arteveldestraat building ‘4’ extends the vertical alignment up to and including the plinth. Building ‘5’ is more similar to the buildings along the Anspachlaan, although it differs as the first two floors break the alignment rather than only the ground floor.
Differing in the amount of and the size of the layers, the three buildings along the Ans-pachlaan all are clearly build up out of horizontal layers. So although they convey quite a strong vertical alignment in the street and in the positioning of the openings, there is also a strong horizontal component.

Building '5' follows the stacking of horizontal layers fairly similar to buildings '1', '2' and '3', but less strict as its entrances 'break through' the horizontal line of the plinth. Building '4', other than the plinth, lacks a build-up out of horizontal layers. The horizontal layers get overruled by the vertical alignment.
What elements play a role in creating the horizontal layers in the façade composition? Horizontal ribbons, along with a slight relief to the façade plane, frames the layers as depicted on the previous page. Up until this moment the richness of ornament has not played a role (yet). The sober façade is as strong in conveying its composition as the others.

As the image of horizontal layers is weak in building '4', so is the presence of elements creating that image. A slight difference in the color of the brick (figure 4.26) makes the first, second and third floor stand out to a small degree. In the façade of building '5' there is more relief present to convey the image of horizontal layers.
In figure 4.30 can be seen that some of the horizontal layers consist of more than one story. In this layer we look at the elements that group multiple floors in one layer.

The vertical elements with slight relief from the façade plane, that run from second to third floor (building ‘1’) and from third to fourth floor (building ‘2’), are bound by the horizontal elements highlighted in figure 4.31 on the previous page. So together with those elements, multiple floors are framed into one horizontal layer.

As mentioned, the slight difference in color of the brick in building ‘4’ groups the second, third and fourth floor. In building ‘5’, an extruded 2 story high element links the third and fourth floor together. Also the matching measurement of the façade openings match the horizontal layer.
The final layer looks at a more subtle, but perhaps as important, characteristic that was found in the buildings along the Anspachlaan. Apart from clearly structuring and grouping the layers as set forth on the previous pages, there is a layer that here is titled as ‘overlap’. In the case of building ‘1’, ‘2’ and ‘3’, the height of the windows across the grouped layers link the floors back together. Although less dominant in the composition than the elements conveying the horizontal layers, this overlap wins back the vertical component that at first sight seemed so clearly present.

Building ‘4’ lacks elements to create the overlap of the horizontal layers. Building ‘5’ however does contain elements creating this last layer. On the one hand, a slightly recessed rectangle across the second and third floor links the top to layers. The darker red line between ground and first floor creates a link between these two stories. This however is so dominant, the layers them self become weaker, as set forth in figure 4.30.
At the outset of this Brussels' façade analysis, the verticality was presumed to be the most important and dominant. Drawing and breaking down the composition has learned that actually many horizontal layers/elements play an important role in conveying the desired image of the street of overlays too. The build-up of horizontal layers appears to accentuate the height and therefore supports the image of verticality. Elements found that can (to a certain extend) be incorporated in the design of the enclave's façades are the following:

- horizontal layers
- grouping layers
- use of relief in the façade to convey horizontal and vertical 'groups’

Useful 'ingredients' as these are, the analysis does not yet completely reply to the desire of the street of overlays. Having learned that interaction along the plinth is one of the key characteristics of this street of overlays, the façades of building '1', '4' and '5' have been studied on a larger scale too. Two layers have been analyzed; (1) the degree of actual interactions (doors) with the street and (2) the actual vertical alignment along a wider façade.
Both building ‘1’ and ‘5’ have a frequency of doors along the streets/sidewalk, both for shops and dwellings. Only building ‘4’ lacks the rhythm of interaction with the street. Complementary to this is the openness of building ‘1’ and ‘5’ along their plinths. Self-explanatory the program of those buildings on ground floor is other than dwelling. The shops or other commercial functions allow for more transparency without disrupting the urge for shelter of the inhabitant.

