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PREFACE

Amsterdam is more and more becoming a city of migrants, both domestic and international. Everyone is so used to people coming and going, they are reluctant to connect. During the Dutch Housing graduation studio I designed mixed-use towers, to give the growing fluid population, predominantly the expats, a place Amsterdam society. The building tries to give the expat a face by creating a building that reveals their qualities to the Dutch population. These new planned high-rise buildings, planned on the intersection of the new urban plan and the existing business district of the Danzigkade, at the Minervahaven in Amsterdam. The building was designed with certain conceptual principles at the bases, established to reflect neighbourhood concerns and ambitions: An expat community, (the intersection lies in the heart of the city's urban expansion and its tech and creative industries, openness and accessibility to everyone, artistic and cultural activities, small-scale retail, bold street statement, and celebrate the new industries and inhabitants. Through this possible conceptual design principles were introduced for for the development's podium. These concepts were eventually converted into a collected form that composed of various aspects that refined the qualities of the building, the site and the possible functional interpretations. The refined concept for the podium concepts presents a combination of favoured elements for different uses, along with a proposed dwelling plan for expats in the towers. The site upon which the towers are placed is a central public square for the neighbourhood, and the building has to recognize, embrace, and celebrate that. The building took inspiration from the two streets it is connected with. The Danzigkade has low-rise and retail plinths, while intermediate streets form residential courts. The towers are respectively divided into 3 and 4 separate masses. The public floors above every six floors that create different distinct volumes within the vertical raster that create a transition between the base volume and the tower element. Topping off at approximately 95 meters, the tower's exterior consists of an alternating pattern of solids and voids, clad in a combination of architectural metal panels and vision glass.

PRESENTATION CONTENT

INTRODUCTION
-Introduction and goal
-motivation
-The expat
-How do we solve this division
-Urban design

CONCEPT
-Stacking Program
-Circulation
-Dwelling Typologies
-Composition and Interior

ARCHITECTURE
-Volumes
-Facades
-Plan

BUILDING TECHNOLOGY
-Buildorder and Materials
-Climate
-Construction
-Impressions

AND MORE
-Concept
-Preface
-Research
-Sources

CONTENT RESEARCH

Overall concept
- public
- the blocks
- climate

Project rundown

Numbers

Design concept
- ambitions
- urban building concept
- landscape

Urban concept
- facing
- public space
- location
- parking
- connection
- building typology
- housing
- landscape

Dwelling concept
- studios and single-family apartments
- services included
- mobile, comfortable
- sustainable biotope

Appendix 1: the public interior
- enclave landscape
- encourage meeting
- space with character
- moments of change
- public domain

Appendix 2: the public interior

- the public interior
- spaces
- interieur

- the mimesis from the outside

Appendix 3: a short history of the minervahaven

Appendix 4: highrise and the metropolitan landscape
- roles of towers, corners and markers

Appendix 5: highrise families
- expat partners

Appendix 6: high rise in centers
- growing populations
- highrise in amsterdam

Appendix 7: living on height

- why should we built higher?

Appendix 8: integration
- safe access:
- broad appeal:
- welcome ness:
- interaction:
- participation:

Appendix 9: living community

Appendix 10: place of immigrant in dutch society
- expats
- modern guest workers
- unrest
- connection

APPENDIX 11: Diversity in Amsterdam

Sources

OVERALL CONCEPT

This building focuses on living together and creating a community for the Expats in Amsterdam. By creating units that include smaller residential communities with transition zones for private-,community- and public life in the city. The building attempts to provide a stimulus for the emergence of a more tangible new community. Housing construction remains an important theme in architecture. Especially considering the current tightness in the housing market. This results in a search for densification strategies to meet the housing needs of large cities. The Expettenflats are two residential buildings on the Minervahaven in Amsterdam with a differentiated range of furnished apartments. The facade is characterized by the sleek concrete structure and the gold-bronze head of anodized aluminum elements. The deep negro attempts to give the residents a "framed view" of the harbor and the city.

Within the design it was important to create a truly sustainable building with a materialization that can easily stand the test of time, while at the same time having a lifespan of at least 100 years and having the flexibility to perform multiple functions.The novel design of its ‘mirror-envelope’ reflects views of the city back towards the city, enabling a visual reconstruction of its manifold identity. The Base of the tower provides its residents with a public space playing with horizontality to create circulation and meeting places on a human scale, including a cafes, a garden and pedestrian alleys along the quay. The 7 Blocks are intermediary residential areas, imagined on the model of conglomerate of houses. Acting as an interface between the project’s two other elements, they play on the contrast between exterior and interior.

Public

The 2 mixed use residential buildings were imagined as a series of houses arranged vertically. It was a question both of providing a truly appropriable architecture, in harmony with contemporary lifestyles, and, in essence, reinventing tradition. Reinventing the habitat

With the appearance of the building I tried to Create a public space. The tower’s base opens up a circulation area for the inhabitants of the Danzigkade and Amsterdam. One of the project’s stakes was to intermingle public and shared spaces, through the inter- community of Amsterdam. The base’s levels form a 10,000 m² ensemble of cafes, lobbies and parking units. Located on one of the city’s few new green and open parts, the project has taken this specificity into account by ensuring that it respects the terrain, and the water sides.

The blocks

The five 35,000 m² residential buildings were imagined as a series of houses arranged vertically that reinventing an habitat in the sky. Residential living concerns lay at the heart of the old and new in this urban project, working and living, which for the blocks drew inspiration from various modalities the living of expats in Amsterdam.

It was a question both of providing a appropriate architecture, in harmony with contemporary lifestyles, and reinventing tradition. Surrounded by the public it also creates a relationship between exterior and interior within the building, providing a generous living space rich in possibilities.

Climate

The apartments are based on a domestic sequence of successive and overlapping interiors (and exterior spaces), structured around a central hall and public rooms acting as a natural ventilation of these spaces and providing access to the rooms. These loggas give a framed view of the city and becomes entirely modular. Using pivoting partitions, the apartment can be opened up during the cold months and protected from the summer heat, without confining its occupants within. The facades are clad with a lightweight structural skin, providing generous interiors and a subtle interplay between light and shade.

The local climate was studied in detail to take advantage of its main features, of the sun as a source of light and heat and the wind as a means of cooling and ventilation. Taking the climate into account enabled a broadening of the field of reflection to include the relationships between spaces and their uses, the sole means of integrating the environment. The access of exterior spaces to light, the reflective potential of the blocks on the tower and shadows cast by the ensemble on itself and its surroundings, access to light in terms of use (types of space, room depth, occupation, etc.), the ‘facets’ of the tower’s envelope, the possibility of creating variable solar protection adapted to orientation, the effects of wind on living units and exterior spaces, etc.

PROJECT RUNDOWN

Located near in the new Minervahaven district op Amsterdam, these 33 and 26-storey building have a wide variety of typologies, with x units between approximately 18 and 110 square meters. An unprecedented exercise for the building was creating reduced sized modules that should incorporate values applied to office projects, such as fluidity between public spaces and integration with the exterior.

An important factor for the building was breaking with the paradigms of the city's real estate market, accustomed to simplistic solutions of mere application of restrictive laws, small units, and lack of diversity in inhabitant. The innovative plant was designed from a module of 1.25m x 1.25m, with the rationalization of vertical circulations and shafts. Nine typologies were created, gathered in nine half floor plans, then mirrored and distributed according to blocks composed of diverse inhabitation with a corr inhabitant group. Mirroring these blocks onto different direction resulted into is similar to a combinatorial analysis game of the 7 modules in 7 distinct floors, creating great dynamism in the facade.

The monotony of small spaces gave way to the work of adapting the legislations and building rules in this highriser, with possibilities for openings and creative layout solutions, privileging the feeling of fluidity and the contact with the outside. Integrated cabinets and spaces developed diagonally extend the limits of the apartments. As important as the units, support areas extend the use of the inhabitants to the common spaces and public spaces.

The facade in tints of concrete plates, of varied modulations, emphasizes the apparent directions of the public environments. The focus thus lies in the communal as it is is impossible to distinguish the size of the units. The result is an architecture that questions the monotony of the context in which it is inserted, integrating values of urban diversity from the few square meters of each unit.

QUICK STATEMENTS, NUMBERS

Woontorens de Expattenflat in Amsterdam

The towers house approximately 290 studio's and appartments in clusters of 5-6 floors, inbedded by different public amenities in the building.

Plot area 6321m2
Building footprints 506,25 m2
Height 25 /33 floors
75/96m
Lifts 4
Staircases 2

1.

Building height	96m
Stories	33fl
Structure system	Concrete
Residential units	147a
Storage	44u / 2650m2
Bike parking	958ps

2.

Building height	72m
Stories	26fl
Structure system	Concrete
Residential units	143a
Storage	44u / 2650m2
Bike parking	958ps
Storage	

S.

Car parking	/ 6560m2

PROGRAM SUMMARY BUILDINGS

Residential	7720m2	(1.)
	5850m2	(2.)
Common rooms	240m2 (1,5 flx4)	(1.)
	180m2 (1,5 flx4)	(2.)
Circulatie	50m2*33fl=1650m	(1.)
	50m2*26fl=1300m	(2.)
Lobby	150m2	(1.)
	150m2	(2.)
Cafe	200m2	(1.)
	200m2	(2.)
Fitness	450m2 (1,5 floors)	(1.)
	450m2 (1,5 floors)	(2.)
Restaurant	500m2 (2,5 floors)	(1.)
	500m2 (2,5 floors)	(2.)
Workspace	450m2 (1,5 floors)	(1.)
	450m2 (1,5 floors)	(2.)
Expo	450m2 (1,5 floors)	(1.)

NUMBERS DWELLINGS

Studio

Wallbed
Q 30 ; S 17,5 m2
Boxbed
Q 84 ; S 28 m2

Small

Mid
Q 68 ; S 35m2
Corner
Q 18 ; S 35m2

1 room

Long
Q 24 ; S 57m2
Corner
Q 6 ; S 47m2

2 ROOM

Small
Q 14 ; S 71m2
Big
Q 22 ; S 91m2

3 ROOM

Q 12 ; S 111m2

TOT:
Q 278 ; S

DESIGN CONCEPT

Ambitions

The old character of the MInervahaven / Danzigkade unmistakably has the qualities of an industrial work location. Large, green open space around the buildings, casually free-standing buildings, with views for everyone. What is left to be desired is also typical of this industrial urban design: open space without focus, little contribution to the wider neighborhood, buildings without relationship with ground level, with each other, and monofunctional work function without housing, and therefore a limited supply in terms of usable public and public space.The project has enormous potential. The ailments of large-scale distribution of functions in the area are well known and the ambitions that have been worked out have attempted to create a situation that can remedy this without breaking the essence of the area. A layered public space with a number of central squares for the wider population. environment surrounded by quays on the water. The pints of public space are furnished with workplaces and commercial spaces that give life to the city district at all times. A series of specific landscape elements instead of the generic greenery now, a park-like space with open spaces. The city blocks are characterized by shape, and are provided with a height accent in various places. A composition of three towers has been created that opens up to the wider environment. The quality of living takes into account the limitations of the area and tries to make ample use of its qualities through its accentuation and interpretation.

Urban Building Concept

The new ensemble is the transition from solitary activity to the new mixed-use urban design. The towers are fitted in as it were by making the composition on the central square. The low-rise part of approximately 4 layers with a tower on the south side of the pier forms a delimitation to the compacted new city. This opens onto the central square, with 3 connecting high-rise buildings that have their entrance on the square. All entrances are situated on the ground floor around the square, as well as all other functions. Together they form the best framework for a well-functioning square. Different passages in all directions. The high-rise buildings are connected to each other and to the existing buildings. Due to the different heights of the towers, different residential typologies can be introduced that fit in with the inhabiting target groups. The connected low-rise buildings are ground-bound, the towers are on pilotis or public functions and the park landscape runs through.

Landscape

The existing industrial qualities are supplemented and corrected in the plan. In addition to the central square on which a few independent trees are planted, an abundance of park-like space is processed. In public spaces, variety must be offered for densification through dense forest and open spaces. The existing trees are optimally integrated into the plan by maintaining the main roads. It is an interesting point to look at the possible specific elements laid out, such as a hill with the ground of the new parking garage, a sports room, and play area at the square. A semi-sunken parking floor can serve as a sports field and the edges become seats in stair form. The entire site is car-free. Only deliveries, relocation activities and fire brigade are allowed, both on the square and outside. The only access to the new parking garage is located under the southwestern side.

URBAN CONCEPT

The three towers are planned in a north-south direction that maintains the orientation of the Danzigerkade. As a whole, they form a transition between the relatively casual existing buildings at the head of the pier in relation to the long facades of the newly built blocks. To protect views, they are not parallel to each other but squared. This also keeps the west orientation open. The slender towers together form a composition that can be seen from different city districts. The height of the towers varies between 40 m and 70 m depending on the proximity of buildings. The Towers contain 320 apartments. The three future towers of break through the "wall" of buildings that is organized to the different water sides. They are shifted relative to each other and the blocks and can therefore be built closer together, while the views are still guaranteed to the maximum.

Facing

The fragmented buildings on the Danzigerkade that are filled with commercial and industrial companies, both the metropolitan city expansion can be stopped, and an insert can be made at an earlier stage. The placement of the towers is therefore in a transitional area, the construction of which should lose its function in an earlier phase, and must be redeveloped into mixed-use residential buildings. In addition, parking can be created in the area.
In subsequent (construction) phases, it is possible to realize part of the towers in a single phase, between the existing buildings, which will remain inhabited during the construction site. to work in the first instance as a town square.

Public Space

Between the three towers a number of roads wind with underground parking. On the north side of the location is a half-buried parking lot with sports fields on the roof plate, accessible via stairs on the west side. The current public space is somewhat crumbled and limited to a number of residual grassy areas on the water side that are all more or less unusable.
The proposal is to introduce some variation in the public space. To this end, we define a number of specific and large-scale public spaces that transcend the location and work on the scale of the surrounding neighborhoods. This means that a public, community and private can be integrated at the location. One can look at how the adjacent existing parking can be integrated into the plan, in order to give the outside space of the adjacent companies a clearer usability. The organization of the public space can thus also lead to cunningly adding parties / stands on all sides. A central paved zone serves as a multipurpose square for events on a neighborhood scale (flea market, neighborhood party, etc.) Clear attention must also be given to the connection of the “square” on the south side, and its connection to the building blocks there.

Location

The three towers are scattered throughout the site and are accessible through a number of openings in the public space. Although they are part of the same neighborhood, there is no clear address. By organizing the location with a centrally located square, we provide the apartments with a clear and recognizable address. All public functions in the urban plinth of the low-rise also have their access on the same square. We consider this a necessary precondition for the successful integration of public programs in the project.

Parking

The plan is based on a small-scale car policy. An attempt is made to put walking and cycling on one, on two public transport, and to use the car only in a common shared form.
The existing parking is located on the north side of the lot, and has no direct connection to its surroundings. He, as it were, a boundary and thereby interrupts his surrounding buildings. Due to a lack of social control, vandalism and crime can occur here and this must change. In recent years, many above-ground parking spaces have already been removed at the quay.
The proposed alternative is to create underground parking at a central location on the site, to which all apartments and public functions in the building have direct access. The lifts of the towers extend into the parking garage. A suitable place must be found for access that connects to the road network, and

Connection

The existing streets of the city meander among the current towers. The existing towers form obstacles that people have to collide with and have to walk around. You travel everywhere by car.
The new square is in the heart of the pier. This square and the surrounding quays are by definition traffic free. This is possible through the underground parking garage that is accessible from the sides of the square. By creating openings in the edges of the square, we make connections for pedestrians and cyclists to all the surrounding streets. The square can thus act as a center for the surrounding neighborhood. The new configuration allows a diagonal traversing of the neighborhood. The square is always visited here. The towers also contribute to this. The square therefore becomes a reference point. Along the quay is a car and cycle route that connects to and from work, and recreational on the quay. This is indeed the end point. At the height of the square, the cycle path folds to widen the quay, which then becomes the square.

