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Heat accumulation
The closely spaced buildings and the intensive traffic flows cause severe heat accumulation effect in the Parisien city centre. The city council chose to address the problem. One of the measures is creating more greenery in the city.

Paris
Paris is a densely populated and built up city. Ever since the industrial revolution, city planners are looking for options to keep this densely populated city livable.

In the plan of Paris two networks are obviously prevailing:
The first being the water network: the Seine with its branch. The second is the Périphérique. Once a fortification, now a vital traffic system.

What are the green structures of Paris? Which green networks does Paris have, what are the future plans for the greenery in Paris and how is it used by the Parisiens?
Deplacements

Le Petite Ceinture

As mentioned the Péripérique is vital for the Parisien traffic flow. The city council is upgrading the appearance by installing more greenery and roads for pedestrians and cyclists. This way the Péripérique will be a green connecting element, called the Ceinture Verte, instead of a grey barrier.

Ceinture Verte

One element of the plan of the Ceinture Verte is the Petite Ceinture. This is a railroad connection between the train-station in the centre of Paris. This railroad connection is not used anymore for a long time. Now this railroad-ring is going to be transformed into one big park. The first part of this new park is completed already.

Seine

The sidewalks of the Seine are being improved by creating more space for pedestrians and greenery. The addition of new furniture, greenery and recreational attributes, like board games, make it a pleasant area for the tourist and the parisien.

Urban Analysis

Redevelopment public space along the Seine

Floating gardens in the Seine

Furniture and board games available for public use

Source: M.J. van der Kooi

Seine

URBAN ANALYSIS

Source: www.paris.fr

Source: www.apur.com

Source: www.apur.com

Source: www.paris.fr

URBAN ANALYSIS

URBAN ANALYSIS
History repeats
This is not the first time Paris is struggling with health issues and the population density of the city. Already in the 19th century the first interventions took place in Paris, for reasons of, amongst others, public health.

Haussmann
In 1853 Haussmann was appointed by Napoleon III to ‘modernize’ Paris. One of the goals of his interventions was to improve the hygienic circumstances. Broad boulevards were designed to improve mobility, but also to bring more daylight, space and air into the densely populated city.

Nowadays the broad boulevards are still an important part of the mobility network of Paris. The ambience of these boulevards changed a lot since the car became popular. The space for the pedestrians decreased and the air is full of polluting exhaust gasses.

Squares
Not only boulevards were introduced by Haussmann, he also created parks and squares in order to enhance the wellbeing of the Parisian inhabitants. Squares are small parts of greenery in various random places throughout the city. Although surrounded by traffic flows, the squares are still intensively used.

Running and cycling
Cycling and running are two well practiced activities in Paris. There are limited precautions taken in streetdesign, causing for instance difficulties at roadcrossings and a limited number of connecting cycle and pedestrian paths.

Public space
The public space is enjoyed intensively by the Parisian inhabitants. The small dwellings, the climate and the culture cause that the public space is intensively used by the Parisian.

Conclusion
Paris struggles with the density of people and wants to make the city greener in favour of the public health. The two big networks, the Seine and the Periphérique, play a big role in these developments. Paris becomes greener and greener. Parisiens make extensive use of public space. Partly therefore the brandnew upgrades along the Seine and the first developments of the Ceinture Verte are already intensively in use.
Canal Saint Martin

Initially the canal was created to distribute water into the city and later it was used for distribution of goods. Nowadays the canal has a recreational function.

One canal - different places

The canal is not a monotonous element, each area has got its own ambience and own identity. The profile of the canal differs between the different places along the canal. Not only this plays a role, but also the different anchor points along the canal can give an area another identity.
Cycling paths

Promoting cycling in the city there are a lot of bicycle renting points (pink dots). Separated cycling paths are provided as well, although they are not properly interconnected.

Public spaces

The sidewalks along the canal are used as recreational public space. The big public places like Parc Buttes Chaumont and Place de Republique are on walking distance from the canal.

Cycling paths

Promoting cycling in the city there are a lot of bicycle renting points (pink dots). Separated cycling paths are provided as well, although they are not properly interconnected.

Conclusion

The canal transformed from an infrastructural route to a recreational route. The canal attracts people from the surrounding area. In longitudinal direction the canal consist of a chain of different places with different atmospheres. The project area is well connected to the urban fabric, for every traveler the area is well reachable.
**Materialisation**

The material used in the plot is mainly stones. Together with the steel elements, this creates an industrial look. In some places, the use of materials no longer visible because graffiti is sprayed over. In the green-zones the green trees are particularly striking, at both sides of the quay are very tall trees.

