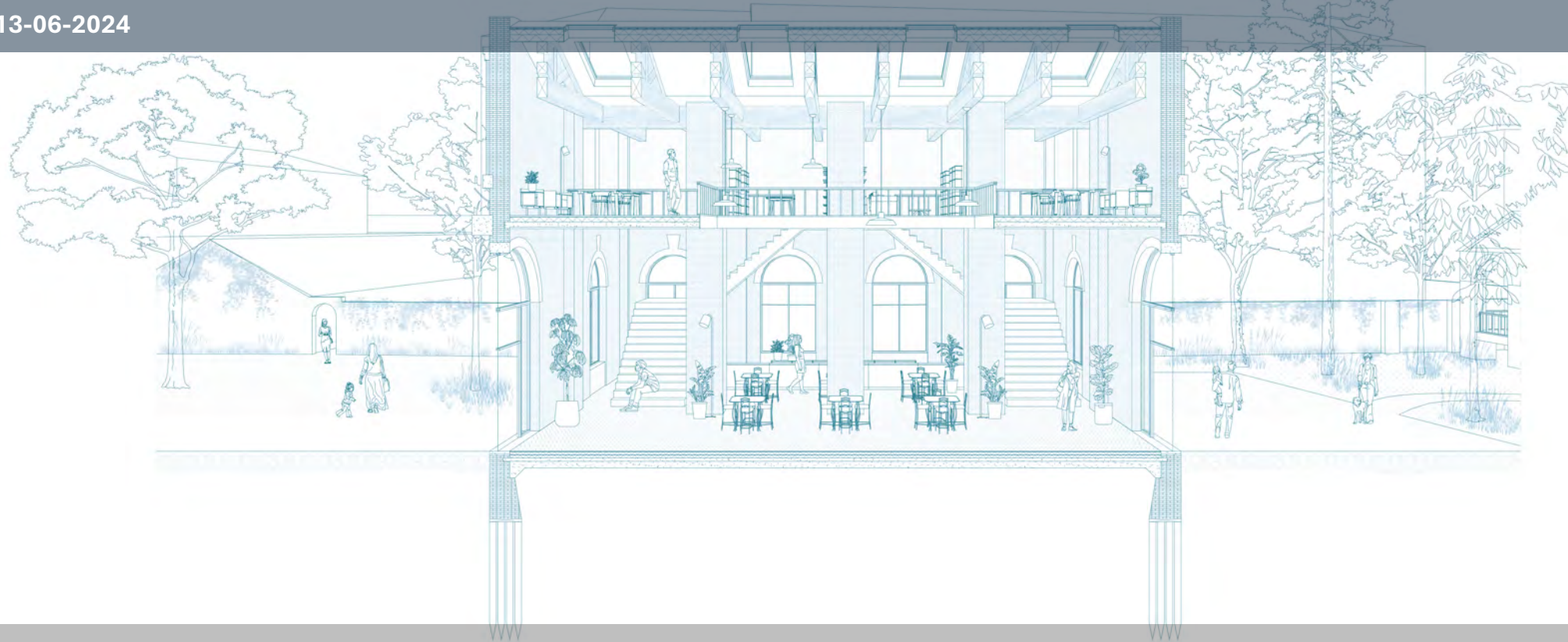


Carousel Graduation Studios AUDE

13-06-2024



Department of the Built Environment

cover illustration, artwork
by Emiel Vreugdenhil

AUDE - Architectural Urban Design and Engineering

Graduation Studios Architecture

1: *The Power of Imagination*

dr. Jacob Voorthuis, dr. dipl.-ing. Torsten Schröder, ir. arch. Barbara Kuit

2; *Resilient Architecture 5: Crossing Borders*

ir. John Swagten, ir. Tom Veeger

3: *Urban Islands – Cherishing nature in the Metropolis*

prof. ir. Juliette Bekkering, dr.-ing. Cristina Nan

4: *Stimulating Healthy Environments (SHE)*

prof.dr.ir. Masi Mohammadi, ir. Leonie van Buuren, EngD, ir. Jochem Groenland

5: *Intermediate Architecture as transformative tool*

drs. ir. Like Bijlsma, ir. Jochem Groenland, ir. Narindath Maraj

6: *Firenze Analogo*

dipl.-ing. Haike Apelt, ir. Wouter Hilhorst

Graduation Studios Architecture & Urbanism

7: *Unbuilt Antwerpen*

dipl.-ing. Haike Apelt, iMA B. Arch. Daryl Mulvhill

Graduation Studios Urbanism

8: *Density and other Matters*

dr.ir. Dena Kasraian, Aroosha Zahid MSc

The Power of Imagination

dr. Jacob Voorthuis, dr. dipl.-ing. Torsten Schröder, ir. arch.

Barbara Kuit

j.c.t.voorthuis@tue.nl, t.w.a.schroeder@tue.nl, b.c.i.m.kuit@tue.nl

The Power of Imagination



World Expo 2025 Osaka in Japan <https://tokyo.nl/japan/osaka/world-expo-2025/>

Chairs ADE + AHT
dr. Jacob Voorthuis
dr. dipl.-ing. Torsten Schröder
ir. arch. Barbara Kuit

We will explore the narratives that drive change.

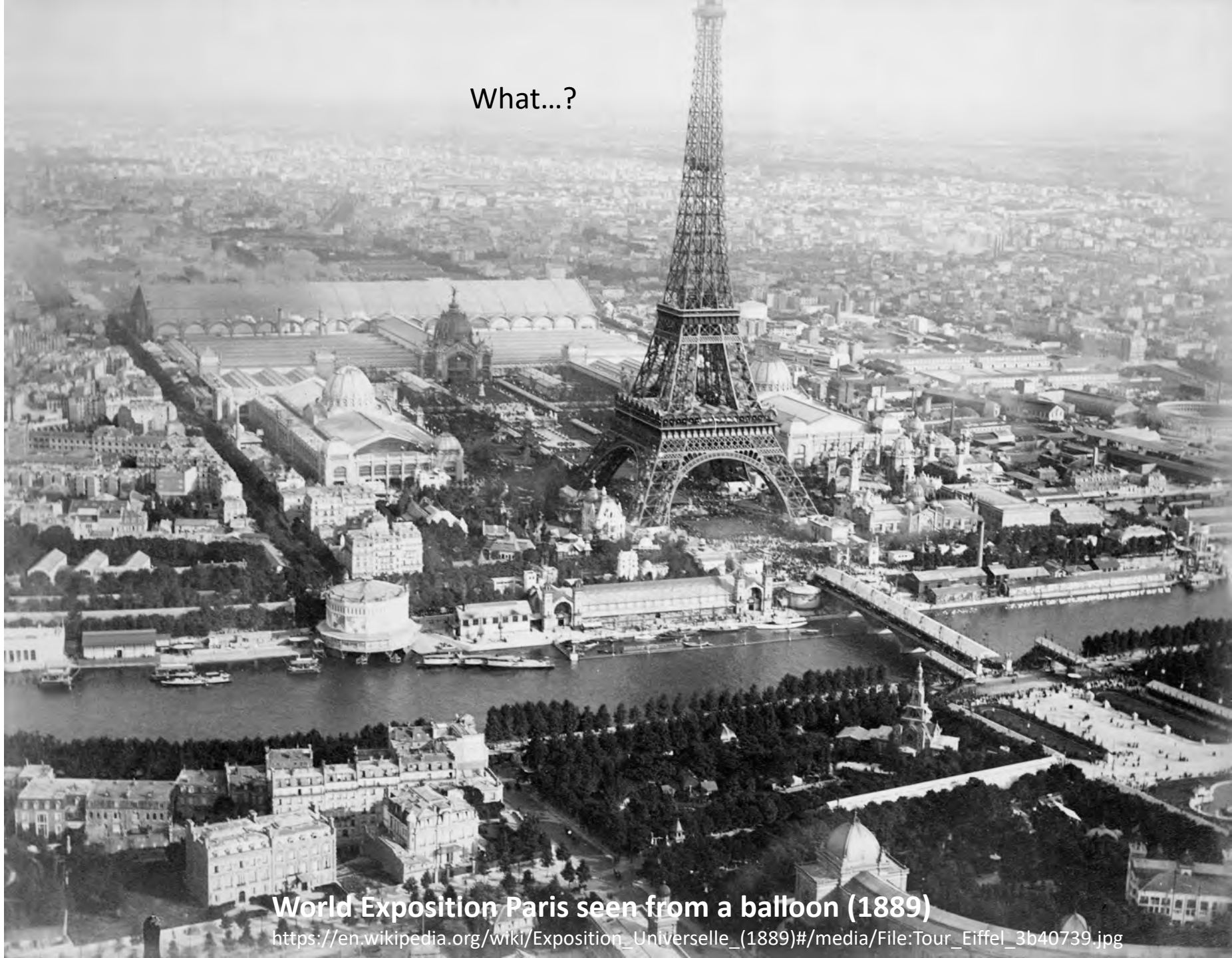


NASA, *Earthrise*, 1968. This image, the first colour photo of the planet earth from space, helped to launch the environmental movement.
<https://www.nasa.gov/image-article/earthrise-3/>

As architects:
We can imagine,
We ask questions,
We can see connections,
We can inspire new thinking,
We can envision potential futures.

The power of the imagination and dreaming :
To overcome the status quo and think outside the box.

What...?



World Exposition Paris seen from a balloon (1889)

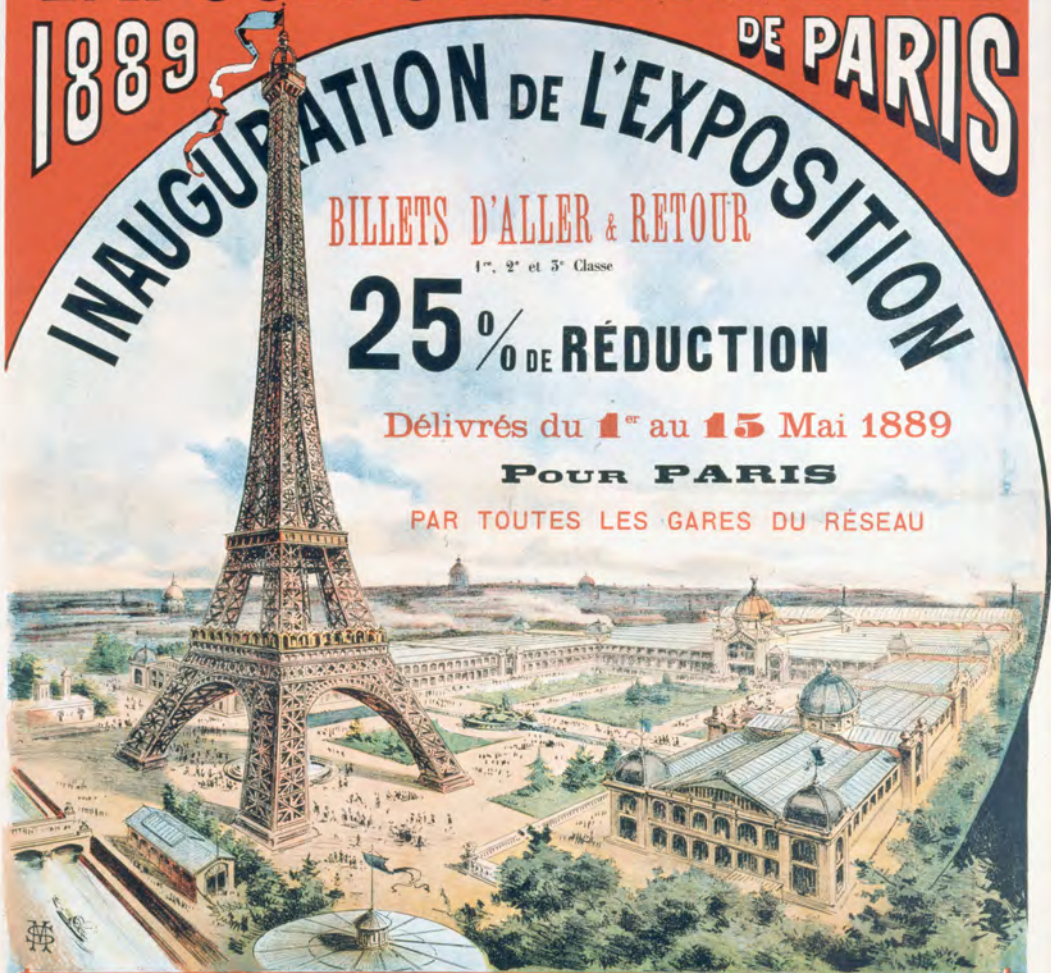
[https://en.wikipedia.org/wiki/Exposition_Universelle_\(1889\)#/media/File:Tour_Eiffel_3b40739.jpg](https://en.wikipedia.org/wiki/Exposition_Universelle_(1889)#/media/File:Tour_Eiffel_3b40739.jpg)

CHEMINS DE FER PARIS-LYON-MÉDITERRANÉE
EXPOSITION UNIVERSELLE
1889 DE PARIS

INAUGURATION DE L'EXPOSITION

BILLETS D'ALLER & RETOUR
1^{re}, 2^e et 3^e Classe
25% DE RÉDUCTION

Délivrés du 1^{er} au 15 Mai 1889
POUR PARIS
PAR TOUTES LES GARES DU RÉSEAU



VALIDITÉ

Jusqu'à 200 kilom... 4 Jours | De 301 à 400 kilom. 8 Jours
De 201 à 300 — ... 6 — | De 401 à 500 — 10 —
Au-dessus de 500 kilom..... 12 Jours

Y COMPRIS LE JOUR DU DÉPART

LES BILLETS D'ALLER ET RETOUR SONT REÇUS
DANS

Tous les Trains (Express & Rapides compris)

AU MÊME TITRE QUE LES BILLETS À PLEIN TARIF

FRANCHISE DE **30 K^{GS}** DE BAGAGES

IMPRIMERIE MAULDE et BENOÛ — A. MAULDE et C^{ie}, rue de Rivoli, 144 — PARIS

The Exposition Universelle of 1889 (the 1889 Paris Exposition) was a world's fair held in Paris, France, from 6 May to 31 October 1889.