Building typology

At the scale of the building, a typology has been developed that responds to availability or open space
the city, and also incorporate the necessary moves to incorporate community-friendly elements. Wherever possible, housing is built up against a party wall, which is understood as the city way or implicitly encoding spaces for new development. Both buildings incorporate communal spaces for the residents: laundry, workout area, winter garden, utilities spaces. These are expressed as plenums (plenum. 1. In architecture, plenum is the name of the space between the "real" ceiling (building ceiling) and a lowered ceiling (for example, for system ceilings in offices), but also that between the "real" floor and a raised floor as is used for example in computer rooms), either glazed or open, which often take advantage or adjacent rooftops to suggest the altitude at which these spaces should be located.

Housing

On the scale of the individual, we aim to re-engage the apartment, public transportation, and urban life or the street through the typology shown below. Some core elements are shared yards and balconies among neighbors, appropriated rooftops, more immediate access to transportation, and an exposed circulation core that connects the life inside a building to the street.

Landscape

The landscape of the City on the scale of the city. The project location is located in the middle of a continuous network of parks, squares, avenues and green boulevards and all the avenues that connect them. We therefore propose a landscape design that registers itself in this landscape continuity and reinforces the idea of a chain of parks that connects the industrial Minervahaven with the IJ behind. After all, the project location is at a pivotal position between the two and also offers the possibility of creating a strong north-south connection.

Today, however, Minervahaven is characterized by very large open spaces with very little frame and a lack of support. It therefore seems essential to us to propose a strong vegetal structure in response to an initial fragmented urban situation. The Danzigerkade and the square must be seen as a refuge with pleasant spaces that are protected by the trees against the strong sea wind. Perspectives carved out of the forest make it possible to create across from the quay to views and offer a certain intimacy to the residents of the blocks. The strong vegetal structures can possibly also be extended to the square to create a continuity with this space. The large open space in the heart of the architectural project is in one way also one of these open spaces: more urban - the square - a large surface with some characteristic large trees.

The tree species are modeled after more local plant palette of the surrounding landscape: beech, oak, pine, ash, hornbeam and elm. More species that can be found in public parks bring about variation and surprise moments: pine, purple beech, pterocarpum. The choice of deciduous local species makes it possible to filter the sunlight in the summer. Sun is guaranteed in the winter. The carefully placed evergreen pines help to retain more opaque plant screens where needed in the winter. (Ash, Oak, Hornbeam, Beech, Walnut (Pterocarya), Pine, Elm, Purple beech)

The remaining surfaces are pastures of game, which also jump out of the quay between the coarse stones. These can be mowed into lawns for various outdoor activities. In the bottom layer, we propose planting solid perennials, small shrubs in strategic locations to frame views and guide walkers through the park. The plants are deliberately low to preserve unobstructed and uninterrupted views through the tree trunks.

DWELLING CONCEPT

Living at higher altitudes gives an urban panorama that shows itself differently depending on the weather, season and the cycle of morning, afternoon, evening, and night. The peace and quiet or living at height must be pleasant, but it must also be possible to interrupt life. The apartment building in which one lives, above Amsterdam, is up to 30 storeys high. The building is 22.5 meters wide and 22.5 meters deep. The accommodation units are distributed around a lift zone with 4 lifts each and a stairwell. The various shafts and meter cupboards are collected centrally. A public function is situated around the 6 floors, where one can make use of functions such as wellness, work spaces, cultural operators. In the lobby there is a concierge service, a package service, a cafe with grocery. There is a large restaurant on the top floor.

Compact but spacious living room. Housing must comply with surface standards. Making the various apartment typologies inventively compact results in a living space that is narrower. The m2 of interior space that we do not build allows us to provide maximum outdoor space as an extra. For the same building budget and room size.

By creating efficient homes with a minimum of circulation space, we create a margin to provide extra space for each home. The intention is to make larger homes a form of winter garden possible for different residential typologies that functions as an extension of the living room. In some cases it is conceived as an inner space, so within the insulation shell, sometimes as an outer space. In each case, the underlying idea is that a conventional terrace in high-rise buildings can only be used for a limited period of time (wind and cold), and that a modest space multiplies the options for use and makes the home much more attractive.

(Hoek, 2018)

Studios and single-family apartments

Two towers are both equipped with furnished service apartments in the rental segment. The entire complex is integrally managed by a common operator.

The houses are part of a standard compound or six floors with a more or less identical layout, that differentiates through dwelling layouts. Between the two towers is a large communal car-free garden that is openly connected to the quay. Under the garden there are two layers with parking and facilities over the entire plot.

The tower has room for singles, starters and families. There are up to three bedrooms, a bathroom, a kitchen diner, storage room and parking in cellar. The larger houses are equipped with indoor balconies. The houses and the building must serve the resident after a day of hard work. With the elevator you are downstairs where a city garden is situated that serves the city, and can be used for undefined strolling as well as sports and games for residents and their children.

Services included

A tower with so many apartments is a small biotope in itself. You share lifts, stairs, entrance halls, parking garage and bicycle parking and preferably more facilities in the plinth. Energy, water, flows of goods, telecommunications and security; they are matters that can be arranged together. It becomes even more beautiful with collective roof gardens, a restaurant, fitness, exhibition at height, room for meeting. Architectural variety, including use of color and materials, rejuvenation upstairs with the possibility of terraces, balconies and roof gardens, are the ingredients for a rich high-rise environment.

Mobility, Comfortable

The resident has a car and does not need it. Ferry and metro are within walking distance or a few minutes. In addition, the towers are a short distance from Sloterdijk station, which takes trains to Schiphol within fifteen minutes, and furthermore makes the entire Randstad accessible within an hour. In the immediate vicinity there are many hundreds of restaurants and specialty shops along the streets. Almost no services, products and experiences are conceivable that people cannot access a bike in an instant.

Sustainable Biotope

The high-rise metropolis should not be understood as a living environment with a lack of outdoor space, greenery and living comfort, but rather as a biotope with an excess of sustainable living options, living opportunities and living comfort. High-rise buildings must be seen as an area with a uniform landscape type in which certain organisms can thrive. A biotope must be distinguished from the biome, the niche and the distribution area. Habitats can be distinguished within a biotope.

APPENDIX 1: THE PUBLIC INTERIOR

A place where one delights to loiter. he interest of the public space as a meeting place.The public space is under pressure. Different groups from society no longer naturally come across each other, let alone that they get into a conversation. Encouragement should be encouraged where possible.

Enclave landscape

Democracy does not simply involve the representation of the population in parliament and government, and decision by majority vote. It is about more, democracy can only function if people do not avoid each other. The enclave is precisely based on the evasion of the other. The measures to exclude danger mainly result in the exclusion of the stranger, and that is precisely at odds with the ideal of democracy.

There is now the same danger behind today's attraction to the city. Now that the city is popular again, those who can afford leaving the suburbs and moving to the center. This shows a need for the strange, for challenge through difference. The downside is what we can now read in the newspaper almost daily. The city is becoming too expensive for the Amsterdammer. Towering house prices that only the wealthy can afford. Less grim development, but it also yields exclusive spaces.

Teerds,

Encourage meeting

The public space is ideal a space of difference, states the philosopher Hannah Arendt in the book The Human Condition (1958). Only there do the differences between people come to light. Nobody talks the same, nobody thinks the same, nobody acts the same. If we were all exactly the same, no politics was needed. Now that public space is under pressure, different groups from society no longer naturally come across each other, let alone that they get into a conversation. To stimulate a meeting in public spaces, Arendt provides us with a number of practical guidelines for the design and planning of public spaces. It starts with making a difference visible. This of course primarily concerns the visibility of different users, but also the difference in spaces themselves.

Hannah Arendt, Sennett,

Space with character

The idea of neutral space emerged from the globalization of our society. It is sometimes thought that squares, parks and streets should be "neutral" in order not to exclude the public. The opposite is true. It is precisely the individual character of public spaces that attracts the public. A second aspect is about facilitating the proximity or "others". This means that consideration must also be given to the size of the public space. After all, how close the users are to each other. A third aspect is that a public space never stands alone, but that is part of a larger network of public spaces. This increases the possibility of encountering "others". (Sennett, 2016)

Moments of change

Finally, it is mainly about the transitions between the spaces: between inside and outside, between one room and the other. Design can emphasize these boundaries and turn them into "moments of experience", in which differences are revealed. Arendt emphasizes how exactly moments of change stimulate our senses and make us aware of the world around us. People unconsciously change their attitude when they enter a different type of space. You expect something different from a square than from a park, in a shopping street you want differently than in a residential street. A fence around a park with a clear gate, a few steps up or down to a square are examples of articulating border crossings.

These guidelines are at odds with the enclave landscape and the increasingly exclusive inner cities. Designers and planners increase the potential that it can happen. One must of course speak of the chance of meeting, because whether people meet each other in the public space is ultimately not dependent on a well-designed space.

(Teerds, 2017/2018) (Cullen, 1964)

Public domain

If there is one notion that typifies our contemporary condition, then it is the "public domain." Public life is one of the crucial characteristics of a vital city. Architects and urban planners must constantly express this. The private and the public must remain connected to each other, he says.

In his book The Great Inversion, investigative journalist Alan Ehrenhalt points out that there is a reverse development in America to the attraction of the city: people are moving back from suburban areas to inner cities, and that is not only due to the crisis and the more expensive driving. Richard Florida seems to be right: The inner cities rediscover the vitality of diversity and openness as a source of creativity. Cities are attractive, but that power must be realized in the everyday urban space, where people can meet.

Much depends on the context - on walking routes and surrounding functions, to name but a few. What is good cannot be captured in formulas and is difficult to pull out of reach of the intuitive domain. In other words, it is not mathematics with which we can create or characterize successful spaces. That is inherent in any urban space that is not just black, white, public or private, but consists of numerous transition spaces and intermediate areas:

between the private, the public, the collective, between inside and outside. The public interior takes place precisely in this transitional domain. It only becomes exciting in the field of tension between public and private, he says several times.

Many of these urban interiors are privately owned. The Hague Passage, for example: owned by Fortis. Station halls: owned by the Dutch Railways. Binnen in de stad is an extremely instructive and inspiring book for the managers of such spaces. Nowadays, public interiors seem to be in the danger zone, through access control, selection of the public, closing off the space or filling up with a commercial function, shops and restaurants. (Teerds, 2007)

(Boer, 2012)

APPENDIX 2: THE PUBLIC INTERIOR

Ever since seventeenth-century reality has stood at odds with Dutch genre paintings from the same period, it has been argued in countless art-historical publications. Often meticulous, seemingly true-to-life representations of people in their familiar environment, involved in their daily activities, turn out to be the result of conscious choices for attributes, attitudes or situations that evoke symbolic associations. Or they simply led to a more aesthetically appealing painting. Whoever discusses the degree of truthfulness of interiors with such genre scenes seems to fall for an open door to stay in the imagery of the subject.

We walk through the 'public interiors' of the city every day. Often even without us noticing. Think of a station hall, shopping gallery, library or the lobby of a theater. Strictly speaking, they are not public spaces, but that is how we use them. We take shelter from the rain, meet others, use the passage to another place or take a break. What is the border area between outside and inside, between public and private. What does the interior of the big city look like? The interactions between outside and inside, the nuances between public and private, the transition zones, the informal and unexpected, the route. What is their role in the urban fabric? And which new public interiors are conceivable that are in keeping with the social development of this new district?

(Boer, 2012)

Vitruvian classicism is based on the premise that there is a mythology that gives architecture and society a common origin, and that rules give universal validity. The mythology of the origin, or the foundation. (Delbeke, 2019)

The public interior

In the modern city, everyday life is increasingly shifting to the inside of buildings. The interiors of department stores, market halls, administration buildings, museums or theaters become part of the experience of the city dweller. Every inner world of the city has its own character atmosphere and a representative architectural language with which the specific social meaning is indicated. In contemporary practice, many of these differences are disappearing. As a result of standardization, the differences in meaning as well as that of atmosphere fade away. The more spectacular the exterior of buildings, the more banal their interior appears to be. This research should lay the foundations for creating strategies and design set-up for the public urban interior, on the basis of which a design can be made for the mixed-use public building for expats.

Spaces

The spaces in the building are columnless or leading. They are connections, on it is a graphic and visual element for something more. Can be found as thickened frames. In the exterior facade, the columns are included in the graphic game of the exterior facade.

Interior

The building connects in different layers. Architecture as the experience of boundary, especially felt as the beginning and end of the public space. The entrance should not be to much of a pronounced factor, but rather an extension of the public outdoor space.
The building is designed according to the dynamics of a passage: moving through a succession of spaces is more important than the entrance or the exit within the building, although always recogniseable.

The Mimesis from the outside

Prophyrios "mimetic experiences" describe architecture from the basic choices that an architect must make, but are often overlooked because they are taken for granted. The public interiors must form a hybrid space where inside and outside stand side by side.

You could recognize the origins of the Dutch public interior, which was created when citizens covered their public spaces in the open air. An example can be found in the Maastricht city hall by Jacob van Kampen where the central hall is called the square, including lanterns and monumental stairs. Hendrick de Keysers Beurs van Amsterdm, but also many market halls and bold buildings bear traces of an outside past, with loggias, stone floors and steel gates.
(Schreurs, 2019)

APPENDIX 3: A SHORT HISTORY OF THE MINERVAHAVEN

The location of the plan area was part of the IJ until the end of the nineteenth century. During the Middle Ages until the beginning of the seventeenth century, the IJ was used as a sailing route between Amsterdam and Haarlem. The country roads were very bad, so people traveled by boat across the IJ between Haarlem and Amsterdam. This route was not harmless and during storms many ships were shipwrecked.

Historical map material shows that the Minervahaven is flanked by the Amsterdam polder. This polder was drained in the 1970s of the nineteenth century. Initially, the location of the Minervahaven itself was also intended for reclamation. There was, however, an acute shortage of space for timber storage for the timber trade. Timber traders threatened to relocate their trade to other cities. For that reason, after lengthy negotiations between the municipality and the Amsterdam Canal Company, the Minervahaven was built. Although the Minervahaven has always remained part of the IJ, in contrast to the surrounding area of the Amsterdam polder, there is little chance that remains of shipwrecks are still present in the bottom of the Minervahaven plan area. The subsurface of the plan area was considerably disrupted by later interventions (construction work including the construction of the Minervahaven itself).

In recent years the area has been transformed into a soft industrial area, in the larger industry of Amsterdam. This has the history of activity but not the large work towers, factories and cargo ships that can be seen in the distance.

The port has traditionally played an economic role in the history and development of Amsterdam. The timber trade played an important role in this. Over the centuries it has been seen that the timber ports of Amsterdam are slowly shifting from the center to the west side of the IJ. The large-scale "modern" developments of the Port of Amsterdam begin in the mid-19th century. As a result of the transition from sailing to steam ships and the scaling up of the commercial ships, the North Sea Canal was constructed and opened in 1876; a short and direct connection between the Amsterdam port and the North Sea. Initially, the existing port area on the eastern side of the city was expanded with the construction of the eastern port area.

