“Streets should be for staying in, and not just moving through, the way they are today”

- Alexander et al.
This research report contains the research and analysis of my graduation project, with the general theme of housing in historic inner cities within the department of Heritage and Architecture, studio Heritage and Housing. It also marks the last project of my Master degree at the faculty of Architecture of the TU Delft.

The research report gives an overview of the research and is built up out of several chapters. These chapters are all representing another part, from research to analysis to a program of possibilities. Starting off with the used methodology and motivation for this specific project. The research could be seen as a mix of literature research and fieldwork; making an interpretation of the current situation. Starting off with a more general overview of the topic towards a comparison between what happened in the past and what still has to come. Zooming in from the big scale towards a precise and detailed small scale.

By choosing this MIT graduation studio in Amsterdam, I get the chance to design, transform or intervene in maybe the strongest context in the whole of Holland. In this period in time the existing built environment is, more than ever, important. The stories and secrets that can be revealed on the site tell a lot about the history and can be an inspiration for future interventions. It has the possibility to give the city of Amsterdam a unique piece of city at the water.

I would like to express my appreciation to my supervisors: Lidwine Spoormans, Nicholas Clarke and Wido Quist, for their expertise and suggestions which primarily guided the process of my report. Besides, I would also like to extend my appreciation to the chair of Heritage and Architecture, for guiding the process in the form of lectures, excursions and specific advice.

Linda Nijhof
Delft, December 2014
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In this introduction chapter the purpose and the context is discussed and the goals and the relevance of the project. There is an introduction to the content and the overall method of the report.
0.1 INTRODUCTION.

Studio - The MSc3 studio Binnengasthuis area of Amsterdam by the department of Heritage and Architecture (former RMIT) at TU Delft, studio Heritage and Housing, deals with strategies for housing in historic inner cities. In general, strategies for housing in historic inner cities are very useful in the contemporary society. The assignment is to design a qualitative housing project within the borders of the vibrant UvA Binnenstadscampus of Amsterdam. The Binnengasthuis area is part of the bufferzone within the UNESCO world Heritage of Amsterdam, as seen in figure 1, and therefore demands a deeper understanding of this complexity.

Fig. 1: The Binnengasthuis area in Amsterdam [own illustration, 2014]

The city of Amsterdam is ambitious regarding the improvement of its existing neighbourhoods. Within this design assignment, conducting research is needed. The Heritage and Architecture department emphasizes this statement: *when a building or an urban plan needs to be redeveloped, conducting research about the history of the development of that subject is essential* [H&A editorial staff, 2014]. To get hold on the housing subject, several topics were spread within our Heritage and Housing group (Interior, Comfort, Construction, Detailing, Facade, Styles, Entrances, Floorplans, Gardens, Street materialisation, Street network, Housing and shops, Housing and working, Housing and health). This topic, adapted to your own fascination, was the guiding line for the research report. Concerning this topic on the one hand a site-specific analysis was made and on the other hand a research on a broader scale was done, as seen in figure 2. This
research report provides an overview of the research conducted during the first quarter and secondly formulates the research questions for further research in the second quarter. Results of the research and the interests lead to the design of interventions.

Motivation

- My choice for graduating at the department of Heritage and Architecture started to manifest itself during my life. I grew up in a 17th century monument within the citycentre of ’s-Hertogenbosch. History, Heritage and Art were recurring elements in my childhood since my father is an archeologist and my mother is artist and involved in archeology as well. Most important is that working with existing buildings is really appealing to me. The stories and secrets that can be revealed on a building site tell a lot about the history and can be often used as inspiration for future interventions. Over time, many buildings lose their function due to changing needs. To survive and not be unused these buildings are in need for other functions. In this period in time the existing building environment is, more than ever, important. In this graduation project it is a challenge for me to intervene in the UNESCO world heritage area of Amsterdam and thereby create a qualitative housing environment in the vibrant city of Amsterdam. Strategies for housing in historic inner cities are very useful in the contemporary society.
Site - The Binnengasthuis area is nowadays located in the historical city center of Amsterdam. Originally, the area was located on the Southern edge of the city of Amsterdam. This area became more and more located in the inner city due to expansions of the city. Originally, the Binnengasthuis area was used for two Monastries. These Monastries had relatively a large building structure with open courtyards within the main structure of the city and were not accessible for the ordinary man. The water was important for the composition of buildings in the area. In 1875 they were filled in to create extra space and a part of the original structure was lost. Nowadays the Binnengasthuis area contains a rich typology of buildings; a sequence of parallel and orthogonal houses, directly attached to each other in the border zone, the buildings around a courtyard called the hofjes and the isolated buildings, the pavillions.

Topic Floorscape - My fascination for this graduation project in combination with the given topic concerning housing (street materialisation) is combined within the theme 'Floorscape'. The Floorscape is an important element of the urban scene. The Floor is the ground or lowermost surface of a specific area on which one stands. The Floorscape can shortly be defined as the public realm on eye level, defined by the surfacing, the plinth, the furniture and the collective memory. A Floorscape’s character is substantially determined by the materials used, the way they are used, and how they interrelate with other materials and landscape features. By making an elaborated research and analysis on the Floorscape of the outdoor space of the Binnengasthuis area, I tried to find the values of the area and its contribution for the city of Amsterdam. My interest is triggered by the visual integration of the public realm. The topic of the Floorscape touches also the idea of transition zones between the public and the private. The floor and the wall can be linked together by a lively building edge to produce the effect of homogeneity. Besides integration also appreciation of people is important. A space can feel more safe if people feel a sense of ownership and responsibility. Within this research report the strengths and weaknesses of the area concerning integration will be discussed with the emphasize on the Floorscape. In the end this results in a program of possibilities and my assignment.
Research Question - The research, consisting of on the one hand the research on a broad scale and on the other hand the site-specific analysis, is guided by an overall research question. This research question is the core of the research as well as the design. The research question for my graduation project evolved after my first impressions of the site and was strengthened by the developed topic of the Floorscape. As described in the introducing chapter, integration and homogeneity of the public realm is important to appreciate a place. Therefore I wanted to find out:

“What is the role of the Floorscape in the support of visual intergation and appreciation of the public realm?”

The research in a broad scale provided a base for answering this question by examining the Floorscape of the Binnengasthuis area on different levels. In my analysis the emphasize is on the relation between the Floorscape and the Architecture, the functionality, the furniture and the social/historical context. In the analysis of the first quarter I explored the tools available or lacking in the Binnengasthuis area in order to improve integration, thus appreciation. To answer the main research question and to elaborate on this subject, the following subquestions are formulated:

1. “How is the Floorscape defined?”
2. “How is visual integration and appreciation defined and how is it perceived by people?”
3. “How did the Floorscape develop from the 16th century on in the city of Amsterdam?”
4. “How did the Floorscape of the Binnengasthuis area develop in 700 years time?”
5. “Is visual integration between the Floorscape and its context in the Binnengasthuis area achieved? Why yes or why no?”
Goals - The goal of this research report is to define the historical values of the Binnengasthuis area. Which aspects, as well tangible as intangible, make the place. By investigating the entire history of the Binnengasthuis area, the site can be better understood. Besides, the history can reveal certain aspects that could lead in the direction the area should be developed. Social, economic and financial aspects are as well important for the future of this site and the way in which it will be developed. Answering the research question with its subquestions could provide guidelines for the design.

Besides the goal of this report, the goal of this whole graduation project is to make a precisely elaborated, integral and beautiful design for housing in the Binnengasthuis area in Amsterdam. The final goal of this project is, besides delivering an elaborated and integral design, to make also a generic strategy for housing environments in historic inner cities. The goal is to get a better insight in ways how to deal with this, at the moment, “trending topic”. Providing integration by intervening and keeping the site specific values in mind are key-aspects in this graduation project. I’d like my final work to be realistic and of use for others in this heritage and architecture sector as well. Besides this I’d like to develop my own position as an architect in the field of Heritage and Architecture. This is important because this graduation studio is the last step in the process towards working in architectural practice.

Methodology - Through out the whole year the design process will continue. To structure this process, the five aspects “formulating”, “moving”, “representing”, “evaluating” and “reflecting” of Lawson are used. [Lawson, B., 2005] The method of this project’s approach is divided into two phases, which are treated differently but are actually very intertwined. Starting with the research question, which is the core of the research as well as the design.

Subquestions will be answered in the first phase, called the research phase. In the first quarter the formulating and reflecting parts of this model are used. It is the part where the problems are identified and explored in order to
understand them. The understanding of these problems result in a design assignment of which the answer of the assignment is the solution for the project. As mentioned before the report exists of the research in a broader scale and the site-specific analysis. The research in a broader scale will focus on the topic concerning housing. The topic of street materialisation is transformed into the topic of the Floorscape within the public realm. The Floorscape itself is studied and its meaning for the public realm. Besides, a lot of time and effort is spend on the site-specific analysis. The area in different periods in history is studied. To identify and explore the problems, the analysis is carried out using different scales; the urban scale of the city and the landscape, the architectural scale of the buildings and the context and the technical aspects of the structure, material and detail. These three focus points are combined within the research report, implicite or explicite. Also personal interests plays a role in identifying a problem. It forms a frame in the analysis, creating a focus on a certain topic in the big picture. Within this report the history, the present situation and the future possibilities will be studied.

Designing is part of the second phase, the phase of production. This phase is based on the research done in the first phase. During the production phase new more specific research is needed to keep in progress. To find the answer for the assignment, the iterative process of moving, representing and reflecting form the main process in the second quarter. Finding a solution for a (partial) problem, representing it in some form and finally evaluating if the solution is the ‘right’ answer for the problem. The methodology for this graduation project is shown in figure 3.
Fig. 3: Methodology scheme report
[own illustration, 2014]
Relevance - The relevance of the central theme of the studio itself, housing in historic inner cities, is high. The demand for housing in an historic inner city area is still increasing. People want to live in a pleasant city and many people are in search of affordable housing. In my opinion, strategies for housing in historic inner cities are very useful in the contemporary society.

