AMSTEL ADMIRALTY

a circularly built environment for living working in 2050
RESOLVING THE INCLUSIVE GROWTH OF AMSTERDAM IN 2050 THROUGH AN INFRASTRUCTURE OF INNOVATION IN THE AMSTEL AREA
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The city of Amsterdam is investing in research and SMART city technology with the newly founded AMS institute. AMS MID City is focused on the Amsterdam of 2050. What will happen on the topics of Energy, Health & Mobility? As the growth of Amsterdam is expected to continue in 2050, it is evident the city needs to densify around the transportation hubs. The Amstel area is a key area for this transformation of the city. However, the A10 highway crossing through it offers little possibility for housing development. Moreover the A10 divides peripheral areas from the inner Amsterdam. This perception can be partly attributed to the modern forms of town planning, in particular those of the garden city model and the CIAM urbanist ideal of the functional city which Van Eesteren embraced to make this a thoroughly mono-functional part of Amsterdam. The area meanwhile is regarded highly by the municipality as a vital area for large scale light industry and business. This begs the question, how to combine the living and working spaces in 2050?

Material extraction and the depletion of finite resources is the issue architects should be addressing in 2050. Designers instigate the production process and so carry a shared responsibility to society about its consequences on the urban realm - based on Neil Brenner’s renewed definition of urban territory to include its constitutive hinterland, the sources of the wealth accumulated in the city.
Exchange between people and place around the new boulevard ring in Amstel
ABSTRACT

The spatial planning in the Amstel area can be attributed to its heavy infrastructure. As in the scenario for 2050 mobility takes on a smaller shape, the area becomes a far denser agglomoration of productive spaces focussed on the experience of both the walker and the cyclist. Accessibility gains the upper hand over centrality, see also what happened to the Zuidas commercial district which the municipality originally wanted in the city center. As this development continues to evolve the A10 gets downgraded and opens up space for bigger program in the old highway exits. Where the neighbourhoods and office parks where a product of homogenisation in the past. Now these programs are melting into singular entities where the multiplicity of uses generates public space and productive collectivity. It will provide space for both individual expressions and unified ambitions.

The resulting program looks to incorporate living and working and a stimulative environment for productivity with offices centered around an atrium and housing around an elevated courtyard. The downgraded A10 has a significant role in the determination of the public space which surrounds the block, it contrasts the collective enclosed spaces with the open and freely accessible boulevard. Aided by densification of the boulevard by buildings on similar scale, the street life climbs up onto the activity route an onto the courtyard.

Further research explores the possibilities of materialising the architectural design in a way that reduces waste. Recycling and design for deconstruction are not the only methods to deal with the waste stream produced by the building industry. The reconfiguration of materials does not guarantee the best quality. Material longevity adds to the character of the building and shows the users behaviour through its wear on surfaces, this adds a familiarity. As is evidenced by the appreciation for the patina on old buildings. Durable materials can take priority over temporary constructions. Maintenance and separation of the more temporary layers of the building is key for this approach.
The circular economy places material flows to the forefront of the design brief.
RESEARCH QUESTIONS

What architectural intervention will transform the perceived border of the A10 into a positive feature of the inclusive city of 2050?

In what way can the mono-functionality of the area be addressed?

Which facilities are appropriate in 2050, with regard to the current value - in terms of productivity and commerce - the Amstel area on the ring road brings to the city?

In what ways can living and working be combined in a building - how does this work in 2050, in terms of private, collective and public space?

In what way does the multi-functional building position itself in the city?

How can designers approach the emerging problematic of material scarcity?

How do the components connect and how is the structure built up?

HYPOTHESIS

Most of the value in the circular economy will come from the redesign of material flows. This material flow can be generated by users of the local area and analysed within its specific context. The resulting design assignment is a multi-functional building, housing an Innovation Center along the downgraded A10, combining living and working in 2050, using the three methods: build to last, design for deconstruction and recycled materials to address the problem of material depletion.
Top: Urban Redevelopment Authority (URA) city model of Singapore.

Below: Wind test in the URA model.
INTRODUCTION

As crossing larger distances became possible through technological means, distance is no longer an obstacle and the mobile city expanded spatially outwards. The average 18km travel distance from work to home brought with it the necessary infrastructure, highways and regional roads. Tune in to hear about today’s traffic. A journey from home to work is often congested with lots of similarly inclined worker bees returning from the same area at around the same time. Commuting has become so easy that multiple destinations per day are experienced.

The relation of architecture to the road is fundamental. Not only is it the way to arrive but also the way to view the buildings, to make sense of the city. Where are the public squares, the parks, the boulevards. Distance and speed increases where density decreases. Hierarchy is achieved along the road. The architecture of infrastructure will play a significant role in the future of the city. Not only are the technological constraints widened with the coming of self-driving cars and electronic vehicles, the understanding of the relations within the city between living and working have shifted significantly away from the need of big production spaces and commercial centers to a more and more small scale form of customizable production.

The necessary next step for development of the city comes from generalizing the practice of BIM (building information model): the City information model (CIM) makes it possible to continuously monitor the urban fabric. Sewage systems, bus lines, cycle paths, all will be actualised with sensors and retained in a virtual city model. Nothing can be legally built without confirming to the CIM. Drawings of buildings will then have to be integrated with products specifics and materials, which should be supplied by the producer. In this way a material flow analysis of the city is possible and integrated cycling of materials becomes feasible. The circular economy model will then replace the current linear one.
Above: vision in 2004,
Source: Gemeente Amsterdam
The ring road of Amsterdam will be the key to its growth. Amsterdam wants to compete with European cities like Madrid, Milan, Copenhagen, Berlin and Barcelona. These cities have had to deal with the highways at their boundary at some point. By looking at their strategies and exploring some variations on these, we can establish the possibilities with which the problematic of the barrier ring road within the city can become a positive chain in the city network.

To make a comparable and relevant study we will look into three related projects which are under construction at the moment or were recently:

1. Zuidas, Amsterdam
2. Ørestad, Copenhagen
3. Forum, Barcelona

These three will be compared for the role infrastructure and more specifically, the highway plays within the development of the project.

Urban quality by infrastructure
The conceptual framework of the comparison relies on the transformation the municipality instigates. Scale and finance are the main issues which come back in all three projects. The highway gets negated as architectural quality.

Zuidas - the unrealizable dream
The Zuidas (“South Axis”) in Amsterdam is, not unlike the Amstel plot this book is investigating, centered on the A10. It is the biggest and one of the most complex contemporary urban projects in the Netherlands.

The first vision described a dense urban landscape of residential and office towers. The role the highway plays here is one of nuisance. The spectacular proposal of 2004 was to cover the A10 and the train and metrolines. After years of deliberation and research this densification seemed to be unrealisable.
The plan below shows the amended version, where the station is the only actual built structure on top of the A10. Accent is put on another street and on some cultural program. The envisioned break of the barrier hasn’t been achieved.

There is a lot of resistance to this amended project as it has been estimated to cost 1.5 billion euro’s of public money. Even the offices on the Zuidas who would be the benefactors of this investment don’t see its advantages. In fact companies are objecting and threatening with lawsuits if the noise disturbs their office.

Still the municipality holds on to the project and the defends it with the little facts it can muster. The prediction of a tripled amount of travellers to Zuidas and the added greenery and a few stores to the station are supposedly able to justify to huge expenditure of public funds.

The CPB (Netherlands Bureau for Economic Policy Analysis) made a second opinion on the project and advised against the plan, stating the benefits of €360 mln. to be grossly overstated. It advises against this plan as it has lost its initial potency.

The mixed density envisioned in 2004 made the highway disappear temporarily and provided a continuity of the city towards the Zuidas. With this possibility ruled out, putting the highway underground doesn’t have the same value. The ZuidasDok runs the risk of becoming a noisy and costly example of Amsterdam’s inability to deal with barrier formed by the ring road.

Ørestad - the money makers’ city
The case of Copenhagen is about 5 km long, half the length of the metro corridor of Amsterdam researched in this publication. Ørestad is completely built around this metroline, which was required to be completed first. The challenge set in 1990 was to promote the level of activity in Copenhagen.
The main idea was to improve the connection to Sweden and to the Kastrup Airport. The problems for Copenhagen were a high city debt, low economic growth and low competitiveness of the businesses in the city.

**Wethepeople research**

“The ARKKI masterplan was unveiled in 1994 and was based on a number of quality public and private spaces connected by the metro rail. But those spaces are pretty much deserted today: the commercial partners forced the development of huge housing complexes and even bigger shopping centres and hotels, aggregating functions and reducing the connecting streets to nothing more than a grid carrying people from A to B. A city built along a train track, a linear assembly of segregated functions lot, Ørestad stands alone, swept by the wind; nothing more than the sum of its parts, dreaded by the locals and nicknamed Ødestad (“the deserted city”) by architectural critics.” Fede Torri writes in his research for We the people, a Belgium-based research and development collective.