Along with the lack of frequent interactions with the street, building ‘4’ lacks the clear vertical organization the other two buildings have. These two buildings can be divided in vertical layers easily, whilst building ‘4’ lacks this quality. The clear vertical organization on a larger scale also plays a role in the perception of the street of overlays, and therefore is an important quality to incorporate in the final design.
The design of this project knows two main phases. First, a masterplan for the urban enclave was developed, later one of the buildings within this master plan was selected to further detail and investigate the design of the soft-edge in. The design of the master plan for Quartier Fontainas focuses on the design of the enclave, a first step in the transition from public to private, on an urban scale. The first step in designing the enclave, was establishing an urban scheme deviating from the surrounding urban fabric. With use of a 1:1000 sketch model, studies were made to investigate how this deviating scheme could be created. Figure 5.1 shows a few out of many mass models that have been made developing Quartier Fontainas.

To help the massing of the enclave, a more precise program was established. To get a sense of scale of the project site, two references were projected upon the site; the aforementioned GWL-terrain and the Funenpark, both in Amsterdam. Although these two projects are fairly larger than the project site, these projects with approximately 230 inhabitants per hectare match the desired density. The projections are displayed in figure 5.2 and 5.4 on the next page. This density study delivered the following global program:

- **Dwellings**: ~ 200 : ~ 20.000 m² (250 people per hectare)
- **Theater/Cinema (incl. (Lunch) Cafe)**: ~ 150 seats Hall : ~ 200 m²
- **Commercial (Offices/Shops)**: Plinth Fontainas square and ‘Van Arteveldestraat’ : ~ 700 m²
- Others (possibilities to add more commercial area inside Quartier Fontainas are left open)

After the projections of the ‘Funenpark’ and the GWL-terrain, displayed on the next page, the development of the masterplan is further explained with the help of a range of concept schemes, plans and four entrance sequences.
Figure 5.2: Projection of the 'Funenpark' on the project site.

Figure 5.3: The 'Funenpark' in Amsterdam, master plan by Frits van Dongen (de Architekten cie), built 2000-2005.

Figure 5.4: Projection of the GWL-terrain on the project site.

Figure 5.5: The GWL-terrain in Amsterdam, master plan by Kees Christiaanse (KCAP), built 1993-1998.
After establishing the aforementioned program, Quartier Fontainas was further shaped into its final form (scheme 5.6.g). The schemes on the next three pages depict how the final design came into being.

Figure 5.6.a: Isometric view of the current situation of the Fontainas park, on which the urban enclave will be positioned.

Figure 5.6.b: There are two buildings on the site that will be demolished. Both the physical and the architectural quality of these buildings are too low to redevelop. Although the architectural quality of a number of other surrounding buildings is doubtful, the physical condition is sufficient.

Figure 5.6.c: After demolishing the two buildings highlighted in figure 5.6.b, this is the site the design for Quartier Fontainas is set in.

Figure 5.6.d: The first step of the actual design is to raise the ground floor 1 meter. As described in the chapter ‘research: Transition’ (p. 26-33) the soft-edge can be designed by creating a height difference between street and dwelling. Raising the complete enclave, makes it stand out to the surrounding urban tissue more too.

Figure 5.6.e: The opening at the Van Arteveldestraat (top) provides the opportunity to connect that street with the proposed extension of the pedestrian zone on the Anspachlaan. The cinema/café is positioned in, and therewith functions as, the center of the enclave.

Figure 5.6.f: The massing of the buildings is done in such a way that a sequence of courtyards/squares is created. The center square is planned to be the most active and public area, the surrounding courtyards will be more of a collective space for the inhabitants/users of the surrounding buildings.
Figure 5.6.g: To link the squares and courtyard spaces, a linear water element is introduced. The water can be seen from most enclosed spaces and therefore acts as a repetitive element in the urban scheme.