How ?

Design research

Research – Narrative - Excursion - Design

We will collectively design a World Expo

collective design of World Expo

see 500 gorgeous aquabelles.

May's Joyland-in the Children's World.

Park your children at the Children's World.

A trip around the World. Great ride for children in the Children's World.

8th Avenue Subway Entry.

Here's another Restaurant.

If you're the architect for his buildings, I don't like it!

The Loop

The Loop

We better hurry the fireworks start soon!

Fountain Lake

The Inferno over Fountain Lake

Parachute Jump.

World's Fair Hall of Music.

Cavalcade of Centaurs

Thinker's on the Linder Lee.

Parade of Nations

World's Fair Hall of Music

NEW YORK 1939 WORLD'S FAIR AMUSEMENT AREA

C-17 BATHYSPIERUM	B-8 CRIME PREVENTION	C-20 HEINEKEN'S ON THE	E-13 MERRIE ENGLAND	C-12 NATURES MISTAKES	C-23 SEMINOLE INDIANS	SUN VALLEY—A WINTER WONDERLAND
A-25 BILLY ROSE'S AQUACADE	J-12 CUBAN VILLAGE	D-15 ZUIDER ZEE	E-26 METEOR	E-26 N.T.G.'S SUN	C-29 SHOOTING GALLERIES	A-28 TREASURY DISTRICT
A-6 BOSSLED	C-26 DRIVE A DROME	C-25 INFANT INCUBATOR	C-19 MIDGY AUTOS	D-28 WORSHIPPERS	E-19, C-29 SILVER STREAK	I-5, A-34 HEADQUARTERS
B-19 BRASS HALL RESTAURANT	D-20 E & C RESTAURANT	C-22 JITTERBUG	B-8 MORRIS GUST'S LITTLE MIRACLE TOWN	E-12 OLD NEW YORK	C-13 SKYRIDE	A-33 VICTORIA FALLS
E-14 CAVALCADE OF CENTAURS	A-4 ENCHANTED FOREST	A-4 FRANK BUCK'S JUNGLELAND	C-19 LIVE MONSTERS	D-23 PARACHUTE JUMP	D-18 SNAPPER	C-21 WE HUMANS
D-22 CENTIPEDE	A-16 MAYFLOWER DOUGHNUT RESTAURANT	A-16 MAYFLOWER DOUGHNUT RESTAURANT	C-11 LIVING MAGAZINE COVERS	E-23 PENNY ARCADE	C-23 STRANGE AS IT SEEMS	F-8 WORLD'S FAIR HALL OF MUSIC
D-23 CHILDREN'S WORLD	A-12 GIANT'S CAUSEWAY	D-32 RESTAURANT	D-2 NATIONAL ADVISORY COMMITTEE HEADQUARTERS	A-2 QUEENSBORO CHAMBER OF COMMERCE	B-19 STRATOSHIP	
D-6 CHIME ROLL ALLEYS			C-10 REGISTER			

Yesterday's World of Tomorrow: A Souvenir from the World's Fair

<https://blog.library.si.edu/wp-content/uploads/2012/09/WorldsFair22-e1347984797982.jpg>



Expo: Uniting the nations

Design Assignment

Collective design World Expo

We will focus on the Expo 2030 theme "The Era of Change":

"Together for a Foresighted Tomorrow"

with sub-themes:

"A Different Tomorrow", "Climate Action" and "Prosperity for All".

Individual

Choose the country you wish to represent + design a representative building on the Expo 2030





<https://www.expo2020dubai.com/-/media/expo2020/2021/understanding-expo/the-greatest-global-gathering-in-history.jpg>

studio atmosphere:

1. a true design studio
2. research by design

cooperate as a team

complexity

space for individual

How to show it?



Example pop-up book



Examples pop-up book

Big Model!



Alex Springer's new media centre Berlin OMA



Jusseu Library OMA

CHEMINS DE FER PARIS-LYON-MÉDITERRANÉE

EXPOSITION UNIVERSELLE

1889 DE PARIS

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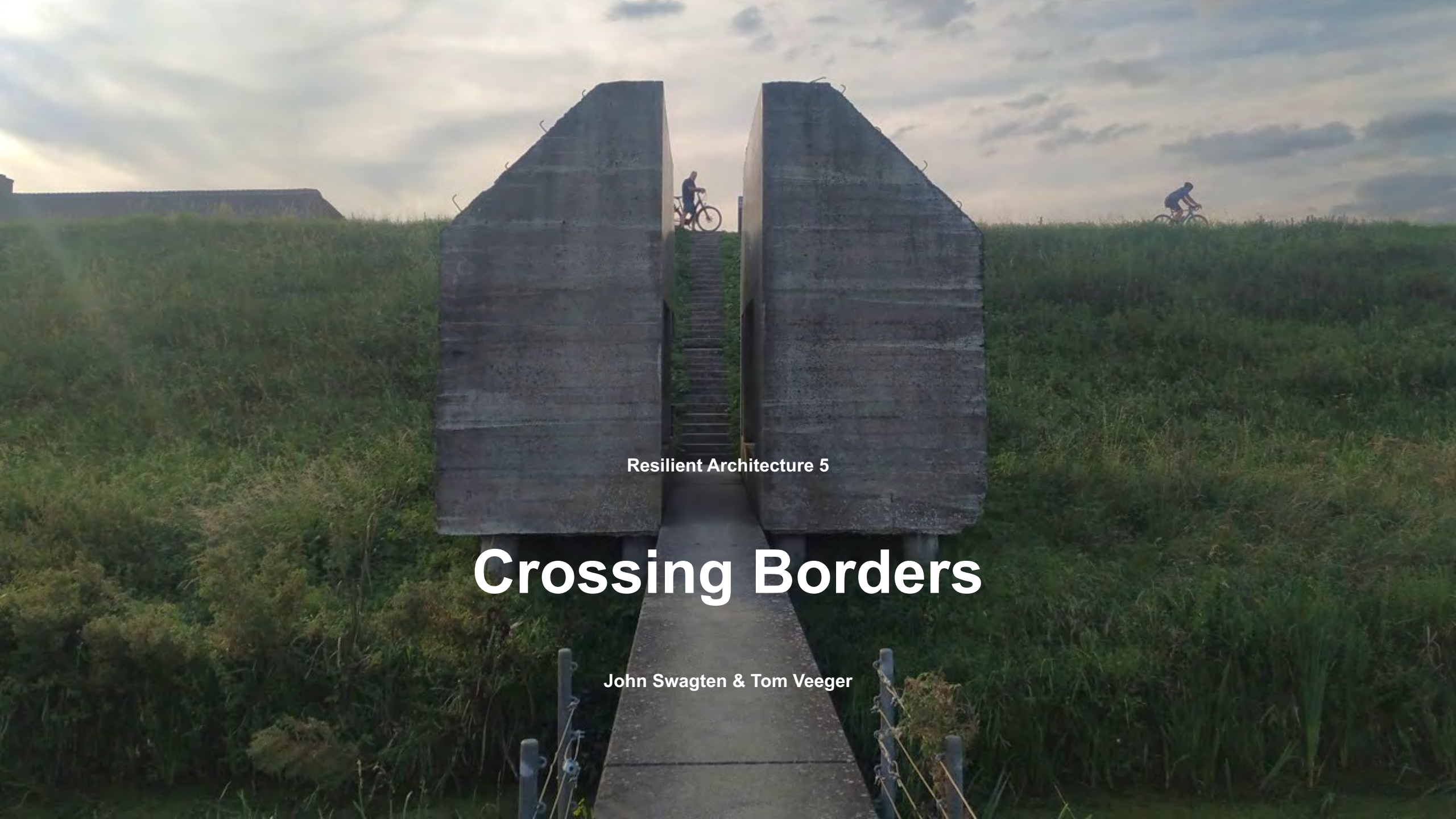
IMPRIMERIE MAULDE et RENOU — A. MAULDE et C^{ie} rue de Rivoli, 144 — PARIS

We will design our own
The power of Imagination

Resilient Architecture 5: Crossing Borders

ir. John Swagten, ir. Tom Veeger

j.p.m.swagten@tue.nl, t.t.veeger@tue.nl



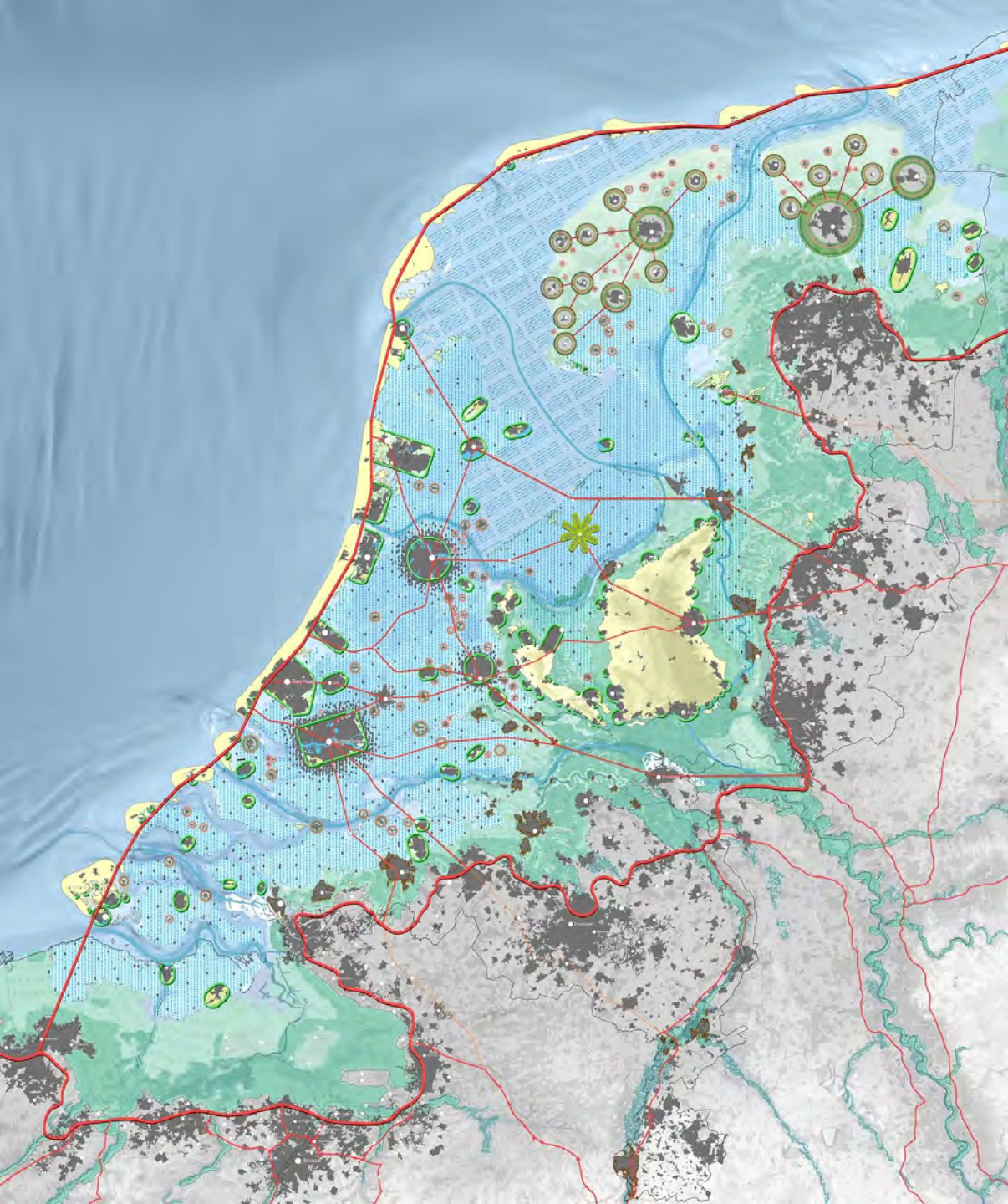
Resilient Architecture 5

Crossing Borders

John Swagten & Tom Veeger

the exploration of resilient design and climate change

*Weather extremes, such as **droughts**, **heat waves**, **sea level rise** and consequent **floods** are major threats to inhabitants' lives and the future development of the Netherlands.*



An example of an extreme scenario:

“How will the Dutch live in 2200?”