**Living in a car on the highway**

Even if great architects and ambitious politicians are involved, the projects we built are inhabited in the end by people. It cannot solely rely on density, if this density holds no other role then creating dwellings, it will be a vacant place. Urban activity needs amenities such as are being adapted now with a sporting complex next to the metro station. But in fact the planning is most at fault for the desolate state of Ørestad. By planning such formal architectural objects like the internationally acclaimed Mountain Dwellings by Bjarke Ingels, any form of self expression is taken up into the holistic concept of the architect. People living there are free to arrange only the inside of their home, while the big scale object stays in tact. These formal spaces are arranged according to the logic of the individual within societies grid. In fact the experience of living in such a building closely resembles that of being in a car on a highway.
Above: currently built/planned Ørestad.

Below: design
BJELKE+CERMAK+VEILE ARCHITECTURE
Density as the solution for Ørestad?
What couldn’t happen in Amsterdam is also envisioned for Ørestad by the architects of BCVA. This vision from 2013 wants to save the oasis of green in the strip by densifying on top of the highway. Is densification really the answer to the poor quality of public space? As there is no further elaboration of the plan, it remains to be seen how this would function in the future.

According to Stan Majoor of the University of Amsterdam change of the current situation is unlikely: “The quite rigid organizational structure of the project, together with the strong pressure on maximizing land profits, seems to diminish the chances of a change in social norm towards one which might be more receptive to new urbanity in the near future.”
Top: Plan for the public space. Source: JAMLET Architects


Bottom: Telcogresca 2017 in Parc del Forum. Credit: Aitor Rodero
Forum - large urban event space
The city of Barcelona benefited hugely from its hosting the Olympic Games in 1992. The major improvements of infrastructure and its successful intentions are still a remarkable source of investment and active planning. One of the new projects to, in the spirit of the Olympic Games, prolong the city’s reputation for hosting successful public events is the Forum. Its planned area was a brownfield area in an area with heavy industrial uses: a waste treatment facility and the power plant and incinerators for Barcelona. The investment in the Forum project is estimated to total 3.2 billion euros (two-thirds of that being for infrastructures), 40% covered by public funds and 60% by private investment.

Zuidas and Ørestad were both primarily conceptualized as important new economic development areas outside the traditional urban core. The project of Forum in this sense is the most complex. Here, the economic function, urban and infrastructure aspects of were added by environmental improvements and cultural activities. Especially the cultural activities were meant to fulfill the ambition for new urbanity with additional content and a societal link.

Paul Lecroart, urbanist at IAURIF (Île de France) explains the possible downside of such a big infrastructural project: “Design of lively communities requires thought to be given to the layout of public spaces with respect to the layout of public spaces in the neighbouring districts, which is not always the case in the projects studied. A project like Forum suffers from an absence of reference to the plot and to the block, and from public spaces that are poorly defined and oversized. And private streets and squares cannot play the same civic role as a fully public space.”

Industry 4.0
After mechanisation of production with programmable machines, industry 4.0 will merge real and virtual worlds, where sensors contextualise the virtual with real information. Machines can then give each other information and are vertically networked to provide production that is customer specific.

The trend of working in flexible spaces, in coffee bars or monumental buildings will continue. A living space can be a working space as everything within the urban realm is connected, movement is key as projects are small and fast paced. The question is how individuals manage their careers and loan out their labour. The procurement of work then becomes a high priority for the human resources departments. A bidding system for talent is made possible by the high mobility and connectedness of industry.

Almost half of jobs will be automized by 2050. There will need to be a radical shift in an economy where robots do the work and people are adhering the capabilities. One solution is providing every citizen with an unconditional basic income. The main objection is the ethics of work rely on the basic principle that you have to earn a living. A major experiment in basic income is currently being undertaken in Finland. Though this might hinder inflation and international competitiveness.

In the future vision for Amstel the health of the inhabitants plays a big role. Emphasis is put on the prevention of illness instead of on curing. This goal is reached by the activity route and the health hubs which are decentralised health institutions. Local food production is done in collaboration with elderly and children who receive education about their diets and the cycle of producing.
ENERGY PRODUCTION

While the production of energy from renewable sources has begun to make a sizeable impact, it cannot cope with the peaks in energy usage.

Separation of biomass from the dense city is then an option to regain the production of heating in the city. This means a flow from food to warmth, which is not reducing the load on the earth but has the potential at least to reduce the dependency on fossil fuels and on the dispersed network of energy production. The local resource of biomass can be harvested in conjunction with the other recyclables and preferably all waste. This way we also forgo the need for garbage collection and the congesting trucks. The recycling of material will elevate pressure on the mining industry and will save energy in this sector.

Another option is the use of energy storage, like in a car battery or by pumping up water while electricity is available.

Above: The “Super Iles” principle.

Middle: Old highway exit

Below: Redesign of the old A10 highway exit.
BOULEVARD DESIGN

The ‘Super Iles’ of Barcelona are taken as the principle street design which make the city more walking friendly.

In 2050 mobility becomes a service, this is highly consequential to the spatial layout of the street. A lot less cars will be parked in the street compared to 2017 for the following reasons:

1. Owning your own car has as a result of safety issues and software become much more expensive. Only the intensive car user will own his own car.
2. The amount of shared cars has multiplied tenfold.
3. Mobility as a Service bridge the gap between the car and the public transport by way of a huge lowering in the cost of taxis.
4. Around the ring road parking garages are installed, which automatically park and charge electronic self driving cars.
5. Because of the shift from a 'right to own a car’ to ‘the right to mobility’, parking in the street has become very expensive.

The bike highway and tram partially replace the car traffic of the current A10 highway and provide easy access to Amsterdam North, West and South.
Study of boulevards

A10 Boulevard minimal section

Current Situation

Wibautstraat

Fifth Avenue New York

Coolsingel Rotterdam

Study of boulevards
The A10 highway itself has 4 lanes and an emergency lane which means a section of some 41 meters. Including the talud it expands to 100 meters. The transition discussed in the previous page then downgrades the A10 from 100 meters to 20 meters, minimum. As the building mass surrounding the boulevard will determine its qualities, the ratio between height and width becomes important. To get a grasp of this relation we compare Wibautstraat in Amsterdam, Fifth avenue of New York and Coolsingel in Rotterdam as three potential candidates for the expected densification.

These three boulevards have a different building height/street width ratio:

- Wibautstraat: 1 / 3
- Fifth Avenue: 1+/ 1
- Coolsingel: 1 / 2

While the fifth avenue of New York, one of the connecting avenues from Central Park, has a very dense intention the planned grid structure of Manhattan works in its favour. The urban space in the Netherlands is less dense and the buildings are placed less with less rigidity. The boulevard is not a straight profile like that of the avenue. Instead the buildings open space up for little moments to sit and look around.

The 30's Coolsingel was the Dutch equivalent of the Parisian boulevard. After filling in the old canal a set of new monumental buildings - the post office, city hall and stock exchange - was added. This gave a totally new spatial dimension to the city which had grown from the individual plots since the middle ages. Just as in Paris, Rotterdam’s boulevard had a strong representative role to play. W.M. Dudok’s Bijenkorf makes for a monumental connection to the Churchill square. After the second world war, the bombed Rotterdam was not in favour of such leasurely spaces and demolished the heavily damaged Bijenkorf and instead developed Coolsingel as a major road for car traffic. This shift towards the car will be reversed in 2050, but the original boulevard width should still be a useful compass to guide us with a sense of ratios.
Top: Merchant houses of the 17th century, closely knit together in between the canals.

Middle: Plan Zuid as the first collective urban form as an architectural design.

Below: Jeruzalem, Amsterdam, currently a monument, planned according to the idea of the collective.
Amsterdam grew as a merchant city in a global network as the home of the East Indies Trading Company. Houses were built on small plots to facilitate the rapid economic growth. Liberal expressions of classical elements are very apparent in these canal houses, each one a proud representation of the individual richness and freedom. A typology of liberal values.

With Plan Zuid the individual plots are replaced by the urban island as designed architectural form. Berlage shows the shift from liberal values to a collective appreciation of the working class. This is shown in its materialization. Instead of representing an urban elite, Plan Zuid serves the societal ideal. This was to be the representation of the 20th century and its social democratic ideals of social justice and culture.

What happened in the 20th century is the transition in the public domain which was open for free citizens, as poor and dirty as they are, to a collective welfare state. The public domain is employed to stimulate desirable behaviour. An obedient collective is formed, where ‘like attracts like’.