Figure 5.6.h: To accomplish a unique character for each square/courtyard, office area has been included within the enclave to create one ‘office square’. The positioning of the cinema makes the central square the most public area. The other two non-housing functions, the restaurant and office space along the Van Arteveldestraat are positioned on the edges of the enclave.

Figure 5.6.i: The surrounding buildings help in creating the unique identities for each space created in the enclave. The office building at the Fontainas square (lower left) is part of the office square. The buildings along the Van Arteveldestraat complete the housing courtyards.

To be more precise in designing the court-yards as well as the buildings, the following target groups have been selected for the housing:

- **YUP (Young Urban Professional)**
  - singles or couples, ~ 60 -100 m²
- **YOUNG FAMILY**
  - 3-5 member families, ~ 80 -120 m²
- **SENIORS (65+)**
  - singles or couples, ~ 70 -100 m²

To be precise in designing the courtyard spaces, the following target groups have been selected for the housing:

- **YUP (Young Urban Professional)**
  - singles or couples, ~ 60 -100 m²
- **YOUNG FAMILY**
  - 3-5 member families, ~ 80 -120 m²
- **SENIORS (65+)**
  - singles or couples, ~ 70 -100 m²

The varying target groups for the housing have been selected according to demographic studies in Brussels (Gemeente Brussel-stad, 2010). According to these studies, all three target groups will deal with a deficiency in the housing market within several years. The choice for three different target groups in stead of one, has been made in order to establish a lively enclave during the entire day. As the moment on which each group is active differs, so will the moment that they spend time in the public/collective spaces in the enclave. The YUP (Young Urban Professional) will leave to work early in the morning and is active in the evening when returned home, whilst the seniors will take it easy in the mornings, go outside in the afternoons and go back inside early in the evening. The families will have their kids playing outside throughout the afternoon and evening, all day in the weekends. The office area will also deliver some activity during the day, especially during lunch time. The cinema/bar will activate life in the evening. The different moments the groups are active won’t cause much disturbances, as each group is centered along their own courtyard. Only the center square with the cinema on it will remain more active.
On the following pages, the entrances of the enclave are depicted and explained through four entrance sequences. As set forth in the research chapters, the balance between identity and openness is key for a successful enclave design. The identity is largely shaped by the aforementioned target groups as well as the massing of the buildings. The identity of the enclave expressed by the architectural style and used materials is more thoroughly explained in the next chapter (p. 96-162). The openness, the connections with the city are shown in the following pages. Generally, the typology of the ‘hidden treasure’ or the ‘alley typology’ (p. 46-47) is adopted for all entrances of the enclave; A small sign to make apparent that there is something behind the alley entrance gate, but the enclave enclosed just enough to preserve its identity within the Brussels’ urban tissue.

Figure 5.8.1: The entrance at the Fontainas square, together with the entrance at the Van Arteveldestraat (sequence 2), is the most closed towards the outside of the enclave. By making a 45° cut in the square façade, a hint is made that something lies ahead. Before entering the center square, you pass through one of the courtyards. It is to ‘protect’ this courtyard, the entrance has its narrow measurement. After passing underneath the building, you enter the square with the cinema.

Figure 5.8.2: Passing through the Van Arteveldestraat, the building that encloses the enclave is slightly extruded from the street façade to make a sign that implies something happens at this point in the street. It is only when coming closer that it becomes apparent there is an entrance to the urban area that is the Quartier Fontainas. When entering, you encounter one of the courtyards on your left, before entering the central square.
Figure 5.8.3: Positioned along a calmer street, the entrance(s) at the north-east border of the enclave can be more open than the previous two. By pushing the building in the middle back a bit, the entrances are indicated. There is made use of steps at this entrance, because it isn’t part of the connection Anspachlaan-Van Arteveldestraat. A slope further down the road allows access for cyclists and people in wheelchair.