The Minervahaven was largely intended for the supply and processing of wood. The shape of the harbor was determined at the time of construction by the typical curvature on the northwest side and the fairly wide Danziger-annex Minervahavenkade, which was extended from the old Houthaven to create a closed port parallel to the IJ. On the (closed) IJ side, the port space was designated as the New Houthaven with adjoining raft ports, while the port on the inside was referred to as the Minervahaven. Between Minervahaven and (closed) IJ a connecting channel with a striking curved course was constructed.

APPENDIX 4: HIGHRISE AND THE METROPOLITAN LANDSCAPE

The municipality has organised a vision of the use of towers in the city. It is precisely from the open shades that the urban high-rise can be experienced. This is not bad, on the contrary, it is part of the metropolitan landscape and makes it all the more interesting. The high-rise building is not only experienced as a static image, but expressly also as a changing perspective, while one continues to move. That is why it is important to keep depth in the urban height landscape. Building heights directly adjacent to the landscape should therefore be limited to 30 meters, with high-rise buildings up to 60 meters as accents, preferably in the second line. Parts of the south flank may be an exception to this. The nodes with their larger height areas a third depth layer.

With the vision on high-rise buildings according to the four movements described, the heads of some hedges are accentuated by high-rise buildings, where the city and the schoes meet: Amstel, Zuidas, Brettenzone, Zeeburgereiland. The edge is understood to mean: the part of the hedge that immediately borders on the descheg. and outside the Main Green Structure. With the head of the hedge is meant: the part of the hedge that goes furthest into the city, borders on the built-up city and is part of the Main Green Structure. Although high-rise construction in the green hedges is obviously out of the question, it is conceivable to use high-rise accentuation on coverings of hedges without a node. It should be emphasized here that carefully applied accents should be used.

(Gemeente Amsterdam, 2011)

Roles of towers, corners and markers
The success of this form can be attributed to some of the useful roles it plays:

1.Economic Value
- Handling development of visually prominent sites
- Facilitating development of unusual or complex sites

2. Townscape Value
- Providing local landmarks
- Strengthening a sense of place

3. Cultural Value
- Providing local identity
- Assisting navigation and way-finding
- Reinforcing local history and memory

4. Environmental Value
- An efficient use of land

A distinctive building responsive to context. A local landmark that responds positively to a visually prominent location with a re-interpretation of the tower. This is both responsive to context and an efficient building form.

APPENDIX 5: HIGHRISE FAMILIES

Once, in the 1970s, the gallery flat was a breeding ground for young family happiness and in 1970 alone, 150,000 flats were built in the Netherlands. But soon there was an image problem: too narrow, monotonous galleries, stench in stairwells, drug dealers who keep office in the sheds, waste on the too narrow balconies or in the immediate vicinity. After all, the ground floor is no man's land, you also find anonymity, noise and so on. Soon the apartment had been disposed of and was labeled as an extremely undesirable form of living. Especially for children.

The Netherlands is one of the most densely populated countries in the world. At the same time, the Netherlands is a real low-rise country. Is high-rise a good alternative to the house with garden in suburbia? And what role have families historically played in the development of high-rise buildings in our country? The 'House, tree, animal-ideal' still seems to be the dream of families with children. Our villages and cities are dominated by endless neighborhoods with single-family homes. Neighborhoods where the gardens are neatly delimited by Gamma fences and where the car is preferably parked as close to the front door as possible. It seems to be an irreversible trend, a self-fulfilling prediction that is being nurtured and maintained by project developers, brokers and media. And that despite the fact that high-rise can be an attractive option for families with children.

People think that they are entitled to a terraced house with a garden, that must change. Families often move when the children are not yet attending school, especially if they live in one of the four major cities. Of the couples who had a first child in 2012 outside the four major cities, 14 percent moved to another municipality within four years. The departure from the big cities was two to three times as high. Statistics Netherlands reports this based on new research. (CBS, 2017)

The model family from the sixties for which the public housing providers have planned apartment districts no longer exists. The family is burst into many different groups with their own preferences and needs. It is important to reach the target group that matches the benefits of high-rise buildings. High-rise offers service and living comfort, so that the increasingly common combination of work and family life can be better facilitated.

Alderman Robert Simons (living, Leefbaar Rotterdam) calls it a coincidence that the municipal document was presented in the same week as the CBS figures. “This is a logical implementation of the contract for the densification of the city. The vinex locations are on, or are currently not available. So we have to think about family apartments in the city. ”Families provide more diversity and more capacity. They ensure liveliness and social cohesion in the city. The city must have room for all population groups. All these different groups of people provide various facilities. And if there are more options, the attractiveness of the city becomes greater. Companies also come to that and with them employment. (Guardian, 2018)

Living with children living in high-rise buildings is very unpopular in the Netherlands. Is that a "fact of life" or are there ways to make high-rise buildings more attractive for families? If people want to make the development of high-rise buildings more attractive for families, more will have to be done. It is clear that more is needed to compete with the ´doorzonwoning´. He will have to look for extra facilities and services that are made possible by the high building density. There are certainly advantages for high-rise families, at least for people who want to live in an urban setting at all. For example, the planned high-rise in Amsterdam comes very close to transport hubs and the ring road. These are very attractive locations for commuting parents. And also the building itself: a home that can be reached by elevator, even directly from your parking garage. That is extremely practical with prams, groceries and toddlers. The apartments are all well-stocked and with targeted architectural interventions greenery can be brought into the home, for example in spacious conservatories. One can also think of a day-care center, groceries delivered at the door or a caretaker who takes your package from the dry cleaner. These are all services that, for example, busy double-income households take a lot of work off your hands and offer extra living comfort. For example, the Hoge Heren project in Rotterdam includes a swimming pool, a sauna and a fitness room. An asset in this complex is located on the roof of the parking garage, on the fifth floor. This roof terrace functions as a second level. A sun terrace has been created for all residents with a view of the Maas. But of course it is also a beautiful playground. Protected against weather and wind, controlled and safe. Wherever you have the privacy that you miss in a city park, plus the idea that you don't have to leave the house. In addition, it is a means to get in touch with your neighbors and find playmates for your children. (Schreurs, 2003)

But how do you build attractive single-family homes without space for a front and back garden? You can use Laurens Boodt's Babel as a reference. The interesting thing about the competition was that it had to be high-rise for families. He based his design on paintings by Pieter Brueghel, who painted the Biblical Tower of Babel as a spiral with a movement that winds up like a snake, where people normally build straight on top of each other with a lift and staircase in the building. Now it is built up with two outside streets that wrap themselves up like wokkels. A street into the sky. The sidewalk is often part of your house, where contact is made in normal neighborhoods. This is how you create commonality. (Guardian, 2018)

(Schreurs, 2003) (Voogt, 2018)

Expat partners

As many as 87 percent of these women's spouses are women, according to research by the expatriate organization InterNations among 12,500 expats worldwide. The care for the children is also traditionally divided: one in three of the female partners remains at home to take care of the children, with the men being around one in ten. During the stay in the Netherlands, it may be desirable to bring family members to the Netherlands. It is estimated that around 200,000 expats work in the Netherlands, but exact figures are lacking. The Amsterdam region houses the most expats: between 50,000 and 100,000 expats, including partners and children. The expat number continues to grow in this city. When expats move with their entire family, other criteria must be taken into account.

Dutch companies are good at attracting international talent, according to Ed Heerschap, but think too little about their preservation. Heerschap works on behalf of the municipality of Eindhoven with Expat Spouses Initiative (ESI), an organization that focuses on finding work for partners of expats. Gentleman: "When the spouse is unhappy, the clock starts ticking. I see it happening everywhere. If the partner is not happy, they want to go back." Expats' partners are often highly educated and motivated to get started, but in the Netherlands they find it difficult to find a job on a level. "I know women with a university master who are cleaning hotels." This is primarily due to their subsequent presence in the Netherlands. But in certain fields no work can be present in the Netherlands.

Preconditions make the life that you lead possible. You can not just export that. It gives people realistic expectations when they go somewhere. It is about what is important for many people: money, identity, status, knowledge, social contacts? Expat partners do all that in

a very safe environment. In the certainty that you have a place to sleep. That is the wonderful thing to do with your partner: that you can try out in certainty what you like, what suits you. Designing your own life is therefore a guiding thread in finding a meaningful existence. For the expat partner in the Netherlands it is important that there are possibilities for them to blossom too.
(Haaften, 2019)

APPENDIX 6: HIGH RISE IN CENTERS

High-rise buildings in European cities have started a strong rise. In addition, the issue of high-rise now also arises in Amsterdam. The commotion about the daring designs for Sluisbuurt on Zeeburgereiland indicates that it is a problem that can no longer be denied, and an issue that must be taken into account. It also seems obvious to me that the phenomenon will not go unnoticed. The world is changing.

In Toronto, Canada, for example, they have quickly become familiar with it in the last ten years. Architecture critic Hans Ibelings, currently living in Montreal, Canada, wrote a book about it. In "Rise and Sprawl" he denounces the uncritical acceptance of the "condo towers" in the largest Canadian city. According to him, it all started in Vancouver, when the Chinese from Hong Kong rushed onto the Canadian West Coast after their colony joined China. They took their high-rise with them. Now the phenomenon has spread to much more easterly Toronto. Just like in many Chinese cities, one tower after the other is erected here, none of them is architecturally interesting, everything happens quickly and looks easy, without taking into account the urban context. Above all, money has to be earned. Ibelings can't appreciate it that way. Finally, you are a critic for that.

To date, important topics such as metropolis formation, high-rise buildings, good public transport and living in high density have not been properly discussed. These themes are not taken seriously because there is no experience and no affinity with them at both individual and collective level. Psychologically, people usually only want more of what they already know. In the right place, however, high-rise buildings result in a high density of people and facilities and it meets the most important principle in contemporary spatial planning: proximity. Moreover, it strengthens the agglomeration power of the city and offers ample space for a high-quality public space.

So what is the added value of living jointly with expats in Amsterdam? The design is about creating a community for expats in Amsterdam. What makes a group that makes a community? A group of people who belong together.

Growing populations

On January 1, 2018 there were 854,316 people from Amsterdam. More than 9,300 more than a year earlier. For the first time in years, the growth in the number of inhabitants slowed down. More children were born than people died. More people came from outside than left. Most new Amsterdammers came from abroad. Indeed: never before have so many people from abroad (38,500) settled in the city in a year. A striking number of people came from the United Kingdom, which is probably related to the upcoming Brexit.

Since 2015, more people have left the city to live elsewhere in the Netherlands than people from the interior come to Amsterdam. Families with young children in particular are leaving. Who owns a home in Amsterdam can often live more generously for the money that the sale generates outside the city. The options outside the city are also more attractive for those who do not have a house to buy.

The Amsterdam Metropolitan Area is one of the five fastest growing economies in Europe, which is largely due to the growth of the service sectors in Amsterdam. Tourism is also growing faster than ever before. The number of visitors in Amsterdam grew by 13% compared to a year earlier. In Europe, tourism only grew faster in Florence and Brussels. There is, of course, a downside to this growth: it is becoming much busier in the city. Moreover, the number of tourists per inhabitant and per square kilometer in Amsterdam is higher than in many other European cities. An estimated 98% of Dutch people have foreign ancestors. Traces of migrants can be found everywhere. Here is the information about the history of immigrant immigration in the Netherlands between 1580-present.

Highrise in Amsterdam

Amsterdam has ten of thousands of people moving to the city over the coming decades, while the city is restricted by its size and limited possibilities on urban growth. To preserve green space outside of the city and prevent further sprawl of the city it is important to find new means of living in the city, and densifying the centre. Jan Gehl said the following on the question: "I would say that anybody living over the fifth floor ought generally to be referring to the airspace authorities. You're not part of the earth anymore, because you can't see what's going on on the ground and the people on the ground can't see where you are".

It is important to take such opinions at hard when design into the sky. On the subject of high rise then three perspectives should be kept in mind, the pedestrian in the street and the inhabitant in the tower. You cannot see the whole building unless you're in another high-rise or far away.
High-rises are so tall that they in many cases lose any visual to pedestrian at eye-level. Furthermore towers are often seen as ivory and unreacheable to the public, and people that do not live in it.
Richard Sennett in his book 'Building and Dwelling' talks about the human relation to the street. Homes on different floors in dense areas have a different link to their surroundings. While the first few floors still have street, further up they will see the opposing dwellings, then the neighbourhood, and at a certain point the whole city, in which the social link to the environment is lost.

Examples of introducing common goals start become more and more familiae in Amsterdam. Buildings like the A'dam toren and the Volkshotel introduce different public amenities that attract People to these higher levers in the city through restaurants and cafes. To keep the city of Amsterdam a place for more than only the rich, and keep the possibility for the many to keep living within the city limit, the idea of higher building should be rethought as a possibility and not as a curse.
(Sennett, 2018)

APPENDIX 7: LIVING ON HEIGHT

"Ideal performance of the skyscraper" in its initial stages as a concept, existing in 1909, as 84 disconnected virgin sites stacked on top of each other- "a new form of unknowable urbanism".
Rem Koolhaas looked at the city of new york as if there was a plan. Europeans think of manifests, but don't realise, while New york realised without manifests. Everything starts with the grid, and one has to think about the implication of that form. The conviction of the grid is on the one hand rigourous, but also enabled a lot of imagination.

Why should we built higher?

Modern cities are very vertical places and you tend more to play with that vertical shape. Everything is resting on very high spaces, and people live on top of each other in womb-like environments. A breathing living city. So the city lends itself to long lines, whereas the country tends to be much more horizontal. A human being experiences this side to side, where's the city is something people come to experience up and down. (Miller, X)

Is land scarce? No, not at global level. Technological progress has made land in and around the city even less important over the centuries and until recently. The Industrial Revolutions led to a reduction in transport costs, which led to a weakening of the city's appeal. Until recently. Because in the 21st century, the digital revolution not only restored the attraction of the city, but made it even stronger than ever. The city has become a clustering of (knowledge) workers and ideas. As a result: land in the city as scarce good!

In the right place, high-rise buildings result in a more high density of people and facilities and meet the most important principle in contemporary spatial planning: proximity. Moreover, it strengthens the agglomeration power of the city and offers a large area for high-quality public space.

When we talk about the economic usefulness and necessity of compaction and high-rise buildings, we should not primarily talk about an aspect of the economy: market forces, but also about the essence of economics: the notion of scarcity and the distribution of scarce goods.

The knowledge economy explains the great demand for urban living. The high demand for housing explains the rising house prices in knowledge cities. These prices will be pushed even further if the supply of urban housing lags far behind that demand. Why does the supply of urban housing stop? This has to do with the recent financial crisis (for the Netherlands and Amsterdam in particular), which seriously weakened the financial scope of both buyers and suppliers. It also has to do with the strategy of developers who benefit from maintaining scarcity to a certain extent so that prices and therefore returns remain high (this frustrates the economic aspect of market forces). But an underestimated reason for the low supply is the regulations concerning restrictions on altitude and density (such as height-effect reports, disturbed sightlines, welfare restrictions, airport classification decisions and green buffer zones). In London, restrictive regulations have led to a house price inflation of no less than 800%.

The social costs are high: first and foremost for individuals. High house prices force workers to cheaper but less productive places. This means no less than a waste of talent and a weakening of the Gross National Product.

In addition, the suboptimal allocation of house hunters leads to a low agglomeration power. Agglomeration power is of great importance in a knowledge economy. Knowledge companies are looking for thick labor markets, cities with a large and diverse workforce. In an urban labor market one finds specialized knowledge and a large variation in knowledge. This makes the breeding ground for innovation optimal. Knowledge workers prefer these kind of cities because the incomes are higher, the (cultural) provision of services is of high quality and is 'just around the corner'. It is important to realize that agglomeration power is not the sum of the number of inhabitants in an area, but is a product of population and density.