The AUP is very influential on the Amsterdam city planning after the second world war. Mass production of housing is needed and the promise of the modernists is the clean and healthy, like living in a garden.

The loss of individual scale of building however is detrimental to the upgradability of the spaces. As the green is too much and the quality of the space deteriorates which means the people who can afford to move out move out and the entire neighbourhoods downgrade to become cheap non productive spaces. Meanwhile in the inner city neighbourhoods like Jordaan and De Pijp are gentrified and become some of the most valuable pieces of land in the country.
Top: Housing value in Amsterdam

Below: West8, Borneo Sporenburg

Below: Individual and collective partnerships
The distribution of social housing is then deteriorating in the center while it has taken over most of the peripheral spaces.

The trend of the housing crisis has ended and Amsterdam is looking back to its liberal roots. The islands in the IJ are populated with a variety of forms, with collective housing as well as individual plots, the greenery and density are kept to a modest amount.

As family sizes shrink and mobility increases, the future of living seems to be about the individual self built and the combined living in small constellations.
Schiecentrale, Rotterdam

- Living/working units | 15,600 m²
- Offices | 7,000 m²
- Housing | 2,000 m²
- Multifunctional deck | 1,500 m²
- Gym | 600 m²
- Daycare | 1,500 m²
- Supermarket | 2,000 m²
- Circulation | 9,000 m²
- Parking | 12,000 m²

51,200 m²

130 m

46 m
The program of my intervention is based on three typology studies, the first one is of Schiecentrale. This mixed use building combines an active public plinth of supermarket and parking with a collective deck, on which people can drop off their children at the daycare and go to the gym. The volume of the offices and housing is long and narrow for daylight to enter into the spaces.
Europaplatz, Bern

Duplex or appartments | 5.200 m²
Offices | 2.600 m²
Apartments | 3.500 m²
Religions & Dialogue | 3.400 m²
Square | 850 m²
Light shafts | 60 m²
Shops and Restaurants | 3.500 m²
Circulation | 2.390 m²
Parking | 6.000 m²

27,500 m²
Europaplatz in Bern was part of the Europan 5 competition. Won by a young architect, it houses praying rooms for all the mayor religions and shops and restaurants in its plinth. Above the duplex apartments are arranged around a corridor.

### TYPOLOGY OF MIXED-USE BUILDING

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UC Innovation Center, Chile

20,500 m²

36 m x 30 m

- Flex work spaces: 1,900 m²
- Offices: 740 m²
- Atrium: 1,100 m²
- Lecture halls: 900 m²
- Meeting rooms: 500 m²
- Informal meeting places: 900 m²
- Service: 660 m²
- Circulation: 1,300 m²
- Parking: 12,500 m²

UC Innovation Center, Chile
The innovation center by Aravena in Chile. From a functional point of view, the best way to fight obsolescence was to design the building as if it was an infrastructure more than architecture. A clear, direct and even tough form is in the end the most flexible way to allow for continuous change and renewal. From a stylistic point of view, we thought of using a rather strict geometry and strong monolithic materiality as a way to replace trendiness by timelessness. The geometrical blocks are stacked to form a collective space in which to have informal meetings. The rigid outside of the building contrasts with the flexible spaces for working and education on the inside.
Top: Flexible wall divisions in Schiecentrale.

Middle: Options around the corridor in Europaplatz.

Below: Atrium in the innovation center in Chile
BUILDING AS INFRASTRUCTURE

The division wall of the Schiecentrale makes the space flexible through the adaptation of different amounts of floor space. This negotiation of space can only be performed within a rigid structure and with the necessary amenities, like the kitchen and toilet, included in the space.

By arranging the duplex apartments around a central corridor the volume of housing at Europaplatz can be as wide as 20 meters and the rooms still get daylight. The corridor has the added benefit of allowing different configurations surrounding it. These possibilities range from single room apartments to 3,5 room apartments in Europaplatz.

The innovation center is all about collaboration and meeting spaces lecture rooms and flex desks. These productive and formal rooms are centered around a collective space: the atrium. Such a space opens up the possibility of informal meetings and visibility of the processes going on in the offices.

- **Living/working** units
- **Social housing**
- **Innovation center**
- **Housing**
- **Parking**
- **Restaurant & Gym**

Calculations:

- $20 \times 120m^2 = 2.400m^2$
- $64 \times 50 - 100m^2 = 4.800m^2$ (100m$^2$)
- $62 \times 135m^2 = 6.200m^2$ (100m$^2$)
- $G=600m^2$ $R_1=600m^2$ $R_2=600m^2$
- $62 \times P = 2.200m^2$
PROPOSED INTERVENTION

The resulting program looks to incorporate living and working and a stimulative environment for productivity with offices centered around an atrium and housing around an elevated courtyard. The downgraded A10 has a significant role in the determination of the public space which surrounds the block, it contrasts the collective enclosed spaces with the open and freely accessible boulevard. Aided by densification of the boulevard by buildings on similar scale, the street life climbs up onto the activity route an onto the courtyard.

Both sides of the boulevard solidifies its innovative character
PROPOSED INTERVENTION

The Coolsingel density is ideal for the new Amstel area, as it has both the qualities of big urban public space and the many forms of connectivity which Amstel embodies.

The first option which is evaluated is to build on both sides of the boulevard, encapsulating it. The program is then divided in long streaks which is not optimal for the collaboration and the atrium idea of the innovation center. It does however create exposure towards the boulevard and solidifies the relationship between boulevard and building.
The full block becomes a continuous living space.
The courtyard type is a common type of urban development. Tried and proven, it solves the issues of public and private life gradually. The inner courtyard will be a public space. In such a way the boulevard is getting reduced to its infrastructural character. The innovation center does border very generously to the boulevard, which may be an opportunity. On top of the innovation center the social housing block in the front can have a shared space with for example a playground for families and a terrace for meeting or barbeque in summer.
Higher building means larger boulevard
PROPOSED INTERVENTION

My preferred option gives full width to the boulevard by compacting and stacking the volumes around and on top of the innovation center. The roof of the housing and innovation center can become a raised courtyard which gives a view over the Amstel area. The restaurants and gym are situated on the south side, forming a low plinth which attracts public to come across the activity route which goes through the area. As the innovation center has first priority, it is situated on the new boulevard square, the open space should be able to be accommodation for public events and demonstrations.
The proposed intervention is a conglomeration of city life - innovation, housing, sport, food. The Amstel area can densify into a true urban center when it develops public space as a place where different social worlds collide. The proposed intervention facilitates this creation of collision and interaction. Not just on the level of the boulevard but also inside the innovation center and on top of it between the different living working units and the privately owned residences. The plinth is lively with restaurants and offers stress release with a gym facility. On top of the roof there is a big collective space for the inhabitants of the building, which can be attractive to the whole neighbourhood.
Data is based on global estimates of mining, does not include recycling.

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FINITE RESOURCE DESIGN

Material value

For investors, the maintenance of value is key. Business models of producers currently revolve around the planned obsolescence of components. As the quality of the building industry is regulated, the norm becomes the standard. Norms usually indicate the absolute lowest required standard of performance any thing needs to be able to maintain for an x amount of time. This way of working is known as the ‘take, make and dispose’ mindset, which has sent the global economy on a steep growth trajectory since the start of the industrial revolution more than 250 years ago. Business cannot go on in the same way for two reasons.

First is the real depletion of the earth’s resources. Companies have to deal with increasingly constrained resources – be it energy, land or materials – adding to price volatility of raw materials.

Second is the change in society’s perception. Customers and markets increasingly demand sustainability. This poses the challenge to decouple growth from resource use. A new economic paradigm of ‘reduce, reuse and recycle’ is required.

It was wealth creation - by building huge amounts of stuff from virgin materials - which led to the decline of the deconstruction practice. Deconstruction was a common practice before the industrial revolution. A building was taken apart by a ‘barman’, named after his tool. The barman would start at the roof and work his way down. Public auctions could be held in parks or, as Van Gogh depicts, on site. Deconstruction was also a business, where the professional could buy a house to be deconstructed if he saw enough value in its material. This calculation is still used by Rotor today and it is very straightforward, deconstruction can only be undertaken when:

\[ \text{Material value} > \text{Labour cost} + \text{Logistics} \]
Top: Sale of the old church ‘Verkoping van afbraak’, Vincent van Gogh, 1885.