Figure 5.8.4: The Anderlechtstraat is the only place where the enclave is opened towards the city. As there barely is any (car) traffic in this street, there is no special care needed to answer the urge for shelter of the inhabitants. It is also in positioning the building in this direction, it makes the best use of the sun, as well as it complements the courtyards north-west of it (red hatched). Similar to the first entrance, it is after passing underneath the building you enter the main square.
The program, the desire to create multiple squares and courtyards and the entrance sequences as displayed on the previous pages, have resulted in the urban scheme as shown on the left. The introverted character is the main characteristic that makes the urban enclave stand out to the surrounding urban fabric of Brussels. The edges of the building block are more closed off towards the busier surrounding streets and square to protect the calm, the tranquility within the enclave.
Figure 5.7 (p. 85) shows all courtyards positioned around the central square. The courtyards have a more tranquil and ‘greener’ character than the central square, as will better be shown in the following chapter ‘design: Building’. The central square is shaped as a more active zone of movement and transition, whilst the courtyards rather are spaces to stay.
Figure 5.11: Cross section Quartier Fontainas. A closed edge towards the fairly busy Zespenningenstraat (right), a more opened and greener courtyard towards the Anderlechtstraat (left), and the central square with the art house cinema.
The design of the transition between public and private in this design project knows two main scales; the urban/city scale and the architectural/building scale. To investigate and design the second scale, one of the buildings of the Quartier Fontainas was selected to further detail. The in figure 6.1 highlighted building was chosen as it borders most variations in the context, both outside and inside the enclave. As depicted, it deals with car traffic in the north-east corner, the pedestrian zone at the south-east and the ‘Quartier square’ in the north-west. Together with the headquarters of the CGSP/ACOD (a Belgium labor union), the block creates a courtyard, which will function as a collective garden for the inhabitants of the building.

Although the building design will mainly focus on the second, smaller scale of the transition, many important design decisions have been taken that make the enclave work on a bigger scale as well. In this chapter the realization of the building design is set forth, starting with the building envelope and the program on the next two pages. From there, the overall building design and thereafter the building details are illustrated.
Figure 6.2.a: Fitting the design of the urban enclave, the building envelope is shaped to create a closed courtyard as collective outdoor space for the inhabitants of the building. The south-east façade is raised two floors to balance the façade of the office building it is positioned next to. Chosen is not to adapt the same height, but rather mediate between the office building and the surrounding buildings.

Figure 6.2.b: In the explanation of the enclave design (p. 78-95), the connection between the Anspachlaan (pedestrian zone) and the Van Arteveldestraat, as well as the connection of the ‘Quartier square’ with the pedestrian zone are appointed. In line with the ‘alley typology’, a narrow entrance at the Fontainas square protects the calm of the courtyard. A 45° cut in the façade hints that something lies ahead.

Figure 6.2.c: Better illustrated in the cross section (p. 112-113, figure 6.14), the top floor along the Zespenningenstraat is set back to create a balanced street section. The area created along this façade will function as a gallery for the top floor apartments.

Housing
Restaurant
Office

Figure 6.2.d: Similar to the top floor, the maisonettes on the second/third floor are accessed by a gallery. The gallery is positioned on this side of the building to keep the courtyard calm and the street-side for movement. The ground floor maisonettes are accessed from the street. To create some space to design the soft-edge within, the façade of this ground floor is recessed a bit as well.

Figure 6.2.e: Other than the restaurant in the plinth at the Fontainas square and the two story high office space in the east corner, the building consists of housing. A total of 45 dwellings are created, varying from 55 to 105 m² floor surface. The galleries to the upper floor dwellings are accessed by the three indicated stairwells.