**Routing**

The routes on the plot are used by the fire trucks, the cars of the government workers, and passers-by. The fire trucks speeding away and when a report of a fire is made, this can lead to dangerous situations.

**Classification**

What stands out over the entire plot is its poor maintenance. There is much plastered with graffiti and there are many dirty and dark corners. Furthermore, the public space is not designed for the use of people, which gives an uninviting atmosphere.

**Users**

The use of the quay is mainly determined by the fire department and the Point Ephemere. The fire department is holding their outside exercises on the quay and the fire trucks are cleaned and refurbished. Point ephemere has a terrace outside and hold events on the quay. During the day the quay passed by runners and passers. Furthermore, there are people who read or take the day along at the water-sides.

Source: A. van Schooten
**SETTING**

The building is located between the canal and the street. The setting is unique, only few buildings are found between canal and street. Due to this location the building is not part of the building blocks, but part of the public space.

**Enclosed space**

The part of the canal along side the building feels enclosed by the lowered level of the canal sides compared to the street level.

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**URBAN ANALYSIS**

**Setting**

The building is situated between the canal and the street. The setting is unique, only few buildings are found between canal and street.

Due to this location the building is not part of the building blocks, but part of the public space.

**Two sides**

The building has got two different faces: one facing the street, the other facing the canal. Both sides create a different atmosphere:

- The street side has got an open character, because the water creates a lot of space between the building and the opposite building. The street side is closed, since the opposite street façade consists for the biggest part out of blind wall and fences.
- Entrance is on different levels on either side of the building.

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**Conclusion**

The building is situated between the canal and the street which makes the building more part of the public space than part of the private buildings. The lowered level of the quay makes it on one of the two sides an enclosed space.
**MASTERPLAN - INTENTIONS**

**Continuing & Connecting**
The masterplan provides a continuing route for pedestrians and cyclists. The route connects to the existing and the to be developed routes along the Ceinture Verte in the North and the Seine in the South.

**Greenery**
In line with the council and the plans for Grand Paris the area should incorporate sufficient greenery.

**Route**
The route follows the course of the canal through the neighbourhood. The water will be the connecting element, alongside the greenery.

Along the route different zones are implemented with each a distinct atmosphere. In this way the route is even more appealing.

**Different identities**
Most of the parts along the canal already have a distinct vibe. It is these vibes that will be used to characterize the different parts. Some parts require some development in order to really boost the route’s atmosphere.

The project will focus on the part of the route where the building is located which I chose to redesign.

**Future**
If the system proofs to be successful, it can be implemented in other parts of Paris. Creating a system of branches, originating from the Seine to the Ceinture Verte.
**INFRASTRUCTURE**

**Creating a car free area**
The motorized traffic which in the current situation the streets along the canal will be detoured via the surrounding road network. These roads are capable for dealing with the increased traffic intensity.

**Green public area**
The space which is emptied by the motorized traffic (roads and parking space) is available for new non-motorized traffic solutions, greenery and public space. On some places the public space is increased by platforms in the canal.

**Disclosure**
Most of the buildings facing the canal are accessible from the backside of the building block, using alleys inside the building block. Where this solution is inadequate special permits will be granted allowing access from the frontside.

**Continuation**
Continuation of the cyclist and pedestrian road is key in this concept. Cross sections deserve special attention in this aspect. Major crossing is the section of Stalingrad. The crossing will be redesigned in order to allow continuation of the cyclist and pedestrian traffic. This is achieved by creating a corridor below the road service, at canal level.

**Other crossings**
Where main roads cross the canal, the route for the pedestrians and cyclists will be lowered to allow separate passage of both flows.
**RESIDING AREA**

The project area is well connected by public transportation. Accessibility within the project area is provided by means of an electrical PTS. This ensures accessibility of the buildings, without the nuisance of traffic.

**Urban plaza**
The area should not only provide a pleasant route, but also serves to accommodate a nice area for the surrounding building’s occupants.

**Road cross section**
The traffic flows are situated along the outer parts of the cross section, in this way the centre part is free for relaxation and enjoying the combined site of greenery and water.