The rising sea level is inevitable.

*A new coastline in the east, floating
satellite towns, cities on mounds and
floating agriculture in a giant lagoon.*

By LOLA Landscape Architects

Resilience

The capacity to withstand or to recover quickly from difficulties

toughness

The ability of a substance or object to spring back into shape

elasticity

“Resilience is the capacity to adapt to changing conditions and

to maintain or regain functionality and vitality”



**Is Resilient design the way to achieve preparedness
and can help in experiencing the surrounding water as an
opportunity instead of a problem?**

Nieuwe Hollandse Water Linie & Stelling van Amsterdam



The silent remains of a defence line built in the period from 1815 to 1875 and partially flooded during the First and Second World War.

85 kilometres long and runs from Muiden to the Biesbosch.

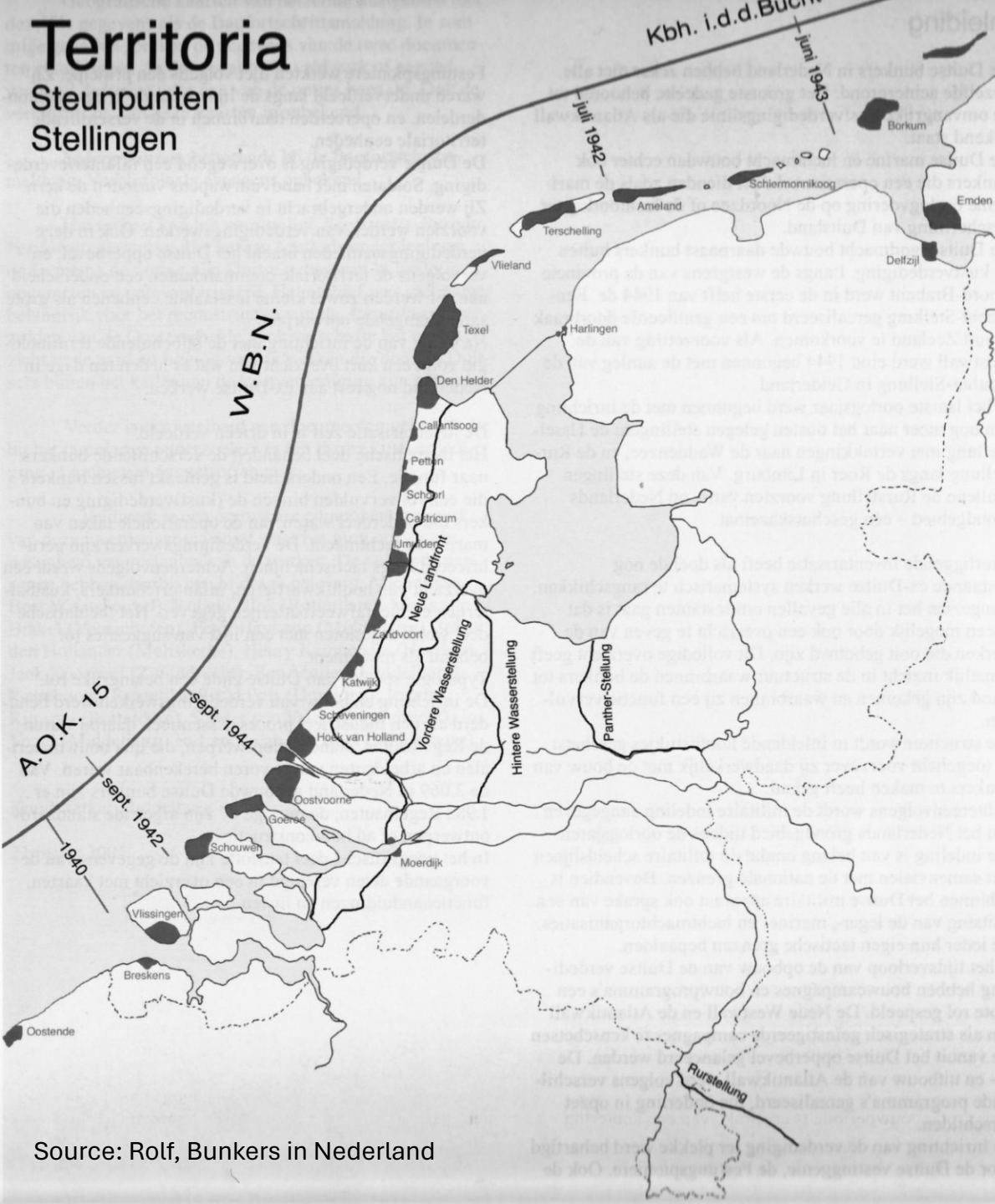
Water plays an important role.

45 forts,
6 fortresses
2 castles
and many shelters,
casemates and
sluices.

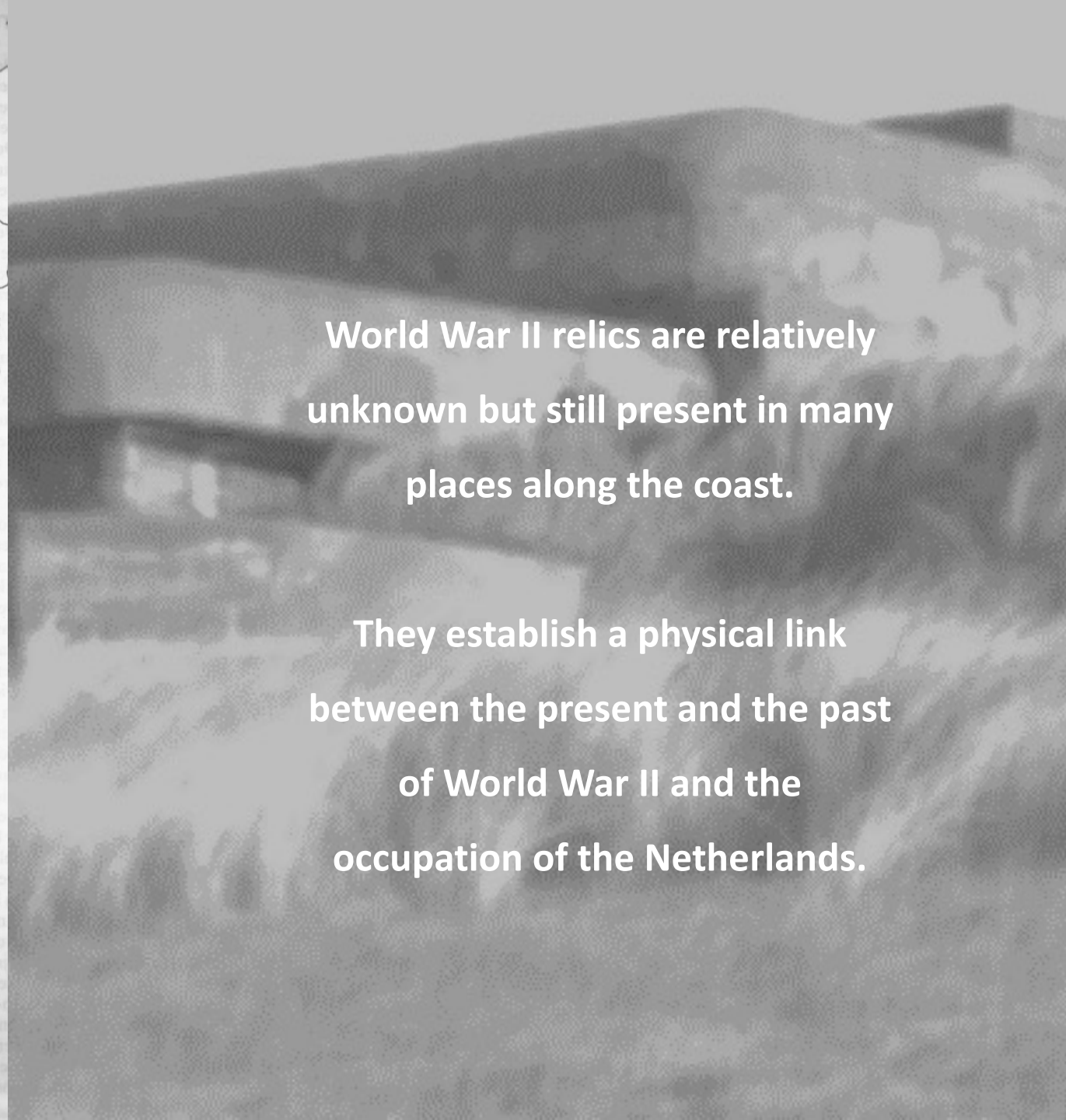


Territoria

Steunpunten
Stellingen

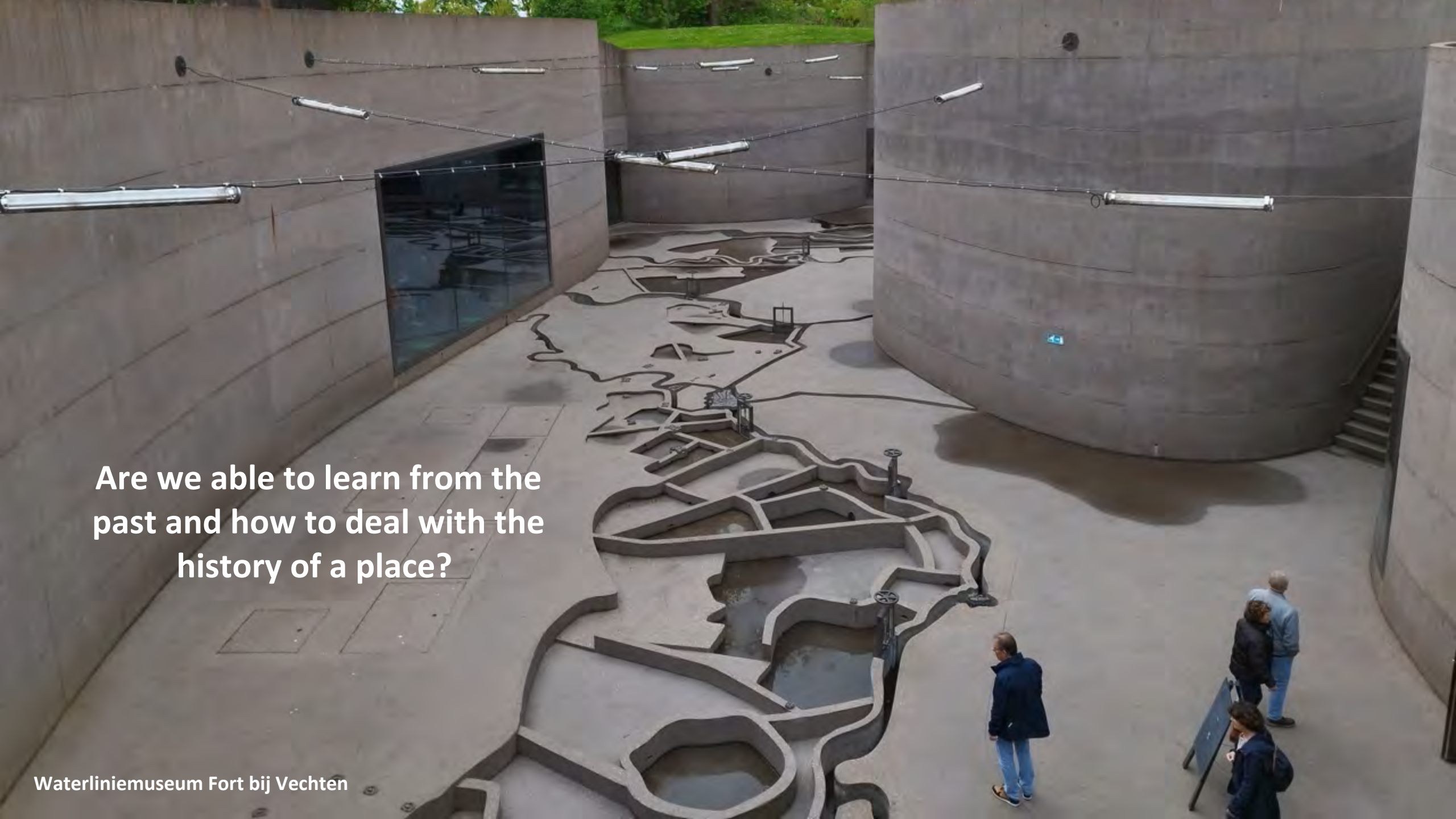


Source: Rolf, Bunkers in Nederland



World War II relics are relatively unknown but still present in many places along the coast.