The value of my graduation project in a social framework will be revitalizing the Floorscape of the Binnengasthuis area in Amsterdam and thereby better the public realm socially and visually, in combination with housing. This revitalizing can be done by the strategy of urban acupuncture. Urban acupuncture is known as a contemporary strategy of urban regeneration; it implements small scale interventions in such a way that it takes into account the long term goals and the requirements of the area. This strategy views cities as living, breathing organisms and pinpoints areas in need of repair. Sustainable projects, then, serve as needles that revitalize the whole by healing the parts. My assignment can be useful for future transformation projects if the aspects regarding the opportunities and restrictions of housing in historic inner cities made tangible. My strategy for housing in historic inner cities can contribute to the current body of knowledge.
Fig. 4: Methodology scheme theory on the Floorscape
[own illustration, 2014]
1.0 THEORY ON THE FLOORSCAPE

In this first chapter the main research question and subquestions will be discussed. Literature review will be directed towards the perception of people and the integration of the public realm and what the role of the Floorscape can be in this integration.

“What is the role of the Floorscape in the support of visual intergation and appreciation of the public realm?”

- “How is the Floorscape defined?”
- “How is visual integration and appreciation defined and how is it perceived by people?”
1.1 EXPERIENCE OF THE FLOORSCAPE.

To understand the main question “What is the role of the Floorscape in the support of visual integration and appreciation of the public realm?”, first the Floorscape itself has to be defined precisely. In this report the Floorscape of the urban environment is discussed.

DEFINING THE FLOORSCAPE

The Floorscape is an important element of the urban scene. This urban scene is most of the time bounded by sky, walls and floor and is completed with furniture, as seen in figure 6.

To understand the Floorscape we have to define the floor. The ‘floor’ is the ground or lowermost surface of a specific area on which one stands. The most important property of the floor is that it is defined as a horizontal plane. Several principles are used to create space with the floor itself, as seen in figure 7. [Ching, F.D.K., 2007].

A horizontal plane can define space by just a contrasting base plane. An elevated base plane above the groundplane establishes vertical surfaces along its edges that reinforce the visual separation between its field and the surrounding ground. A depressed base plane defines space by utilizing the vertical surfaces of the lowered area. The last possibility is creating space by making an an overhead plane. This defines a volume of space between itself and the groundplane. The ‘floor’ is part of the Floorscape but other elements are involved as well.
FLOOR
The floor is the ground or lowermost surface of a specific area on which one stands. A floor can be light/dark, rough/smooth, plain/intricate. A floor must be an equal partner with the buildings and the nature of its levels, scale, texture and general propriety to produce the effect of sociability and homogeneity. Besides, a floor can be functional aesthetic. A universal convention of colors and patterns can lead to road than can be read at a glance.

SKY
The sky is the appearance of the upper atmosphere, especially with reference to weather. Sometimes the sky can also be defined by a coverage of foliage or by a shed.

WALLS
Walls are an upright structure of masonry, wood, plaster, or other building material serving to enclose, divide, or protect an area, especially a vertical construction forming an inner partition or exterior siding of a building.

STREET FURNITURE
The street furniture is an important aspect of the street scene. It is defined as pieces of equipment, such as streetlights and pillar boxes, placed in the street for the benefit of the public.
So what in the urban scenery is exactly defined as the Floorscape? The Floorscape itself has a broader meaning than just the isolated floor surfacing. The Floorscape deals with the way in which we experience the cities in what we call the ‘public realm’, as seen in figure 7. The Floorscape includes, besides the street surface, as well the facades of buildings and everything that can be seen at eye level. The Floorscape deals with the interface between the public domain and the private domain: the hybrid zone. A hybrid zone is characterized by a transition between those two domains. This transition makes the zone semi-private and is therefore called a hybrid zone. Hybrid zones are a special part of the public domain and important contributors to the experience of the street.

We can unravel the Floorscape into tangible and intangible elements:

<table>
<thead>
<tr>
<th>tangible</th>
<th>intangible</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The surfacing</td>
<td>4. The collective memory (social/historical context)</td>
</tr>
<tr>
<td>2. The plinth</td>
<td></td>
</tr>
<tr>
<td>3. The furniture</td>
<td></td>
</tr>
</tbody>
</table>

These tangible and intangible elements will be separately discussed in the following paragraphs.
**FLOORSCAPE - SURFACING**

**Physical properties** - “The floor underfoot is a very immediate and personal kind of experience for pedestrians. It can be patterned, textured, colored, and thrown like a rich rug underfoot” [Halprin, L., 1963]

Pavement is a detail of the larger urban picture, but it can be a very important one in certain settings. The visual space that is being created is mostly determined by the scale of the paving materials, the colours and the textures.

**Scale, colour and texture** - “Confronted with a man-made object or structure, we grasp all the different scales at once, automatically establishing a scaling hierarch. If the scales are spaced the same way as in natural structures, and if they also correlate with each other, we perceive the structure as a coherent whole” [Salingaros, 2000, p. 227]. Ground plane patterns can perceptually reduce (or increase, if desirable) the expanse of a space. Some have a human scale paving and some have not, as seen in figure 9. With the scale and form of the paving materials can also be referred to the surrounding buildings, as seen in figure 10. Alexander [Alexander et al, 2002] believes that we intuitively sense the degree of “wholeness” in any object in direct correlation to how closely its structure is a “picture of the self”. This is illustrated in figure 11. By this picture of the self he means that we see human qualities such as imperfection, potential, and growth outward from a center. Objects or places in which we recognize that structure are more likely to have ‘meaning’ to us.
**Functionality** - The primary function of any paved area is to provide a hard, dry, non-slip surface that will carry the traffic load. [Carmona, M., 2010] The function of pavement is mentioned by Beazly by the following aspects [Beazly, E. et al, 1990]:

- **practicalities**: to provide a hard, dry, non-slip, load-bearing surface
- **direction**: to guide or restrict pedestrian traffic flows
- **repose**: to encourage slowing or stopping, with non-directional pattern
- **hazard**: to communicate warnings of danger to the pedestrian
- **scale**: to reduce the scale of urban space to human proportions
- **use**: to indicate ownership or appropriate activity
- **character**: to reinforce the existing visual style of a space

Sometimes a direct connection is made between the materialisation of the surface and the functional usage. For example, the difficulty of driving over cobbles makes them at once an obvious surface for stationary vehicles. Obvious, not to the designer but to the motorist who is not tempted to use it. This is the beginning of pattern based on function, as seen in figure 12. *A floor can be functional aesthetic. A universal convention of colors and patterns can lead to road than can be read at a glance.* [Cullen, G., 2009] In the end the possibilities for the design of the Floorscape are immense. By indicating different uses, even conventional behaviour can be established in time due to the Floorscape.

**Innovations** - In today's period, sustainability is more and more integrated in the built environment. Daan Roosegaarde [Roosegaarde, D., 2014] is an artist and architect who combines the current technology with the public life in order to make a sustainable, interactive environment. For example his project the Smart Highway consists of Glowing Lines that charge at day-time, and glow at night for eight hours. Here the landscape becomes energy-neutral and a poetic experience, as seen in figure 14. The street lantern, belonging to the category of street furniture, becomes hereby superfluous. Besides, the a new purpose is given to the Floorscape that makes more valuable.
**FLOORSCAPE - PLINTH**

**Vertical plane vs. horizontal plane** - "The ground floor may be only 10% of a building, but it determines 90% of the building’s contribution to the experience of the environment." [Glaser, M. et al, 2012] Buildings, rich in texture and color, stand on the floor. The relation between the floor and the architecture is the relation between the horizontal plane and the vertical plane. The vertical plane can serve enclosure, division or protection and in combination with the horizontal plane it can define a space.

In the relation between the floor and the architecture can two main types be distinguished. The first type is the type were the floor and the wall are linked and produce the effect of homogeneity. In the second type, the floor and the wall have differentiated characteristics that results in facades that stand out in their environment. If the floor is a connecting surface between and around buildings, it cannot be a neutral ribbon of asphalt flanked by pavements. “It must be considered as an equal partner with the buildings and by the nature of its levels, scale, texture and general propriety, produce the effect of sociability and homogeneity.” [Cullen, G., 2009] The floorscape can be enriched in a design similar to the design of a building facade by repeating and echoing particular motifs or themes, by emphasising changes of materials and/or by dramatising the edge of a paved area.

**The building edge** - The building edge is in fact the zone between the indoors and the outdoors. The “machine-like building”, as Christopher Alexander mentions it, is cut off from its surroundings, isolated, an island. [Alexander, C. et al, 1977] The building with a lively building edge, is connected, part of the social fabric, part of the town, part of the lives of all the people who live and move around it, as seen in figure 16. “There is a marked tendency for both standing and sitting persons to place themselves near something - a facade, pillar, furniture, etc.” [Gehl, J., 1968] When the edge is properly made, it is a realm between realms: it strengthens connection between inside and outside, encourages the formation of groups which cross the boundary, encourages movement which starts on one side and ends on the other, and allows activity to be either on, or in the boundary itself.
## Plinth trends

The design of the plinth is partially depending on the function. Functions as retail, residential, commercial, and social functions face recent developments that provide threats and opportunities for plinths, as seen in figure 18. According to some estimates, due to the combination of the oversupply created in the last ten years and the rise of internet shopping, half the current shops will disappear from our streets. [Glaser, M. et al, 2012] Therefore, in setting up plinth strategies, we also look at new economic functions such as co-working places, restaurants and cafés, social functions such as schools, and most of all residential space on the ground floor.