**In the water**
The space around the water is used for relaxation. Additional space is created by floating elements.

**Personal transport system**
The project area is well connected by public transportation. Accessibility within the project area is provided by means of an electrical PTS. This ensures accessibility of the buildings, without the nuisance of traffic.
**POINT ÉPHÉMÈRE**

The building I chose to redevelop is a former warehouse located parallel along the canal. Nowadays the building is being used by the fire department and for the other half part by Point Éphémère, a cultural centre including a restaurant.

The first owner of the building was Raymond Susset, his company was called: Etablissement Susset. The company sold and stored building supplies like, cement and ceramic. The building is built in three parts the first parts was in 1927, the second part in 1929. Between 1929 and 1943 a second floor and a tower were added. In this space came a ballroom and a ‘jardin d’enfants’.

Raymond Susset was a socialist and build these spaces for his employees. This was quite special in those days.

Then after a certain amount of years Etablissement Susset was taken over by Point P. The company called Point P used the building until 1999.

When Point P moved half of the building became a firehouse. The other half is occupied by Point Éphémère since 2004.

**Entrances**

The building can be entered on two different levels: from the street level and from the quay level.

In the time the building functioned as a warehouse, the goods were transported over the water and could enter the building on the ground floor, on the side of the water. People, costumers and employes entered the building from the street side. On streetlevel there also was a garage, for the cars, they also entered the building on street level.

Nowadays, the street side has not a commercial character anymore. The public entrance of Point Éphémère is on the waterside and the fire department is not a place for public. The fire trucks enter on the waterside (which sometimes collides with the public function of Point Éphémère).
VISIBILITY AND SUN STUDY

BUILDING ANALYSIS

Building approach
The free standing building can be approached from all sides. If you accede the building from the sides (no. 1 or no. 2 in the image), the length of the building is not clearly visible. Due to the perspective the building looks smaller and does not get a lot of attention.

The full length of the building can be seen the best from the other side of the water. Moreover, from the waterside you can see three stories, from the street-side just two.

Sun accession
The building has got a longitudinal, the long façade is facing the South-West and there are windows over the full length of the façade.

The sun accession on the ground floor is depending on the roller-shutters.

Sun study
The broad track visualizes the sunpath at the 15th of June, the smaller track visualizes the sunpath on the 15th of March.

The first point is the moment that there is full sun on the building. The second point is the moment that the façade is not in the sun anymore (but the quay is). The last point is the moment that the full quay is shaded.

The biggest part of the day the building is full in the sun. Since it is a free standing building and the canal creates a big open space on the South-West side, the building does not catch shadow of the surrounding buildings.
The plans of the current situation: The fire department is situated in the left part of the building and Point Éphémère is situated in the part on the right. On the ground floor of the fire department the open space is used to park the fire trucks.

The structure of the building exists of a concrete frame. In the two sections, the difference in the structure between the first built part of the building and the first extension is visible: The column grid does not continue on the first floor of the extension. Therefore the columns on the ground floor are a little bit bigger. The column grid in the extension slightly differs from the older part.
**Construction principle**
The building’s structure consists of a cast-in-situ concrete frame. The beam to column connections can therefore be considered rigid, and provide the required stability of the building. In the horizontal plane, the continuously casted stiff concrete floors transfer the horizontal loads to the frame.

**Dilatations**
Axonometric drawing of the building, in which the red elements represent the dilatations. The extension has got more narrowly spaced dilatations than the first built part.

**Force transfer, including last extension**
The vertical and horizontal force transfer shows a slight difference between the building’s parts.
**Construction**

**Construction principle**
Since the first floor of the extension does have less columns, the construction principle differs between both parts. The column grid shows less rows of columns in longitudinal direction of the building, forcing the floor to span a longer distance. A secondary beam grid is therefore provided.

**Span direction and stability**
Rigid frame action provides the major part of the stability. The facades contribute to the horizontal stiffness as well, but are not essential and can be removed or replaced.

**Force transfer on the elevated street side**
The old part provides a frame to transfer the active earth pressure on the building at the elevated street side. In the extension, a solid concrete wall is provided. This changes the distribution of the horizontal load in the floors.
Façade

The side façades have got a symmetrical structure and the longitudinal façade have got a repetative character. The direction of the canal is emphasized by the form of the building, but also by horizontal projecting elements.

Analysis façades

The vertical partition of the longitudinal façades have got a strongly repetative character.

The side façades both have got a symmetrical structure.

The horizontal elements in the façade emphasize the direction of the canal.