They establish a physical link between the present and the past of World War II and the occupation of the Netherlands.



Are we able to learn from the past and how to deal with the history of a place?



HOW can we learn from using
the water as a positive way?

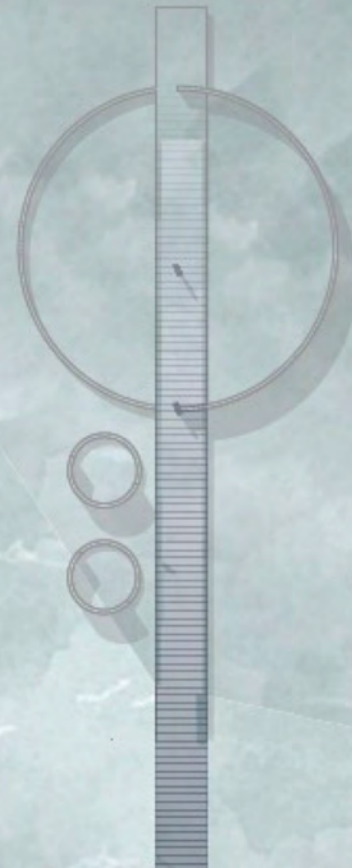


Photo and drawing by Joanna König



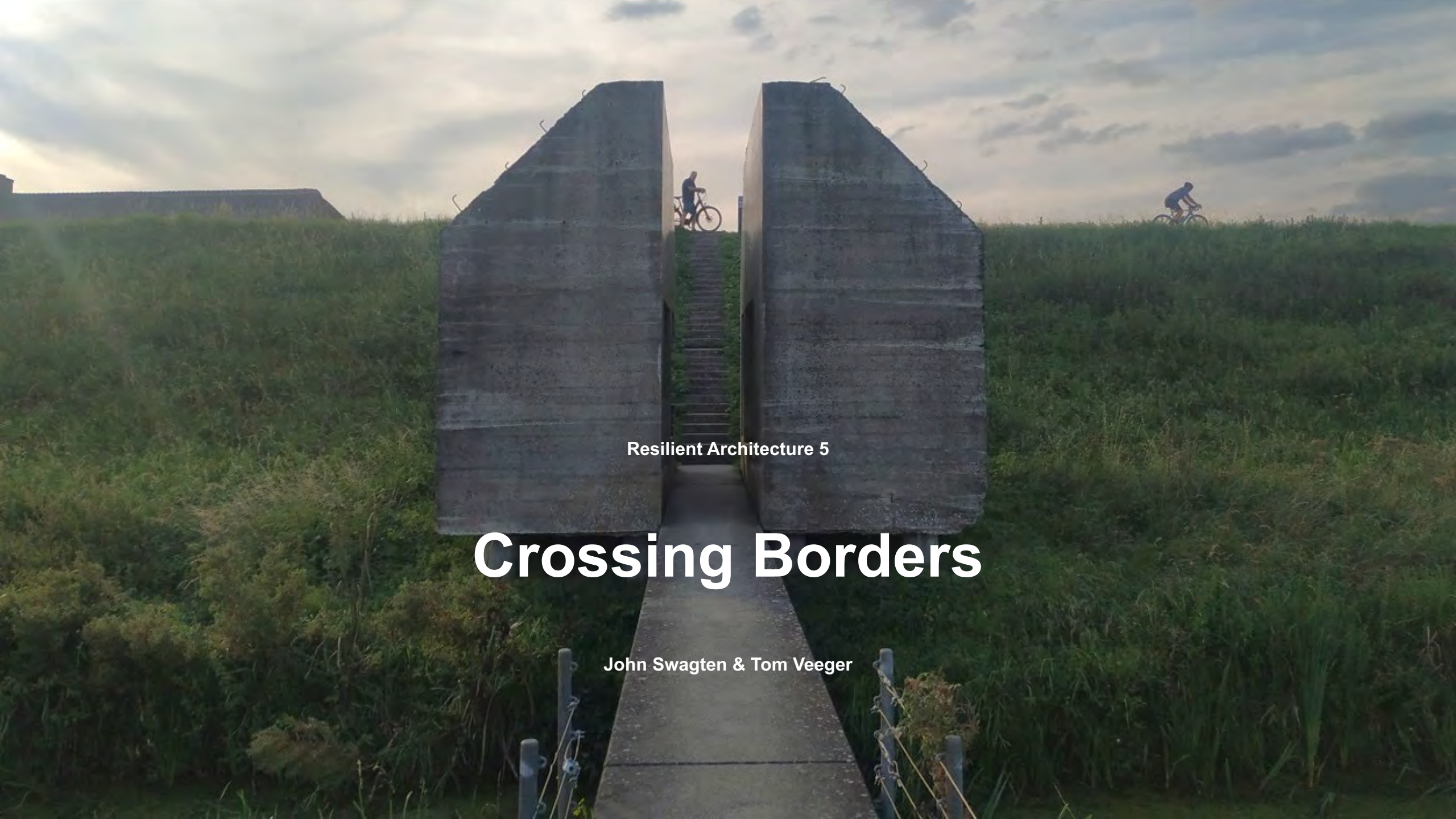
Flooding of Venice in 2019

photos bij master students during a field trip of the Graduation studio Resilient Architecture 2

field trips, a workshop (focus on concrete) will be part the graduation studio.

An excursion to Venice will provide additional knowledge on water-related issues.





Resilient Architecture 5

Crossing Borders

John Swagten & Tom Veeger

Stimulating Healthy Environments (SHE)

prof.dr.ir. Masi Mohammadi, ir. Leonie van Buuren, ir. Jochem Groenland

*m.mohammadi@tue.nl, l.p.g.v.buuren@tue.nl,
j.groenland@tue.nl*



Stimulating Healthy Environments (SHE)

Research-based design for inclusive architecture for citizens (with dementia)

Prof. dr. ir. Masi Mohammadi, ir. Leonie van Buuren & ir. Jochem Groenland

Graduation studio 2024-2025 of the chair: Smart Architectural Technologies

SHE 2024 - 2025

- Human-centered research-based design
- Ageing population
- Daily rituals & routines transformed into architecture



SHE 2024 - 2025

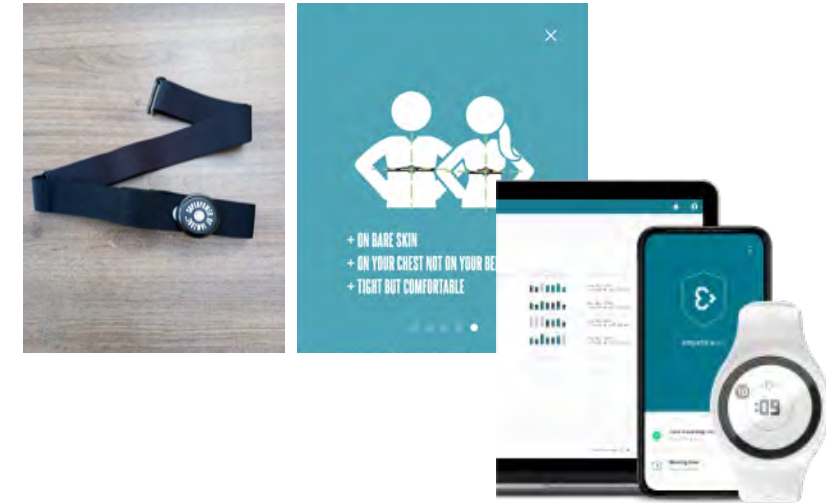
- Smart architecture



Innovative solutions in architecture



Creative design processes with end-user



Technology to gather data

SHE 2024-2025

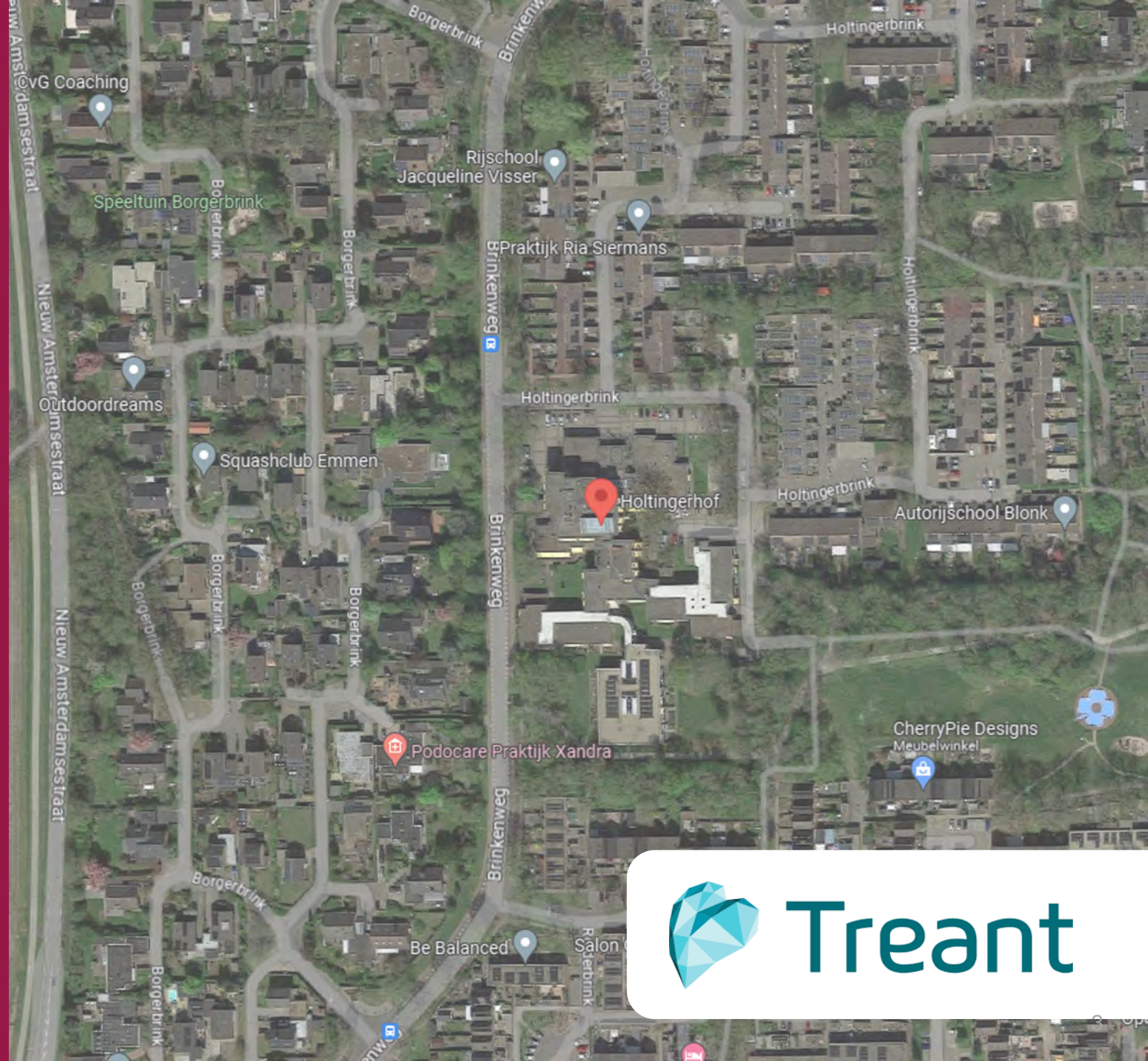
Livinglab project Treant

Inclusive neighborhood

- Assisted living facilities
- Nursing home

Collaboration

- Treant (care organization)
- TU Delft & Veldacademie



Intermediate Architecture as transformative tool

drs. ir. Like Bijlsma, ir. Jochem Groenland, ir. Narindath Maraj
e.bijlsma@tue.nl, j.groenland@tue.nl, n.maraj@tue.nl