An example of the condition the modern builder was confronted with is the wrecking of the Hotel Majestic in 1929. Its construction had cost $2 million in 1894, but salvage would yield only 10 percent of that. “To re-cut the rosewood, mahogany and black walnut used in the interiors of the old Glow Room and the Rose Rooms of the Hotel Majestic, among the sights of the city when the hotel was new, would have cost more than to use new materials” prospective builder Irwin S. Chanin explained. Because of carrying charges “the technique of building demolition has become tremendously important in the past few years.” Can we even build something to last?

Build to last

Outdated decoration and new trends in hotel business destroyed the hotel Majestic. On the one hand this means that the bustle of the city was thriving and it shows the importance of contemporary design to create the ambience worth paying for. How could the decoration and spatial layout gain permanence?

The material make-up of structures is only part of the decisive factor for its survival. Survival depends mainly on the agreement of the building to the predominant local culture. For this reason it is commonly understood that in order for a project to stay relevant it must be able to be adapted to future uses. From the start of the design process the program is second to the spatial quality and the way it fits into its surroundings.

Outside of boundaries of society’s readiness to accept or decline a building, we find natural forces to be a willing foe. The elements of the biosphere have a tendency to try to include the buildings in the natural landscape. Concrete gets overgrown and rots away if left unpainted or untreated. This was part of the spiritual meditation which was invoked by Toyo Ito in the U-house project. After building it for a family which had lost the husband to cancer, the house was left to nature and overgrew quickly. This project was never
meant to last, but it shows how much maintenance is needed to keep even a concrete building from nature’s destructive tendencies. Cleaning however does not equal longevity. Monumental buildings in the Netherlands actually often get damaged in the process of cleaning. They lose the typical patina, the masonry can get damaged and natural stone can lose its refinements.

Build to last can be defined as:
Able to withstand the elements. This will narrow down material selection. If it is necessary to use technical systems, these need to be considered a different layer, more on that later on. Appeal to people independent of contemporary trends. Easier said than done. The place and the qualities outside of the program need to be addressed. Structurally, the design will speak for itself and not hinder future adaptation. Aravena faced the almost inevitable problem of functional and stylistic obsolescence in the Chile innovation center: “From a functional point of view, we thought the best way to fight obsolescence was to design the building as if it was an infrastructure more than architecture. A clear, direct and even tough form is in the end the most flexible way to allow for continuous change and renewal.”

Building without waste

There are bricks from Hamburg under Manhattan. With the efforts to establish international democracy, tools were developed in a rapid pace that were more powerful then ever. The hydraulic pressure, combined with continuous tracks and a massive engine, was used in Vietnam to clear and flatten fields of coconut trees to make way for a military camp or landing strip. Once the wars were over, the equipment was taken back to America and used to flatten land and demolish buildings all across the country.

In reflecting on the social and cultural phenomenon of post-war reconstruction in the Netherlands, N. John Habraken in the 60s investigated an alternative to mass housing. His solution purports the separation of

Below: The empty NEST, ready to be filled in, Dübendorf, 2016.
the supporting structure from the more changeable components will give individual people the freedom to enact their way of living. Unravelling the layers a building consists of aids us in the conceptualisation of a new mode of design, namely design for deconstruction or disassembly. How can changes to adaptable building be monitored through the years? How do we see if the investments have been worthwhile?

In the 80s some of Habraken’s principles of adaptable building were put in practice. However none of these projects has had a post occupancy analysis to see to what extent changes were made to the building. For example in a housing project in Dordrecht extra foundation and demountable front and rear façades were installed, to facilitate expansion to both sides. After ten years however it become apparent that none of the inhabitants had made use of these additions. The main reason being that they weren’t aware of it. One of the biggest issues is communication, as long as the occupant is unaware of the possibilities, the extra investments won’t have any effect. The investor often doesn’t see the benefit in involving the resident.

‘All buildings are predictions, and all predictions are wrong’ was the slogan of Steward Brand’s campaign in the 90s to expose the problem of buildings as static objects. His distinction of different life cycles within a building proves useful to understand the work of deconstruction and the complexity of modern buildings with its many stakeholders. What is the relation between the earth’s resources and adaptable building?

Either alternatives or substitutes will be found to replace the rare resources used today or resources are depleted and waste becomes valuable. In that case the economy around material use will change and be interested in the reuse, such that:

\[
\text{Material value} = \text{scarcity} \times \text{re-usability}
\]

If the value of materials rises adaptable building could play a role from Steward Brand’s “shearing the layers” point of view. In adaptable building this is mainly concerned with providing room for changes within the building, but from the material point of view, it is also a valuable way to regain materials. Keyword in this question is disassembly. Such a mode of building is being practiced next to Zürich, in Dübendorf, where Felix Heisel is designing and constructing NEST together with Dirk Hebel. In NEST there are more start-ups and there is space for trial and error, so long as there is a serious idea behind it. This building will function as a material laboratory to put the “urban mining” idea to the test.

Everything is designed for disassembly. In between concrete floors different panels will be used to test materials such as loam, felt, denim and copper foam. The project tries to explore the feasibility of seeing buildings and the city as a mine. The detailing and construction of such a building is radically different from what is usually done in the industry. No glue can be used, no parts permanently fixed. The design doesn’t stop at the product, it comes from the material. The material should remain as pure as possible. The crucial question is how to make the connection of two components. It is common practice in the building industry for a builder to take the architects’ plans and redraw all the detail in order for his crew to be able to make it. And when it inevitably goes wrong, PUR foam is a quick fix for irregularities. A slanted wall? Tell the plasterer to fix it, who tells the carpenter to do it who tells the painter... It should be understood that imperfections are unavoidable and to a degree should be accepted in the building process. The robotic arm, already common practice in factories, might be able to solve some of the issues of alignment. The dfab house, built within the same NEST project, is one of the first in the building industry to apply robotic building.

Deconstruction in the US

As deconstruction is two to three times as expensive as traditional demolishing, US deconstructors The Reuse People (TRP) make use of a government instrument: tax deduct-able donation which is beneficial for richer people to contract the deconstructor. This in turn allows low-income families to gain access to high quality, low priced materials. TRP is a successful non-profit, it had a twenty million dollar turn-over in 2016. The main problem TRP face is the logistics, moving lath from Chicago to Nashville or low cost building components from Los Angeles to Ghana. Governance focussed on clarifying, for example through the use of material passports for buildings, where and
Top: Aluminium production is fundamental to Bahrain’s economy.

Below: Steel production transforms Luxembourg into a vulcanic landscape.
which materials become available could relieve this problem somewhat. TRP’s main 
competition actually comes forth from government rules: recycling or material recovery 
factories. These also prevent material from ending up in a landfill and thus fall under 
the same category from a legislation standpoint. It is absurd to stimulate the burning of 
building materials, or put it at the same level as reuse.

The SMART city proposal is to put data about the material usage in the BIM model, 
in such a way material availability can be tracked in the city. The question arises with 
all the data used in ‘smart city’ planning: who owns the data? Ownership of the mate-
rial is also a key point for moving into a circular economy model of the city planning. 
In the USA the organisation Building Materials Reuse Association is actively support 
because manufacturing companies are dreading the take back regulations. Instead 
these companies are pushing for more reuse of materials, so they don’t have to worry 
about the warranty of their products. Providing building components as a service and 
replacing them when they don’t work, is also being pushed on the Dutch agenda by 
the architect Thomas Rau. In fact Rau wants to propose The Universal Declaration of 
Material Rights to the general assembly of the UN, as a basis of how to treat materials 
on the planet.

Building from waste

Recycling takes up 30-40% of the total production of copper cables and iron prod-
ucts. This is not only consequential for the future of the building industry. The more 
engineered electronics become, the less likely they are to be recycled. The engineering is 
most valuable when it can negate the use of rare/valuable components. However engi-
neered electronics need high quality materials and the recycling process is not perfect.

A much used material throughout the manufacturing industries is aluminium, for 
good reasons. Recycling aluminium saves 90% of its energy cost, compared to mining 
it. Roughly seven percent of the earth’s crust is aluminium, making it the third-most 
abundant element after oxygen and silicon. Yet it has no biological function to organic 
life on earth (except for humans). This may be explained by the geochemical process 
needed for the production of aluminium out of bauxite ore. Alumina (aluminium 
oxide) is refined from bauxite ore through a mixture of caustic soda and lime and used 
to produce primary aluminium. For one ton of aluminium, two tons of alumina is 
needed, for which seven tons of bauxite is used. The leftover bauxite residue is known
Planet Earth made of plastic in front of IJdock, Amsterdam, 2012.
as ‘red mud’. Aluminium oxide forms aluminium after electrolysis, where the oxygen is freed by electricity to bond with carbon, forming CO2. Aluminium is used for bodies of cars and aeroplanes, it can be used as the active ingredient in an antiperspirant or to be the colouring agent of a popular sweet. Aluminium is one of the most efficient metals to be recycled as none of its natural qualities are lost in the recycling process.