The agglomeration power of Dutch cities is weak compared to other cities in Europe and the rest of the western world. Amsterdam is relatively a sprawled city. Compaction in the form of high-rise must change this.

The realization of dwellings in high density (and proximity) is an urgent task for a number of Dutch cities. How to realize this density is a design assignment in mixed (potential) city center areas. So no towers in monofunctional residential areas in the green periphery!

Outside the medieval, 17th and 19th century Dutch city of houses, high-rise construction in the right place is an important means of increasing density (and proximity) and strengthening the agglomeration power. Although compaction can also be achieved with other types of buildings, high-rise buildings also have a positive influence on another decisive location motive. Because of high-rise buildings, more space can be unlocked for a high-quality public space. Is that last a luxury? Not at all. Attractive public space optimizes the possibility of face to face contacts in many forms (such as Third Places, parks, squares and city streets). A high-quality level of facilities makes living in a compact city attractive. In combination: a high-quality public space and a level of amenities are a decisive factor for urban-oriented households and businesses.

The realization of dwellings in high density (and proximity) is an urgent task for a number of Dutch cities. How to realize this density is a design assignment in mixed (potential) city center areas. So no towers in monofunctional residential areas in the green periphery! Outside the medieval, 17th and 19th century Dutch city of houses, high-rise construction in the right place is an important means of increasing density (and proximity) and strengthening the agglomeration power. Although compaction can also be achieved with other types of buildings, high-rise buildings also have a positive influence on another decisive location motive. Because of high-rise buildings, more space can be unlocked for a high-quality public space. Is that last a luxury? Not at all. Attractive public space optimizes the possibility of face to face contacts in many forms (such as Third Places, parks, squares and city streets). A high-quality level of facilities makes living in a compact city attractive. In combination: a high-quality public space and a level of amenities are a decisive factor for urban-oriented households and businesses.

Cadet, J., (2017) (Sennet, 2018)

Sennett rightly states that the adage 'function follows form' should actually be the guiding principle rather than the modernist 'form follows function'. First make the form, because those functions constantly change, and make sure that this form allows function change. "Architecture and urbanism are not about simplicity and clarity, but about complexity and contradiction." In his book Sennett uses the collage as a metaphor, in the interview he refers to the American architect Robert Venturi.

Until I read the end. Hulsman has been critical of the plans for Sluisbuurt in Amsterdam for years. At the end of the interview, he uses Sennett to make it right.

(Hemel, 2018) (Sennett, 2018)

APPENDIX 8: INTEGRATION

“People should not be forced to integrate. It is not the responsibility of the government. However, initiatives such as Watani, aim to make integration opportunities more readily available, he added. “It is natural that people will want to reach out to members of their own nationality, but our objective is to provide opportunities for expats to learn about local culture, break down stereotypes and integrate with the broader community.”

Safe Access:
Location is convenient to reach by different forms of transportation • Multiple points of entry reassure visitors that they can come and go with ease • Clear sightlines, and a well-lit environment, enable people to see what’s happening in the space • Storefronts, housing, and other active uses facing the space create visibility, or “eyes on the street,” so that people can be seen and heard • Free activities or affordable retail allow people of different income levels to use the space

Broad Appeal:
Flexible spaces should be preserved when designing a public space to enable future uses and programming to evolve along with the community’s needs • A range of activities and services should be offered to satisfy diverse needs and interests. Even basic services, such as free internet or air conditioning in summertime, give people reasons to visit a place • Public furniture - especially moveable seating - offers simple comfort without requiring a purchase • Nature, or natural elements, creates an enjoyable environment for everyone. Trees and other plants also create a more comfortable climate for pedestrians

Welcomeness:
Human-scale creates a more intimate relationship between people and place • Gently worn, comfortable spaces convey inclusion whereas over-designed and polished environments may be intimidating, viewed as exclusive, or or discourage participation • Embedded cues that celebrate culture and diversity including cultural symbols, language, colour, music, food • Signage and communication materials in visitors’ native languages can create comfort and a feeling of respect • Staff, volunteers, and retail vendors from different cultural backgrounds can be more in-tune with the needs of the community. Ideally staff speak languages that are prominent in the community to make people feel welcome • Small, independent retailer vendors invest in building relationships with the community to generate repeat business

Interaction:
Public furniture, including simple benches and moveable seating for people to sit together, and communal tables for group meals • Special amenities like cooking ovens and camp fires can spark people’s curiosity and promote interaction • Programs bring people together and those with themes related to nature, food, music, art and sports have the most universal appeal across cultures

Participation:
Site organizers, city officials and designers, who are from culturally diverse backgrounds themselves, engage with residents to plan and program spaces • Residents and visitors contribute to adapting spaces to better meet the community’s evolving needs. Ideally, changes are made in partnership with the municipalities but sometimes changes need to be made proactively until they are embraced by municipal leaders. • Moveable furniture gives people control of where they spend time in the space • Limited corporate branding enables people and independent vendors to contribute to the environment’s design and visual identity

APPENDIX 9: LIVING COMMUNITY

By "the living community" is meant both sharing one house (the living group). But also: a completely private home plus some common areas or garden (central living).

"But everyone has a different name, and these terms often run together," The idea of living differently than just in a traditional family context arose in the 1960s. Many residential communities, often due to squats, were therefore established in the 1970s and 1980s. Sometimes the reason for living together was of a practical nature. For example, sharing is often cheaper. Being able to determine yourself with whom you live or with which common ideal also plays an important role.

Housing communities are an example of citizen participation, and that is part of the participation society that should be the Netherlands. "The moment is now," says Peter Boelhouwer, professor of Housing Systems at TU Delft. "If you look at the spirit of the times and circumstances, you would say that living together should be more visible." The communal living area is popular, but it is not that easy to start one. While communal living can offer a whole host of benefits: it is cheaper and tries to be more pleasant. This form of living may seem special, but not unique. In total there are ten thousand living communities in the Netherlands, estimates the National Association for Central Living (LVCW). In 2018, the association has data on more than eight hundred residential communities, more than three hundred of which are projects for the elderly. And joint living is growing in the Netherlands, the LVCW thinks. They believe that a hundred residential communities are being added every year, far more than being abolished.

At a time when more and more personal responsibility is expected from the citizen, living together is not a bad idea at all. It would even fit very well in this time, proponents say. Joint living has developed. You now see much less of the communes or cozy living groups of thirty years ago. "Many

people are no longer satisfied with a room," says Bakker. But the idea behind living together, whether you call it cohousing, collective living or living group, has remained the same: self-determination.

(Willemsen, 2018)

APPENDIX 10: PLACE OF IMMIGRANT IN DUTCH SOCIETY

Amsterdam is more and more becoming a city of migrants, both domestic and international. Everyone is so used to people coming and going, and everyone is reluctant to connect. Where and how should these people live and partake in society?

Amsterdam is growing fast. The city attracts expats, students, tourists and people who are looking for opportunities and the atmosphere of the capital. Amsterdam is rapidly changing from a manageable city on the IJ to a metropolis with one million inhabitants, in which everyone has to fight for a place. The city is becoming more international, the economy is growing, neighborhoods that were previously lagging behind are on the rise. But also: families are leaving, investors are buying houses, because a lot of money can be made in Amsterdam.

Amsterdam is becoming more and more a city of migrants, both domestic and international. Everyone is so used to people coming and going, they are reluctant to connect. Indigenous, born and raised, residents of Dutch descent have lost their majority in Amsterdam, and thereby lose their dominant position, but they do not adapt to this reality. They participate the least in the multicultural city. "Many people like living in a diverse neighborhood and going to the Turkish greengrocer, but then it often ends."

"Of the Amsterdam children under the age of fifteen, one in three is of Dutch descent, the third generation of Moroccan, Turkish or Surinamese children now also belong to that group." It happened in Amsterdam, but is now also a reality in Rotterdam and The Hague: native, born and raised, residents of Dutch descent have lost their majority in these cities. In Amsterdam, only 45 percent of the population has a Dutch background and since 2015 this group has shrunk two percentage points. That share will decrease further in the coming years.

Maurice Crul conducts research into cities such as Amsterdam in which majorities become minorities and what the effects are of this revolution. The scientist conducted interviews with city dwellers and asked about their connection with the city and with other population groups. This shows that native Amsterdammers - meaning Amsterdammers of Dutch descent - are the worst connected to the diverse, multicultural city in which they live. They live together in white neighborhoods and the children mainly go to white schools. “They have, from all groups, the least diverse circle of friends. Especially Amsterdammers with a Turkish and Moroccan background have friends from different backgrounds, the only group that deviates from this is people of Dutch origin.”

It is also not strange if you live in white neighborhoods, the children first to the daycare center, then to a white primary school and then to a categorical gymnasium: you do not quickly meet other groups and therefore do not make friends with a different background.

Expats

And so the native minority forms its own bubble. "Many people like living in a diverse neighborhood and going to the Turkish greengrocer, but then it often ends," says Maurice Crul. It is problematic for native Amsterdammers to withdraw into their enclaves, Crul believes. Especially for themselves. Whatever work they do, service provider, teacher, entrepreneur: many customers now have a diverse background, so it is useful to know that group. A butcher who only sells pork has little chance of survival. In addition, the children of the city will have to function in a multicultural society in the future. If they grow up in a white enclave, they are 0-1 behind.

Modern guest workers

The changes are going fast in Amsterdam. The city is transforming from a well-arranged whole on the IJ into a metropolis with more than a million inhabitants. The growth of the population is mainly due to immigration and especially from expats, foreign workers.
India, America, Germany, England and Italy are the top 5 of countries of origin. The immigrants are not refugees or fortune seekers, but mainly people who come to work here. Modern guest workers, with the difference that they are socially and economically in a comparable position to many highly educated, born and raised Amsterdammers.

Unrest

This trend has practical consequences, such as pressure on the housing market, because expats compete for the same houses as Amsterdam residents who have been living here for years. The changes are taking even greater action. The revolution underlying the political unrest in the country. Many people are not aware that they form a minority in figures, but they come into situations in which they are one of the few white Dutch people, for example in public transport or on the street. They feel that they no longer always determine what happens in the city. There is polarization in Amsterdam, with Amsterdammers on the one hand who no longer feel at home and on the other hand progressive voters who consciously choose a diverse city.

Connection

"The paradox is that the children of PVV voters in Noord probably have a more diverse group of friends than the children of progressive Amsterdammers in their white neighborhoods." Many progressive voters can also withdraw into their enclave, separated from the multicultural outside world. “That makes it imperative that we conduct the integration debate differently. This has long been the question of how migrants adapt to the native majority. In the meantime, a question has been added: how will native Amsterdammers become part of the new society? But in order to ensure a better connection, the new minority first has to pay a quarter. She must realize that she has a lot to gain by joining multicultural Amsterdam. If they do not participate, they will miss opportunities.

(Couzy, 2019) (Crul, 2013) (Crul, 2017) (Bovens, et al, 2018)

APPENDIX 11: DIVERSITY IN AMSTERDAM

The diversity of nationalities that I came into contact with in the time I live in Amsterdam never became a matter of course for me, but it is an ever-present factor within groups of friends, with my neighbors, where I work, where I do groceries and eat. French, learning, Iranians, Moroccans, Turks, Antilleans, Egyptians, Chinese, Russians, Indians, French, Americans, South Africans, Australians. EN Dutch people. Anyone who lives in a city, anywhere in the world, can easily compile the same list. That is simply characteristic of the world in which we live. What is special about the diversity of Amsterdam is how far it goes back in the past. Amsterdam did not invent the phenomenon of diversity, but it is certain that the growth and prosperity of the city during the Golden Age had everything to do with its diversity. In any case, it is no exaggeration to state that Amsterdam, as a melting pot of Europe in the sixteenth and seventeenth centuries, formed a blueprint for modern city life. (Short, 2014)

With its large number of different nationalities, Amsterdam is one of the most diverse cities in the world. And although no one says it is always easy to live together, it usually works reasonably well in this city. While in the 16th century the rest of Europe was still known as a fortress, where you had to conform to the prevailing culture and religion, Amsterdam already knew freedom of religion and conscience. Due to, among other things, the Spanish Inquisition and the deteriorated position of Antwerp, Amsterdam became a magnet for traders and religious refugees. This attracts diversity. It is not without reason that this city has produced a great philosopher like Spinoza. Mayor van der Laan described Amsterdam as follows: “If the city were a person, it would certainly have the following characteristics: curious, enterprising, stubborn, straightforward, witty, brave, rebellious and merciful. And of course stunning. In short, wedding material. That is the attraction of Amsterdam. ”It is and was important that openness and tolerance can and could enrich a city like Amsterdam. Trade contacts with other cultures and countries created room for creativity and innovation and the city became a sanctuary. It is important to pay attention in Amsterdam to the positive power of diversity and personality of Amsterdam and Amsterdammers, both within and outside their own communities. With the aim: to show the beauty and richness of their varied city through the eyes of its inhabitants, to cherish it, to publicize it and to learn from it. (Laan, 2016)

Fragmentation

With so many nationalities, Amsterdam is nowadays a reflection of its past. The most visible contemporary form of the famous openness of the city can be found in places such as the Dappermarkt in Amsterdam dam-Oost, which has the reputation of being the best market in the Netherlands. There is a continuous buzz of languages. You will find hairdressers, sellers and products from all over the world. Such a scene can of course also indicate the opposite of openness, namely fragmentation: the tendency of ethnic communities to isolate themselves, the tendency not to mix and not to exchange ideas. The fear of the other, terrorism, of newcomers taking up jobs or of an abundance of foreign cultures that are swallowing ours is growing in Europe lately. "Nativism - favoring one's own culture over other cultures is on the rise.” There is therefore cause for concern. (Shorto, 2016)

However, we cannot reverse. In the future, the world will be unbelievably different from the one we live in now. Maybe that world is getting darker and more frightening. But he could also be more carefree, safer, with more options. We need courage to achieve that. Today's Amsterdam has its history and knows what worked well. And things must be able to change. There must be an expression of opinion for an optimally functioning mix of cultures and backgrounds. Old stereotypes are seen for what they are old and stereotyped. New traditions can be invented. The past of Amsterdam is its future. (Short, 2014)

Diversity and Business

Diversity 'is unmistakably a buzzword, and may sound a little politically correct. It is a sign that the speaker is about to keep an allegedly disadvantaged critical group happy with a rhetorical trick. There is sincerity in the word. However, the reality behind the word is very different. The real world is a place where ethnicities, languages and cuisines come together and where new products and habits come from. The real world is' diversity far ahead.

With its unique role in the history of Europe, Amsterdam has laid the foundation for our real world. Around 1584 Amsterdam was the destination for many refugees. Spain had attacked the Southern Netherlands Antwerp, New York of the sixteenth century, center of finance and international trade, fell into the hands of the Spaniards. The people panicked, and bankers and textile manufacturers, cartographers and spice traders, Jews and Christians left for the north. Amsterdam, too, flourished in the course of the sixteenth century, not because of the refined trade in which Antwerp specialized, but because of the bulk trade in terrestrial goods. Although on a more modest scale and less refined than in Antwerp, trade in Amsterdam also started to increase. Many people in Antwerp were connected in one way or another to the Amsterdam trade, so they chose the city as their destination when they fled the Spaniards. This massive migration turned out to be Amsterdam's first step towards discovering diversity. We must not forget that intolerance throughout Europe or, indeed, throughout the world, was official policy for most of history. It was thought that a sense of unity among the population guarantees a strong and stable society. A mishmash of languages and religions equated to disorder, which over time could only lead to chaos and ultimately a seizure of power. Nations preached the message of purity.