<table>
<thead>
<tr>
<th>Function</th>
<th>Plinth Threats</th>
<th>Plinth Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>- Online shopping, (far) less retail space needed</td>
<td>- Experience as the crucial factor for competition between urban and internet shopping</td>
</tr>
<tr>
<td></td>
<td>- Oversupply in retail in general</td>
<td>- New specialised shop formulas such as oil and olive and authentic bread shops</td>
</tr>
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<td></td>
<td>- Larger scale shops, chains, caring less about plinths and causing uniformity</td>
<td>- New cultural entrepreneurs</td>
</tr>
<tr>
<td></td>
<td>- Introvert indoor shopping malls that draw all plinth functions to the inside</td>
<td>- Cultural industries</td>
</tr>
<tr>
<td></td>
<td>- Scattered building ownership in shopping streets causing every owner to aim for the highest paying renter in each building</td>
<td>- Temporary popup stores</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Street management shifting from building logic to a street logic</td>
</tr>
<tr>
<td>Commercial</td>
<td>- Co-working: less office space needed, new vacancy, up to 35% fewer square meters needed</td>
<td>- Co-working: interaction and meeting in the plinth</td>
</tr>
<tr>
<td></td>
<td>- Car-oriented complexes with a ‘dead’ ground floor</td>
<td>- Flexible work and meeting-space near public transport junctions</td>
</tr>
<tr>
<td></td>
<td>- Monofunctional working areas on one-sided office and business areas</td>
<td>- Shared use of libraries, museums, government buildings, theatre foyers, sports</td>
</tr>
<tr>
<td></td>
<td>- Office functions on ground floor level with shut blinds and closed character after office hours</td>
<td>- Temporary use of empty plinths</td>
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<tr>
<td></td>
<td></td>
<td>- Crafts, studios and creative sector with service functions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Commercial functions that need a plinth: health, beauty care, food, construction, repair</td>
</tr>
<tr>
<td>Social</td>
<td>- Clusters of social functions in multifunctional accommodations and multifunctional schools that draw all functions to the inside</td>
<td>- Social functions such as elementary schools in the plinth</td>
</tr>
<tr>
<td></td>
<td>- Clustering of education in introvert campuses</td>
<td>- Services in neighbourhoods for care, local police, housing providers, etc.</td>
</tr>
<tr>
<td></td>
<td>- Introvert health complexes</td>
<td>- New broker organisations between users and vacant social property</td>
</tr>
<tr>
<td>Leisure</td>
<td>- Introvert leisure complexes</td>
<td>- Public parts of academies and High schools such as work experience spaces, incubators for starting businesses of students</td>
</tr>
<tr>
<td></td>
<td>- Too high levels of desirability in planning restaurants and cafés in urban development projects</td>
<td>- Restaurants and cafés as traditionally good plinth functions</td>
</tr>
<tr>
<td></td>
<td>- Single focus on leisure in inner city areas</td>
<td>- Temporary cafes and restaurants in vacant plinths</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- More public oriented design of museums, placing museum cafés and shops before the ticket gates with a street orientation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Temporary exhibitions in plinths</td>
</tr>
<tr>
<td>Residential</td>
<td>- Residential buildings and complexes withdrawing from the outside world, gated communities and measures caused by feelings of unsafety</td>
<td>- Urban living: a more plinth-oriented population, eyes on the street</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- New combinations of working and living</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Revival of the urban perimeter block with flexible plinths</td>
</tr>
</tbody>
</table>

Fig 17: Opportunities and Threats of plinth trends [Glaser, M. et al, 2012]
With the plinth, contact can be made with the street scene. Furthermore, the responsibility of people for their street is enlarged; people feel more committed to the neighbourhood. Marlies Rohmer [Rohmer, M., 2007] distinguishes five different transition zones for residential functions; (seen in figure 19-24)

Fig 18: Transition zones: the veranda, the niche, the irregular facade, the double facade and the overhead plane

Fig 19: Clip-on houses, Lelystad 1999-2001 [Rohmer, M., 2007]

Fig 20: Transvaalbuurt, Den Haag 2000-2005 [Rohmer, M., 2007]

Fig 21: Borneo-eland, Amsterdam [Rohmer, M., 2007]

Fig 22: Almere 2001 [Rohmer, M., 2007]

Fig 23: Jan Vet terrein, Amsterdam [Rohmer, M., 2007]
FLOORSCAPE - FURNITURE

Definition street furniture - The Street furniture is an important aspect in the street scene. It is defined as *pieces of equipment, such as streetlights and pillar boxes, placed in the street for the benefit of the public.* [Farlex Inc, 2014] Street furniture can be described as all the hardscape elements other than the floorscape. [Carmona, M. et al, 2010] For example, public art in all its forms is also street furniture. The street furniture can contribute to the identity and character of a place, depending on the quality, organisation and distribution of the street furniture of an urban space. The street furniture, rather than the buildings, creates the quality of the visual scene. Besides the basic furniture systems from manufacturers catalogues, standard items can be customised to give a degree of local identity and to make it unique for its particular place or locality. Street furniture can define a open space more precisely and it could help to make a lively building edge, as mentioned before, see figure 25. Besides, Christopher Alexander [Alexander et al, 1977] mentions; *if there is a reasonable area in the middle, intended for public use, it will be wasted unless there are trees, monuments, seats, fountains - a place where people can protect their backs, as easily as they can around the edge.*

Do’s and don’ts - Sometimes street furniture is extraneous and unnecessary and makes the street obscure and less accessible for pedestrians, as seen in figure 26. Accepting that some furniture is necessary, six basic design principles concerning street furniture are formed by Gillespies [Gillespies, 1995]:
- Design to require and incorporate the minimum of street furniture
- Wherever possible, integrate and combine elements into a single unit
- Remove all superfluous pieces of street furniture
- Consider street furniture as a family of items, in keeping with the quality of the environment and assisting in the unification of the urban area to provide a coherent sense of identity
- Position street furniture to help create and delineate space
- Locate street furniture so as not to impede pedestrian or vehicular traffic or ‘desire lines’
Genius loci - The social/historical context has to do with the so called ‘genius loci’ of the site. Christian Norberg-Schulz [Norberg-Schulz, C., 1991] describes in his book *Genius Loci: towards a phenomenology of architecture* the value of locality. Genius loci is originally the “religious, protective spirit of a place”. In contemporary usage, genius loci usually refers to a location’s distinctive atmosphere, rather than necessarily a religious spirit. In the opinion of Norberg-Schulz cities derive their identity from the genius loci; the particular historical context of that location. This genius loci consists of both tangible - and intangible phenomena. Street patterns can be influenced by the typography of the Floorscape. For example in the Piazza del Campo, the travertine stripes running along fall lines emphasize the bowl shape of the Floorscape and its location in a natural saddle between ridges, as seen in figure 27. A design that fits the natural features of a region may lead to deeper meanings than one based on man-made, artificial structures or formal artistic principles. [Hough, M., 1990; Norberg-Schulz, C., 1991]

Symbolism - Besides the genius loci, the social/historical context in relation with the Floorscape can refer to symbolism in historical or ideological foundation and to religious, cosmic or other universal concepts. [Lien, B., 2005] These religious references were often used in paving and building design in the past. But in a culturally and spiritually diverse society like today’s society, religious references might not be as appropriate as references to nature, the cosmos, and other concepts fundamental to the human experience. For example, natural cycles might be recognized by a paving pattern’s interaction with the shadows cast on it, or other effects of changing light or weather conditions in the course of a day or year, as seen in figure 28.
Perception - Phenomenology is an important concept in the field of philosophy and architecture. The aim of phenomenology is to investigate phenomena. All these phenomena are related to the visual, the auditory and the tactile. People use their senses to gather information about their environment in these three fields separately. We are not able to directly observe the reality itself but we see only the phenomena of the reality. Philosophers in the field of phenomenology are concerned with the question of how the world appears to our human consciousness. [Van den Eertwegh, P., 2003] Every sense discovers individual characteristics of what we perceive, the so called physiological processes. [Sternberg, E., 2009] The brains integrate all these individual characteristics and summarize them in a three-dimensional and richly colored scene that tells where we are. Our personal perception or awareness, consists of both the before mentioned physiological processes and on the other hand the perceptual processes. [Nijhuis, S., 2011] The physiological processes of the senses report what we directly see. The perceptual processes relate to interpretation, experiences and memories of what we see. Experiences are created by a connection of sensory stimuli and its perception and reflection on this. Similarities are visible between the way in which a person experiences a space and the way a person looks at a painting. In figure 28 is shown what pattern the eye creates when looking at a picture of a face. The eye focuses on the eyes and mouth as anchor points in the face. These provide information on the state of mind in which it is located. In fact,
this is the same in an urban setting. One is always focused on interesting points, landmarks, resulting in movement through space, as seen in figure 28. While moving through the city we either move with intent or we meander, walking around aimlessly. We do this moving pattern by following a certain reading of our surroundings. This reading of the surroundings has been defined as ‘wayfinding’. Wayfinding is not an isolated activity, but this is a piece of the urban puzzle. [Glaser, M. et al, 2012] The solution for wayfinding in the built environment is in the signage. Through signage, we can abstract the city and all its plinths into a set of destinations or landmarks, which we assume are the main destinations any one person would need to go to in a particular city. We can map these landmarks that are strategically placed at nodes and intersections, allowing us to make the decision to go left, right or forward. “Our experience of the city, our experience of a plinth, is not through a preset system of signs, nor is it through reading a map, or even reading a tourist book if we are visiting the city for the first time. Our experience of the city is what happens in between, the moments along the way.” [Glaser, M. et al, 2012]

Appreciation and integration - Aesthetic appreciation of the urban environment is primarily visual and through movement, as discussed in the above. Experiencing the urban environments is, nonetheless, multisensory; hearing, smelling and tactility can be more important than vision. Perception is, what sensory stimuli we perceive and most importantly, how we process, interpret, judge and feel about the information that is gathered. This is inseparable from, and significantly influenced by, how we feel about a particular place, and how we value it. People are drawn to environments that they can see and feel as a whole entity, and may be confused or repelled by disjointed, chaotic environments [Carmona, M. et al, 2010]. These environments consist of tangible and intangible elements, both can have
a strong influence on an observer’s state of mind and their reaction to an
their environments in terms of much broader criteria. He identified five
attributes of ‘well appreciated’ environments, with disliked environments
having opposing attributes. These attributes were translated into a series of
generalised preferences:

- **Naturalness**: environments that are natural or where there is a
  predominance of natural over built elements.

- **Upkeep/civilities**: environments that appear to be looked after and cared for.

- **Openness and defined space**: the blending of defined open space with
  panoramas and vistas of pleasant elements.

- **Historical significance/content**: environments that provoke favourable
  associations.

- **Order**: organisation, coherence, congruity, legibility, clarity.

Alexander [Alexander et al, 2002] defines fifteen fundamental properties
to create ‘Wholeness’. This wholeness can be seen as a integrated space.
These fifteen properties identify the character of living systems. They are
the principal ways in which centers can be strengthened by other centers.
They are not independent of each other, but they rely on - and reinforce each
other, as seen in figure 29. For me, creating a visual integrated Floorscape
is creating a coherent unity that is well defined and in which every part is
important (across a range of scales) and the whole is greater than each aspect
individually.

The Floorscape is an important aspect when creating a harmonious and
integrated unity within the public realm. There are two main types of flooring
in urban areas: ‘hard’ flooring and ‘soft’ flooring: the focus in this report is on
the hard flooring. A floorscape’s character is substantially determined by the
materials used, the way they are used, and how they interrelate with other materials and landscape features. Edging detail is important in visually linking with the facades defining the space, aiding the transition from the horizontal to the vertical plane. The space that is created may be more or less ambiguous or well defined. Vertical elements can range from a line of lamp posts to a simple change in level. Not every side of a space needs to be enclosed in order to define it. Often it is enough to imply the edge of a space with a single element. Requiring careful consideration, this transition is often an indicator of the quality of the Floorscape.