In the titanium industry there is already an overproduction of recycled scrap and the “peak sponge” output of mining raw materials has been reached. Rotterdam based artist Giuseppe Licari went to Luxembourg to see the steel manufacturing process and the landscape it leaves behind. 40 tons of patented high quality steel (used in WTC and by OMA in Dubai) is produced there every day. The transformations in the Luxembourg landscape are impressive, as a hot melting lava is needed to get the steel to a high quality. Licari also highlights the importance of the production sector to Luxembourg’s independence and subsequently its role in the European Union. The EU’s early collaboration was formed over the production of coal and steel. Material then ties together whole continents.

Conclusions
It’s no surprise that through industrialisation and scaling of production in addition to creating welfare a lot of feedstock was used. It has become imperative to move on from a take make dispose method of building. I see three non exclusive ways to approach the problem:

1. Build to last. This approach requires an architecture which can withstand all sorts of adaptations and accommodate different forms of usage. A building then has to almost become a sublime thing. Its otherworldly, non referential character is the ultimate condition to deal with the finite planet earth. Even so, it is impossible to say what will happen to the building in the future.

2. Building without waste. Use components which can be ‘taken back’ and upgraded/ repaired or replaced. Design buildings for disassembly. Materials can be taken out of the economic loop for a while. These dynamics have become a topic of research and commercial interest in recent years.

3. Building from waste. Recycle, put a norm on the building industry to use a percentage of the building materials from recycled sources.
The next step to bring the design into the 2050 context is to design following the rules set up in the research about material use in the building industry:

- Build to last
- Building without waste
- Building from waste

This will lead to more freedom of individual units within a set up structure. I call this principle ‘structured informality’. As the grounding idea for the innovation of tomorrows world is centered around the circular economy, the companies taking responsibility for the products they put on the market and the insight into material flows, not just on a building level but on a city scale. The architectural expression builds on the principles used in the merchant houses of Amsterdam, the Silodam, the grid of Manhattan, etc. Within the structure which makes up the building there will be a freedom provided the data is correctly supplied by the delivering companies who build there. The company employs designers and engineers to develop the most useful and lasting products it can make. Not only the design but also the industrial landscape which produces the city come under pressure to perform on a higher level. Governments and consumers will be demanding the cooperations to be transparant and aware of their resource chain. Only in this way can we decouple the rise of global welfare from the exhaustion of the earth’s natural resources.

To build such an innovation center not only involves it’s disassembly plans, but also its design as an infrastructure instead of an architectural form. Designing an infrastructure for innovation then is the real challenge. This implies on the one hand encorporation of a specific functional program and on the other a radical distance from this everyday reality. To put it buntly it will need to be a tough form, which can resist the elements and weather the storms, built to last. Within this complex assignment the sporadic specific elements which are unable to align to the whole can be fashioned from recycled materials. This freedom should be afforded the designer.

STRUCTURED INFORMALITY
Housing price index for Amsterdam

% (2010 = 100%)

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<th>Year</th>
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<td>2016</td>
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Population of Amsterdam

x1000

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<td>700</td>
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<tr>
<td>2010</td>
<td>600</td>
</tr>
<tr>
<td>2020</td>
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Existing owner-occupied homes, average sales prices:

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<th>Year</th>
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<td>2017</td>
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Population growth of Amsterdam:

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<tr>
<td>2016</td>
<td>+ 11,323</td>
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<tr>
<td>2017</td>
<td>+ 9,100</td>
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</table>

Amsterdam income groups

- Highest: 23.1% (€ 70,000 / € 5,833 monthly)
- Higher middle: 14.8% (€ 43,785 / € 3,649 monthly)
- Lower middle: 14.2% (€ 34,229 / € 2,852 monthly)
- Low to middle: 16.2% (€ 12,864 / € 1,072 monthly)
- Low income: 31.8% (€ 12,000 / € 1,000 monthly)

Housing price distribution, new projects

- Unregulated: 20%
- Social Housing: 40%
- Mid Sector: 40%
- Rent = +/- € 850/month
- Rent = max. € 710/month
CORPORATIONS SELLING SOCIAL HOUSING STOCK

2013  2015
44%    41%
Data from 'Wonen in Amsterdam'
AMSTEL AREA
MOVE LONG DISTANCE TRAFFIC FROM A10 TO A09

Current A9

Expansion work 2016 - 2020

2020 : 3km tunnel
2050: BOULEVARD AND BICYCLE HIGHWAY
AMSTEL STRATEGY: MOVEMENT PARK

With the densification arise questions about the implications of the pressure on the existing urban fabric, like the public space, but also the urban responsibility of public health. Altogether, how can a densified public space stimulate healthy behavior in terms of physical activity? The movement park addresses the disconnectivity in the Amstel area and facilitates new connections in a densified public space while facilitating indoor and outdoor physical activity program. It cuts into the urban fabric and opens up space for movement and active urban living. Around it high rise buildings answer to the open spaces.
This project is situated at the intersection of the new boulevard and the new movement park. This is an eminent place in the new city district which we are shaping for 2050. It needs to give a significance to the park as its ending while simultaneously connecting it to the boulevard. The plinth then is a crucial part of this place. How do people move through it, where are the shops and how do you enter your home if you live there? By 2050 mobility will undergo a shift away from individual car ownership towards mobility as a service. Long distance traffic will be redirected through the A9 which is parallel to the A10. These developments make it possible for the A10 to become a boulevard with two lanes for cars and a double lane bicycle highway in the center. The exit ramps become obsolete. In their place the urban fabric will be built up, in high density according to the needs of a growing Amsterdam.
THE BOULEVARD SHAPE

A10 Boulevard minimal section
Wibautstraat
Fifth Avenue New York
Coolsingel Rotterdam

0 12.5 25 50m

Current Situation
The urban environment.

Storing water to cool and increase the quality of accessible to residents and providing shade and ripples and defuses the light coming through.

The passage from the park to the boulevard will be covered with a shallow pond of water which makes a connection between these two a greyish blur during the day and a faded semi-opaque glow by night. Fritted glass is used for communicating the movement between floors and making use of natural daylight.

The courtyard is made of metal meshing and fritted glass. Behind and below. The facade around the court-yard is of the appartments in the sloping wings towards the height at the park, a different typology on the courtyard. By sloping the building gradually on the courtyard. By sloping the building gradually places the emphasis on the leisure of the flaneur.

The boulevard constricts light coming from above. However the height of the buildings should be constricted to become a boulevard with two lanes for cars and making use of solar heat and electricity with PV arrays of choices to spend their time and money. The ratio of trottoir to road also depends on this in order to have the feeling of a wide space. The height of the buildings should be constricted to become opened to the sun. This opens up the emergences. The appartments in the sloping wings towards the height at the park, a different typology on the courtyard. By sloping the building gradually places the emphasis on the leisure of the flaneur.

Accessibility

The boulevard constricts light coming from above. However the height of the buildings should be constricted to become opened to the sun. This opens up the emergences. The appartments in the sloping wings towards the height at the park, a different typology on the courtyard. By sloping the building gradually places the emphasis on the leisure of the flaneur.

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The courtyard lets through light into the space and making use of solar heat and electricity with PV arrays of choices to spend their time and money. The ratio of trottoir to road also depends on this in order to have the feeling of a wide space. The height of the buildings should be constricted to become opened to the sun. This opens up the emergences. The appartments in the sloping wings towards the height at the park, a different typology on the courtyard. By sloping the building gradually places the emphasis on the leisure of the flaneur.

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2050: AMSTEL BOULEVARD

What characterises a boulevard is a wide profile along which shops and restaurants give pedestrians an array of choices to spend their time and money. The height of the buildings should be constricted in order to have the feeling of a wide space. The ratio of trottoir to road also depends on this width. A profile of 55m, divided up into 5 sections places the emphasis on the leisure of the flaneur.
By movement of the people through the space, the urban fabric will be built up, in high density according to the needs of a growing Amsterdam. These developments make it possible for the A10 through the A9 which is parallel to the A10.

The context for inclusion within the city.

The metal mesh replaces the handrailing and the facade around the court-yard is made of metal meshing and fritted glass. Gates which are clearly visible from both sides. The passage is marked by high entrance gates which are visible from both sides. The passage from the park to the boulevard will communicate the movement between floors. The movement park addresses the disconnectivity between the different income groups which all the different income groups can live in different sizes and costs. High value housing can compensate for some of the social housing. Renting is lifted above the plinth by a concrete arcade of 80m width. A profile of 55m, divided up into 5 sections.