In a world full of intolerance, Amsterdam, by massively capturing people from all over Europe, Africa and the Middle East, discovered that the opposite concept worked just as well. Accepting differences, as an official government policy and on the street between ordinary citizens and neighbors, led to relationships with distant countries, business deals and access to new ideas. And those new ideas entailed new business activities and industries. Moreover, the reputation of tolerance had a snowball effect over time. Amsterdam printers, rough craftsmen with ink stains on their hands, eagerly capitalized on the city's reputation as a gathering place for new ideas, by offering their services for printing texts with various themes, almost without censorship. The city soon became the world capital of publishing. Political and scientific writings that were forbidden in many other places in the world because they attacked ruling regimes and / or the church rolled off the Amsterdam printing presses. Galileo and Descartes had their works published in the Netherlands. These works not only contained new ideas, but also contained the seeds of new industries. What would you do as an entrepreneurial businessman if you read about the wonderful possibilities of the telescope or microscope? You would open a factory that produces lenses, eyepieces, metal tubes, and other parts.

Amsterdam thus became the center of the Golden Age and eventually the example that other cities copied. Diversity in the sense of a target number of nationalities is not what matters. It's about openness. We know that innovations in the fields of wind energy, water management, elevator design of self-driving cars, biodegradable packaging material and sustainable agriculture are the result of releasing the reserves of a truly open society.

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PREFACE

People have an expiry date of approximately 75 years, the buildings of 150, the cityscape 300 or more. Home is now, but the street can be shared permanently with ancestors and future generations. Designing a construction and façade was in many ways about creating tranquility, as an answer to a multitude of questions. That is apparent, but to achieve this, much time has been spent on research and development. The trick was to limit the number of ingredients, while letting a lot happen. Three or four elements were enough. However, it is necessary to think about how the architecture is made. It is not only a window, but there are also valves and ventilation grilles. These ultimately also determined the appearance of the building.

Compositions, proportions and rhythms. The low windows have roll layers and niches, the loggias are scattered over the façade. The result are abstract monoliths that become part of the surrounding landscape. The towers must be two landmarks for the city, but fall away in its velocity at the site itself. Recessed façade negation: Self influence on use, gives shape to building.

For the fabric of the city, the best house is often restrained 2D, and I entirely 3D as a block. On this scale it is assumed that the architecture forms one artistic whole, whereby the façade, just like the floor plan and cross-section, is an expression of a clear underlying concept. The building as a three-dimensional creation, a spatial object that reacted on all sides to the city and landscape.

For design of the surface, proportions and relationship between the big picture and the smallest pattern element are important. But often the beauty of the street is mainly accompanied by more attention to the refined detail.

The scale of high-rise has the effect that the reception changes from where one sees it. From a distance a building becomes a lump in which only large gestures can be recognized, while from close up the detail of a façade does have an influence. For example, it is important that you have to design on such buildings at much more diverse scales. The consideration what one wants to convey with the building and how readability and integration can be created with such a type is therefore crucial. On the larger scale of the city, high-rise building loses its character, and it must have a clear gesture. Clear variation can be applied to the sides, experimented vertically and horizontally. In the case of this building, a certain versatility has been chosen, which allows the building to act as an ensemble, taking away the unimportant detail in the distance until the plotter. Variation through the different public zones in the building only come to the forefront when one is in the periphery of the building.

A façade can traditionally be seen as the showpiece of a building, and it can take various forms. The shape does not necessarily have to correspond with what is behind it. For example, behind the richly decorated frame facades of many canal houses in Dutch cities often hide very ordinary pointed roofs. With the rise of modernism and its desire for "purity" and "truth", one can look at the façade in a different way. Facades may be an expression of the interior, modernists thought. Whereas in the past there was more fuss about the different currents, the landscape is much more varied and one cannot really speak of those currents anymore. The way facades are draped around their buildings have infinite possibilities these days. (Hulsman, 2011)

The building's program was aimed at the building, as it were, classified as a district. The basis of the building is the creation of different communities in which people can live in the building. In interaction with the residents, these form a scaling-down to blocks of flats between which common "squares" have been formed. The expats' living there is small, and it is encouraged to make use of the community in the building. Several of these "squares" have a larger public character than others.

CONTENT

Introduction
Facades
Building concept
Purpose of the request
The façade surfaces
Building façade composition
    Ribs
    Panels
    Glass
Shape and size of the façade panels
Fixation
Pattern division
Examples of color and texture
Material and color
Pattern
Shape retention
Services

Ornaments
Architecture
Ornament
Design
Approach
Presentation
Patterns
Ornaments
Design concept
Pluralism, Cumulation of crafts
Conventions and Exceptions

Colours
Colours in the city
Layers of colours in Amsterdam
Historical colour Image
Current colour use
Reflecting upon the past
Light and dark / Effect of light and shadows.
Pigments in Amsterdam
Painted woods
Places
Future of colours
Future material use
Tile history of the Netherlands
Difference between town and countryside
Colour fan
Key Colours of the landscape
Room and space
Historical colours
Zaanse kleuren tijdbalk (In Dutch)

Climate and Construction
Wat wil ik bereiken wat zijn de doelen
Uit vloersysteem
Duurzaamheid/ toekomstgericht

THE FACADE

Scientific developments in architecture have led to more attention for and a different view of facades. Purely aesthetic values have led to a recognition of the direct influence on structural stability, on the energy efficiency of the building, and therefore on the well-being of the people who live there. All these elements have been developed in a good design and therefore it is important to choose a material that can meet these requirements.

The choice of materials is crucial because it plays an important role in structural stability and can have a direct impact on the energy efficiency of the building. Thickness and size, high resistance to ultraviolet rays, spots, high and low temperatures and color stability are just some of the essential properties of this material.

Building concept

The tower complex in Amsterdam concerns clusters of apartments that are distinguished by different public functions and take on shared functions. The target group includes expats in various shapes and sizes who temporarily live in the Netherlands and Amsterdam and want to feel at home in this residential building, and who want to take a place in the society of Amsterdam.
Zoning, variation, but also regularity are important for the building, whereby the public functions suffer from buffer zones, as it were, against the infinite enlargement of residential areas in high-rise buildings.
The shared sky gardens also form such buffer zones with the outside world.

Due to the design choice of a windmill wick, a varied design of residential floor plans and floors with clear zones and structure is obtained. It must be an inspiring building for residents, residents and the city, it must form a 'breeding ground' for development, work, play, relax and more. It must be inspiring and secure, and must feel at home with it. This concept is the starting point for the building design.

The facade surfaces

With the idea of high-rise building, a picture emerged in which a coherent total can be created, in which "cutouts" from the main volumes give varying accents to the different facades, as well as creating views for the different facades. The facade design has the following starting points:

- Creating a contrast between the different cutouts and the main volume.
- A coherence between the cutouts on the ground floor.
- Refinement of the facade by means of ribs.

The following starting points are explained in this document, divided into 2 main parts:

Aesthetic requirements:

- Facade composition
- Shape and size of the facade elements
- Confirmation
- Material and color

Technical demands:

- General conditions
- Maintenance
- Protection against wind, water and sun
- Sustainable

Building facade composition

The facade consists of 3 main elements; Ribs, panels and glass. The translation of these elements does not necessarily have to lead to individual panels and ribs in the façade proposals, but may also be compiled.

Ribs

The ribs are tubes of a certain depth to the panel. The ribs should be made from 1 piece, so it is not desirable that elements are stacked. The ribs may be part of the panel but also as separate parts to be made. If the side of a rib is flush with the day side of a window, it must consist of 1 element. See principle details on the right. The roof edge is also a rib. Ribs disappear in the surface as the height removes the visual effect.

Panels

The dimensions of the panels are different but as large as possible.
A pattern is placed on the panels. Depending on the chosen
material can be milled or punched. There is a recessed strip in the pattern that is also milled or punched. The exact composition of ribs, panels, pattern and windows will still depend a little on the chosen system.

Glass

Large glass facades appear between the massive blocks, in public spaces, which determine the shape and visual quality of the tower, fragment the scale of the building and reflect the light in unpredictable ways. The extra-white glass that is used gives the tower a lightness, within which the monoliths float and a sensitivity to the changing air around it, the color and the mood of the glass constantly change.

Form and size of the facade panels

It is desirable to get as few seams as possible in view, and with that the largest possible panel dimensions. Preferably combine seams with ribs or edges of openings. A grid of seams must be prevented. Seams must jump. If seams between panels are not tight, the back construction must be black.

The shape of the panels is generally rectangular with cut-outs for openings. Depending on the further elaboration of the facade system, an alternative form of the element can then be chosen, provided that the formulated requirements and facade image are met. Maximum size of elements has no limitations other than feasibility in production, transport and assembly.

Attachment
The panels and ribs must be fixed "blind". No screws or other fasteners must be visible in the façade surface. Think of a click system or screwed in the seams. A point of attention is that it must be possible to replace the panels easily in the event of damage; from this point of view, gluing is thus not preferred.

Pattern distribution
The composition of elements is structured per 7500 mm grid. This results in 5 different elements of which 2 in 2 variants and the entrance façade as a unique piece.

Colour and texture
The color must be between RAL 9010 as the lightest and RAL 7036 as the darkest color. The color is white, a shade of gray that may turn into warm or cold gray depending on the weather. The material may have its own (concrete) texture, but may also be flat, even in color.

Material and colour
The first starting point is to choose polymer concrete as the material for the cladding of the facade. The color is white to gray. There is a light texture in it so that dirt does not immediately mark on the facade, and small fragments of red and glass stone to guide the aluminum facade elements. Think of a solid surface material (such as Evonik PlexiglasMineral), fiber cement plate an HPL plate or metal (eg aluminum

Anodization is used to color the different façade parts and window frames. In addition, the profile is ground and immersed in a bad one. This gives it an aluminum color, a light bronze or dark bronze color. The quality of anodization is very high and lasts a long time.

Patterns
The panels are provided with a minimal pattern. The pattern is milled out of the material if possible. (If the selected material is not suitable for milling, it is possible to punch the pattern. The starting point is that a depth must be created in the material.

The pattern consists of vertical strips. The strips have different dimensions. The pattern is at least 2500 mm wide and 3000 mm high to prevent repetition in the image. In addition to the strips, you could also mill strips completely deepened. These strips have a relationship with the ribs. One can think of a further deepening of the ornament. This also works further in the shadow effect of the facade. The point of departure is that the pattern is not half broken when cutting windows and ribs.

A different material may be used for the ribs and panels. This does not stand in the way of the colors and the patterns. (For example, on the panels in fiber cement sheets, the ribs in folded steel sheet. The facade must remain a coherent aesthetic whole. The variation in the use of materials must remain subdued. 1 for the panels and 1 for the ribs.

Tolerances
The permitted color tolerance is determined by means of representative samples (to be provided by the contractor) with two to four color tolerance samples that serve as an example and / or frame of reference. Determine it of this technical tolerance must be made with the help of a spectrometer (color meter).
The seams between the façade elements must be a maximum of 10 mm with a permitted tolerance of +/- 5mm, provided that the coupling between the façade elements allows this tolerance.
The day edges must be carried out at an angle of 90 to 92 degrees relative to the front of the elements, in accordance with the principle detailing.

Services
Where described, the façade elements must be perforated for the purpose of air intake through the hidden façade gratings.

Description requirements of polymer concrete
Facade elements of fiberglass-reinforced polyester concrete with a base thickness of 22 mm plus 2 mm structural height.

Structure: Clean from the mold, with a special, striped structure
Color: Different gray samples.
After treatment: none, polyester concrete has a very dense surface structure and is less than 0.5% capillary

Cover the façade surfaces indicated on the façade drawings with the façade elements described above. At the location of frames, the elements are provided with black edges. Production and assembly drawings are produced by the contractor and sent to the client and architect for checking. The elements are produced with mounting facilities. Confirmation from architect. Beams and columns are factory-attached to the façade elements.

Mount the elements tightly and flat on aluminum omega profiles on the rear HSB construction. Exterior HSB provided with a min. Of 18 mm water-resistant plywood, cavity distance 35 mm. Version aluminum brute, d = 3 mm. Design of stainless steel A2 fasteners. Assemble the joints between the elements according to the open joint principle.

ORNAMENT AND COLOUR

ORNAMENTS

Architecture

In this project I made an attempt to create a clear design and development from which I can develop the project from concept to design. The setup uses a "sample boards" of applied materials, reference situations and facades, which are processed in different forms of renders. During the project, it was tested how spaces take shape. Next, one can look at how spatiality can make use of the material compositions. In addition, a summary text describes the architectural criteria that describe the various elements of the design. One can think of Structure, Rhythm, Contradictions and Analogies. These are then further detailed in the description of Material, Size, Seams, Texture, Confirmation, Color, Finishing, Patterns.

Ornaments

There is a story by Le Corbusier, in which he says that shells are smooth and multicolored or multiform and single-colored. The combination of multicolored and multiformity leads to chaos.
Would not the same apply to the cityscape? A flat, slightly ornamented façade wall requires more color variation than plastic architecture, which in the first place must have light and shadow play.

Design

The term 'identity' is widely represented in the contemporary debate, whether it is about municipal politics or visual arts. Identity is a broad and complex concept and it is not always easy to connect this in a meaningful way to architecture. The intention is to connect the 'global' with the 'local'. If citizens are proud of public buildings and public space, there will be more identification with the local community. A good architect has knowledge of architectural history, the ability to produce drawings and models and the evocative ability to imagine something with what he designs.

Approach

After the basic expansion of the floor plans and cross-sections is a volume model of the building. Create different patterns to scale with the computer. Print them and stick them on the scale model. Look for laws in the facade, which are dictated by window openings, seams, choice of materials and architectural details. Make sure the patterns can turn around the corner in a good way. The aesthetic effect of the facade patterns on the volume. Study the cultural significance that the patterns give to the building. Compare different variants until the most suitable façade pattern is found.

Using sketches, scale models and try-outs, this research tries to untangle the knowledge, expertise and evocation of the craft and take you on a journey through development of the project. The research should touch upon themes which are illustrated (sculpture, context, system, pattern, cavity, stacking, arrangement, arrangement, scenario, ensemble, senses, building, silhouette, use, heaviness, texture) The themes are linked to one of the architect's tools, such as scale model, diagram or floor plan drawing.

The 'detail book' has to use a short introduction and a double page with parts each, which are illustrated in the subsequent pages with three project documents in illustrations and short texts.

Twelve ornamental motifs of interest: moire, image, seam, emblem, letter, pattern, cut, ridge, grid, diamond shape, relief and filigree.

Aerial photographs, the location drawings, the diagrams, the gable drawings, the floor plans, the sketch models, the felt-tip drawings of cross-sections, the snapshots of the execution, the construction drawings and the grubby photographs of material tests and interior models can serve as a picture of the development of a clear design product.

This information is essential, because in order to really understand the relationship between detail and identity, knowledge of the floor plans and cross-sections is required. Not because there would be a strictly linear relationship between the plan, the cross-section and the façade. The floor plans and cross-sections show how closely the spatial organization of a design can be connected to the ornamentation of the façade.
(Closson, 2018)
(Neutelings Riedijk, 2018)

Presentation

An identity to the built space in which they are anchored. In contrast to the sober and abstract façades that Adolf Loos presented as the only architectural form, use can be made of ornaments as a structural element of an architectural language. In this ornamental vocabulary, plan, section and façade often develop independently of each other. Not more linear.