Intermediate Architecture as transformative tool

The Intermediate Size

Graduation Studio 2024



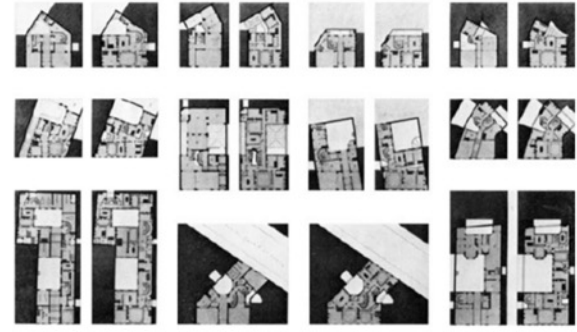
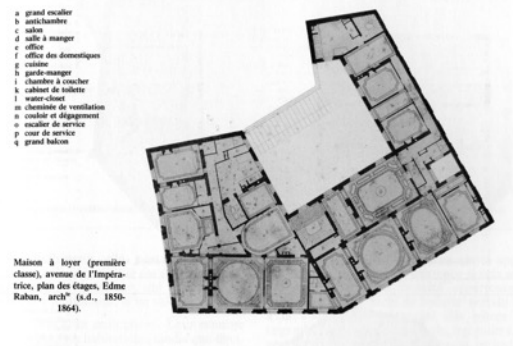
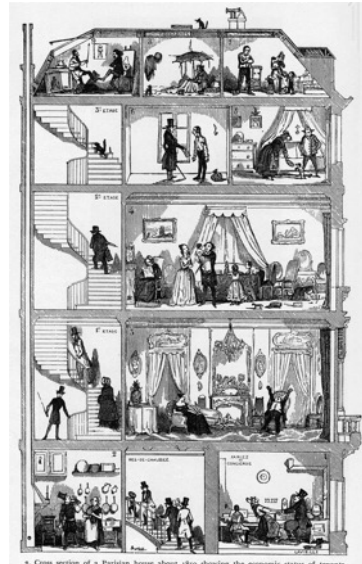
Intermediate Architecture

Sustainable Housing – robust typologies for diverse urban living conditions

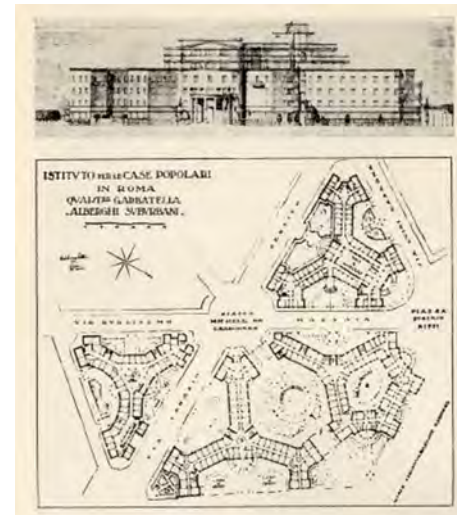
Contextual architectural language – cultural representation

Building techniques – local materials and craftsmanship

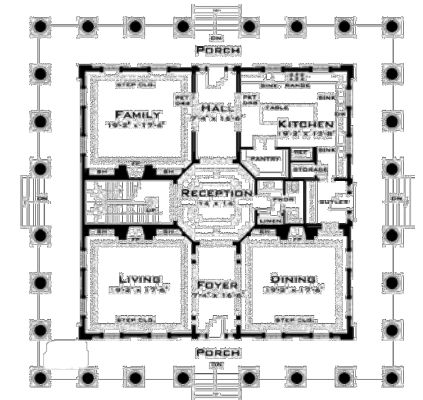
Sustainable housing - robust typologies for diverse urban living conditions

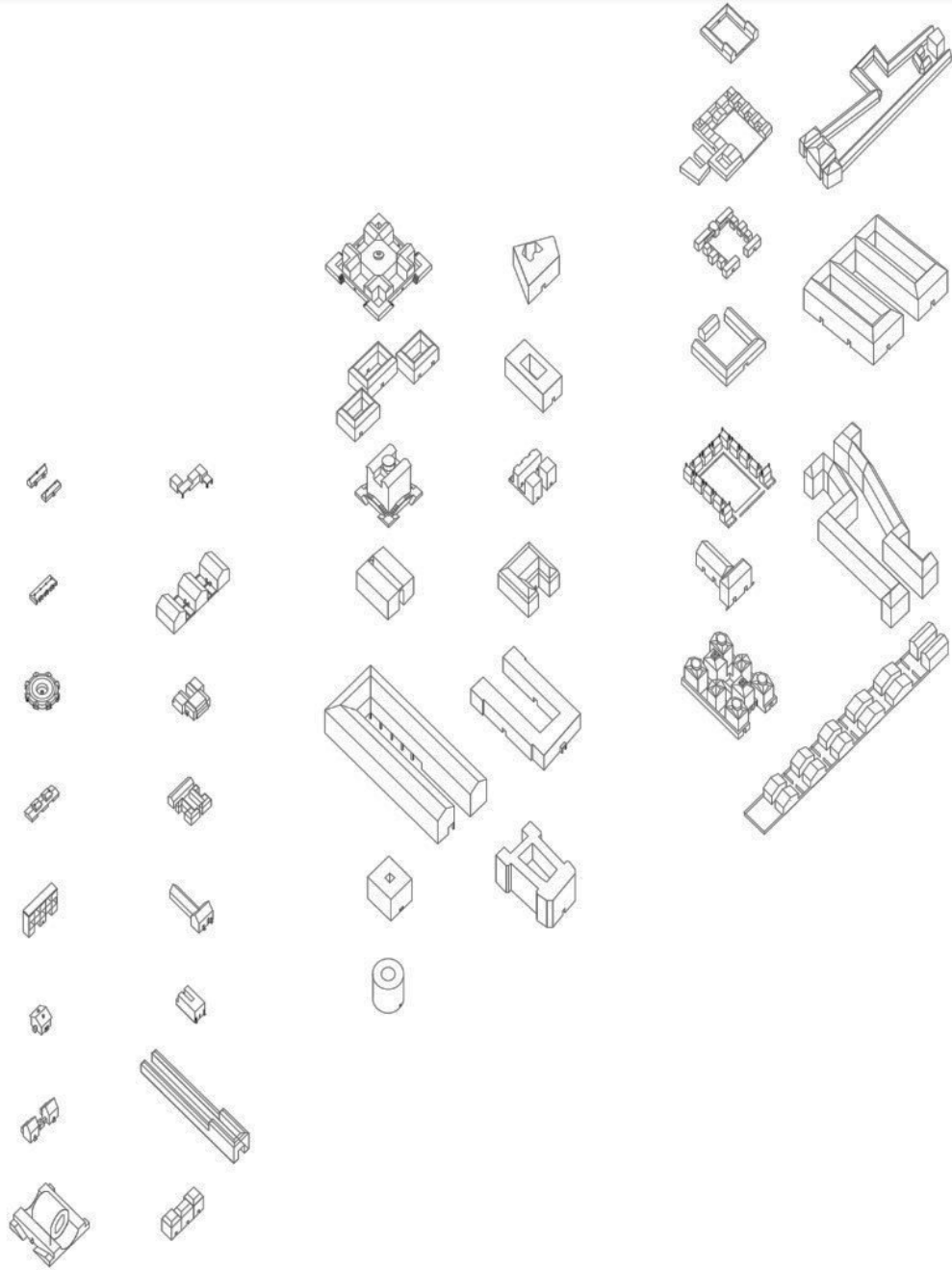


Contextual language, cultural representation



Building techniques local materials and craftsmanship





GRADUATION YEAR

general structure

research phase

design phase



our studio structure

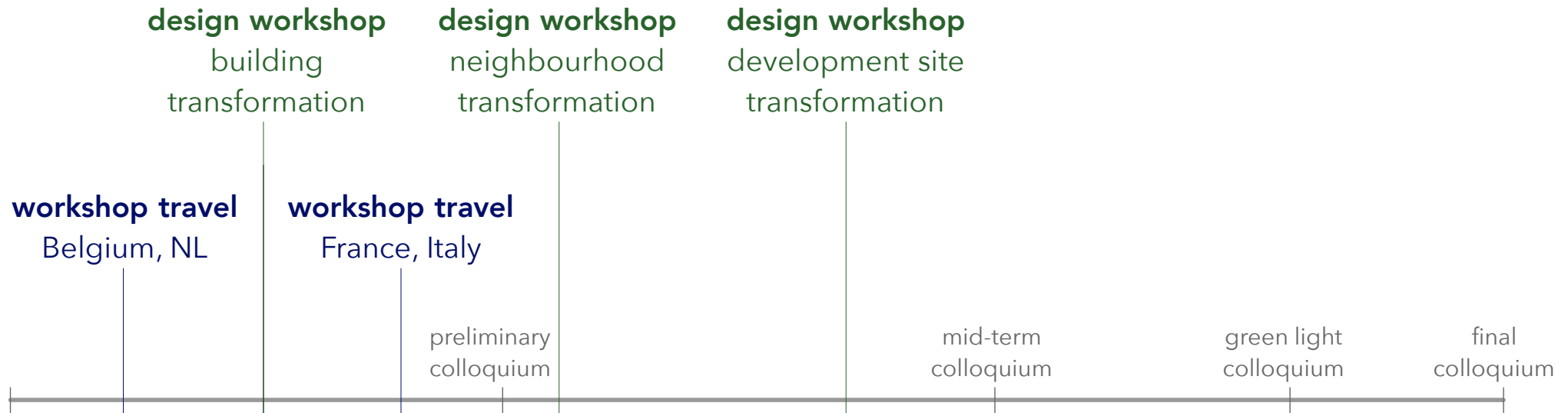
research

- . literature & analysis
- . **research by design;**

design as circular process

design through experimentation → design as a proposal

project design



model

design principles
for
transformation
and
typology

**project
definition**

individual
design brief;
location &
program

**transformative
concept**

typology
arch. language
detailing

**architectural
position**

project from
urban intervention
to detail

sustainable,
robust housing

workshop travels

Visiting universities in Belgium / France / Italy

- Intermediate Typologies
- Continuity of architectural language
- Building technique and building culture



design exploration workshops

Actual transformation projects / involvement of stakeholders

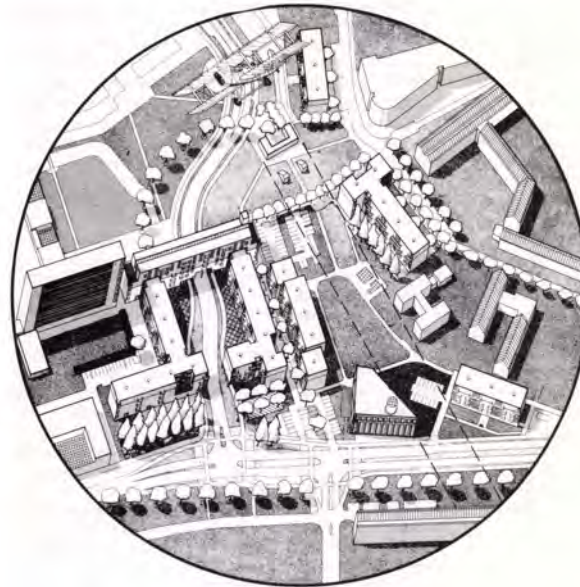
→ develop concepts for transformation

I. Block transformation



Blok VI, J.J.P. Oud, Rotterdam

II. Neighbourhood transformation



Gerdesiaweg, Rotterdam

III. development site transformation



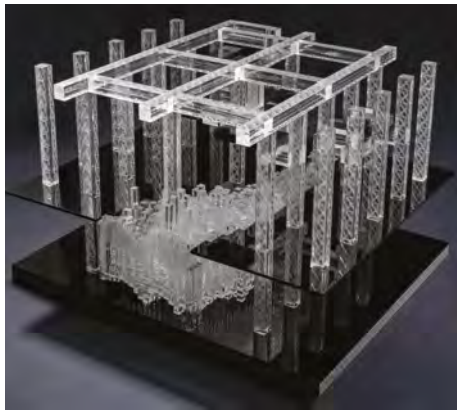
Strandeiland Amsterdam

learning perspectives

- Modelmaking
 - Drawing
 - Photography / Film making
- Design brief: typology, program and social interaction
 - Language and Detailing
 - Sustainable Housing: taking position

learning perspectives

Modelmaking



Çağla Bulut



Britt Kusters

Drawing



Justin Agyin

Photography
&
Film making



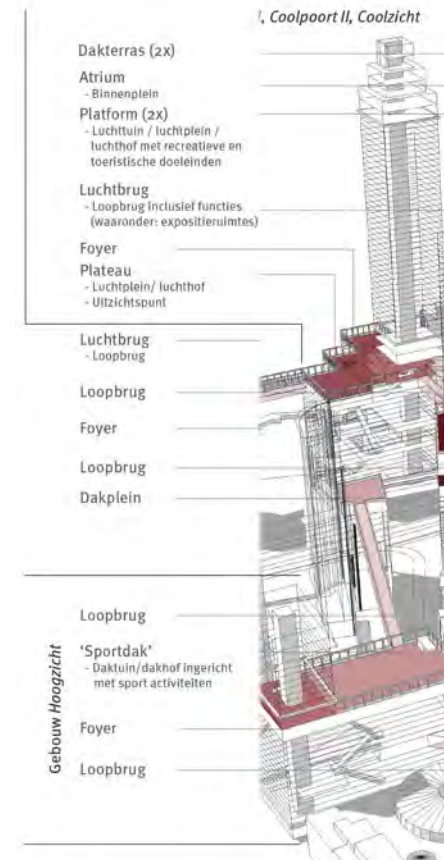
Saanya Parmar, Lucy Gestro,
Jenny Huang, Nour Espiro



It is without a doubt that I have committed myself to an intimate urbanity for this reason." - Pouillon

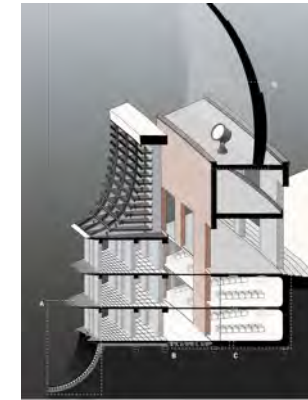
M. Spanjers, Bas Veldman,
Mürvet Dogan, Hannah Koldijk

Design brief:
Typology, program,
Social interaction



Jolien Hermans

Language
&
Detailing



Karim Jaspers

Sustainable
Housing;
taking position

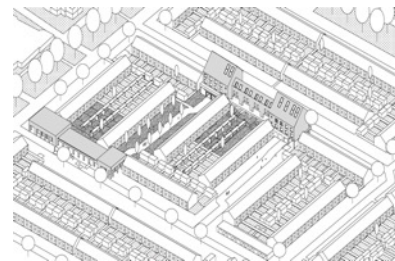
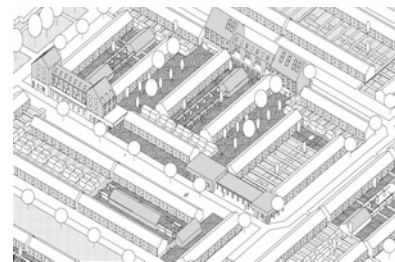
DESIGN PRINCIPLES

Design conclusions the reproductive suburb

Offer spaces for domestic activity beyond the private realm of the home: the privatization of domestic activities has created very introverted homes. This is not always an issue but there is no possibility if one wants something else. With the increase of young single dwellers, the border should be softer as to create overlap between different domestic zones. The required depth forms these zones for the new residents.