**RESTAURANT:**
- Total: ~ 290 m²
- Service area (kitchen, storage etc.): ~ 100 m²
- Dining area: ~ 150 m²
  (~ 100-120 guests)

**OFFICE:**
- Total: ~ 150 m²
- Service area (pantry, restrooms, storage): ~ 25 m²
- Office area: ~ 80 m²
  (~ 10 employees)

**Dwellings:**
- Total: 45 apartments/maisonettes
- 25 one-floor apartments:
  ~ 55 m² - 100 m²
  (one penthouse: ~ 140 m²)
- 20 maisonettes:
  ~ 90 m² - 105 m²
Along with the enclave on urban scale and the soft-edge on the architectural scale, the ‘street of overlays’, the frequent interaction of the building with the street, plays an important role in answering to the desired transparency of the passing pedestrian. Therefore the dwellings on the ground floor are accessed directly from the street (or the Quartier square) with individual front doors. To make this transition from public to private along the street less direct, an elevated arcade is created as transition from outside to inside. Similar to the steps along the Amsterdam canal houses, the space this arcade creates is not public, and yet not entirely private either. This design of the soft-edge is more clearly illustrated on pages 126/127.

To the right, a circulation diagram of the building is shown. The three vertical cores connect the galleries on the second and fourth floor from which the other dwellings are accessed.
Masterplan / Building design - parking

To provide for parking in the dense city center of Brussels, a car park has been created beneath the raised ground floor of the enclave. Accessed from further up north in the street, the garage provides one parking space and a storage unit for each house.
Building design - longitudinal section

Figure 6.13: Longitudinal section (1:200)
Building design - cross section

Figure 6.14: Cross section (1:200)
In the chapter ‘research: Location’ the buildup of a Brussels’ façade was analyzed to see what elements could be incorporated into the final design (p. 48-77). This analysis had the goal to balance the expression of the façade between a uniform enclave building and the verticality of the ‘street of overlays’. The elements found in that analysis were:

- verticality, interaction with street (6.16.a)
- horizontal layers (6.16.b)
- grouping layers (6.16.c)
- use of relief in the façade to convey horizontal and vertical ‘groups’ (6.16.a+d)

These elements are primarily implemented in the street and square façade. The façade on the square inside the enclave follows this buildup to a certain extent, but allows more variation and therefore is less formal. The buildup of the courtyard façade follows a different structure, more suitable to the intended calmer atmosphere. The courtyard façade follows the ‘flexible’ design of the dwelling, illustrated on pages 128 op to 149.

Incorporating the aforementioned elements of the Brussels building block result in the elevations as depicted on the following pages.
Building design - north-east elevation

Figure 6.17: North-east elevation (1:200)
Figure 6.18: North-west elevation (1:200)
Building design - materials

The building materials for this building were selected in order to create a uniform character deviating from the context. Although the fragmented Brussels’ building block lacks one clear style and materialization, the overall impression in Brussels is that of stone and plaster. Different from its context, the building is largely built in wood.

Also, the Lignatur® wooden hollow core floor elements (figure 6.19) allow for a certain flexibility in the dwelling floor plan design. The self-insulating elements allow for fairly easy modifications in the dwellings.

The timber façade frames, constructing the vertical alignment of the façade, are built in two variations of Douglas Pine wood. As this wood works well both untreated and lacquered, this material was selected.

The implementation of these materials, the cross laminated timber (CLT) structural walls and the wooden columns are more explicitly illustrated on pages 136-147.
Figure 6.19.b: View from the second floor gallery towards the Quartier square.
The combination of steps and columns make the border between outside and inside, public and private, a more gradual transition zone.
With the floor plan design of the maisonettes, another element from the location analysis is incorporated in the building. As we have seen, the Brussels' building block had its courtyards fully cluttered on multiple occasions. The desire of the occupant to enlarge or adjust a building to his liking is so strong, it caused the interior of the building blocks to get fully built.