What is the relation between formal expression and program. Do you have to be able to read the function of a building from the façade? It is the challenge to give something back to its environment. This translates among other things in the expansion of the public space into the heart (or to the roof) of the building. The building must be able to be appropriated by its users and contribute to the collective identity of its environment.

The building must be able to stand as a manifesto for the global as well as the local, the individual and the collective. And against today's uniformity of architectural expression and succeeds in its aim to elevate the ornament into an instrument serving a collective identity that far exceeds the stage of plastic or flat decoration.

Patterns

Look for patterns in the façade that are dictated by window openings, construction, seams, choice of materials and architectural details. Make sure that the patterns can go around the corner in a good way. Study the aesthetic effect of the façade patterns on the volume. Study the cultural significance that the patterns give to the building. Compare different variants until the best fitting façade pattern is found.

By limiting it to the role of the ornament in the appearance of architecture, hopefully a relationship between identity and ornament can be formulated with some precision. Hopefully, something about the architecture can also be said.

On the basis of the slender shape of the building in combination with the horizontality in combination with the vertical stacking, the sculptural effect of the building volume will largely have to take place internally. The attention for the façade as a covering of the volume, and the role of the ornament, is of great importance. This ornament can be an independent emblem, or it can originate from the patterns, seams and ridges of the smaller elements that make up the façade.

In the design, the façade and its intended appearance, which is perhaps one of the biggest issues for contemporary architecture, will be of great importance.
(Zeinstra, 2018)

Ornaments
In architecture and decorative art, ornament is a decoration used to embellish parts of a building or object. ... The vast range of motifs used in ornament draw from geometrical shapes and patterns, plants, and human and animal figures. (Wikipedia, XXXX)

Minimalism may symbolise luxury, but it could be time to refamiliarise ourselves with our decorative roots
(Heathcote, 2015)

Design Concept
The identity of a building is formed by a combination of typology, public space, material and ornament. The differences in expression of the various buildings arise from the appropriate solution for a specific assignment. The materialization and typology of a building are thus related to its expression. The ‘author’ must wonder whether form can have a meaning, whether the relationship between form and meaning can be shown in a universal way, and whether there is a relationship between form and expression. And if so, what meaning is convincing and comes across to the public?

For the concept of design an organisation is made for the diversion along different forms of expression of a building and the question of how you can attune it to an intended identity. The emphasis in the end should be on 'Texture'. The character of the visible should tells a story, this gives the first impression of a building.

Pluralism, Cumulation of crafts
Architecture critic Charles Jencks states that buildings have to speak a pluralistic language. This language that transcends the rational is both global and local and restores the meaning for the direct environment. The goal is to design a building that expresses the diversity and diversity of today's society.
The Polish sociologist Zygmunt Bauman stated the that we are now in a state of 'liquid identity' because we have to respond to the world through our virtual connections. But on the other hand, buildings, because they are by definition immobile, can serve as vehicles for the collective image. This image expresses a sense of community and allows every citizen to connect. Not a loaded image, but a new and special building.

Conventions and Exceptions
In search of solutions one can relay upon long tradition of the profession. There are many tacitly accepted views on form and meaning. The influence of Adolf Loos and his contemporaries has been a turning point regarding the expression of a building in the urban environment. The façades he designed were strict, without ornament or iconography. Only the natural material expressed the facades.
One can play with conventions, both with familiar organizational principles and recognizable modes of expression. For example, a façade with a meaning that is linked to the city can be designed without being connected to the underlying concrete, functional organization of the building. On the other hand, the question is asked how the façade can give expression to what takes place in the building on a typological or abstract level and how a connection with the city can be made.

COLOURS

In his theory about colors in the city, color theory Rob van Maanen argues for a simple and careful consideration of fore- (manifest) and background colors (general). Only then will they reinforce each other and can specific color elements underline the structure of buildings.

Colour in the city

The de-scaled of the light in hazy weather. You see a silver-gray haze going over the city. Brown and orange come up there. You see so much color, but rather patterns of light and dark. and in it brown gray and orange.
The Netherlands has absorbed all influences. That makes it a colorful whole.
Paris, for example, has a much more beige look that is made up of a much tighter color palette. We live on clay. So we build with brick. Earthly colors emerge from this. Red, brownish, gray, yellowish. Earthly. The brick determines our cityscape.
(Manen, 2015)

Buildings with very different colors stand out. Perhaps that is the intention of the owner or the architect, but the balanced street can be seriously disturbed by it. Nevertheless, the wish for deviant use of color can be seen as a call to break through the monotony or because someone wants to give a more individualistic touch to his property.
An attempt is made to look into the possibility of playing on the demand from the social field for more personal input into the use of color on a building. At the same time, it is explained that use of color should be subject to rules. In striving for a more varied color image, the unity in the image of the city must not be disturbed. We therefore search for a use of color that is based on the historical development of the city. Building styles and construction periods can help us to determine the color image.

Layers of colours in Amsterdam

Street furniture, cars, trees and water determine the color image. In addition to these changeable elements, the use of brick, stone and plaster and the painting of façades, window frames and doors give the city color. The color of the painting is therefore an important element in the experience of the city. We can distinguish the different parts of the city because they originated in different times. The neighborhoods in the city boroughs outside the city center, which usually originate within a very short period of ten or twenty years, often show a more uniform approach than the old city center. Here, buildings represent almost the entire history of the city, with the bred goods distinguishing themselves from the often narrow radials. Nevertheless, in the inner city of Amsterdam there is also a fairly unambiguous, sometimes called monotonous, color image: ‘Monumentgroen’ (also called ‘Grachtengroen’) and white for the windows and variations of a yellow or gray sandstone color (also called Bentheimer) for the window frames. The doors are usually monument green and at warehouses we see green or red-brown shutters.

Historical colour Image

The use of color was determined over time by the technical possibilities of making pigments. Until about 1850, pigments were used that occurred in nature (earth pigments or pigments of plant or animal origin) or that were obtained chemically. By mixing these products a large number of colors could be made. Mixing colors often led to a graying-up of color. The mixed colors are always less pronounced. Many colors of natural raw materials also proved inapplicable because they were too toxic, even according to the standards of time. In addition, the natural colorants were not colourfast and changed under the influence of sunlight. From the second half of the nineteenth century there was more and more experimentation with chemicals. As a result of this, dyes were made in dyes and more colourfast than the dyes produced until then. Color almost always played an important role in the architectural image. The plastering or painting of the exterior was not only done for omesthetic reasons, but also for practical reasons. The application of plaster or paint layers protected the material against moisture and the resulting weathering.
The own color of the material on which the protective layer was applied, or the color of the material that was imitated, usually formed the basis for the color choice.

Current colour use

As mentioned, the current color image is a bit monotonous. This is partly because the possibilities to work with variations of the historically responsible colors are insufficiently practiced. In order to create a unity in the façade walls and prevent a too colorful collection of colors, the use of four colors as policy was used by E. van Houten on behalf of the "Stadsschoon Amsterdam Committee" before 1940. This policy was more or less continued after the Second World War by R. Meischke and H.J. Zantkuijl. For both the owners and the building inspector, this limited use of color is a clear and simple policy to follow. That has led to the nubende unit. This unit is a quality that needs to be stored carefully. At places where the replacement new building of a.a. the urban renewal of the sixties and seventies, but also in the smaller-build projects of later date, strongly deviating colors were used, the effect of these colors on the environment is extra clear. The different contemporary colors are often perceived as disruptive.

Reflecting upon the past

Our knowledge of historical colors is still rather limited. Groen and Bentheimer have always been the standard colors, only very long ago, in the sixteenth century and early in the seventeenth century, a lot of red was also used for the woodwork, but this color disappeared from the cityscape before 1700. At the end of the eighteenth century it became fashion again to paint the stoephekken dark reddish brown to purple, an aubergine color that we still see on our historic lampposts. The clear color contrast between mountain and brick also disappeared in the course of the seventeenth century. In general, it can be said that the use of color has been austerity in the course of time.

The Golden Age is now a very distant past, the city center has long ago lost its function as a depot and even the nineteenth-century city is already fading into the mist of history. The historic cityscape is now strongly dominated by car traffic and all the extra rubbish. Only if the car ever disappears, the memory of the moody image of the old trading metropolis can really revive.

It is therefore certainly not the intention that a kind of fur palette will be returned to Amsterdam. To begin with, there is not that much architecture from the early Golden Age, let alone from earlier times. It is, of course, not the intention to paint a canal house from 1740 in colors that were no longer used after 1620. Moreover, there is now a good reason to be cautious with color use. The modern world, which is very manifest in the streets in the form of cars, passers-by and advertising, has a fairly strong preference for signal colors. It is therefore advisable to strive for a quiet background color in the public space.

Fortunately, most of the brick facades are very atmospheric, while the colors canal green and Bentheimer harmonize nicely with the shades of the masonry.
(Rossem, 2006)

Light and dark / Effect of light and shadows.
Many color nuances arise from the play of light and shadow. Most of the moldings in our historical architecture, both inside and outside applied, have been calculated on this effect. A color in a smallest alley, where sunlight sporadically penetrates, will also be experienced differently than the same color on the canals, where the sun will have plenty of opportunity. Somewhat more pronounced use of color in recent years can lead to to an excessive "yellow experience".
This effect is reinforced by the almost lack of sunlight in this rather narrow street. The scarce, moving artificial light of candle lights or gas lanterns made sure that everything seemed to move in the darkness. When the light level is low, reflective surfaces appear to be more bright. We can hardly imagine in the abundance of electric light how the stader must have looked in darkness. The effect of shade and light-colored profiled surfaces are stronger than with an excess of light.

Pigments in Amsterdam
The most important color of a structure is usually determined by the material that has not been painted: the type of stone used and the roof covering. In Amsterdam, a red or brown brick was often used as a stone, but natural stone was also used, such as Belgian stone or sandstone, which came from various locations in Germany, o.o. ocher-colored Bentheim and a more gray stone from Oberkirchen. In particular, basements, façade penetrations, and door and window frames are often made of natural stone. A combination of brick and natural stone also occurs regularly. (OIdenburger, 2016)

Painted woods
In addition to the applied stone, the woodwork also influences the color image. Originally, wood was used for the construction or 'skeleton' of most of Amsterdam's houses, sometimes in combination with loam or brick. Until around 1650, mostly oak was used, a fairly weather-resistant native hardwood species. In old paintings, such as that of Pieter Brueghel the younger, that oak seems untreated; due to the influence of the weather it is only slightly grayed up. Wooden houses were also tarred, even though it had been banned in Amsterdam for fire since 1503. When the oak was replaced by pine in the mid-seventeenth century, the wood had to be painted. Line oil paint was used for this. Until around the middle of the nineteenth century, there was only a limited number of pigments suitable for exterior painting, that is to say, well resistant to weather influences and not too expensive. The most reliable dyes for the preservation of wood were lead white, various red iron oxides and green copper compounds. For indoor painting the choice was wider, because the paint had less to suffer and possibly also because one was previously prepared to spend more money on the interior. (Oldenburger, 2016)

Places
Each area or city has its own color history, both in terms of exterior and interior. Experience shows that the historical exaggerations are often so characteristic of the intended architectural appearance that the building has had, that they contribute to the quality of the building. The quality of samples and the use of materials of the various periods and the research into them can form the basis for a future development. Color-historical research does not necessarily have to lead to a reconstruction, restoration or conservation of an encountered finish from an earlier period. It is also possible to opt for a new color or decoration. But applying this new color is a conscious choice. Color and material always go together. It is therefore important that the components to be examined in a color-historical manner are kept in place, or documented, so that the relationship with other architectural finishing elements on walls, floors and ceilings, from glazed tiles and wallpaper to artificial and natural stone, can be identified on the spot. to become. The Rijksdienst voor de Monumentenzorg advocates the preservation of all existing layers of paint, both the paint layers of the first finish, and the layers of later periods. This keeps the historic layering of the building, not only as a source of information, but also i
→ Source

Future of colours
Often the examination of finishing stroke is carried out to determine the 'original' color scheme of a façade or a building, so that if desired these original colors could be used again. Often the building has changed drastically during the thirties, with structural changes being accompanied by the alteration of the painted finish. Every renovation, every intervention is reflected in the finish. Often also to eliminate the intervention. It is certainly not always desirable to draw back to the 'original' color. In the choice of the color image of the façades, the design of the windows can sometimes also be a handle, because it largely expresses the relationship immediately in time. From the knowledge that in the past there were variations in color than is currently the case. , one might ask to what extent we should meet the wishes of owners, to distinguish their building from the other buildings by means of other use of color. It will generally not be possible and also not sensible to try to make a reconstruction of a color image from a certain time. The building, along with internal and external renovations and modifications, also acquired other colors that match the time frame of that moment. The old finishing layers are part of the construction history of the building and must be preserved in principle. The repainting of facades on the basis of paint marks can often be a responsible choice, both for technical and aesthetic reasons, but rarely for the sake of authenticity, since these paint marks can usually be non-dated and therefore can not be connected with certainty to a construction phase.

People who work in the preservation of monuments are blamed for the imperative of the color researches, mutatis mutandis of the historical study as a starting point for the restoration, often leading to a decline in a form of creativity. The "respect" for history, which was asked for by the historic preservation, sometimes seems to have turned into an almost paralyzing fear of the creative. Own (time) input seems almost impossible is the accusation of "developmental" owners. The question, however, is whether we should want this for historically valuable buildings. Is it not better to be led by what can historically be regarded as a given? If, on painting the façade, one wants to deviate from the existing color, one could, therefore, be inspired entirely by the historical use of color, entirely in the spirit of the moment. At the Monuments and Archeology office there is an overview of historical colors in relation to the different time periods and the different architectural trends, so that a choice based on historical data can be made on this basis. This applies in particular to buildings whose façade (and perhaps the interior) are still almost entirely in their original state. Thorough color research and relevant historical data can show which color is appropriate for a specific building. However, it will not be possible in practice to have a color survey done for every building in the city. Often it is also sufficient to choose color that is derived from similar buildings. Another

aspect of color is that the amount of light-wire is important in the experience of color; the same color will therefore work in a narrow dark street than on the wide canal and the facade on the sun side will be different from the one on the dark side.

Future material use

In the mixed use tower the colours of unadulterated (onvervalst) in which construction materials will dominate the palette. The earthy tones and grainy surfaces of brick, tile, concrete and natural stone constitute the backdrop to all other more brightly coloured and smooth elements in the architecture. Colour can be found on the brick surfaces of furnishings, in the recessed walls of large cabinets and in small decorative elements anywhere. Examples are strips of bright mosaic tiles in the floor of a hallway, pieces in the Kitchen's hood and painted on a white wall. Rougher surfaces re reserved for the exterior and interior public places, while the walls and floors of the areas where inhabitants and staff work, eat and rest have a smoother finish, white walls and colourful details in built-in furnishings. The result has to be a subtle nuance between relatively more public and more private realms.

Wood is used for doors and seats, giving a warmer tone and smooth surface links the realm of unpainted building materials to that of painted furnishings, which in turn are like small buildings- with brick walls and heavy slabs of concrete or artificial stone on top of them. The coloured elements were attractive focal points within the spaces with muted and neutral tones, drawing attention and inviting. Colours could possible also be introduced by placing coloured glass in more than a dozen architraves. This could add coloured light, shifting with the direction of the sunlight texture.