The height at the boulevard creates a shadow towards the height at the park, a different typology emerges. The appartments in the sloping wings towards the height at the boulevard answer to the open spaces. This opens up the possibility to offer a diverse pallette of appartments for movement and active urban living. Around it and outdoor physical activity program. The building envelope sits in the middle of these site conditions of the building heights and the sun for light coming from above. However the height of the building must. The passage is marked by high entrance gates which are visible from both sides. The commercial plinth is crucial at such a highly trafficed position. There are certainly welcome to take the elevator up to the atrium where all the different income groups can live. While this is not possible, they can a densified public space stimulate healthy living and working, the new plan emphasizes the integration within the building leads to more capacity without separating them spatially and excluding people to climb it. While this is not possible, they are certainly welcome to take the elevator up to the atrium which is lifted above the plinth by a concrete arcade of 80m.

Unregulated
20%

Mid Sector
40%

Social Housing
40%

Housing price distribution, new projects

Housing + Workspaces + Retail
INITIAL VOLUME AND PROGRAM

With the densification arise questions about the implications of the pressure on the existing urban fabric, like the public space, but also the urban responsibility of public health. Altogether, how can a densified public space stimulate healthy behavior in terms of physical activity? The movement park addresses the disconnectivity in the Amstel area and facilitates new connections in a densified public space while facilitating indoor and outdoor physical activity program. It cuts into the urban fabric and opens up space for movement and active urban living. Around it high rise buildings answer to the open spaces.
Creating a building between the boulevard and the park makes a connection between these two areas. The passage from the park to the boulevard will be covered with a shallow pond of water which ripples and defuses the light coming through. The courtyard is made of metal meshing and fritted glass. It brings light into the courtyard and atrium. By movement of the people through the space, the courtyard emerges. The apartments in the sloping wings are positioned towards the sun and therefore ideal for movement and active urban living. Around it are arches which form exalt the commercial activity and outdoor physical activity program.

The building next to the courtyard is divided into five sections. The ratio of trottoir to road also depends on this. A profile of 55m, divided up into 5 sections. The most important component is the boulevard. This way the project becomes an opportunity for movement and active urban living. Around it are single offices in places with abundant amenities. The program follows from two urban interventions. Its restrictions provide possibilities to offer a diverse palette of apartments and a double lane bicycle highway in the center. Accessibility is crucial at such a highly trafficked position. The program is inspired by modernist ideals of separating work and still be in the middle of all that is happening. This little fleet of boxes floating along the Amstel area and facilitates new connections. It cuts into the urban fabric and opens up space for young children and little poches in between.

Most buildings in Amsterdam are made of brick. Brick is a warm material made from clay which could be sourced not far from the city. However, the use of ovens and from local material sources. Mixing in the asphalt from the A10 gives it more texture. The panels are A2 sized, as a reference for movement and active urban living. Around it are single offices in places with abundant amenities. The program follows from two urban interventions. Its restrictions provide possibilities to offer a diverse palette of apartments and a double lane bicycle highway in the center. Accessibility is crucial at such a highly trafficked position. The program is inspired by modernist ideals of separating work and still be in the middle of all that is happening. This little fleet of boxes floating along the Amstel area and facilitates new connections. It cuts into the urban fabric and opens up space for young children and little poches in between. As an alternative to the open floor plan office, the program considers taking place there.
COMMERCIAL PLINTH AND ORIENTATION

Creating a building between the boulevard and park makes a connection between these two a must. The passage is marked by high entrance gates which are clearly visible from both sides. The passage is a narrow and high space with light coming from above. However the height of the building at the boulevard constricts the light.

The height at the boulevard creates a shadow on the courtyard. By sloping the building gradually towards the height at the park, a different typology emerges. The apartments in the sloping wings become opened to the sun. This opens up the possibility to offer a diverse palette of apartments in different sizes and costs. High value housing can compensate for some of the social housing. This way the project becomes a opportunity where all the different income groups can live without separating them spatially and excluding parts of society. Thus the orientation and differentiation within the building leads to more capacity for inclusion within the city.
Some of the facade boxes are 'garden boxes' and can be covered with a shallow pond of water which eliminates the ripples and defuses the light coming through. The passage from the park to the boulevard will make a connection between these two areas while maintaining a garden, which provides privacy. The movement park addresses the disconnectivity for movement and active urban living. Around it is lifted above the plinth by a concrete arcade of arches which form exalt the commercial activity, and making use of natural daylight.

Building concept

Most buildings in Amsterdam are made of brick. Most buildings in Amsterdam are made of brick. Brick is a warm material made from clay which contains no energy. The building at the boulevard constricts the light. The ring road A10 is constricting Amsterdam. By movement of the people through the space, light is filtered and modulated into the spaces. By sloping the building gradually towards the height at the park, a different typology can be opened to the sun. This opens up the possibilities of sustainable development. The height at the boulevard creates a shadow greyish blur during the day and a faded semi-transparent texture. The panels are A2 sized, as a reference for inclusion within the city. The panels are A2 sized, as a reference for inclusion within the city. The orientation is determined by the needs of a growing Amsterdam. The activity route is lifted above the plinth by a concrete arcade of arches which form exalt the commercial activity. The movement park lets through light into the space and makes use of solar heat and electricity with PV panels which are the future. Here people can focus on their work, making use of natural light, sun, and view. The program follows from the need of a lively space. By combining functions the building has users and activity during different hours of the day. This active usage provides a consequence of the AUP Amsterdam expansion. Altogether, how can behavior in terms of physical activity? What characterises a boulevard is a wide profile and a double lane bicycle highway in the center. These developments make it possible for the A10 to be given a great opening and a passage. The heavy block of the A9 which is parallel to the A10 is lifted above the plinth by a concrete arcade of arches which form exalt the commercial activity. The heavy block of the A9 which is parallel to the A10. The movement park is a rudimentary shape. The program follows from the wish to densify the Amstel area in a mixed way. Contrary to the current spatial planning, which is based on the lot of 30m, divided up into 5 sections. A profile of 55m, divided up into 5 sections, is certainly welcome to take the elevator up to the 21st floor and enjoy a cocktail at the rooftop bar overlooking the park, Amstel and Amsterdam.

Some of the facade boxes are 'garden boxes' and can be covered with a shallow pond of water which eliminates the ripples and defuses the light coming through. The passage from the park to the boulevard will make a connection between these two areas while maintaining a garden, which provides privacy. The movement park addresses the disconnectivity for movement and active urban living. Around it is lifted above the plinth by a concrete arcade of arches which form exalt the commercial activity, and making use of natural daylight.

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COURTYARD AND PLINTH

The courtyard lets through light into the space below which is embedded at the heart of the building. It is the center of the public circulation from park to boulevard and vice-versa. Together with the building next to it a third gate is formed. By combining the two buildings at the boulevard the facade is formed. It has been shaped by the site conditions of the building heights and the sun bringing light into the courtyard and atrium. The shape at the boulevard emphasizes the main point of entrance to the courtyard while opening the building to the park happens by creating a great opening and a passage. The heavy block is lifted above the plinth by a concrete arcade of arches which form exalt the commercial activity taking place there.
Some of the facade boxes are 'garden boxes' behind and below. The facade around the court-yard is made of metal meshing and fritted glass. The commercial plinth at the boulevard constricts the light. The passage is marked by high entrance gates which are clearly visible from both sides. Creating a building between the boulevard and the park to the boulevard will make use of natural daylight. Balconies form terraces for more expensive housing, which pays for the cost of social housing. The balconies form exalt the commercial activity and the commercial plinth is crucial at such a highly trafficed position. This way the project becomes a opportunity for inclusion within the city.

Contrary to the current spatial planning, which is a rudimentary shape. The program follows from the needs of a growing Amsterdam. The wish to densify the Amstel area in a mixed way, along which shops and restaurants give pedestrians possibility to spend their time and money. High-rise buildings answer to the open spaces. What characterises a boulevard is a wide profile with the ratio of trottoir to road also depends on this width. A profile of 55m, divided up into 5 sections. For movement and active urban living. Around it a densified public space stimulates healthy responsibility of public health. Altogether, how can a densified public space stimulate healthy responsibility of public health. What characterises a boulevard is a wide profile which all the different income groups can live in different sizes and costs. High value housing emerges. The apartments in the sloping wings are certainly welcome to take the elevator up to the 21st floor and enjoy a cocktail at the rooftop bar overlooking the park, Amstel and Amsterdam. This way the project becomes a opportunity for inclusion within the city.