Dissolving the border between public and private by creating places to say good morning: intermediate zones in the edges of urban blocks that facilitate both superficial interactions as well as more structural social dependencies. In this case, garage boxes are usually located inside the daily route between the private domestic space and the public domain, helping in the intervention location.

Offer quality back to the existing neighbourhood: the useful can be made nice. Right now bikes are stored away behind the house in the shed. Offering new generous bike parking or washing facilities with a high finish quality makes that people not only use these spaces as utility space, but as part of a pleasant environment to be together.



Guido van Laar

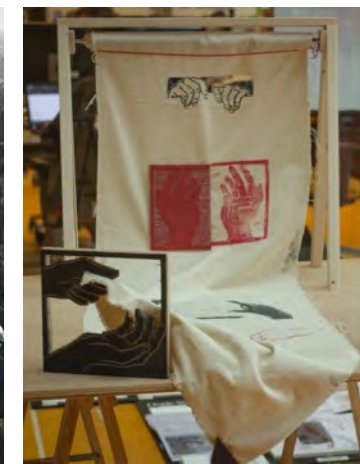
Jochem Groenland



Like Bijlsma



Narindath Maraj





Intermediate Architecture as transformative tool

The Intermediate Size

Graduation Studio 2024

Firenze Analogo

dipl-ing. Haike Apelt, ir. Wouter Hilhorst

h.apelt@tue.nl, w.hilhorst@tue.nl



FIRENZE ANALOGO

FIRENZE ANALOGO

INTERNATIONAL GRADUATION PROJECT ARCHITECTURE 2024-2025

45 + 15 ects

Dipl.-Ing. Haike Apelt, Ir. Wouter Hilhorst
Chair of Rational Architecture
Faculty of the Built Environment, University of Technology Eindhoven

Prof. Dr. Arch. Francesco Collotti
DIDA Dipartimento di Architettura, Università degli Studi di Firenze

RATIONAL ARCHITECTURE

chair

research

teaching

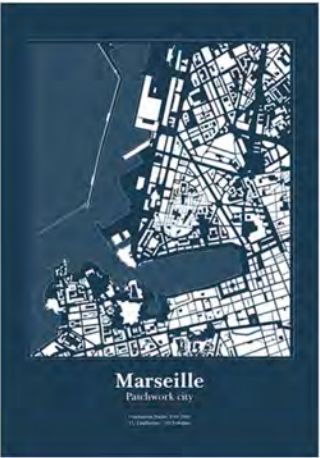
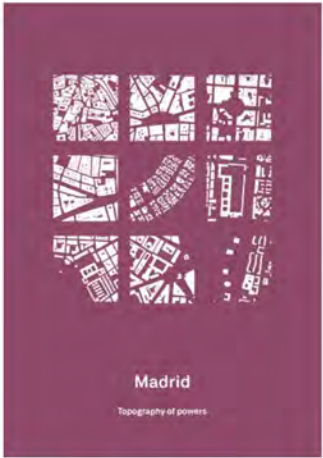
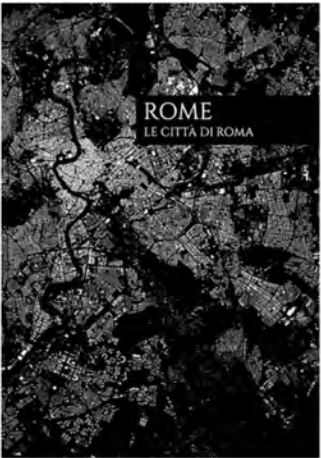
contact

european city studios

firenze, a room with a view
napoli, viaggio in italia II
napoli, viaggio in italia I
marseille, patchwork city
madrid, topography of power
milano centrale
antwerpen, de getekende stad
la città di roma
gran torino
münchen rekonstruiert
potsdam unraveled
berlin als modell
de rede van amsterdam
amsterdam langsdoorsnede
amsterdam dwarsdoorsnede



In the European City Studios, typomorphological analysis is used as a didactic method to teach students how to analyze the city and its characteristics in a structured and organized way. The analysis is done in groups of collaborating students, which means that each individual student carries out part of a greater research. These 'parts' can for example be periods in time or different parts of the city. The synthesis of the knowledge acquired through individual research is of great importance in order to understand, for example, the full history of a city (as opposed to just a single time period) or the city as a whole (as opposed to just a part of the city). A strong collaboration within the group will thus eventually lead to a better understanding of the city for each individual member of that group. The result of the group work is a book or 'atlas' in which all the collaborative research and analysis is combined.