Source: E. Houdijk
**Façade element**

The façade consists of different recurring façade elements, which are constructed within the frame. The most prevailing façade element is presented in the figures.

**Materials**

The structure of the façade consists of a concrete frame. The façade elements consist for the biggest part of bricks, applied in four different brick bonds. The window-frames are made out of wood.

**Conditions**

The concrete frame functions still well, though there are a lot of damaged parts. The masonry and joints are still in good condition, there are hardly damaged bricks in the façades. A big part of the wooden window-frames are replaced already and are well maintained (the part of the fire department). The wooden window-frames on the side of Point Éphémère are not in good condition anymore.

**Architectural style of the façade**

The façade consists of a concrete skeleton, which is lled up with brick. The repeatative character of the façade and the simple, functional concrete skeleton refer to the Neue Sachlichkeit, which was popular in the time this building was built.

In contrast to the structure and composition of the façade as a whole, the façade element has got a more decorative character. The use of four different brick bonds with different patterns and textures is more in line with the Art Deco movement.
Art Nouveau
The Belgian artist Henry Clemens van de Velde (1863-1957) brought the Jugendstil style to Paris, with his gallery named “L’Art Nouveau”. His furniture enjoyed success, but not in Paris. Art Nouveau’s breakthrough came with Castel Béranger by Victor Guimard, whose name is now synonymous with the style. In just a short time the “Style Guimard” gained an enormous presence in the city with countless metro stations on the six new lines constructed for the 1900 World Exposition. He also built numerous buildings ranging from villas to multistoried residential houses in the affluent 16th arrondissement.

Neue Sachlichkeit
The Neue Sachlichkeit originated in Berlin, influenced different architects in surrounding countries. Especially in the Netherlands the style was well-appreciated. The style is recognizable by its simplicity and its lack of emotion in its designs. Supporters of this style tried to achieve a functional, objective building. Decoration was seen as subjective, therefore not well-liked in this style.

Art Deco
Art Déco significantly influenced the city’s image, although it was unsuccessful in establishing itself. The “International Exposition of Decorative Arts and Modern Industries” (1925) helped spread the countermovement to the International Style, which took on its clear lines and form, but followed Jugendstil in its stylistic form and emphasis on the materials. In the twenties, often elements of art deco were implemented in other styles (like the Neue Sachlichkeit).

Architectural styles
The first part of the building is built in 1927, in the glory days of the Neue Sachlichkeit and Art Deco. The intentions of the architect look like the thoughts of the Neue Sachlichkeit: A functional building with a clear, effective structure. The façade elements, however, contain a certain pattern and texture of different applications of brick. The way of using this material (brick) in this façade does refer to the Art Deco period.

The first extension of the building did follow the style of the first built part, it is barely notable that this part is built later. The third part, follows the style of the existing part of the building for the biggest part, but it is notable by different elements that this part is built later in time.
**VALUE & PROGRAM**

**Setting**
The building has a unique setting, instead of the most buildings, Point Éphémère is not part of a building block. It is a free-standing building in the middle of the public space.

The building is very clearly visible from the other side of the water, from that side the building attracts a lot of attention. That is also the sunny side of the building: South-West, what makes it an attractive display and a nice place to stay.

The building has got three different connections with outside spaces (the street, the quay and the roof terrace), all three have a different degree of publicity.

**Building**
The stiff concrete frame provides stability, so walls are not needed for the construction. This gives the ability to ‘flow’ free through the building, through the ‘forest’ of columns.

The decorative brickwork in the façade gives the functional building a more refined character and refers to the time wherein the building is built.

**Program**
The function of the building will be focussed on the environment.
A place for research about the environment, ecology, sustainability, climate change, etc.

The building is not only meant for research, but also for spreading the knowledge. The results of the research will be public and visible for the people who pass by.
So besides the place for research (and education), it will also function as an information centre.
Concluding, my ambition is to create a continuous route for cyclists and pedestrians. The route is following Canal Saint Martin and connects the two existing networks: the Seine and the Ceinture Verte. In my masterplan I want to contribute to the goal of the council of Paris to make it a greener city. The route will get a green character.

The part of the route where the building Point Ephemère is located will be developed as a residing area. The building will contain functions about ecology, sustainability and/or water sciences. Not only focussed on research, but especially on the spread of knowledge about these subjects. So the building will also focus on the passengers (tourists and parisiens).