Workspace design for movement between floors smoothens the entire courtyard facade into a communal roof/courtyard/garden. The program is lifted above the plinth by a concrete arcade of office blocks on the facades. The courtyard lets through light into the space and makes use of solar heat and electricity with PV cells and sun boilers. It is up to the occupant to maintain a garden, which provides privacy. The activity route from park to boulevard and vice-versa. Together forming aquisite for movement and active urban living. Around it a densified public space while facilitating indoor working and still be in the middle of all that is for modernity and its standardisation making a sort of plastic. This material is made without energy consuming. One of those ways is by mixing in the asphalt from the A10 gives it more plastic. This material is made without energy consuming. One of those ways is by using ovens and from local material sources.

The shape at the boulevard emphasizes the main point of entrance to the courtyard while opening for movement and active urban living. Around it a densified public space while facilitating indoor working and still be in the middle of all that is for modernity and its standardisation making a sort of plastic. This material is made without energy consuming. One of those ways is by using ovens and from local material sources.

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WORKSPACE DESIGN

As an alternative to the open floor plan office. Single offices in places with abundant amenities are the future. Here people can focus on their work and still be in the middle of all that is happening. This little fleet of boxes floating along the facades at the same time filters the light to the corridors and the atrium below.
WORKSPACE DESIGN

Working in an environment where you can meet people and have meetings, coffee or eat together preferred over working on your own. However the distractions an open floorplan and constant social pressure bring means a lot of frustration. These places along the courtyard facade are a place to calmly work out your ideas and still be in the middle of Amsterdam, with great amenities on the ground floor.
Some of the facade boxes are ‘garden boxes’, where all the different income groups can live without separating them spatially and excluding parts of society. Thus the orientation and differentiation for inclusion within the city.

In the center of the residential area on the courtyard. By sloping the building gradually towards the height at the park, a different typology emerges. The apartments in the sloping wings answer to the open spaces. High value housing, which pays for the cost of social housing.

High density and a double lane bicycle highway in the center. The height of the buildings should be constricted in a densified public space while facilitating indoor implications of the pressure on the existing urban fabric, like the public space, but also the urban fabric will be built up, in high density and a double lane bicycle highway in the center.
THE COURTYARD

By movement of the people through the space, light is filtered and modulated into the spaces behind and below. The facade around the courtyard is made of metal meshing and fritted glass. The metal mesh replaces the handrailing and smoothenes the entire courtyard facade into a greyish blur during the day and a faded semi-opaque glow by night. Fritted glass is used for communicating the movement between floors and making use of natural daylight. The passage from the park to the boulevard will be covered with a shallow pond of water which ripples and defuses the light coming through. Some of the facade boxes are ‘garden boxes’ accessible to residents and providing shade and storing water to cool and increase the quality of the urban environment.
Some of the facade boxes are ‘garden boxes’ where all the different income groups can live together without separating them spatially and excluding parts of society. Thus the orientation and differentiation within the building leads to more capacity for inclusion within the city.

This way the project becomes a opportunity for movement between floors communicating the movement between floors behind and below. The facade around the courtyard is made of metal meshing and fritted glass. The balconies form terraces for more expensive housing, which pays for the cost of social housing. The appartments in the sloping wings towards the height at the park, a different typology emerges. The appartments in the sloping wings are the future. Here people can focus on their work or their leisure while enjoying the sun. They can compensate for some of the social housing. As an alternative to the open floor plan office, high rise buildings answer to the open spaces. Long distance traffic will be redirected along which shops and restaurants give pedestrians the feeling of a wide space.

What characterises a boulevard is a wide profile which is filtered and modulated into the spaces behind and below. The facade is formed. It has been shaped by the site conditions of the building heights and the sun. The facade is formed. It has been shaped by the site conditions of the building heights and the sun. The façade around the court is opaque glow by night. Fritted glass is used for greyish blur during the day and a faded semi-reflectivity during the night. The metal mesh replaces the handrailing and makes it possible for people to climb it. While this is not possible, they can end a park in a mountain like building entices to consider the effect of the height in order to have the feeling of a wide space. The height of the buildings should be constricted behind and below. The facade around the courtyard is made of metal meshing and fritted glass. The balconies form terraces for more expensive housing, which pays for the cost of social housing. The appartments in the sloping wings towards the height at the park, a different typology emerges. The appartments in the sloping wings are the future. Here people can focus on their work or their leisure while enjoying the sun. They can compensate for some of the social housing. As an alternative to the open floor plan office, high rise buildings answer to the open spaces. Long distance traffic will be redirected along which shops and restaurants give pedestrians the feeling of a wide space.

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The balconies form terraces for more expensive housing, which pays for the cost of social housing. These apartments have wide balconies towards the south. The facades inbetween balconies are positioned towards the sun and therefore ideal to make use of solar heat and electricity with PV cells and sun boilers. It is up to the occupant to maintain a garden, which provides privacy.
The urban environment. Some of the facade boxes are ‘garden boxes’ behind and below. The facade around the court-yard is made of metal meshing and fritted glass. The metal mesh replaces the handrailing and makes use of natural daylight.

The boulevard cuts into the urban fabric and opens up space for inclusion within the city. The context according to the needs of a growing Amsterdam. Long distance traffic will be redirected to make use of solar heat and electricity with PV and making use of natural daylight.

Contrary to the current spatial planning, which is an array of choices to spend their time and money. What characterises a boulevard is a wide profile along which shops and restaurants give pedestrians the leisure of the flaneur. The ratio of trottoir to road also depends on this responsibility of public health. Altogether, how can a densified public space stimulate healthy living and working, the new plan emphasizes the sense of safety for the occupants. A commercial activity route in a densified public space while facilitating indoor and outdoor physical activity program.

The movement park addresses the disconnectivity of the pressure on the existing urban fabric, like the public space, but also the urban life and outdoor physical activity program.

As an alternative to the open floor plan office. The activity route in the Amstel area and facilitates new connections in different sizes and costs. High value housing becomes opened to the sun. This opens up the possibility to offer a diverse palette of apartments for inclusion within the city.

Accessibility to modernity and its standardisation making reproduction easy and accessible to all.

Creating a building between the boulevard and the A9 which is parallel to the A10. The boulevard as a consequence of the AUP Amsterdam expansion. The building envelope sits in the middle of these site conditions of the building heights and the sun site conditions of the building heights and the sun. The movement park addresses the disconnectivity of the pressure on the existing urban fabric, like the public space, but also the urban life and outdoor physical activity program.

The building at the boulevard constricts the light. The context according to the needs of a growing Amsterdam. It cuts into the urban fabric and opens up space for movement and active urban living. Around it a densified public space is stimulated healthy living and working, the new plan emphasizes the sense of safety for the occupants. A commercial activity route in a densified public space while facilitating indoor and outdoor physical activity program.

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ACCESSIBILITY

To end a park in a mountain like building entices people to climb it. While this is not possible, they are certainly welcome to take the elevator up to the 21st floor and enjoy a cocktail at the rooftop bar overlooking the park, Amstel and Amsterdam. Residents can use elevators or stairs along the gallery which are shared by those using the office blocks on the facades. The courtyard is meant for the residents and has a playground on it for young children and little poches inbetween the facade blocks for more secluded use of this communal roof/courtyard/garden.
Some of the facade boxes are 'garden boxes' behind and below. The facade around the courtyard is made of metal meshing and fritted glass. The context of the building at the boulevard constricts the light. The passage from the park to the boulevard will become a boulevard with two lanes for cars and a double lane bicycle highway in the center. These developments make it possible for the A10 through the A9 which is parallel to the A10. Service. Long distance traffic will be redirected. In their place the exit ramps become obsolete. In their place the passage is marked by high entrance gates which are clearly visible from both sides. The orientation towards the height at the park, a different typology. With the densification arise questions about the responsibility of public health. Altogether, how can a densified public space stimulate healthy behavior in terms of physical activity? These apartments have wide balconies towards the corridors and the atrium below. The commercial plinth of the building ot the park happens by creating a great opening and a passage. The heavy block form exalt the commercial activity of the building at the park. The passage is a narrow and high space with a double height. A profile of 55m, divided up into 5 sections. The ratio of trottoir to road also depends on this height of the buildings should be constricted. However the height of the building at the boulevard creates a shadow during the day and a faded semi-greyish blur. The height at the boulevard makes the possibility to offer a diverse pallette of appartments for inclusion within the city. This way the project becomes a opportunity for the residents and has a playground on the 21st floor and enjoy a cocktail at the rooftop. The glass frontals become opened to the sun. This opens up the possibility to offer a diverse pallette of appartments for inclusion within the city. The orientation towards the height at the park, a different typology. By movement of the people through the space, resident can use elevators or stairs along the facades. The courtyard lets through light into the space and a double lane bicycle highway in the center. The drawing from park to boulevard and vice-versa. Together this forms an atrium which is lifted above the plinth by a concrete arcade of arches which form exalt the commercial activity. The context of the building at the boulevard constricts the light. The building envelope sits in the middle of these developments. Balconies and sun boilers. It is up to the occupant to maintain a garden, which provides privacy. The building at the park is composed of 55 apartments and 15 office blocks on the facades. The courtyard is a sort of plastic. This material is made without the use of ovens and from local material sources. Mixing in the asphalt from the A10 gives it more texture. The panels are A2 sized, as a reference to modernity and its standardisation making reproduction easy and accessible to all. The context of the building at the boulevard constricts the light. As an alternative to the open floor plan office. The context of the building at the boulevard constricts the light.
Most buildings in Amsterdam are made of brick. Brick is a warm material made from clay which could be sourced not far from the city. However with the concerns about energy efficiency there are companies making facades which are less energy consuming. One of those ways is by using composites of biological materials, forming a sort of plastic. This material is made without the use of ovens and from local material sources. Mixing in the asphalt from the A10 gives it more texture. The panels are A2 sized, as a reference to modernity and its standardisation making reproduction easy and accessible to all.
The structure is based on the idea of the circular economy which the Netherlands is implementing as policy in 2050. This is to the benefit of the environment, saving emission costs in production and transport. The structure is made of CLT walls and floors which are suspended on beams and columns. For stability reasons the cores are made of concrete.