In the design of the floor plans, an attempt has been made to create a flexible, 'life-cycle-proof' dwelling, without compromising on the courtyard's spatial and aesthetic qualities. Positioned between two static, structural walls, three variations in the ground floor maisonettes can be made. 'Type a' (figure 6.26.a) shows the option of a void at the courtyard side of the dwelling, creating a spacious feel, but slightly compromising on the floor surface available. (Interior impression on pages 134-135, figure 6.30). 'Type b' (figure 6.26.b) shows a similar layout, but offers a loggia on the first floor instead of a void. 'Type c' (figure 6.26.c) shows the option of an extra bedroom on the first floor.

Due to the selected building materials and detailing of the façade (p. 120-121, p. 136-147), there can be switched from 'type a' to 'b' or 'c', or there can be switched from 'type b' to 'c' and the other way around. Switching from 'type b' or 'c' to 'type a' is a more complex rebuilt, as the floor elements can't be removed as easily as a (substitute) floor element can be added.

The different dwelling types result in a varying courtyard façade. The first inhabitants of the dwellings can choose their desired floor plan, with the accompanying façade as result. Therefore there is a minor chance that there will be a fairly monotone layout. However, studying Brussels has thought that the desire of each inhabitant of the city is different. Also, the building envelope creates certain points in which the ideal situation differs from the other. The depicted impressions and building plans in this book show a (likely) situation of how the building might be initially built.
Along with the possible variations on the first floor of the maisonettes, the ground floor of the gallery-maisonettes know some variations as well. 'Type a' is similar to the 'type a' on the previous page, having a void at the courtyard side. 'Type b' introduces a variation which can only be made at the gallery along the Quartier square. As these dwellings are facing west, this side of the building will catch some sun in the evening. The recessed 'front' façade creates space along the gallery to enjoy this evening sun. 'Type c' creates the possibility of an outdoor space at the courtyard façade in the form of a loggia. In other situations, a French balcony can be used to substitute for an actual outdoor space.
Building design - Cross section (a)

Figure 6.28.a: Possible cross section; ground floor 'type b', gallery level 'type c' (1:200)

Building design - Cross section (b)

Figure 6.28.b: Possible cross section; ground floor 'type a', gallery 'type c' (1:200)
Figure 6.29: Impression ground floor dwelling.
Figure 6.30: On the following pages, fragment A, B, C and D are shown on scale 1:20 to illustrate how the use of the Lignatur® allows the previously described flexibility in the floor plan design, as well as the hollow core floor elements can be left in sight in the ceiling of the arcade and the gallery.

Figure 6.31: Elevation fragment matching the section in figure 6.30.
Figure 6.32.c+d (scale 1:20)

0,2

0,5 m
Building design - horizontal details

On the following pages, five horizontal details are depicted. Three on the street-side of the cross section (A, B and C) and two on the courtyard façade. The variations in A, B and C are created by the presence of the gallery and the optional timber frame instead of a window. The variations in D and E are created by the same optional timber frame, as well as the earlier explained varying floor plans.
Wooden column (400x400 mm)
Aluminum mounting bracket
Water drainage (60x50 mm)

Douglas pine planks

Double glazing (24 mm)
Wooden window frame (80x88 mm)
Wooden mounting frame (113x60 mm)

CLT Wall panel (100 mm)
Acoustic insulation (50 mm)
CLT Wall panel (100 mm)

Wooden column (400x400 mm)
Aluminum mounting bracket
Water drainage (60x50 mm)

Douglas pine planks
Beten
Timber frame

CLT Wall panel (100 mm)
Acoustic insulation (50 mm)
CLT Wall panel (100 mm)
Figure 6.34: Courtyard impression.
Figure 6.35: Exterior impression from Quartier square.
The office situated in the west corner of the building, consists of two floors which together provide enough space to house up to 10 employees, depending on the space needed for the profession. The office lays at the end of the water element and has a view on the Quartier square.
Figure 6.37: Office interior impression.
The restaurant, situated in the east corner of the building, faces the Fontainas square and is spread over three floors. The kitchen and storage are situated in the basement. Due to the raised floor level of the enclave, some daylight can enter. On the ground floor the bar is situated along with a number of dining tables. The first floor provides more dining area as well as the toilets. On the ground floor there is an adjusted toilet available.