Fig 29: The fifteen fundamental properties of Wholeness
[Kubala Washatko Architects, 2011]
1.2 RESULTS

“How is the Floorscape defined?” The Floorscape is being defined as the public realm on eye level, which includes the surfacing, the plinth, the furniture and the collective memory (social/historical context). The floor and the wall can be linked together by a lively building edge or a plinth to produce the effect of homogeneity. Best is to incorporate the minimum of furniture and to customize it to give a degree of local identity. Functional usage and patterns/innovations can be combined to decrease the signage and street furniture. Taking the historical context into account when designing the Floorscape, strengthens the identity of the place.

“How is visual integration and appreciation defined and how is it perceived by people?”

Our personal perception or awareness, consists of both physiological processes and perceptual processes. Perception is, what sensory stimuli we perceive and most importantly, how we process, interpret, judge and feel about the information that is gathered. Overall, people are drawn to environments that they can see and feel as a whole entity: integrated places. These places are coherent unities that are well defined and in which every part is important (across a range of scales) and the whole is greater than each aspect individually. The Floorscape is an important aspect when creating a harmonious and integrated public space. To achieve a visual integrated public realm the transition between the different elements within the Floorscape, the surfacing, plinth, furniture and the collective memory, is crucial.
Fig 30: Positive and negative examples of Delft’s city centre plinths above Vrouw Juttenland and Choorstraat below Kruisstraat and Molslaan
[Google Maps, 2014]
Fig. 31: Methodology scheme theory on the Floorscape
[own illustration, 2014]
In this first chapter the main research question and subquestions will be discussed. Literature review will be directed towards the perception of people and the integration of the public realm and what the role of the Floorscape can be in this integration.

“What is the role of the Floorscape in the support of visual integration and appreciation of the public realm?”

- “How did the Floorscape develop from the 16th century on in the city of Amsterdam?”
In this paragraph the development of the Floorscape will be discussed over time in Amsterdam. The relationships between the Floorscape and the architecture, functionality, furniture and social/historical context, as mentioned in the last paragraph will be emphasised in the diagrams of the generic Floorscape of different periods in time.

The Floorscape of the 16th Century

Paving design - The social life on the streets has completely changed over time. An elementary aspect of the Floorscape that will be discussed, is the pavement. In the Medieval period the construction of the pavement is not the responsibility of the government. Every home-owner was expected to pave the space in front of his house himself and take maintenance of it [Lesger, C., 2013]. At the moment that some streets shifted in function from residential street to streets important for the traffic flow, the government became involved in the construction of the pavement.

The government observed if the obligatory maintenance on the pavement was achieved. The result of the private maintenance service was a varied pavement consisting of a combination of natural stone cobbles and bricks within a street. In the 16th century people were not satisfied with the variations in the pavement. In the year of 1524 a paviour was for the first time installed in order to make a uniform paving design for the streets. The costs were charged on the owners of the surrounding houses of the street. In 1556 the government made the decision to make a whole new paving design for the main streets of Amsterdam. Most likely because the results of the system of the paviours was not that overwhelming. For the first time the owners of the houses surrounding the streets must pay for their streets. The maintenance as well as the paving design itself was
payed with this money. In 1593 this system is extended to the most important traffic flows. These early modern streets were paved in an uniform way but were far from comfortable. The paving of mostly cobbles had good resistance to the steel strips of cartwheels and the hoof of the cart horses but was little accessible for pedestrians because of their irregular shape. To make the streets more comfortable for the workmen wooden boards were placed on the pavement. Gutters were located in the road surface to transport the rainwater and the waste water coming from the surrounding houses to the canals. A small part of the gutter could be covered by wooden boards to have acces to the entrances of the houses, as seen in figure 41. The accessibility of the streets was bad with the half covered gutters and the wooden boards spread all over the streets. The streets are messy and hygiene lacked. Besides, the streets were filled with building materials and wares. It was allowed to use the private sidewalk, the so called 'stoep' in Dutch, in front of the house as storage.

The ‘stoep’, different from the so called ‘trottoir’ later on, is one of the most characteristic elements of the Medieval streetscene. The ‘stoep’ is an important element for the retail business of that period. Every house had its own stoep, that could be used as one pleased. The variety of interpretations of the stoep was wide. The social life of the streets took mostly place in - and around this area. Seen from the street, the stoep is the transition zone to the front part of the house, where the public domain shifts into the private domain. The stoep can be described as the most public part of the house; the place where the inhabitants and the passer-by met. The stoep had the function to show wares and to sell them. The essence of the stoep is well expressed in the painting ‘Het spijzigen der hongerigen’ made by the master of Alkmaar around 1504, as seen in figure 32. The stoep distinguishes itself in this painting
by the paving and the small wall. The wall could be used as a bench because of its low height, a so called ‘stoepbank’. The stoep changed a lot at the moment that the basement became more and more popular in the Amsterdam street. People were using these basements as independent spaces and this resulted in new entrances in the zoning of the stoep. In most cases these entrances consisted of just a few steps leading to the front door and/or a cellar hole with a staircase to the partly under ground level located basement. For safety reasons these cellar holes were fenced with wooden screens. Another usage of the stoep is the so called ‘pothuis’, as seen in figure 33. Originally a pothuis was a buried water butt. People could collect rain water at the basement via this pothuis. Later on these pothuizen were used to
Introduction of the tree in the streetscape - On the floorplan of Pieter Bast dating from 1597 is for the first time a systematic plantation of trees along a canal noticeable, as seen in figure 35. The location was on the inner side of the city wall dating from 1585, the Western canal that later on, around 1610, would change in the Herengracht. The first trees were planted on a Renaissance way; with a fixed distance between of 7.20 meters [Schoonenberg, W.]. Probably, these Renaissance ideas came from Palladio and its book Quattro libri dell’architettura (1570). In this book, he payed attention to the street within the city: “The beauty that gracious buildings along the street can give, can be reinforced when both sides of the streets are planted with trees that because of their leaves fresh up the identity of the street and due to their shadows provide comfort”. [Taverne, E.] The main part of the population was enthusiastic about the systematic planting of trees. Tomaso Contarini wrote in 1610: “The city is cut by canals, like Venice. In the new part these are wide and right-angled with on both sides broad streets, like in Cannareggio (a district in Venice), but with more beauty because they are along the full length planted with a sequence of trees, called linden-trees, that because of their natural atmosphere contribute to the beauty of the city”. [Bakker, B.] The systematic planting of trees along the canals is part of the “ideal city” that the urban developers of Amsterdam transferred from the books of Palladio. The famous painting called ‘de bocht in de Herengracht’ is made by Gerrit Berckheyde in 1672. Due to the absence of the trees in the painting the facades gain more attention, as seen in figure 20. This does not prove that there were no trees at that moment on the Herengracht or no plantation plans. Other images of the Herengracht of that time period on the contrary show trees, just like the preliminary study of the painter, as seen in figure 36. Most probably the absence of the trees was done on purpose by the painter. Another possibility is that the owner of the painting rather wanted to have attention for the facades of the canal houses instead of having a realistic painting.
**FLOORSCAPE - PLINTH.**
- Stoep as building edge, transition zone between the floorscape and the architecture, the public and the private.

**FLOORSCAPE - FURNITURE.**
- Carriages with steel strips of the cart wheels
- No street-lighting
- Stoepbank
- Pothuis
- Tree

**FLOORSCAPE - SURFACING.**
- Gutter in the streets for the transportation of wastewater
- Cobbles used because of carriages and cart horses
- Stoep for showing wares

**FLOORSCAPE - MEMORY.**
- Responsibility of paving design was by the inhabitants itself, fragmented pavement.

Fig. 38: Floorscape in the beginning of the 16th century [own illustration, 2014]
accommodate storage or working spaces of craftsman.

**THE FLOORSCAPE OF THE 17TH CENTURY**

*Introduction of the car in the streetscene - In the 17th century the streetscene is crowded. The growing amount of wealthy people are driving in their carriage through the city. The carriages are comfortable and give themselves a high social status, as seen in figure 39. The government gives its reaction on the traffic density with a sequence of measures [Lesger, C., 2014]. If possible, streets are being enlarged to give the traffic flows space in the Medieval city. The shape of some houses at corners of the streets is chamfered to improve the traffic flow. Some streets are only one-way traffic roads with stopping prohibitions. In 1634 several measures are taken against the use of private carriages. These carriages with horses in front of them endanger the other road users in the narrow alleys. This policy is maintained for just a short period of time. After some decades the use of carriages is allowed for transportations within the innercity and abroad. People with carriages have to pay taxes for the first time.*

**Paving design -** The government resists to the growing use of carriages because they damage the pavement of the streets. The paving design is again being renewed and combined in a new uniform and standard pavement for Amsterdam. This standard pavement is adapted to the use of the road surface. Durability is an aspect that is important with the usage of carriages and other vehicles. Not only the steel strips of the cartwheels but also the hoof of the cart horses were damaging the pavement. The cobbles of granite or basalt were little accessible for pedestrians because of their irregular shape and the street refuse that remained in between the cobbles. To
make the streets more comfortable and hygienic an area along the stoep was paved with bricks, of a much smaller size than is used today. Because the bricks were less durable than the cobbles the carriages were forbidden to access this area. In 1634 the inhabitants must raise their stoep and pave it, as long as this was not already been done in the past. In 1672 the paving design of the stoep is obliged to be yellow clinker bricks, called ‘IJsselklinkers’ in Dutch, as seen in figure 42. Most likely the yellow clinker bricks were used before as well. At this moment in history the pavement is very important for the town image. The system of gutters to transport waste - and rainwater is adapted as well. The open gutters are replaced by bricklaying gutters underneath the road surfacing. In most parts of the city the streets became more and more accessible. Big adaptations are made in the street-lighting as well. In the 16th century street-lighting is very rare. In 1595 is determined that every twelfth house in the street has to put a lantern with a burning candle outside at sunset. Public street-lighting must have had a revolutionary character. Before the street was a place you would rather not show up after sunset. The time period of the public life on the streets is enlarged through the introduction of the street-lighting.
**FLOORSCAPE - PLINTH.**
- Stoep as building edge, transition zone between the floorscape and the architecture, the public and the private