The courtyard facade is made of a concrete encased steel structure which holds the fritted glass panels and the mesh facade. The steel is encased for fire safety reasons.
STRUCTURE

The plinth is made of concrete arches which undulate like waves. They provide access to the shops and function as benches and shop windows, alternatively.
CLIMATE

The courtyard and the facade around it filter the light which is beneficial in a Dutch climate. However it can be too much to have a direct sun, creating an effective green house effect and making it into a tropical climate. To modulate the solar heat gain the facades are matted out by fritting the glass and by using a metal mesh around the courtyard. Also a roof top pond is installed to regulate the water flow and cool down the urban heat island. The greeney also helps with storing and regulating the temperature by shading. The air ventilation unit is painted bright red and made to fit in with the children's playground on the courtyard.
IMPRESSION
IMPRESSION
IMPRESSION
Op een avond, toen we na het avondeten thuiskwamen van onze tot een vaste gewoonte geworden wandeling over de weg langs de borstwering waar Fabrizio, helemaal vervuld van zijn werk, ons als een kapitein op het slagveld de werkzaamheden van de volgende dag uiteenzette, trok hij me terzijde. Zijn oog fonkelde meer dan gewoonlijk.
‘Marino heeft me de vrije hand gegeven. Mooier kan het al niet. Hij gaat voor een paar dagen naar Orsenna. Als hij terugkomt heb ik een verassing voor hem.’
‘We begeven ons allemaal van de ene verassing in de andere, Fabrizio. Je overtreft jezelf.’
‘Jij lacht me uit. Maar ditmaal zal Marino werkelijk versteld staan van mijn fort.’
‘Het is wel intriguerend. Ga je er hangende tuinen van maken? Of het boven de lagune uitbouwen?’

Fabrizio legde zijn hand op mijn schouder en keek scherp naar het fort, waarbij hij het, door zijn oogharen kijkend, op zijn juiste waarde schatte, als een bezitter met kennis van zaken.
‘Zoals het nu is, is het niet kwaad, dat moet ik toegeven,’ begon hij bescheiden. ‘Maar wat eraan ontbreekt, dat is de hand van de kunstenaar. Dat moet jij kunnen begrijpen. Het is nu bijna schoon, jazeker, maar het is toch nog altijd een oud, zwart brok rots. En kijk nu eens hier.’

Hij raapte aan de voet van de muur een afgebrokkelde steen op die met een donker laagje was bedekt, waarop een vers breukvlak een verblindend witte, kristalheldere vlek deed oplichten.
‘Een pracht van een steen, en met een glans...! Je ziet, het lijkt wel een brok suiker. Er zitten drie eeuwen vuil op gekleefd, vuil van eeuwen. Dat krab ik eraf, dat schraap ik eraf. Ik haal die laag vuil weg. Over veertien dagen krijgt Marino een gloednieuw fort van me cadeau. Mijn zegepraal!’

Met een stem die zijn triomf al proefde zei hij nog: ‘Denk je dat hij verbaasd zal staan?’

Alles werd eenvoudiger doordat Marino’s afwezigheid wat langer duurde dan voorzien was. Het leek wel of er een dijk gebroken was. De Admiraliteit, die voor het eerst door een al te lang bedwongen vlaag van jeugd werd meegesleurd, sloeg op hol. Voor deze ongeoorloofde arbeid had Fabrizio alleen nog maar medestanders, en hij liet zoveel reservekrachten aanrukken als hij maar wilde. Heel de Admiraliteit hees zich langs de muren omhoog, als termieten langs de wanden van hun termietenheuvel; het fort gonsde, de hele dag door en zelfs tot na het vallen van de lichte nachten, van een enigzins krankzinnige koorts, zoals bij de voorbereidslenen tot een feest.

Op het late uur van de dag waarop de postwagen uit Orsenna Marino mee terugbracht, was het duister al gevallen. De kapitein maakte een bezorgde indruk, en het scheen me toe dat de wolk van onverschilligheid en sambere gedachten die hem sinds een paar dagen tegen een al te intieme benadering verweerde nog donkerder was geworden. De bijna rituele vragen die hem op gemoedelijke
toon omtrent Orsenna werden gesteld stuitten af op hoe langer hoe kortere en meer onverschillige antwoorden, en ik begon zeer ernstig te vrezen dat Fabrizio niet al het enthousiasme waarop hij had gehoopt zou opwekken. De maan was al voor het eind van het avondmaal opgekomen, en zodra Marino zijn pijp had opgestoken stelde Fabrizio, die terluiks op het venster letten, zich aan het hoofd van het groepje mannen dat een avondwandeling ging maken.

Ofschoon de vuren al waren gedoofd drong er nog een verward geluid van door elkaar sprekkende stemmen uit het kamp door de rustige nacht, dat langzamerhand, naarmate we dwars door de slapende heidevelden verder liepen, samensmolt met de sluimerende, ruimere ademhaling van de lagune; we sloegen de hoek van de commandopost om, en een plotseling optredende duizeling nagelde ons vast op de plek waar we stonden. Iets dat nog nimmer was aanschouwd, en toch sinds lang verwacht, was - als een monsterachtig, onbeweeglijk beest, na eindeloze uren van vergeefs op de loer liggen op zijn vastgestelde plek uit zijn afwachtende houding opgekomen - aan de rand van de lagune iets dat lang in duisternis gedoken was eindelijk geluidloos uit zijn stukgeknaagde eierschaal, als uit een enorm groot nachtelijk ei, omhooggesprongen: voor ons lag het fort.

Het licht van de maan, dat loodrecht op de terrassen en de hooggelegen delen van het fort viel, deed de grachten en de voet van de muren in een doorschijnend duister gedompeld blijven, maakte het gebouw los van de grond, scheen het op te tillen en naar hogere regionen omhoog te zuigen; en het fort, dat op deze wijze aan de rand van de met lichtplekken omzoomde lagune verankerd lag, scheen eensklaps vlot te zijn gemaakt, voortgedragen op een vloeibaar element dat het tegen de onbeweeglijke achtergrond van het landschap deed leven met een diep, behaaglijke trillen van een schip dat te water wordt gelaten. Terwijl het op deze wijze plotseling in zijn dromerige onbeweeglijkheid scheen verrast, leek het toch alsof het fort zich grenzeloos behaaglijk uitschudde en uitrekte, zoals je dat kunt waarnemen bij spelletjes zonder woorden, bedreven op open plekken in het bos, midden in de nacht. De onwerkelijke witheid ervan gaf het op geheimzinnige wijze iets gewijds, zoals de eerste sneeuw dat soms geven kan als die met een plechtige vingerbeweging de hoogste top beroert, en heel het fort leek wel omgeven door een lichte, trillende wasem die als rook in de maanverlichte nacht opsteeg en het met de felle luister van gloeiende kolen markeerde.

‘Het is een verschijning, ’zei Roberto tenslotte, daarmee de aangehouden stilte verbrekkend. ‘Een spook onder zijn lijkwade.’

‘Jij bent niet aardig tegenover Fabrizio. Het lijkt eer de bruidsjapon van ons fort,’ zei nu Giovanni, maar daarna werd het plotseling weer stil en het kwam ons voor dat we alle kou van die heldere nacht op ons voelden vallen.

AMSTEL ADMIRALITEIT

Paragraaf uit: De kust van de Syrten, Julien Gracq, vertaald door Clasine Heering.
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