In the courtyard a small space is reserved as a terrace for the restaurant. Opening hours of this terrace will have to be set to provide the desired calm in the late evenings for the inhabitants of the building.
Figure 6.41: View from Fontainas square.

Figure 6.42: Alley from Fontainas square towards courtyard/Quartier square.
Figure 6.43: View from office towards Zespenningenstraat.
Starting the design phase of this graduation project, the goal was to find a method, a strategy in dealing with the urban paradox; the fear of exposure versus the desire for transparency. It would be fairly inaccurate to state that the research questions have been conclusively answered and a generally applicable strategy has been developed. As this project largely consists of research by design, instead of providing a generic theory, a more specific design solution for the project location has been created. Nevertheless, the design and the theory and research that it is based on, do provide a satisfactory answer to the research questions posed in the introduction (p. 11-16).

Answering sub-question one first, there are two main tools used to design the transition from public to private. The first tool, functioning on a larger scale, is the urban enclave. Although the actual design of such an enclave will always differ from place to place, the theory, the typology ‘urban enclave’, can be used in multiple situations. The second tool, the design of a soft-edge, is perhaps not so much a tool or typology, but rather the intention of making a design focused on the perception of the human, the pedestrian and the occupant. So instead of developing or finding a typology, the soft-edge can better be seen as a mindset, a theory of thought. Therefore the design of the soft-edge can take many forms and shapes, also depending on the direct context it is set in.

Also seen in the essay ‘The urban paradox’ (p. 18-24), the space available for a transition from public to private (and vice versa), affects the design of that transition. When there is little space available, as is the case along the ‘Zespenningenstraat’ (figure 6.23, p. 124-125), more effort has to be spent to create a balanced transition. When there is more space available, as is the case at the courtyard, a more open design can still accomplish the desired shelter and transparency (figure 6.34, p. 148-149). However, not only the soft-edge differs with a variation in the urban fabric, the design of the urban enclave deals with these variations as well. The busier the direct context, the more closed the borders of the enclave have to be to ‘protect’ the quality and identity of the space within the enclave. Although the project focuses on the design for this location, the attitude of balancing open and closed in the enclave, together with the ‘strength’ of the soft edge, does answer sub-question (2); how to deal with variations in the urban fabric.

Although less thoroughly designed and analyzed, the attitude in designing transitions from semi-public/semi-private to private (sub-question 3) has been looked at. The aforementioned, more open design of the courtyard façade bordering a collective garden, shows the transition between semi-private and private can be much smoother than a direct transition from public to private. Nevertheless, an attempt should be made to appropriately mediate between the semi-public and private domain. As can be seen in figure 6.19.b (p. 122-123), a strong connection with the public domain can be made whilst maintaining enough of an ‘in-between-space’.

Concluding, this graduation project within the Transparency studio has made me more conscious of the design of transitions. Transitions from outside to inside, public to private and vice versa. Although the project might not have fully succeeded in developing a general theory to design such transitions, it does depict a certain mindset that is key to a successful design within a dense urban area, focused on the human scale and perspective.
BOOKS


DOCUMENTARY


WEBSITES


This thesis is the result of a project within the scope of the architecture graduation studio *Transparency*, hosted by the chair *Rational Architecture* within the faculty *Architecture Building and Planning* at the Eindhoven University of Technology. Within the studio, a sub-theme was formulated by writing an essay in the research phase of the project. The essay, titled “The Urban Paradox”, describes the friction and contradiction between the urge for shelter when being inside a building, and the desire for transparency when being outside. This friction, which is largest within a dense urban fabric, was the starting point for the design project in which an appropriate balance between public and private was sought.

The design of Quartier Fontainas, an urban enclave in the city center of Brussels, attempts to answer both the urge for shelter, as well as the desire for transparency.