**FLOORSCAPE - MEMORY.**
- Growing amount of wealthy people
- Durability and unity becomes more important in the streetscene
- Hygiene is important

**FLOORSCAPE - FURNITURE.**
- A lot of private carriages with steel strips of the cart wheels
- First street-lighting, revolutionary!
- Pothuis transformed into storage

**FLOORSCAPE - SURFACING.**
- Bricklaying gutters underneath the road surfacing
- Cobbles used because of carriages and cart horses
- Clinker bricks in between the road and the stoep
- Stoep paved with yellow IJsselklinkers

Fig. 44: Floorscape in the 17th - and 18th century [own illustration, 2014]
THE FLOORSCAPE SINCE THE 18TH CENTURY UNTIL NOW

ir. Nanette de Jong describes that the paving design of the canal streets, derived in the 17th century, has hardly changed until now if we search for old paintings and other images. [van Rooijen, J., 2004] The painting of Hendrik Keun dating from 1770 shows that the walls of the waterside have the same materialisation as the stoep and the paving zone of the trees, as seen in figure 43. The carriageway consists of greyish cobbles, so called ‘kinderkopjes’ in Dutch, as seen in figure 45 and 47. The streets are in one and the same level and zoning is only made by variety in materialisation. The range of colouring in the paving design connected to the colourful facades. Images of Amsterdam in the 18th century make clear that the traditional area of the stoep with its pothuizen, cellar holes, stoepbanken and fences are still making the street scene. The area that connects to the facade is in this period in time still part of the private houses.

At the end of the 19th century, trottoirs or walkways were introduced in our country in imitation of Paris. In comparison with the stoep the trottoirs were elevated and seperated from the road to protect the pedestrian against cars. Initially the trottoirs were framed with raised bricks, later on the bricks were replaced by a bond of natural stone. Amsterdam differentiated itself from other cities in the 19th century because it was a city without trottoirs. Only in some shopping areas...
streets the trottoir was established in Amsterdam [Lesger, C., 2013]. Most of the kinderkopjes were in this period in time replaced by red/brown clinker bricks due to the introduction of the pneumatic tyre in stead of the steel cartwheels. Besides the change of materialisation, the profile of the typical canal street did not change that much up to the 20th century. One of the most important aspects of the floorscape of the canal street is still visible today: the separation of the pavement in three zones without any elevations. In the 20th century the traffic on the streets is increasing. Originally, Amsterdam is a city where transportation of wares is being done by waterways. People theirselves move originally by foot what made the city less accessible for traffic. The most important part of the early modern street scene is the fact that the government considered the stoep as their property with the result that in the late 19th and in the beginning of the 20th century the stoep disappears in the streetscene. With the construction of the trottoirs in the 20th century, the problem of the traffic was not solved. In this period in time asphalt had the most potential as paving material for the streets. Wether a street was asphaltated or not showed what the most important streets in the traffic flow were in this period. The construction of trottoirs, the asphalting of the streets and the increase of traffic rules were improvements in the street scene. Nevertheless the traffic flows remained and still remain problematic for the city of Amsterdam. Serious intervention took place in the urban fabric: street enlargement and filling in of the canals. Another important reason for the filling in of the canals, besides creating space for the traffic flow, was a hygienic reason. Especially among the poorer population of the city, as seen in figure 46, were high death rates caused by epidemic diseases like cholera. Other factors that played a role in the filling in of the canals were the high
cost of maintenance for the canals and bridges, the renewing of the waterside and the new sophisticated appearance that the city was looking for. In 1857, for hygienic reasons, the Goudsbloemgracht was filled in, resulting in the current Willemstraat. The people considered the filling in of the canals at that period in time as progressive. After the disappearance of some canals in the Jordaan, the canals of the historic innercity were next. The conflict between the importance of the water traffic and the increase in road traffic clashed. In 1894 the Warmoesgracht was filled in; a short, beautiful canal with large trees, as seen in figure 48 and 49. Around 1900 the local authority made plans to fill in the Reguliersgracht, for traffic reasons. This has been fiercely protested by the Society Amstelodamum, the Royal Antiquarian Society and the artists’ society Arti et Amicitiae. The fight for the preservation of town-image had begun. The Reguliersgracht was saved until this day. However, a new period of fillings begun in the thirties of the 20th century. The Rokin and the Vijzelgracht were filled in, despite the protests of the population. In the fifties, it was suggested to fill in again some canals for traffic reasons. The protest in the population was massively. The shift in the public opinion made the local authority express the “filling in of the canals” in a new way, as the broadening of the waterside to have less noise of the population. Supporters and opponents of the filling were clashing with arguments relied first on the smell, later on the growing demands of traffic and hence adaptation to modern times, with no room for an exaggerated look at the scenic of Amsterdam’s past. The proponents countered the arguments of the opponents. They would live too much in the past without having to meet the requirements of modern times. The opponents of the filling in relied on the beauty of the canals, which were seen as the gifts of deliberate planning. Fillings were called “a cowardly and spineless imitation of foreign cities.” After almost a century, although the systematic filling in of the canals stopped, the amount of square meters of water in the canals is still reducing. Interventions in the public space regularly reduce some parts of the water surface. The filling in of the canals in the last century do not show an overall vision; it have often been isolated interventions. Reducing the water surface did in the end not solve the problem of the traffic in the Amsterdam city.

Concerning the paving materials themself, at the beginning of the twentieth century, cement-bounded products were often used in concrete tiles of 30x30 cm. Anywhere in the city this paving material had since the first use an unprecedented success, and is nowadays still an increasingly widespread material. After WWII the asphalt was, again, advancing because of its driving comfort. Concrete paving stones were often used in the 70s /80s because of their low costs and usability. It seemed like a good and cheap alternative for the brick. He certainly was cheaper, but nowadays it is clear that cheap was expensive in this case. The technical quality of the concrete paving stone may be good, the quality of the appearance is mediocre if not bad. After the construction it might still looks nice, but it soon becomes apparent that the stones lose their colors and remain like pale gray plains. Thus one makes nowadays more use of the ‘old’ brick. In the city, the old paving materials of the canal streets are mostly replaced by bricks.
**FLOORSCAPE - PLINTH.**
- less interaction between the private and the public domain, the street and the Floorscape, due to the disappearance of the stoep in a lot of streets

**FLOORSCAPE - MEMORY.**
- growing amount of car traffic
- government considers the stoep as their property: disappears in the street scene
- introduction of the pneumatic tyre

**FLOORSCAPE - FURNITURE.**
- a lot of cars in the streets
- street lantern posts
- bycicles in the streets

**FLOORSCAPE - SURFACING.**
- bricklaying gutters underneath the road surfacing
- clinker bricks used because of the pneumatic tyre in stead of the steel cartwheels
- introduction of the trottoir in the street scene

Fig. 50: Floorscape in the end 19th - and 20th century [own illustration, 2014]
THE TENDENS OF TODAY

The above discussed history is still clearly visible in the street scene of Amsterdam. “The street is an archive, history leaves its traces everywhere.” [Brunt, L. and Tamboer, K., 2007]

The current agreements on the materialisation of the streets in Amsterdam are combined in the so called “Puccinimethode”. This Puccinimethode answers the question “how to set the streets and squares so that there is a durable, strong, typical Amsterdam ‘floor’ created that suits the busy urban life?” In most cases, the Amsterdam public space can best be described as ‘fragmented’ in the current situation. Each street seems to be designed according to different principles. Moreover, many experiments with different materials are visible. Coherence and integration is lacking. The Puccinimethode aims to develop a collective, natural Amsterdam tradition and culture within a coherent -, durable -, identifiable - and logic street scene. [Miskotte, H. et al, 2009]

The Puccinimethode is based on six beliefs:
1. Choose, rather than share
   This belief deals with the large traffic flow and the different users of Amsterdam.
2. Simplicity and clarity of purpose
   The quality of the design proposal is most important; spatial, functional and fine detailed.
3. Craftmanship and expertise are essential
   Expertise is the basic element to create a well defined public space.
4. Fine detailing is crucial
   The small and the large scale are connected with
eachother and of the same importance.

5. A good plan is a manageable plan
   After the construction, the paving design still
   needs maintenance.

6. Work together!
   Different disciplines with other aims have to col-
   laborate.

The City of Amsterdam is determined to continue improving the metropolitan environment. Five urban
zones are taken into account for the design of the public place; the historical center, the 19th century zone,
the zone 20-40, the postwar city and the new transformation areas around the IJ, as seen in figure 51, 52
and 53. Design principles and materials are characteristic for the appearance of the city of Amsterdam.
[Gemeente Amsterdam, 2013] They together make the “typical Amsterdam street” or public space. Red
clinker bricks, black asphalt, 30x30 centimer grey concrete tiles and kerbs of natural stone are the basic
materials for the design of streets and squares in the city of Amsterdam for the last eighty years.
"How did the Floorscape develop from the 16th century on in the city of Amsterdam?"

The Floorscape shifted a lot since the 16th century, as seen in figure 54. The stoep and the pothuis were the most important elements of the Floorscape in the 16th century. Every home-owner was expected to pave the stoep in front of his house himself and take maintenance of it. This resulted in messy, crowded streets paved with cobbles and with open gutters for the transportation of wastewater. In the 17th and 18th century durability and unity becomes more important due to the growing amount of wealthy people with private carriages. This increasing traffic results in a new zoning next to the stoep for pedestrians. The paving design of the stoep is obliged to be yellow IJsselklinkers. The streets become more safe and hygienic because the gutters are placed underneath the road surfacing and for the first time street lighting is used. In the 19th and 20th century the stoep disappears in the street scene and makes the building edges less lively. The paving design of the street shifts from cobbles to clinker bricks due to the replacement of the steel cartwheels by the pneumatic tyre. The trottoir, the elevated pedestrian area, is introduced. Nowadays the public space can best be described as fragmented due to the experiments with materials and the different design principles.
Fig. 54: Floorscape from past to present
[own illustration, 2014]
After this elaborated research on the history of the Floorscape from the 16th century onwards, we can pose that the Floorscape shifted a lot over time. Lessons can be learned from the history and it’s Floorscape.