Colour will be an integral part of the design of the the tower. An original colour scheme should enrich the building and give a subtle accent upon the colours that are mostly reigned by materials plus a few more intensely coloured, painted. These accents should surface in strategic and surprising places.
(Fischer, 2018)

Tile history of the Netherlands

In the sixteenth century Italian craftsmen moved to the rich trading city of Antwerp with the technology to decorate pottery with tin glaze. It is the first introduction to the possibility of painting pottery in bright, glossy colors. From Antwerp, new workshops are also being set up in Dutch cities, where tiles and majolica are made.

The demand for tiles increases sharply during the seventeenth century, when successful merchants and well-to-do citizens increase their houses and install a beautiful, representative fireplace. Tiles are heat-resistant and easy to clean, making them ideal for decorating the back wall of a fireplace. Moist walls in the houses that are difficult to heat also lend themselves to a tile finish. The increasing prosperity, also among middle-class people and farmers, further increases demand. Manufacturers increase their production and offer both expensive, refined painted tiles and tableaus as well as simple and affordable decors. Tiles are exported on a large scale: to France, Germany, Russia, Spain and the Ottoman Empire.

Delft became the center for the production of high-quality tin glaze in the second half of the seventeenth century. This industry disappears in most Dutch cities, but tile factories remain in Rotterdam, Amsterdam and Utrecht. In Friesland, especially in Harlingen and Makkum, but also for some time in Bolsward, the combination of tile production with saucer remains intact. From the second half of the eighteenth century, the number of companies decreased; after 1860 the old tile bakeries can only be found in Utrecht, Harlingen and Makkum.

> De Smell, Tile factory
> From 1880 modern, industrial techniques from England and Germany were adopted. The new tiles are harder and have a larger color palette, creating new uses. Application to exterior facades and porches gives tiles architectural value, and colorful tile panels advertise facades and interior walls of stores. For company anniversaries, the staff often offers a tile picture for the office hall, in a decorative frame with assignment text. In the years 1890-1940 many new plateel bakeries are active where tiles are also decorated. The quality is often high, but compared to abroad, production is now small-scale and labor-intensive. (Geheugen van NL, XXXX)
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> In the course of the twentieth century, apart from being practical, tiles are increasingly being used as independent decorative objects - as a reminder of an event or provided with "tile wisdom." (Geheugen van NL, XXXX)

Difference between town and countryside

The Netherlands has a colorful diversity of regional colors. From West-Fries green to Valkenburg's yellow and from Zeeuws-Vlaams blue to Utrecht red-white. Usually this uses local color from a distant past, sometimes more recent. Always the regional colors ensure an authentic, atmospheric street scene.

Colour fan

A color fan gives an impression of relevant color-historical developments in an area. These developments are not all specific, but they are indispensable to place the questions about the colors of the building in a broader perspective. The fan starts with the brown tones of charcoal tar, the cheapest wood preservative for centuries. In this first color-historical period is also the line oil paint, with earth colors, berlin blue and copper green. The second important color-historical period, from the middle of the 19th century, starts with the factory production of powerful synthetic pigments. Strong colors come on the market in large quantities, in tubes and cans. They cause a violent period of multicolored ness, which, however, soon dies out after a few decades when he emerged. The 20th century is the age of color oppression. The new colors are there, but they are not used. Color experiments such as Style, Tomado and Ispo (exterior wall insulation) remain isolated experiments. Main line is the contrast rule: the greater the brightness contrast, the higher the status. That rule determines the color image of the 20th century. The green in the Zaanstreek is initially an exception: the light, strong green eyes are fresh and cheerful. In the 1980s, however, they also turn green and gradually darker, until everything is the same dark 'monument green'. From the nineties on, however, 'more color comes into the Netherlands' through the back door of the color history. At the moment we are in the middle of this phase of historicising color use.
(Kleurenbureau, 2011)

Key Colours of the landscape

According to Brazilian landscape architect Benedito Abbud, "*Landscaping is the only artistic expression in which the five senses of the human being participate. While architecture, painting, sculpture and other visual arts use and abuse only the vision, landscape also involves smell, hearing, taste and touch, providing a rich sensory experience by adding the most diverse and complete perceptual experiences. The more a garden can sharpen all the senses, the better it fulfills its role.* "

The expansion of cities with new plots over and over is over. The city has reached its maximum. Now you see that it mainly concerns the re-weaving and better linking and connecting of the city. Public space is becoming much more important to keep the quality of the city high. The bubble of the real estate sector is splintered, the cities no longer earn big money on the sale of land.
(Pereira, 2019)

Room and space

The space is also important in form and color. Adolf Loos makes a difference between 'room' and 'space': room is the closed space, space is the unlimited, endless space in which an object or a detached building can manifest itself. In the Style movement, for example, white is used to create openness, to open up the enclosed space - which is an abomination to De Stijl - and to make it 'space'. In the seventeenth-century design for the Amsterdam canals, on the other hand, there is always a limited space between the canals, with its own spatial effect. Squares are called the rooms or the halls of the city and the canals form the water squares. However, a condition for experiencing the space is that the façade wall must be able to be seen as a unit and not be allowed to crumble in too many pieces. In order to show the spatial effect, it is therefore important to retain a certain color unity between the individual buildings. (Oldenburger, 2003)

Historical colours

The secret of the 'canal green' (grachtengroen) is that it reflects the light: in the shadow the deepest blacks arise, while the sunlight is reflected at the same time. Strijklicht increases the color of the 'Bentheimer', the creamy white in which window frames, frames and tops are painted. It illuminates profiling and in the shadows creates a blue-violet reverberation. The richer the relief and sculpture, the richer the light and shadow play. If the 'Bentheimer' is too yellow, the sunlight is deprived of the chance to play a subtle light and shadow play of warm yellow and cool blue colors on the woodwork. In the sun, the sandstone color is slightly warmer, but the violet blue color in the shade is missing. The painted woodwork contrasts with the gray-brown background of the natural and brick facades; the light frames and dark doors together with the mid-tone of the facade form a pleasant triad. Apart from this difference in color tone, there is a gloss contrast between the painted woodwork and the dull façades.

Until the second half of the 19th century, however, there was only a limited number of affordable pigments, ground dyes that were usually stored as powder. These pigments were rubbed with linseed oil and this 'yard' had a limited shelf life. Which colors applied to architecture depended on local traditions and which pigments were available. The historical image of the Dutch city, with its characteristic red brick, 'Bentheimer' sandstone and bright green shutters, as we still know from the paintings of the Dutch masters, was consequently only partly a fashionable choice and rather a forced restriction. The color palette consisted mainly of earth colors (green earth, yellowish ochres, red iron oxides, sienna and omber from Umbria), lead white and carbon black. Until the 16th century, people even believed that there were only four basic colors, where all other colors could be made: red, (ocher) yellow, black and white. Green could also be mixed from black and ocher, blue by glazing white over black and by glazing a thin layer of black over white, a warm ocher color appears that looks like gold. In the 17th century, however, the theory of primary colors, red, yellow and blue, made its appearance; Vermeer's Milkmaid is a striking example of this. The blue that Vermeer used was ultramarine, a semi-precious stone, which was too expensive to apply in large quantities. In the course of time, more and more colors were added: the somewhat green-blue Prussian or Berlin blue was discovered in 1704, and from 1720 in house-painted paint, cobalt blue, the purest blue that neither moves to green nor to red, was only started the beginning of the 19th century on a larger scale. Finally, synthetic colors were developed in the first half of the 20th century. (Oldenburger, 2003)

CLIMATE AND CONSTRUCTION

Time played an important role in the realization of this project. We are dealing here with a temporary resident and expat, and with high-rise buildings in a new district to be built. It must therefore be taken into account that the building will survive its residents over different periods of time and that the various public functions that are provided in the building are temporary, and can therefore change.
The flexibility in the climate and the construction of the building comes from a forward-looking vision. At the moment there are already developments in the Netherlands and Amsterdam that indicate that the expat is living longer and longer. That means that where I have now created a design that is designed on smaller family assemblies, one can imagine that the family composition of expats who can stay longer in Amsterdam in the longer term, and there will be more expat families, and there so a shift will occur from the 1 and 2 households. And then the diversity, which is now economically broad, needs to be based on composition in the longer term.
If one looks at a tower over a period of 50 years, it should be possible to adjust the façade at a given moment, but that urgency is much lower. There you can use the finish of the facade to use higher quality materials, which last longer compared to the interior.
In the shorter term, the design must be able to be adjusted to block and floor level. That is why it was decided to make the interior spaces and floors adaptable for change and to make them flexible. In the implementation, this means that the houses are standardized with a number of prefabricated units that can be repeated in the various apartments, thus enabling many different options on floor level without many complicated designs.

CLIMATE

The effects of climate change are great in urban areas. Climate buffers cope with increasing flooding and buffer water against shortages, temper heat waves, improve air quality and offer new opportunities for flora and fauna with a changed habitat. In the city, climate adaptation of projects is changing and the right design can make a big difference. The project here realises detached mixed-use towers in a park on the port of Amsterdam. An energy-efficient climate system in the homes must guarantee that a good indoor climate and pleasant living enjoyment are created. An ingenious installation system must ensure optimum energy consumption and effective cooling in the building. The air transport through the building is minimal because the water is used locally. At night, air is taken in by opening windows in the facade of the public rooms so that the building is "flushed" with cold air. "

Heat pumps in high-rise buildings

With stacked housing, air / water heat pumps are not the most logical choice, partly because it is difficult to find an optimal space for the outdoor units. In the vast majority of cases, a soil source with central or decentralized water / water heat pumps is therefore chosen.

3.5 - 4.5 pipe distribution system (HT, LT, cooling)

The HT heat pump used in the above 2-pipe system has a lower efficiency (SCOP) than a low-temperature heat pump (LT) that produces water at 45 ° C. Since this is a high-rise building, the slightly more complex 3.5-pipe distribution system is used. "A central LT heat pump is used that provides 45 ° C for floor heating in the homes. In addition to that LT heat pump, we then place an HT heat pump that heats this water as a "base boost" to 70 ° C, for use as tap water. Because we place a much smaller HT heat pump in this system, that saves on the costs on the generation side. The distribution with a 3.5-pipe system runs via three pipes, one of which has a dual function: the HT distribution for tap water (70 ° C) and LT distribution for underfloor heating (45 ° C) have a joint return pipe. “Such a joint return leads to energy destruction because you mix water at different temperatures, but with an extensive distribution network, an additional return line causes a substantial cost item. That makes it more lucrative to opt for a joint return. "
Also be cooled with a 3.5-pipe system; if the central heat pump is put into cooling mode, cooling water can be distributed via the LT pipe. Incidentally, heating and cooling cannot be done simultaneously in this way; all apartments in the complex are therefore either cooled or heated. On warm summer days, cooling provides resident comfort, but according to Schouten, it also has an additional advantage: “Cooling homes also ensures regeneration of the soil source, as heat returns to the source. This way, savings can be made on any external measures that you need to take to keep the source in balance. "

By adding extra cooling pipe, the system can be further elaborated for the target group of the building. This system also makes it possible to cool and heat apartments at different times. “In the intervening seasons and with this target group, it may happen that some residents want to heat their house, while others need cooling. Adding an extra cooling pipe to the distribution network just discussed makes this possible and allows simultaneous heating and cooling in a building. ”Furthermore, the basic principle behind a 4.5-pipe design is the same as that of a 3.5-pipe system. Here too, a central LT heat pump is assumed with a "base boost" for tap water.

Floor heating

The free floor layout of public spaces and apartments must ensure that heating and cooling can be integrated into the building and that it is possible to make adjustments to it. This made floor heating in the slimline infrastructure+ floor a good solution. The climate system in your home consists of components that together must provide heating, cooling, ventilation, tap water and sustainable electricity. Heat pumps and heat recovery units are used. The houses are fully electric. An automatic control system needs lighting and blinds.

Excessive heat

Excessive heat from the common areas can be used to heat the homes. Combined with a heat pump installation, the system must result in a lower energy consumption than the average tower building with a traditional AC installation. The Sun collectors on the roof already provides a number of layers of electricity. Underground energy storage and the collection of atmospheric electricity. The size of the project offers economies of scale in order to be able to invest in these alternative solutions.

Climate buffer loggias and public spaces

Climate control in a large high room with lots of glass starts with the prevention of heating. One of the options is to install solar control glass. In addition, it is important that the solar heat that does come in is efficiently removed by adequate ventilation. Because of the enormous ventilation capacity that is required for this, natural ventilation is preferred, for which an air extractor is used high up in the room. In the winter, the heat from the sun's rays can be used to maintain the inside temperature. When an atrium is used as ventilation air from adjacent rooms, the chance of excessive condensation is high, even when double glazing is used. It is, however, possible that, through heat recovery, the exhaust air preheats the outside air.

The climate in the rooms differs from the outside climate, which influences the energy management within the building. A number of properties can be utilized: that of the extra thermal buffer between inside and outside (during the day and at night) and that of the solar collector that invades the glass during the day. In both cases, the transmission and infiltration losses of the adjacent building components decrease during the heating season. In addition, the ventilation losses of the building can be limited by extracting supply air from the atrium, whereby these spaces can then act as preheaters.

Climatic design rules for design rules for high homes

The Building Decree contains no specific requirements for high outdoor spaces. DGMR drew up a number of rules of thumb that provide guidance for the design. High-rise projects in the major cities will continue to grow in the coming years. The reason for this lies mainly in the attraction of large cities to people, the limited vacancy of homes and the expensive and scarce land in the city. However, there are no technical requirements for this. Awareness of which aspects play a role in the quality of the outdoor space in high-rise projects and integrating these into the design choices can considerably increase the experience. Zooming in on this experience, it is an interesting question what someone experiences as the ultimate climate on their terrace. That probably also depends on the time of day and how a person feels. Physical aspects have an influence on the perception of the climate of these houses. Too much wind, obstruction of daylight, whistling noises from grilles or fencing or road traffic noise are generally perceived as annoying by people. In the first instance, a number of rules of thumb can be used. It is important to include the rules of thumb as early as possible in the design of the outdoor spaces for high-rise projects. Applying the rules of thumb and advice give the best guarantee for a high quality of the experience and appearance of the apartments.

Sound

On the IJ, where more and more high-rise projects are currently being realized, there is heavy wind, road traffic, water and industry, resulting in a high noise level. In this case, the so-called preferred limit value from the Noise Pollution Act is always exceeded. Many municipalities have developed a policy with rules and conditions for this. The municipality often sets the condition that the home has at least one low-noise facade.

With this low-noise facade, it is possible for residents to open a window at night, for example, without any noise nuisance. The definition of a low-noise façade differs per municipality. In Amsterdam, for example, the requirement for a low-noise façade is 5 dB stricter than in The Hague. A limited number of municipalities also have the requirement that the outdoor area must be noise-free.

In many high-rise projects, one-sidedly oriented homes or corner homes have high noise levels on both facades. This means that for these houses the noise load on the outer wall must be reduced in order to get a low-noise facade. An outdoor area (balcony, loggia) can be used to realize that. By making a closed glass balustrade around the balcony, the noise is stopped and a low-noise facade is created.

Daylight

The presence of a balcony hinders the daylight entry into a room. Here it makes a big difference whether a fully built-in balcony or a built-in loggia is chosen. In the first situation there is only an overhang, while in the second situation also obstacles to the sides of the outside space have to be taken into account.

For a standard bedroom of 8 m 2 it appears that the outside space with a balcony can be about 50% deeper than with a loggia to give the same daylight quality (3 meters deep with a balcony and slightly more than 2 meters with a loggia). This is a huge difference for the residents in perception and quality of the outdoor space. Also with a balcony the view is better because you look less from a tube. You literally get a broader view.