Gran
Torino



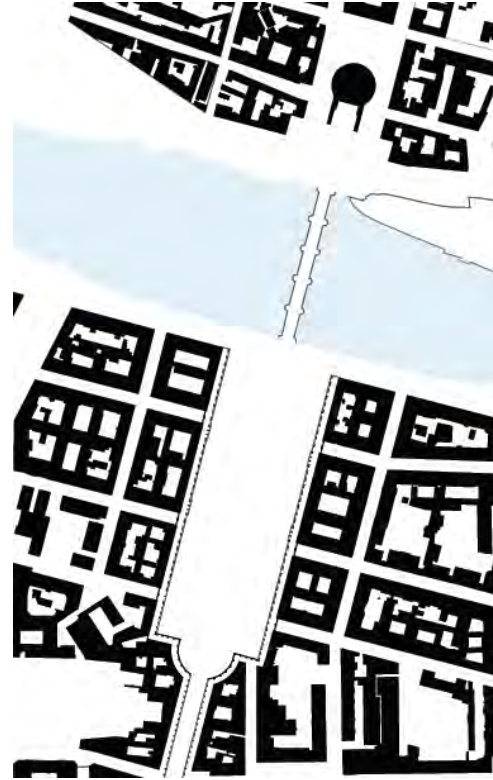
Gran Torino

TU/e Technische Universiteit
Eindhoven
University of Technology

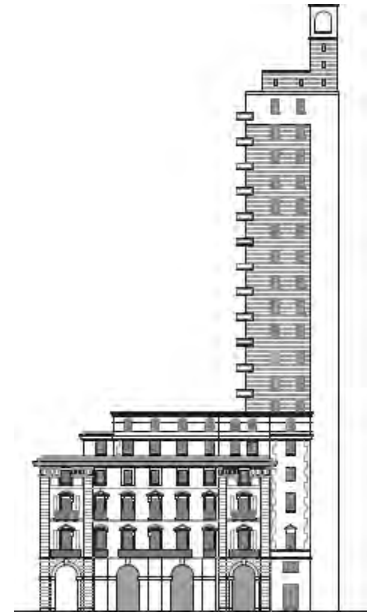




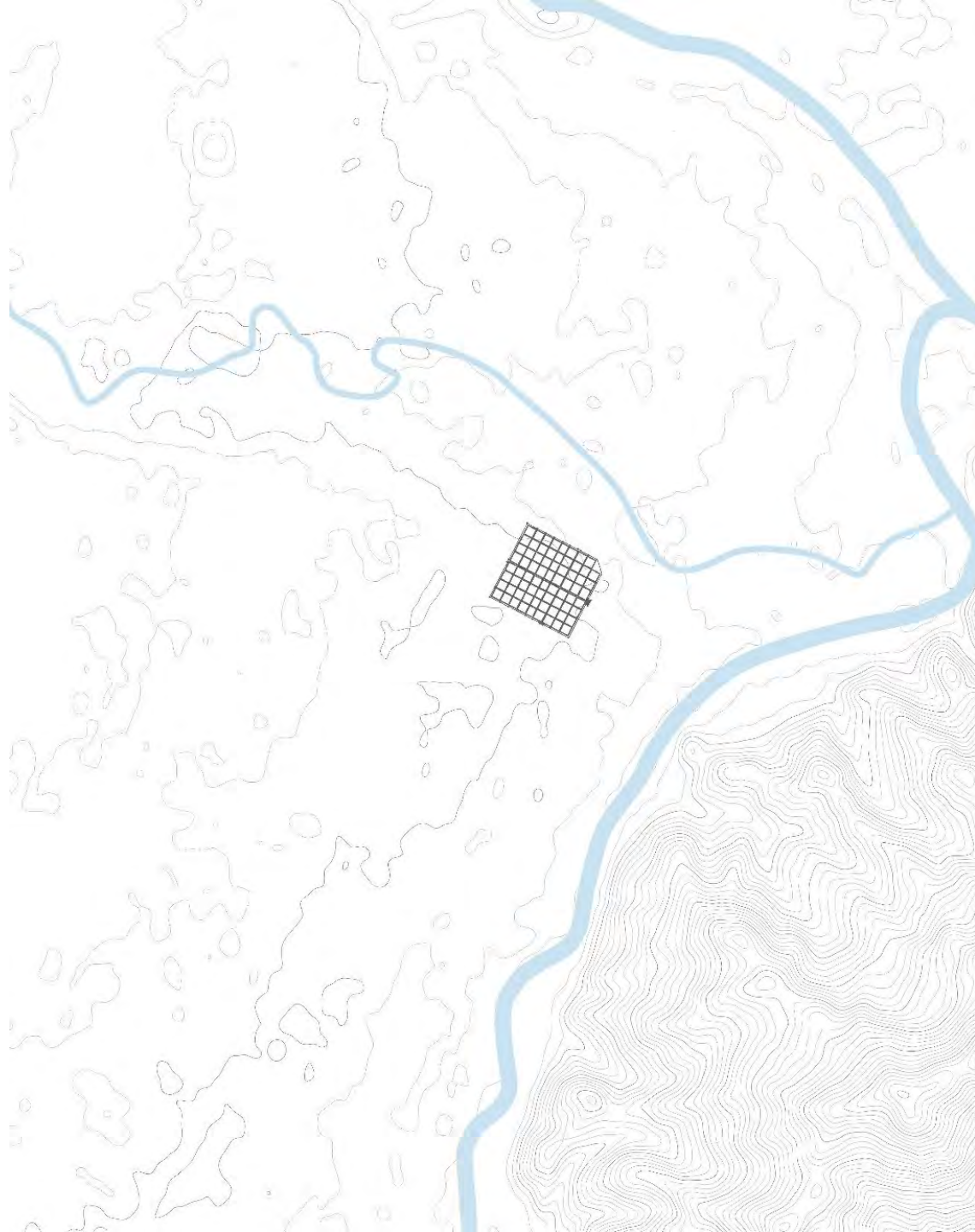
I
City Scale



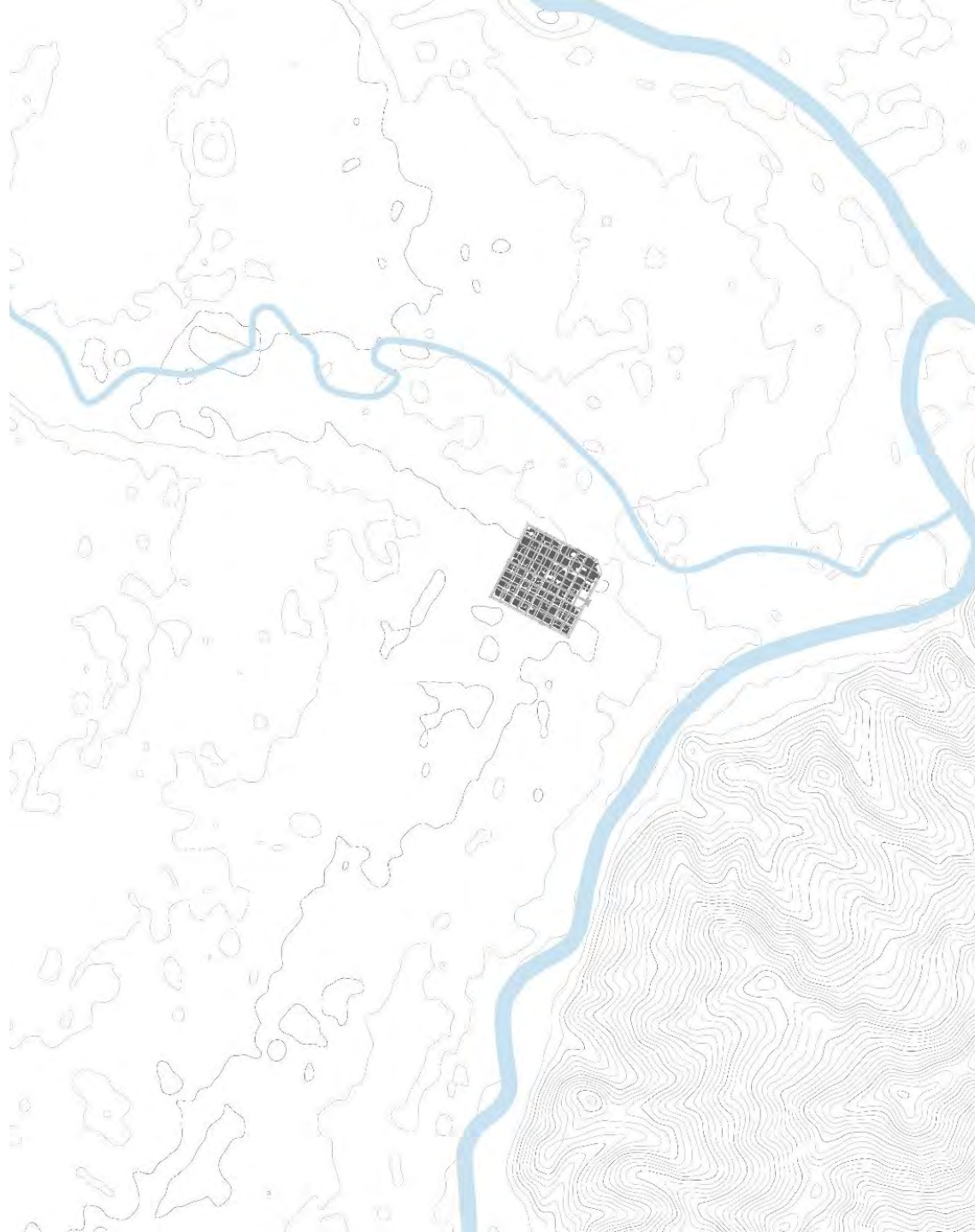
II
Fragment
Scale