**Surfacing** - The street surfacing has improved a lot in time. The streets in the 16th century were way more fragmented due to the lack of agreements on paving materials. But in the end the greatest single loss suffered, is neutralization of the floor, the space between buildings, which has changed over time from a connecting surface to a dividing surface due to the disappearance of the stoep. It has also changed from a particular to a more generalized surface. In texture and colour, differences were made for accessibility of different users. We can learn from the past that the surfacing can be more than just hard, dry, non-slip surface that will carry the traffic load. Aesthetics and functionality can reinforce eachother and can give the surfacing meaning. In the current time period, even new innovations can be added to the surfacing.

**Plinth** - The streets were in the past lively because some program was located in the front part of the house and thereby in a part of the street scene, the stoep and the pothuis. For a shop it was in the 17th century for example the perfect place to show and sell products to the passer-by. We can learn from the past that the plinth can show what the function and atmosphere of the street is. Depending on the function the atmosphere, materialisation and accessibility of the plinth can be very different. This is important to make the street in a implicit way legible.

**Furniture** - Hygiene and safety have improved a lot by the introduction of the street lanterns and the renewing of the gutters underneath the road surface. Shops were able to extend their opening hours, because streets became more accessible during the evenings as well due to the street lanterns. People felt more safe on the streets and this made that the accessibility time of the lively street scene was being enlarged to the evening. We can learn from the past that refined street lighting is very important for the use of a public space.

**Collective memory** - Nowadays agreements are made on the materialisation of the streets in Amsterdam in order to make a coherent, durable, indentifiable and
logic street scene. Identity is important for a location and its use. In this way, we can distinguish the street scene of Amsterdam from the street scene of Rotterdam for example. This is important to maintain the local atmosphere and the collective memory of the city. We can learn from the past that Amsterdam was very much known for their “green” streets, full of trees. In this way, Amsterdam distinguished itself from a city like Venice.

**In general** - I can conclude that pedestrians linger in streets with high spatial quality for greater amounts of time while streets with lower spatial qualities are mostly used as a route and not a place to stay. The exception to this observation is when attractive, mixed-use programs invite people to the space. Important, high-quality streets with mixed programs, leisure activities, and meaningful, historic landmarks continue to be the main attractors for today’s visitors. “Patterns of use depend on land use (activities) and network (efficiency, accessibility).” [Glaser, M. et al, 2012] Walking around, people make choices depending on their existing knowledge of the city and on their chances for creating new knowledge of the city. Using the main streets provides the opportunity to stop here and there. Sometimes these stops are not planned – they’re impulsive. That’s what the city should offer – impulses for the unintended. Without new encounters, we have no impulses.
Fig. 55: Methodology scheme Floorscape of the BG area
[own illustration, 2014]
In this second chapter again subquestions will be discussed. Analysis of the site will find answers on these questions and describe the identity of the Binnengasthuis area itself.

“What is the role of the Floorscape in the support of visual integration and appreciation of the public realm?”

- “How did the Floorscape of the Binnengasthuis area develop in 700 years time?”
- “Is visual integration between the Floorscape and its context in the Binnen gasthuis area achieved? Why yes or why no?”
The soil of Amsterdam - Amsterdam is a city, consisting of several layers of cultural history. Various urban typologies are visible: the historical center, the 19th century zone, the zone ‘20 -’40 and the postwar city. All these typologies have one aspect in common: they are all built on the soil of Amsterdam. The soil in Amsterdam consists of sand, clay and peat. [Miskotte, H. et al, 2009] This peat is weak, a swamp where nothing remains straight over a period in time. This results in subsiding, that is a common occurrence in Amsterdam. The typical use of wooden piles for the foundation of houses and other buildings is therefore needed in Amsterdam. Long wooden beams were drilled into the soil to reach the firmer sediment layer of sand, as shown in figure 56. The poles were placed in pairs, next to each other, with an equal distance between the pairs. The piles have to be kept under water to maintain an anaerobic environment and avoid rotting. The water levels in the city have therefore always been carefully maintained. Heavy foundation beams were nailed on top of the poles, which were first cut at the same level. These formed the basis for the house. [J. Paul Getty Trust, unknown]

The development of Amsterdam - The Binnengasthuis area is located in the historical center of Amsterdam and is enclosed by the Kloveniersburgwal, the Amstel,
the Oude Turfmarkt, the Slijkstraat, the Oudezijds Achterburgwal and the Grimburgwal. The Binnengasthuis area was originally located on the Southern edge of the city of Amsterdam. This area became more and more located in the inner city due to expansions of the city, as shown in figure 57. In 1369 the border of the city was along the Oudezijds Achterburgwal. Just a part of the Binnengasthuis area was located within the boundaries of the city. In 1420 the Kloveniersburgwal was established and thereby the whole area was located within the city.

Vision on the Floorscape in Amsterdam - The blueprint map [Miskotte, H. et al, 2009], as seen in figure 58, from the Puccinimethode, highlights three aspects: a division of the city into ‘zones’ (the zones of urban expansion over time) and agreements about the materials to be used within each one, an indication of the main roads, and a proposal for the ‘exceptional sites’ in the city. The blueprint map shows the main roads of the city containing a high traffic flow. The Binnengasthuis area is, already mentioned, located in the zone of the historic inner city. The agreement is that the trottoirs in this zone are paved with bricks. The paving materials of the road itself depends on the maximum speed of the traffic: 30 km/h road is paved with red clinker bricks and the 50 km/h road is asphaltated. Asphalt is more durable which is essential in a street with a lot of traffic. A star on this map means that it is a special place for the city of Amsterdam. These places, including the Binnengasthuis area as shown in the figure, deserve a more high quality, deviating pavement in the Floorscape. Not only subsiding of the houses, as mentioned before, but also subsiding of the pavement is an issue. Subsiding of the pavement occurs in different rates depending on the material used. In Amsterdam, it is wise to use small paving materials. If then small subsidences occur, it is not so clearly visible; the small material molds easily to the surface. For large tiles the subsiding will be clearly visible. The Amsterdam soil thereby limits the paving design options for the Floorscape.
To understand the Binnengasthuis area, we need to research the 700 years during development of the area. The area experienced a lot of transformations during the years. Due to this rich history an accumulation of historical layers is created.

Morphological development of the BG area - From the 14th century onwards, the former Binnengasthuis area was used for the so called Old - and New Monastery. The map of Cornelis Antonisz dating from 1544, as seen in figure 59, shows that the Oudezijds Achterburgwal separated the both Monastries and continued to the river Amstel. The Monastries had relatively a large building structure within the main structure of the city. Alleys between the buildings were the only paths from East to West. The Monastries were focused on the inside and from the outside not accessible for the ordinary man. Only the churches were open for public. The intern structure of the area deviated from the structure of the inner city. The structure contained a lot of courtyards, vegetable gardens and orchards. The structure can be described by clusters of open spaces surrounded by buildings and tall walls. In 1490 building space was created by the filling in of the Amstelhoever. After the Alteration of 1578, the period in which the Catholic city government was deposed in favor of a Protestant one, the Monastries were expropriated. The new large function of the hospital replaced the former Monastries and re-used the existing buildings.

In the 17th century a large number of houses were built in order to gain income for the hospital, for example the “Nummerhuizen” located on the Kloveniersburgwal. Also the Oude Turfmarkt was enriched with 9 large
houses, designed by Philips Vingboons. This resulted in a border of luxurious houses around the hospital within the area. A large amount of buildings was built, for example the “Gasthuishof”, a pharmacy building and an anatomy building. The functions of the area kept on renewing and the density of the buildings increased. The outdoor spaces were used for herb gardens and bleaching, as seen in figure 60.

In the 18th century the hospital had a large part of the area in function but sold a lot of their property to individuals and institutions. The Dutch National Bank bought for example the buildings on the Oude Turfmarkt. These properties were partly repurchased in the 19th century to accommodate the expanding hospital. The densification that occurred in this period changed the former structure of the parallel, orthogonal buildings. The original proportion between the outdoor - and the indoor space is lost. In 1860 a part of the canal along the Oude Turfmarkt is filled in. In 1868-1870 the hospital is again enlarged. In the end of the 19th century the last buildings dating from the period of the Monastery, were mostly demolished. Leguyt designed a new clinical hospital. The last expansions of the hospital were completed in 1913 by a design of J.M. van der Meij. In the Nieuwe Doelenstraat the “Hotel des Pays-Bas” was demolished in order to create a site for the the new hospital building, that was in the end rejected. Up to now this area is not rebuilt. In 1880 the hospital left the Binnengasthuis area.
The Binnengasthuisterrein is an enclave within the city of Amsterdam nowadays. In the original situation two canals were located within the area itself. The water was important for the composition of buildings in the area. In 1875 they were filled in to create extra space. This resulted in a significant change in the structure of the area and the coherence between the outdoor - and the indoor space. The closed border of parallel and orthogonal houses is mostly sustained and gives the Binnengasthuis the character of a hidden place. Besides the border, two other building principles are visible in the area. One the one hand the building principle of buildings around courtyards, focused on the inside, consists. On the other hand the pavillion principle is used on the site. Over the years, several restructuring projects were designed for the area. The residential houses of Paul de Leij were designed in 1981 in combination with the conservation and restoration of some existing buildings in the area. The Binnengasthuis area functions in the current situation as a base for the University of Amsterdam (UvA) and represents the ancient relationship between the university and the inner city of Amsterdam. Some of the faculties of the UvA, now scattered across the inner city of Amsterdam, will in the future move to the Binnengasthuisarea.

I agree with the value assessment concerning the Binnengasthuisarea as an ensemble [Rijksdienst voor het Cultureel Erfgoed, 2014]: “The former Binnengasthuis complex is of general interest because of its cultural and medical-historical value. It is a representation of the 19th century modernization of ancient hospitals by expansion in scale. It is of importance for the city of Amsterdam as unique and only remaining large hospital.”
Scenes of the BG area - Mentioned in paragraph 1.1 appreciating the Floorscape, we assume that people are focused on interesting points, landmarks, resulting in movement through space. We move by following a certain reading of our surroundings. I tried to map the landmarks that define the urban puzzle of the Binnengasthuis area.

The Binnengasthuis area is embraced by the streets along the canals, that are typical for Amsterdam, as seen in figure 69. These city centre streets are well defined and have a clearly recognizable materialisation and composition. The streets have many barriers, such as canals, on-going building blocks, and wide auto-oriented roads.

Entering the Binnengasthuis area is most of the time through a gate, “the gates of mystery”, as seen in figure 70. The gates make the Binnengasthuis area this superblock that distinguishes itself from the rest of Amsterdam.