Wind

Outdoor spaces such as (roof) terraces, balconies and loggias are certainly points of attention from the wind point of view. There are currently no clear criteria for assessing the wind climate on outdoor spaces. The NEN 8100 standard "Wind nuisance in the built environment" only provides criteria for wind nuisance and wind hazard at ground level. Some municipalities set their own wind criteria for outdoor spaces. These are often laid down in the High-rise Policy.

DGMR recommends that a new high-rise project (buildings higher than 30 meters, in accordance with NEN 8100 the risk group) always carry out a wind study, even if the municipality does not ask for this in a High-rise policy or this policy simply does not exist. Most municipalities in the Randstad have a high-rise policy and will therefore require a wind study in the zoning plan procedure or for the application for an environmental permit.

Wind nuisance research increasingly happens with computer simulations and less with wind tunnel research.

In the past, only the wind tunnel was used for research in which usually a mass study (for the zoning plan procedure) and then the final design in the wind tunnel was investigated. Due to the increasing knowledge and computer power, computer simulations have emerged rapidly in the last decade. This makes it possible to assess the wind climate during the design process of a project without having to carry out the wind tunnel research again and again.

Measures due to the wind can be integrated into the design, so that aesthetically speaking less attractive solutions (usually emergency handles such as awnings and screens) are less necessary. With computer simulations (1: 1 scale) the level of detail is more accurate than with wind tunnel research (often with a 1: 300 scale).

As stated, no criteria have been set for higher-lying terraces or balconies. In general, the higher the wind blows. The use of criteria that apply at ground level is therefore very unrealistic. The expectation and behavior of the resident also play a role here. What do you expect on a terrace located at a height of 120 meters? When will people sit outside? To make the wind climate more pleasant, the following rules of thumb can be used.

Orientation is important, in the Netherlands southwest wind dominates. The sides of the balconies or terraces that are aimed at this can be equipped with raised screens (or continuous balustrades) to limit the wind nuisance. The best wind climate is achieved with so-called indoor outdoor spaces where both sides are screened high, the front has a (closed) railing of at least 1.2 meters high and the balcony or terrace is screened from above.

These are simple design rules that can be used. Another option is to adapt the building design to the wind climate. By making use of the aerodynamic shape of the building, the wind climate can be regulated to a certain extent in the design. Windproof places can be created, for example, by making indentations.

Natural ventilation on Height

It is very conceivable that residents want to ventilate their apartment in the new high-rise by opening a window or sliding door. Since the wind speed increases considerably at higher altitudes, this will lead to comfort complaints faster than with low-rise buildings. The Building Decree does not take the height effect into account, which means that windows can sometimes be difficult to open. This requires further consideration and possibly the use of equivalence.

The screens of outside spaces can make a positive contribution to this, because this can reduce the wind pressure at the rear façade. With high-rise buildings, good airtightness is of great importance to prevent comfort complaints. The resident will also experience that ventilation through one façade is often more comfortable than through two opposite façades.
In high-rise buildings, it is possible to use ventilation grilles. There are manufacturers who indicate up to a height of 70 m that their ventilation grilles will work normally. This always involves so-called self-regulating or controlled schedules.

A risk at even greater heights is that the gratings open and close quickly one after the other due to rapid pressure fluctuations. This produces a clattering noise in the grid and causes inconvenience to the resident. In practice, this is often resolved by fixing the schedules. Problem solved, but that solution also applies to the positive effect of the self-regulating schedules included in the EPC. The use of balanced ventilation is therefore preferable above 70 m, but a good integral assessment must also be made below that.

Rules of thumb for natural ventilation: Balanced ventilation above 70 meters. Controlled gratings up to 70 meters possible, but usually with compromises in functionality.

Wind-Induced Sound

Wind-induced sound (better known as whistle sound) is understood to mean sound that results from the interaction of the wind with fixed structures in the built environment. In general, the bars of fencing (around terraces) and grilles (for example in technical rooms on the roof) are the biggest generators of noise due to the wind. Ghost sounds are also heard in buildings with a large area of stretched façade fabric (sun protection), unintended holes in the window frames or in cracks or ventilation grilles.

A tricky point is that prior testing is only possible with a 1: 1 test model, and even then it is often specific wind directions or vertebrae that cause the problem. A risk analysis in advance is useful. Our experts can implement this based on physical knowledge and experience.

The De Kroon project in The Hague uses so-called French balconies up to and including the 17th floor. As a fall-through protection of the French balconies and as a boundary for all roof terraces on the 7th, 11th, 17th and 40th floor, a railing railing has been used here. These have all been assessed in advance for the risk of wind noise, so that the wind-induced noise is minimized due to the bars.

Rules of thumb for wind-induced noise: Be careful with press gratings, bars, tensioned cloth and airtight seals. Have a risk analysis carried out in advance and view / test before installation all possible details that can generate wind-induced noise.

Balconies

Few generic expressions have been found in the literature from designers themselves, about the actor orientation of architects and urban planners on private outdoor space. However, the arguments mentioned in 5.3.1, that many city dwellers would not need their own outdoor space or that data parks and terraces would be a good alternative, are often proclaimed by designers. A more general vision can sometimes also be heard in project descriptions. For example, architect Felix Claus explains the choice for conservatories at an apartment complex he designed along the Amsterdam IJ as “much more practical in high-rise buildings, because the wind is blowing too fast there. It is also [outside] much too busy to sit on a balcony. The people who live here opt for that urbanity and liveliness and therefore also for architecture and houses that fit in with it ”(Municipality of Amsterdam2004). Whether this is a personal and / or location-dependent vision of outdoor space, or a more general actor orientation of designers in this area is not clear.

It is assumed that, by definition, designers consider the external appearance of a dwelling or residential building and its integration into its spatial context important. In (inner) cities, buildings must look urban (including De Gooijer in Dynamis 2007). Moreover, in (inner) cities, the ensemble of buildings is emphatically seen as more than the sum of individual buildings. In the view of many urban designers and architects, the buildings here form, as it were, the walls of public space. Geddes (1993), for example, states that beautiful cities are made by beautiful streets, which must be provided with street walls, facades along a uniform building line. "The streets must have intentionally defined open spaces and not just residual spaces that happen to be occupied by buildings" (Geddes 1993, pp 196).

As to whether or not balconies are part of it, most designers do not make a statement themselves. There are many references from non-designers to designers' views on outdoor space. It is often said that contemporary designers see balconies as undesirable elements, which affect the integrity of the structure or do not fit into an (inner) urban facade image. According to Van Toorn (2002), for example, architects hate the terror of balconies on the outside facade. And also according to Huisman (in De Wit 2008) architects hate balconies, because it would disrupt the decomposition of a facade.
From modernist ideals, strict facade lines are pursued and excellent balconies are often prohibited by urban planning provisions (Van Hoek et al. 2011). Certainly now that sculptural buildings are in fashion, designers would rather not see anything sticking out of their buildings (Hulsman2008). An example cited by various authors concerns the Oostelijke Handelskade in Amsterdam. The urban development preconditions stipulated that the façade should not be readable or that there were living or working spaces behind it. The building line was not allowed to be exceeded and external balconies on the Oostelijke Handelskade were excluded by the urban development plan (De Wit 2008; Boer 2010). Loggias, greenhouses and French balconies were allowed and are often included in the final design. Van Toorn (2002) points out that designers made extensive use of conservatories in order to be able to comply with the rules on outdoor space in the Building Decree. Companen (2008, pp. 16) also states that many designers prefer loggias and conservatories to "feeders on the façade".

Searching for the background of this aversion to protruding elements on the façade, both Huisman (in De Wit 2008) and Hulsman (2008) end up with urban renewal architecture from the 1980s. Outside space was then compulsory for new construction, but budgets were hardly adequate.Result was poor containers, as a result of which balconies on the facade were dismissed as a disease in the late 1980s (Huisman in De Wit 2008).

CONSTRUCTION

The provision of stabilising and stiffening tements to accommodate wind and other horizontal loads is particularly important in high rise structures. The wind load depends very much on the shape of the building. Admittedly a circular, cylindrical shape is best. However, a circular plan often has disadvantages for the utilisation because the zone provided with daylight is too small related to the total area, as shows in the Marina City towers. The most popular plan shape is a modified square. The horizontal forces are thereby accommodated by the service core and, particularly in the case of tall buildings, by frames positioned in the facade(Vierendeel girder), a perforated facade or lattice girders forming a tube. In residential buildings the party walls of new apartments often form the stiffening shear walls, not necessary to wait until the roof can carry the loads.

Environmental effects.

Graduation research shows that the environmental costs of a concrete frame are much lower than for steel variants. Remarkable, says Van Hellenberg Hubar: “With a building height of 96 meters, almost 2.5 times more concrete than steel is required. But although much more kilos of material are needed, concrete is still more sustainable according to current calculation methods. This is mainly due to the negative environmental effects of steel. They are a factor of 12 higher."

Concrete does have disadvantages. Depletion of the raw material, and landscape damage caused by its extraction and the storage of rubble also have an impact on the environment. However, this is changing with the developments taking place in the recyclability of concrete. This means that concrete from the demolition can be redeveloped and used in making new concrete.

https://www.bouwwereld.nl/bouwkennis/betonskelet-voor-hoogbouw-duurzamer-dan-staal/

https://www.volkskrant.nl/economie/wereldprimeur-voor-rutte-groep-beton-maken-van-beton~bc1c6600/

Sustainable concrete.

- Proper application of the proven and proven benefits of the concrete material;
- Think carefully about the consequences of a material or design choice for earlier or later phases in the life cycle of concrete;
- Intelligent design in concrete.

1. Maintaining the value of raw materials Circular economy (circular concrete) Responsible origin of raw materials.
2. Maintaining the value of buildings Technical / economic life span Different environments Re-use Architecturally clean concrete
3. Building safety is sustainable building Structural safety (houses) Fire safety
4. Comfortable and economical to use Sound insulation Activate thermal mass (save energy)
5. Arm building material Freedom of form Slim and strong building (HSB) (UHSB) Light weight concrete Formwork
6. Less transport (logistics) Concrete close by
7. An environmentally conscious work schedule Strength development of concrete Work preparation
8. Auxiliaries for the right performance Auxiliaries for concrete
9. Low-carbon cements Concrete mortar and CO2 emissions
10. Green extraction, clean chain Surcharge material Concrete granulate

http://betonhuis-betonmortel.nl/beton-kenniscentrum/kennis-delen/dossiers/duurzaambeton-n

Design considerations bearing construction

Different structural variants have been investigated for an optimal construction. The choice takes into account construction costs, construction time, sustainability of construction method, with the limited construction time being of great importance in the project, with regard to the large growth of the city and the importance of fixed groups.

The design choices were considered based on the following points:

- Build as many prefabricated and dry buildings as possible.
  a. Main support structure
  b. Facade
  c. Stairs and landings
- Simplicity and rehearsal.
  a. "Standard" grid dimensions and as little variation as possible.
  b. The application of standard (developed) building systems
  c. Continue stacking as much as possible and avoid complex transfer structures.
- Minimization of design coordination and unbundling of different building flows.
  a. As little load-bearing walls as possible in the floor plan
  b. Opting for a floor type that gives relatively large freedom with regard to the passage of recesses.
  c. Creating as much freedom as possible for the engineering and execution of installations under the floor.
- The disadvantage of prefabricated and dry building is loss of cohesion and rigidity due to the use of separate elements.

Stability.

It is obvious to use the core as a stabilizing element for the tower. Due to the relatively large size of the core, sufficient rigidity can be realized within the core to stabilize the tower. However, due to the height of the tower, a strong rotation effect is possible, so that an additional stabilizing element is needed. The additional stabilizing element must be at a sufficient distance from the core and have sufficient dimensions. A short closed wall, twice L = 7.5 m in one direction, over the full height, is sufficiently stiff in relation to the core. In addition, a number of form-retaining parts are required at the location of the public floors.

The tower has a number of sections. In the public storey floors, zones are provided that are extra heavy and that act as fire compartmentalization. The installations must also be accommodated here. The reinforced zones and the solid concrete core must prevent total collapse in the event of a serious calamity. The floor plan is an equilateral rectangle of around 20x20m. It must be looked at how not only vertical, but also horizontal pressure can be absorbed by wind loads. The viewpoint must offer a wonderful view of the seaport, industry, Zaanstad and Amsterdam.

https://www.cobouw.nl/bouwbreed/nieuws/2002/08/slim-klimaatysteem-voor-rotterdamse-supertoren-101229641

Prefab system.

The main supporting structure consists of a prefab concrete column structure, a central core with stability walls, and a Slimline Computer floor. The prefab concrete façade columns are placed on a 7.5 m grid, the core in the middle also on a 7.5 m grid. The span between the central area and the facade is therefore 7.5. In the middle, vertically across the height, a number of load-bearing prefab concrete stability cores are situated. Sufficient stability has been created by allowing walls, beams and columns to work together. For the floors, the Slimline Floor has been chosen that works well in terms of weight and function, which is removable, fireproof and acoustically in view of the functions and variations that are required in the building. The floor is flat and barrier-free, and not solid. The top of the floor remains accessible and the installations can be reached unobstructed after delivery. It is also possible to realize a completely freely divisible space and a freely divisible facade.

Reinforced precast concrete columns

Concrete plays an important role in a sustainable society and offers many opportunities for sustainable construction. Concrete fits perfectly into the circular economy, has an extremely long lifespan, is safe and it contributes to a comfortable and energy-efficient use. The great freedom of form of concrete offers possibilities to make both standard and more special structures and to build materials poorer. Moreover, concrete is composed of natural raw materials, which are always available at short distances and in good stock and can be recycled. Due to its versatility, it offers many possibilities for sustainable construction. Concrete fits perfectly into the circular economy, has an extremely long lifespan, is safe and it contributes to a comfortable and energy-efficient use.

Sliding formwork

A sliding formwork or climbing formwork is a formwork of limited height for concrete walls that, after pouring and hardening of the concrete, is slowly raised each time. The formwork thereby relies on the concrete that has already been applied and it is then necessary for the concrete to have sufficient strength.

Substruction (onderbouw)

Sluggish building land. Round drum with a diameter of approximately 80 meters on the first layer of sand, at -25 meters NAP. At the bottom you have space for several parking levels. With such a basis, ground pressure and settlements remain within reasonable limits. The starting point for the construction is a hybrid system with a heavy concrete core, which is built using sliding formwork, with prefab concrete construction parts around it. Together they give the tower strength and stiffness. The substructure is stabilized with the core that extends from the tower to the foundation and two closed wall discs over two grids to the ground floor. The horizontal force is transferred via the ground floor to the basement and transferred to the substrate.

Floor system

In designing the floors, particularly for the upper storeys, vertical displacements near the core due to horizontal loads must also be taken into account. This floor has been specially developed with a view to the integration of pipes in the floor. It is a hollow steel concrete floor (Infra + floor, now known as Slimline); The Slimline floor is a lighter floor system and can also be built completely dry when using an Infra + computer floor. Floor consists of prefab concrete slab in which lower flange of steel profiles are cast. The rest of the profile protrudes above the plate. The steel beams are provided with recesses for installations.

The application with a computer floor is possible due to disk action for stability (robustness) and floor mass for comfort (sound and vibration). The Slimline floor must be equipped with a steel plate concrete floor (sb floor). The wide-plate shell of the Slimline is then a problem, because pipes are no longer accessible.

It consists of a flat, thin concrete base with steel beams on top, whose lower flange has collapsed in the plate. On the steel beams, e.g. a computer floor.

Span: the floor goes up to 11m.
Area of application: With pipes in the floor that are accessible.
Laying on: Line laying on two sides
Bottom: Flat
Freedom of form: Limited
Recesses: Only between the beams

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