At some particular places, for example as seen in figure 73, an exception is visible. Going through the small gate there is a small scaled network with peaceful courtyards on the one hand, as seen in figure 71 and figure 72. On the other hand there are new building typologies in new forms visible located along wide streets, as seen in figure 74. The historical buildings within the Binnengasthuis area distinguish themselves with their expansion in scale in comparison with the houses in the city centre of Amsterdam, because of their former functionality as a hospital.

In the next paragraph, the Floorscape on the small scale will be discussed. This paragraph emphasizes on the building scale and the material scale.
3.2 FLOORSCAPE - THE SMALL SCALE.

Fig. 76A: Facades Oude Turfmarkt [Brinks, F., 2014]

Fig. 77: Floorscape - Plinth
large and closed plinth, "no" transition zone
[Own illustration, 2014]
**FLOORSCAPE - MEMORY.**
- location along the canal
- contains housing and a lot of other functions, like; shops, horeca or offices, mixed!
- typical of Amsterdam, red clinker bricks in 45° Herringbone bond

**FLOORSCAPE - PLINTH.**
- historic stoep has almost disappeared in the street scene, few are left
- belle etage give the buildings more dignity
- a lot of closed plinths

**FLOORSCAPE - FURNITURE.**
- on the side of the canal lampposts are placed to lighten the street.
- parking places on both sides of the street and a lot of bycicles (chaotic)

**FLOORSCAPE - SURFACING.**
- trottoir to make a difference between pedestrians and cars. The trottoirs are elevated (30x30 concrete tiles) and separated from the road by a concrete kerb.
- boulevard along the canal paved with wooden boards, leisure!

Fig. 75A: Oude Turfmarkt collage [own illustration, 2014]
Fig. 78: Floorscape - Plinth
commercial/social plinth, staircase and
seats are transition zone
[Own illustration, 2014]

Fig. 79: Floorscape - Plinth
"remain of the stoep" as transition zone
[Own illustration, 2014]

Fig. 76B: Facades Nieuwe Doelenstraat [Brinks, F., 2014]
**FLOORSCAPE - MEMORY.**
- Contains housing and a lot of other functions, like; shops, horeca or offices, mixed!
- Typical of Amsterdam, red clinker bricks in 90° Herringbone bond and 45° Herringbone bond
- Big interrupt in the street by the demolition of the hotel des Pays Bas

**FLOORSCAPE - PLINTH.**
- Historic stoep has almost disappeared in the street scene, few are left
- Belle etage and plinth give the buildings dignity
- Unity paving materials gives attention to facades
- A lot of commercial, social, retail, leisure plinths

**FLOORSCAPE - FURNITURE.**
- To light the Nieuwe Doelenstraat and save space for the trottoirs streetlights are hanging on a span wire
- A lot of traffic (cars, bicycles and pedestrians)

**FLOORSCAPE - SURFACING.**
- Trottoir to make a difference between pedestrians and cars. The trottoirs are elevated and separated from the road by a kerb of natural stone.
- Cars use trottoir as parking place!

Fig. 75B: Nieuwe Doelenstraat collage [own illustration, 2014]
Fig. 80: Floorscape - Plinth
very small staircase, remain of stoep, is transition zone
[Own illustration, 2014]

Fig. 76C: Facades Kloveniersburgwal [Brinks, F., 2014]
Floorscape - Memory
- Location along the canal
- Typical of Amsterdam, red clinker bricks in 90° Herringbone bond and 45° Herringbone bond (extension Nieuwe Doelenstraat)

Floorscape - Plinth
- Historic stoep has almost disappeared in the street scene, few are left
- Red color of the trottoir is in line with the colors of the facade, unity.

Floorscape - Furniture
- Old lampposts on the canalside
- Placement of trees on the canalside
- Parking places on the canalside

Floorscape - Surfacing
- Trottoir to make a difference between pedestrians and cars. The trottoirs are elevated and seperated from the road by a kerb of natural stone.
- Zoning on the canalside for parking
FLOORSCAPE - MEMORY
- location along the canal
- paved with concrete clinker bricks in header bond and 45° Herringbone bond
- small dimensions of the street makes it peaceful

FLOORSCAPE - PLINTH
- historic stoep has almost disappeared in the street scene, few are left
- unity paving materials gives attention to facades

FLOORSCAPE - FURNITURE
- old lampposts on the canalside
- placement of trees on the canalside
- parking places on the canalside
- a lot of bycicles that make it chaotic!

FLOORSCAPE - SURFACING
- zoning on the canalside for parking
- no elevations in the Floorscape
- small dimensions of the pedestrian area
**Floorscape - Plinth.**
- No interaction with the architecture due to small dimensions of the alley

**Floorscape - Memory.**
- Use of one typical Amsterdam paving material: reddish/yellowish clinker bricks in a head bond
- Character of a 'back', dark and small dimensions

**Floorscape - Furniture.**
- Street lanterns are connected to the facades of the buildings.
- Some vegetation along the buildings (bad maintenance)

**Floorscape - Surfacing.**
- No elevations in the Floorscape, monochrome

Fig. 75E: Slijkstraat collage [own illustration, 2014]
Heritage and Housing
Linda Nijhof 4007190

Fig. 76D: Facades Oudemanhuispoort [Brinks, F., 2014]

Fig. 81: Floorscape - Plinth
front square/garden as transition zone
[Own illustration, 2014]

Fig. 82: Floorscape - Plinth
front square/garden as transition zone
[Moreiro, C., 2014]

Fig. 76D: Facades Oudemanhuispoort [Brinks, F., 2014]
FLOORSCAPE - MEMORY
- the street is known for its book market. The book sellers made use of the old storage cupboards that still stand there today
- typical of Amsterdam, red clinker bricks in a 45° Herringbone bond

FLOORSCAPE - PLINTH
- the storage cupboards make an interaction between the architecture and the floorscape
- the Oudemanhuispoort is partly covered by buildings

FLOORSCAPE - FURNITURE
- the street lanterns are connected to the facades of the buildings
- storage cupboards for the bookshop

FLOORSCAPE - SURFACING
- the street is only accessible for pedestrians and bicycles and therefore no separation in materialisation (and function) is needed.
Heritage and Housing
Linda Nijhof 4007190

Fig. 76E: Facades Binnengasthuisstraat [Brinks, F., 2014]

Fig. 83: Floorscape - Plinth staircase as transition zone [Own illustration, 2014]

Fig. 84: Floorscape - Plinth depressed plane as transition zone [Own illustration, 2014]

Fig. 76E: Facades Binnengasthuisstraat [Brinks, F., 2014]
FLOORSCAPE - MEMORY
- The Binnengasthuisstraat is named after the former hospital 'Binnengasthuis'
- use of typical Amsterdam paving material: 30x30 cm concrete tiles and concrete clinker bricks

FLOORSCAPE - PLINTH.
- space in front of buildings is used for bycicles instead of transition zone
- low level of interaction with the architecture, although the walkways have width

FLOORSCAPE - SURFACING.
- trottoir to make a difference between pedestrians and cars. The trottoirs are elevated and separated from the road by a concrete kerb
- fragmented pavement!

FLOORSCAPE - FURNITURE.
- a lot of bycicles that make it chaotic!
- placement of trees
- placement of old lampposts
Fig. 85: Floorscape - Plinth
plinth with frayed building edge makes transition zone
[Own illustration, 2014]

Fig. 76F: Facades Vendelstraat [Brinks, F., 2014]
**FLOORSCAPE - PLINTH.**
- historic stoep has almost disappeared in the street scene, few are left
- low level of interaction with the architecture, although the walkways have width

**FLOORSCAPE - MEMORY.**
- use of typical Amsterdam paving material: red clinker bricks and concrete clinker bricks in 45° Herringbone bond

**FLOORSCAPE - FURNITURE.**
- a lot of bycicles that make it chaotic!
- placement of trees
- placement of old lampposts

**FLOORSCAPE - SURFACING.**
- Trottoir is elevated and paved with red clinker bricks and separated from the road by a concrete kerb
- fragmented pavement!
- secondary road that is only accessible for pedestrians and bycicles
Fig. 86: Floorscape - Plinth
plinth with overhead plane is transition zone
[Own illustration, 2014]

Fig. 76G: Facades court Vendelstraat [Brinks, 2014]
**FLOORSCAPE - PLINTH.**
- low level of interaction with the architecture
- no unity in the use trottoirs and their dimensions

**FLOORSCAPE - MEMORY.**
- use of typical Amsterdam paving materials: red clinker bricks and a kerb of natural stone and partly paved with concrete clinker bricks and 30x30 cm concrete tiles, fragmented!
- lacking identity

**FLOORSCAPE - FURNITURE.**
- placement of old lampposts
- a lot of bycicles that make it chaotic!

**FLOORSCAPE - SURFACING.**
- no elevations in the Floorscape, with parking posts
- paving design is fragmented, use is not clear!
Fig. 87: Floorscape and building structure Binnengasthuis area [own illustration, 2014]
All the different paving materials are combined in a map, as seen in figure 87. This map shows fragmentation of the paving materials in the inner area of the Binnengasthuis complex. The streets that lack integration of the Floorscape are: the Binnengasthuisstraat, the Vendelstraat and the Turfdraagsterpad. The rating of the elements Surfacing, Plinth, Furniture and Memory shows that in these streets the Plinth and the Surfacing are very weak. Remarkable is that those three streets are located within the inner area of the Binnengasthuis. A lot changed over time in the inner area by the demolishing - and the adding of buildings. This results in a disorganized use of paving materials and dimensions of the streets that are out of proportion. The intended designs for the public space have to be adapted. In the borders of the Binnengasthuis area on the other hand, the public space is well defined and clearly recognizable.
"How did the Floorscape of the Binnengasthuis area develop in 700 years time?" 
The Binnengasthuis area was originally located on the Southern edge of the city of Amsterdam. This area became more and more located in the inner city due to expansions of the city. Originally, the Binnengasthuis area was used for two Monastries. These Monastries had relatively a large building structure with open courtyards within the main structure of the city and were not accessible for the ordinary man. The water was important for the composition of buildings in the area. In 1875 they were filled in to create extra space and a part of the original structure was lost. Nowadays the Binnengasthuis area contains a rich typology of buildings; a sequence of parallel and orthogonal houses, directly attached to each other in the border zone, the buildings around a courtyard called the hofjes and the isolated buildings, the pavillons. Together these building structures make an area with a lot of history, as seen in figure 88.

"Is visual integration between the Floorscape and its context in the Binnengasthuis area achieved? Why yes or why no?"
In the outer area of the Binnengasthuis, the Floorscape connecting to the Hofjes and the Borders, is most of the time visual integration achieved. The streets are based on typical Amsterdam principles and are well defined. In the inner area on the other hand, the Floorscape is very much fragmented. The inner area is a collection of circulation areas, living areas and leftover space. The Floorscape makes the area cut into pieces instead of uniform. The rating shows that in these streets, the red area as seen in figure 89, the Plinth and the Surfacing is very weak.
Fig. 88: Building structure Binnengasthuis, Amsterdam [own illustration, 2014]

Fig. 89: Floorscape Binnengasthuis, Amsterdam [own illustration, 2014]
Fig. 90: Methodology scheme Program of Possibilities

[own illustration, 2014]
4.0 PROGRAM OF POSSIBILITIES

In this last chapter the answer is given on the main research question by answering all the subquestions. Concluding this chapter ‘my assignment’ is introduced for this graduation project.
4.1 RESULTS AND CONCLUSIONS.

This paragraph contains the answers on the subquestions of the research and analysis. In this way the main research question is answered and conclusions can be made:

“What is the role of the Floorscape in the support of visual integration and appreciation of the public realm?”

1. “How is the Floorscape defined?” The Floorscape is being defined as the public realm on eye level, which includes the surfacing, the plinth, the furniture and the collective memory (social/historical context). The floor and the wall can be linked together by a lively building edge or a plinth to produce the effect of homogeneity. Best is to incorporate the minimum of furniture and to customize it to give a degree of local identity. Functional usage and patterns/innovations can be combined to decrease the signage and street furniture. Taking the historical context into account when designing the Floorscape, strengthens the identity of the place.

2. “How is visual integration and appreciation defined and how is it perceived by people?” Our personal perception or awareness, consists of both physiological processes and perceptual processes. Perception is, what sensory stimuli we perceive and most importantly, how we process, interpret, judge and feel about the information that is gathered. Overall, people are drawn to environments that they can see and feel as a whole entity: integrated places. These places are coherent unities that are well defined and in which every part is important (across a range of scales) and the whole is greater than each aspect individually. The Floorscape is an important aspect when creating a harmonious and integrated public space. To achieve a visual integrated public realm the transition between the different elements within the Floorscape, the surfacing, plinth, furniture and the collective memory, is crucial.

3. “How did the Floorscape develop from the 16th century on in the city of Amsterdam?” The Floorscape shifted a lot since the 16th century, as seen in figure 54. The stoep and the pothuis were the most important elements of the Floorscape in the 16th century. Every home-owner was expected to pave the stoep in front of his house himself and take maintenance of it. This resulted in messy, crowded streets paved with cobbles and with open gutters for the transportation of wastewater. In the 17th and 18th century durability and unity becomes more important due to the growing amount of wealthy people with private carriages. This increasing traffic results in a new zoning next to the stoep for pedestrians. The paving design of the stoep is obliged to be yellow IJsselklinkers. The streets become more safe and hygienic because the gutters are placed underneath the road surfacing and for the first time street lighting is used. In the 19th and 20th century the stoep disappears in the street scene and makes the building edges less lively. The paving design of the street shifts from cobbles to clinker bricks due to the replacement of the steel cartwheels by the pneumatic
tyre. The trottoir, the elevated pedestrian area, is introduced. Nowadays the public space can best be described as fragmented due to the experiments with materials and the different design principles.

4. “How did the Floorscape of the Binnengasthuis area develop in 700 years time?” The Binnengasthuis area was originally located on the Southern edge of the city of Amsterdam. This area became more and more located in the inner city due to expansions of the city. Originally, the Binnengasthuis area was used for two Monastries. These Monastries had relatively a large building structure with open courtyards within the main structure of the city and were not accessible for the ordinary man. The water was important for the composition of buildings in the area. In 1875 they were filled in to create extra space and a part of the original structure was lost. Nowadays the Binnengasthuis area contains a rich typology of buildings; a sequence of parallel and orthogonal houses, directly attached to each other in the border zone, the buildings around a courtyard called the hofjes and the isolated buildings, the pavillons. Together these building structures make an area with a lot of history, as seen in figure 88.

5. “Is visual integration between the Floorscape and its context in the Binnengasthuis area achieved? Why yes or why no?” In the outer area of the Binnengasthuis, the Floorscape connecting to the Hofjes and the Borders, is most of the time visual integration achieved. The streets are based on typical Amsterdam principles and are well defined. In the inner area on the other hand, the Floorscape is very much fragmented. The inner area is a collection of circulation areas, living areas and leftover space. The Floorscape makes the area cut into pieces instead of uniform. The rating shows that in these streets, the red area as seen in figure 89, the plinth and the surfacing is very weak.

CONCLUSION The space between buildings is where the city life exists and continues. Ideally the Floorscape is a connecting surface that is as well aesthetic as functional and is the intermediate between inside and outside, public and private. The plinth can be a signage which shows if the street is residential, commercial, social, leisure or retail orientated. Especially attractive, mixed-use programs invite people to this space. Unpleasant street lighting, alleys and some buildings exhibit poor maintenance and can contribute to perceptions of danger. Design interventions are needed to to strengthen the fragmented urban spaces. The public space functions can better match their surrounding activities, there can be focused on enhancing pedestrian movement and on transforming under-used spaces to pleasant pedestrian zones. Legibility is needed to feel the area as a whole as passer-by. Sometimes there must be impulses for the unintended as well to create new encounters, to create new knowledge of the city. Continuation is necessary to provide access to other places, other points of recognition, points for choosing a direction and returning there from somewhere else.
4.2 MY ASSIGNMENT.

ARCHITECTURE: TIME, STRUCTURE AND ORGANIZATION

The Binnengasthuis area in Amsterdam contains a rich typology of buildings:

- **Border** - sequence of parallel and orthogonal houses, directly attached to each other.
- **Hofjes** - buildings around a courtyard.
- **Pavilions** - isolated buildings.

The building structure of the Binnengasthuis area is similar to the building structure of the Forum Romanum in Rome, as seen in figure 92. Different orientations, different scales and different forms together make it an interesting spot.

In my opinion this building structure is a quality and part of the identity of the area. 700 years of history is shown in nowadays structure.
The structure of the Floorscape in the Binnengasthuis area is fragmented:

**Border** - The buildings on the border are connected to the main streets that are well maintained (often paved with red brickwork).

**Hofjes** - The Floorscape of the hofjes consists of ‘hard’ flooring (concrete or red brickwork) in combination with vegetation.

**Pavillons** - The pavilions are located in the inner area which is the most fragmented.

The Floorscape connecting to the Hofjes and the Borders is, most of the time, well defined. The Floorscape in the inner area has no quality at the moment. It makes the area cut into pieces instead of uniform.

In my opinion a new tapistry must be placed in the inner area. This tapistry can have different variations (more dense, more open etc.), as seen in figure 94.

**Challenge: REVITALIZE THE FLOORSCAPE!**
THE UNIVERSITY AS A MARKET PLACE

To create a new street scene for the inner part of the Binnengasthuis area, replacing the pavement is not enough. The full Floorscape must be revitalized, concerning the surfacing, plinth, furniture and collective memory, to create a visual integrated urban scene. The Binnengasthuis area functions in the current situation as a base for the University of Amsterdam (UvA) and represents the ancient relationship between the university and the inner city of Amsterdam.

In my opinion the Binnengasthuis area can still be the base for the UvA in the future. But, the mix between residential and non-residential must be enlarged in the future. The UvA must not use the whole Binnengasthuis area, a mix of functions is important. Housing functions can revitalize the Floorscape of the Binnengasthuis area. Christopher Alexander mentiones in his book a Pattern Language: “Wherever is a sharp separation between residential and non-residential parts of a town, the non-residential areas will quickly turn into slums.” [Alexander et al., 1977] and “When people have their own homes among shops, workplaces, schools, services, the university, these places are enhanced by the vitality that is natural to their homes. ... mix with the other functions, and make the entire area “lived-in.” [Alexander et al., 1977] In my opinion the residential part of the Binnengasthuis must be enlarged, resulting in an environment that is cared for.

In the future the University of Amsterdam must not become an isolated campus. In my opinion it must be open and public and woven through the city. The buildings are surrounded by pedestrian paths that will be connected like a kind of marketplace in the middle. The environment is a collection of non-residential and residential buildings along pedestrian streets that is mixed with the town.
Using a new approach in the housing field:
Let us not forget that we are dealing with human beings here and not with oranges sorted according to size and then boxed into a crate. [Van Gameren, D., 2014] Bernard Hulsman mentions that ‘the way of living’ determines the choice for the house, he distinguishes six different types, as seen in figure 98.
A NEW STREET SCENE FOR THE INNER AREA

This new tapistry, concerning the Floorscape, creates a new street scene for the inner area of the Binnengasthuis.

The site specific analysis on the small scale showed the weak plinth and surfacing of the inner area. The conclusion is that the Floorscape must be revitalized with emphasize on these two elements. The materialisation of the Floorscape of this inner area of the Binnengasthuis complex can differ from the ‘ordinary Amsterdam street’ materialisation, see the ‘Puccinimethode’.

If we look back in the past, the relation between the Plinth and the Floorscape was much more present, represented in the stoep. Also the functional usage and the paving materials were much more connected, cobbles for cars and clinkers for pedestrians.

My challenge is to bring back the medieval stoep in a modern version in the inner area of the Binnengasthuis. To introduce more housing in the Binnengasthuis area and make a strong connection to the Floorscape of the urban environment.

Subtraction and insertion within the area can improve the urban space by filling in the open spaces (“holes in the urban tapistry”), transformations of buildings and additions of buildings. In this way the scenery can be enriched and a coherent urban setting can be created for the Binnengasthuis area.
**FLOORSCAPE - PLINTH.**
- Lively building edges!
- Public plinth

**FLOORSCAPE - MEMORY.**
- Bringing back the “medieval stoep” in a modern version
- Inspiration from former designs for the public space in the BG area

**FLOORSCAPE - FURNITURE.**
- Inner area of the Binnengasthuis has its own furniture
- More vegetation in the streets

**FLOORSCAPE - SURFACING.**
- Visual homogeneous but with a pattern based on function

Fig. 99: Floorscape of the future [own illustration, 2014]
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