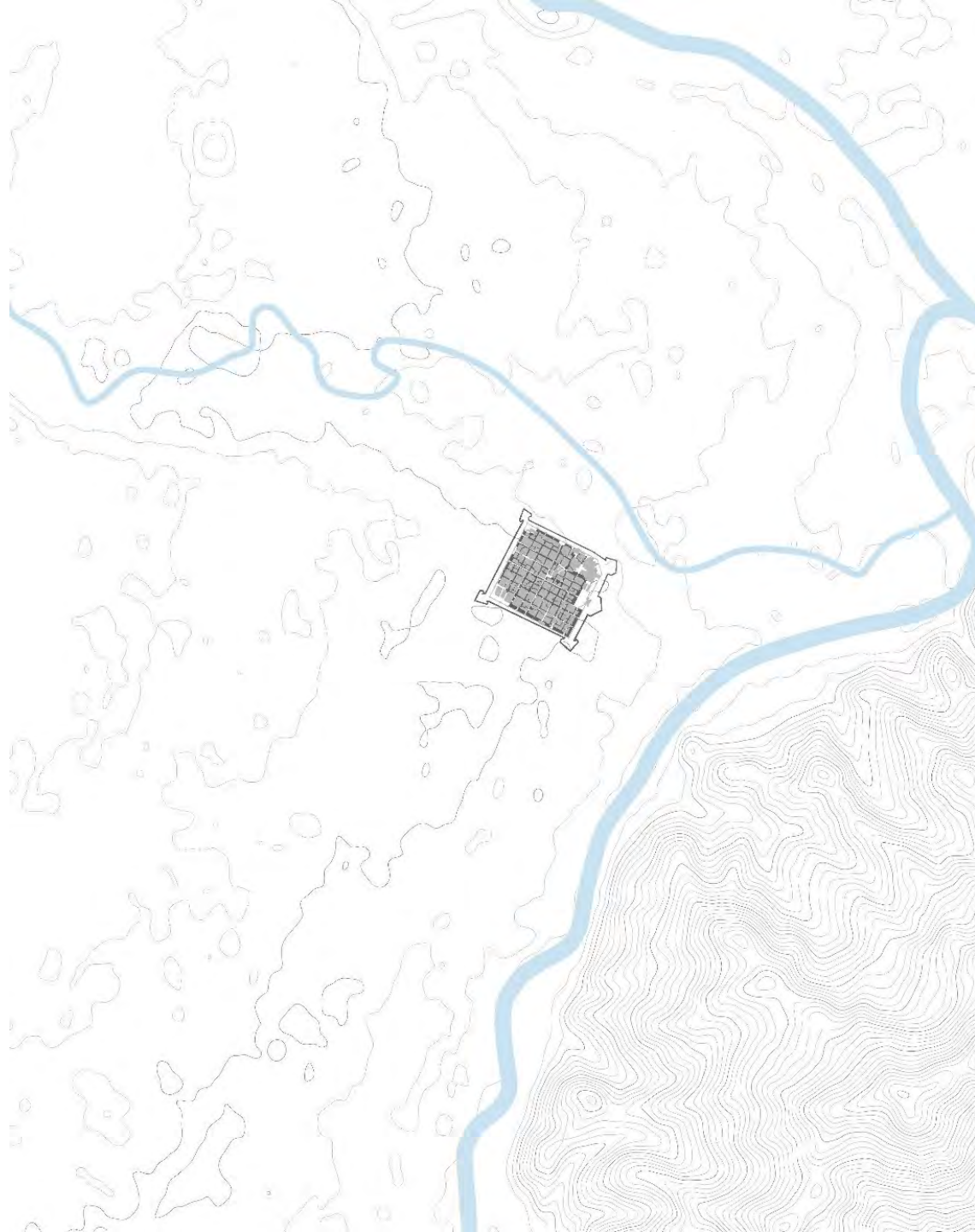
III
Building
Scale



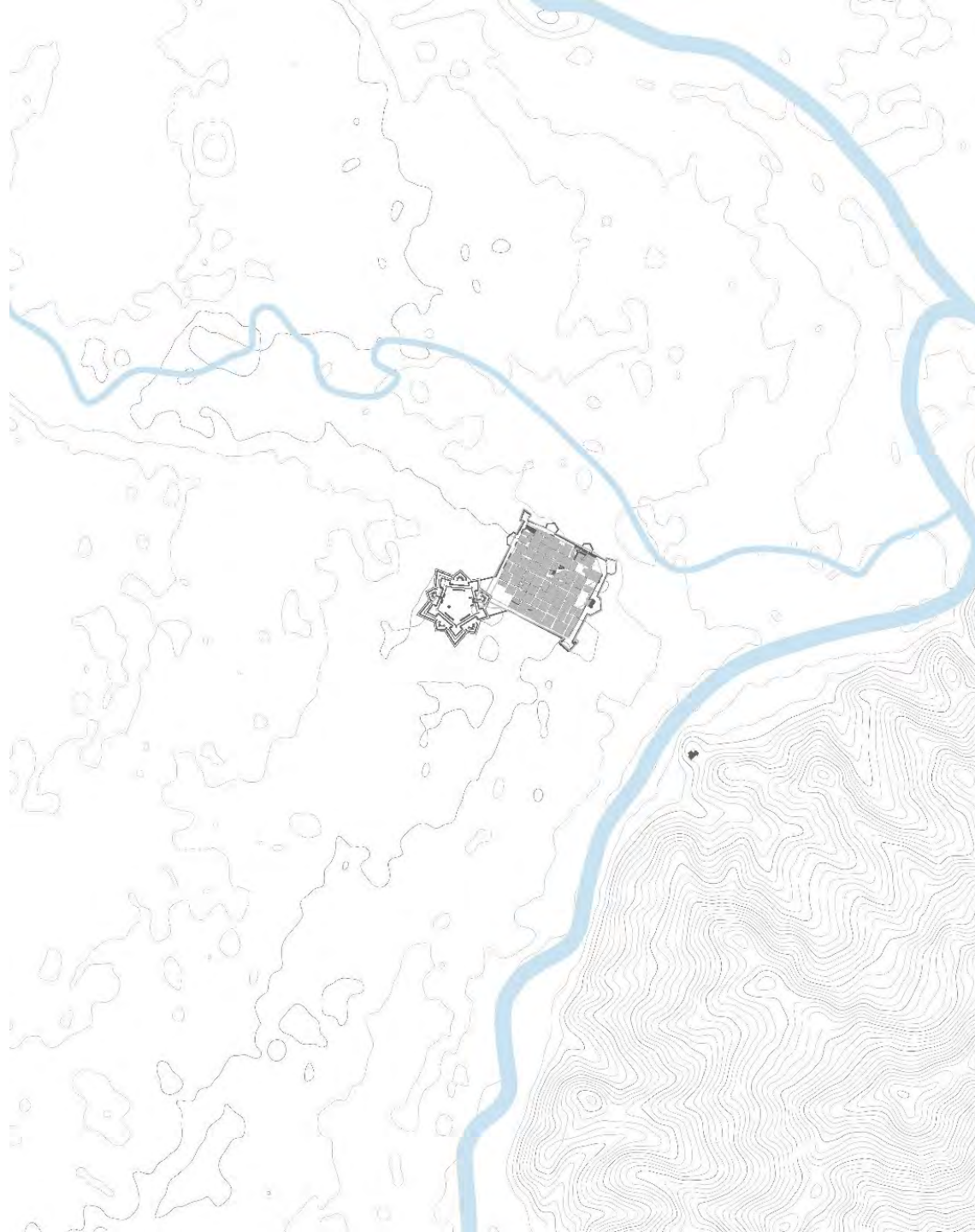
27BC



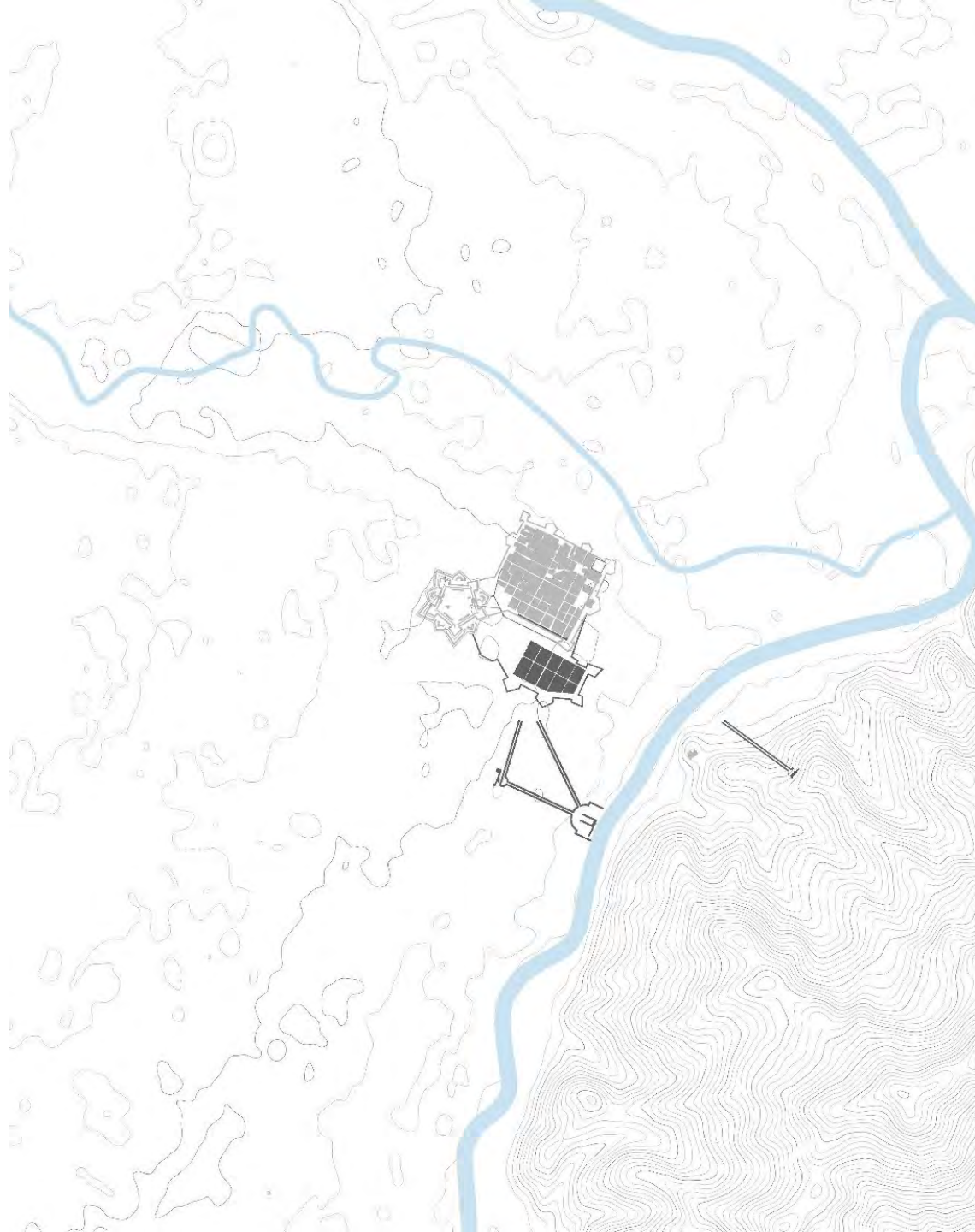
27BC - 1400



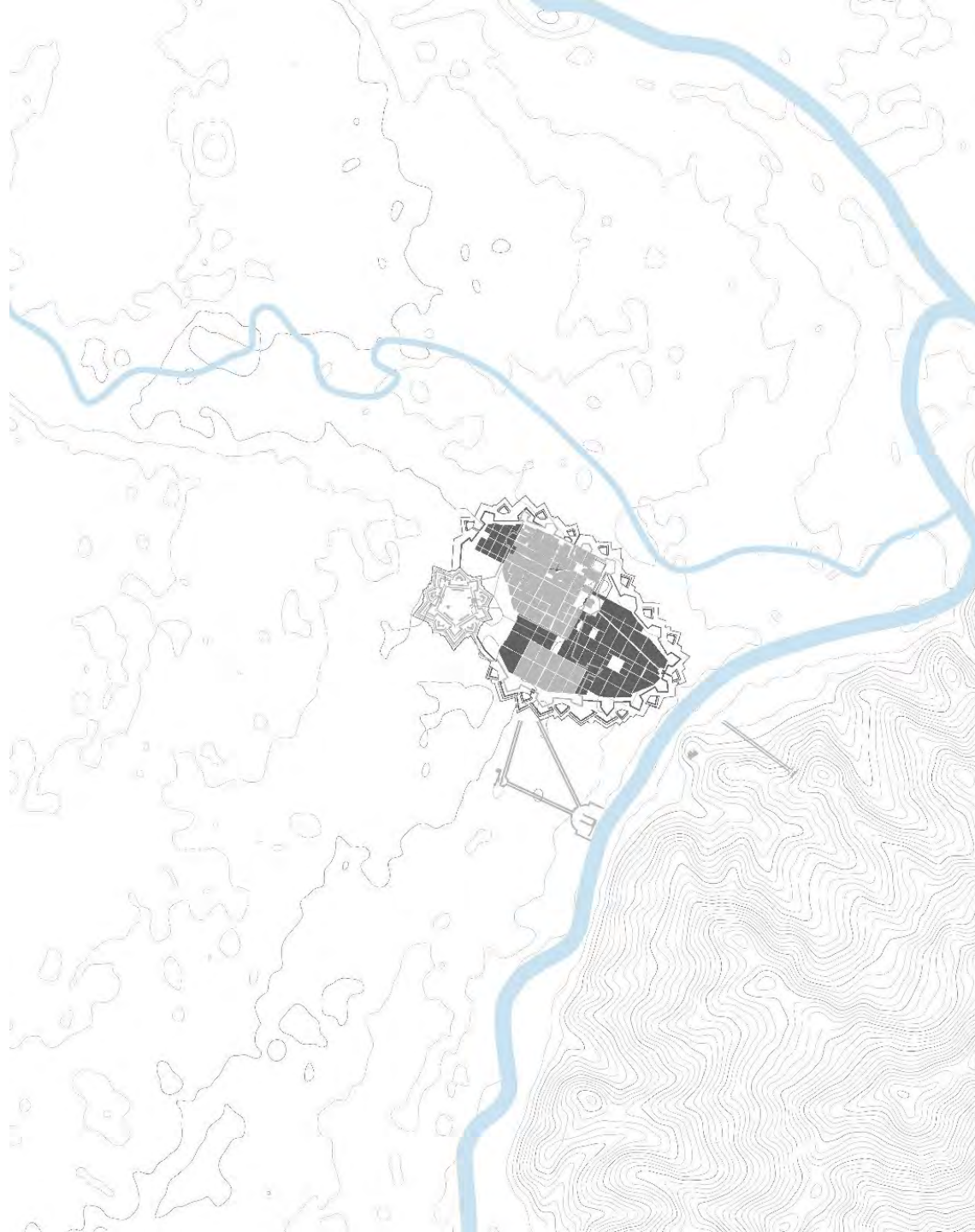
1400 - 1538



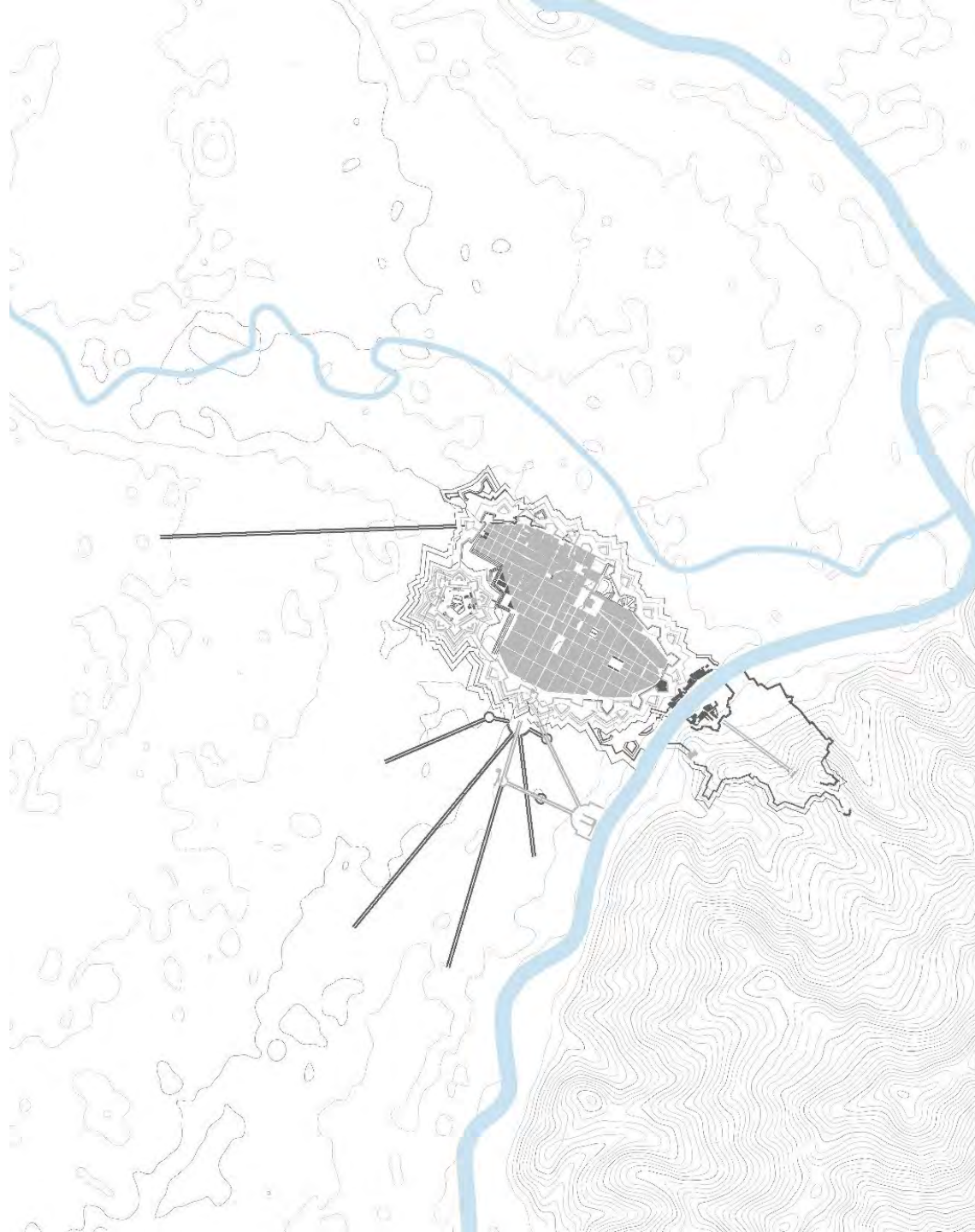
1538 - 1580



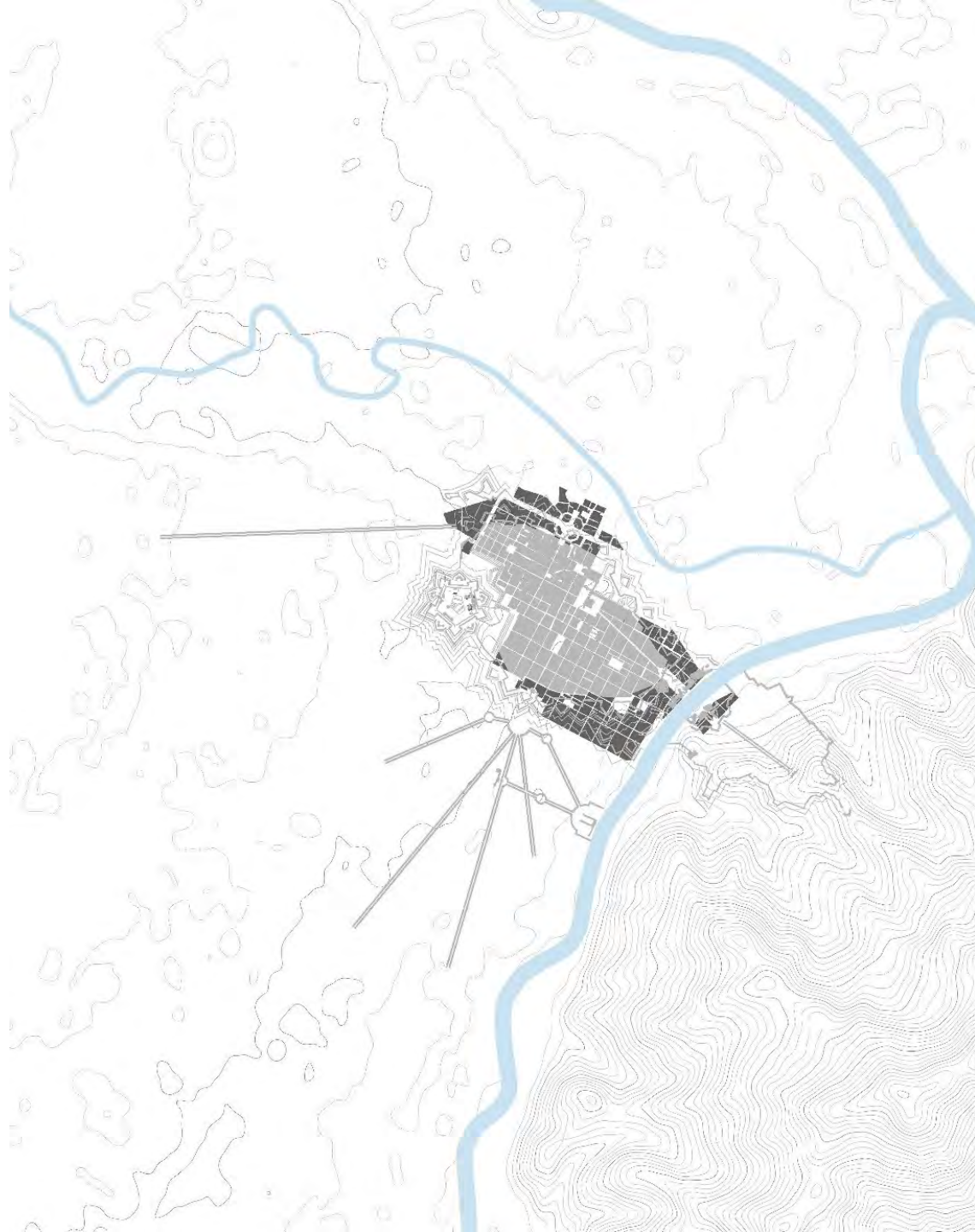
1580 - 1640



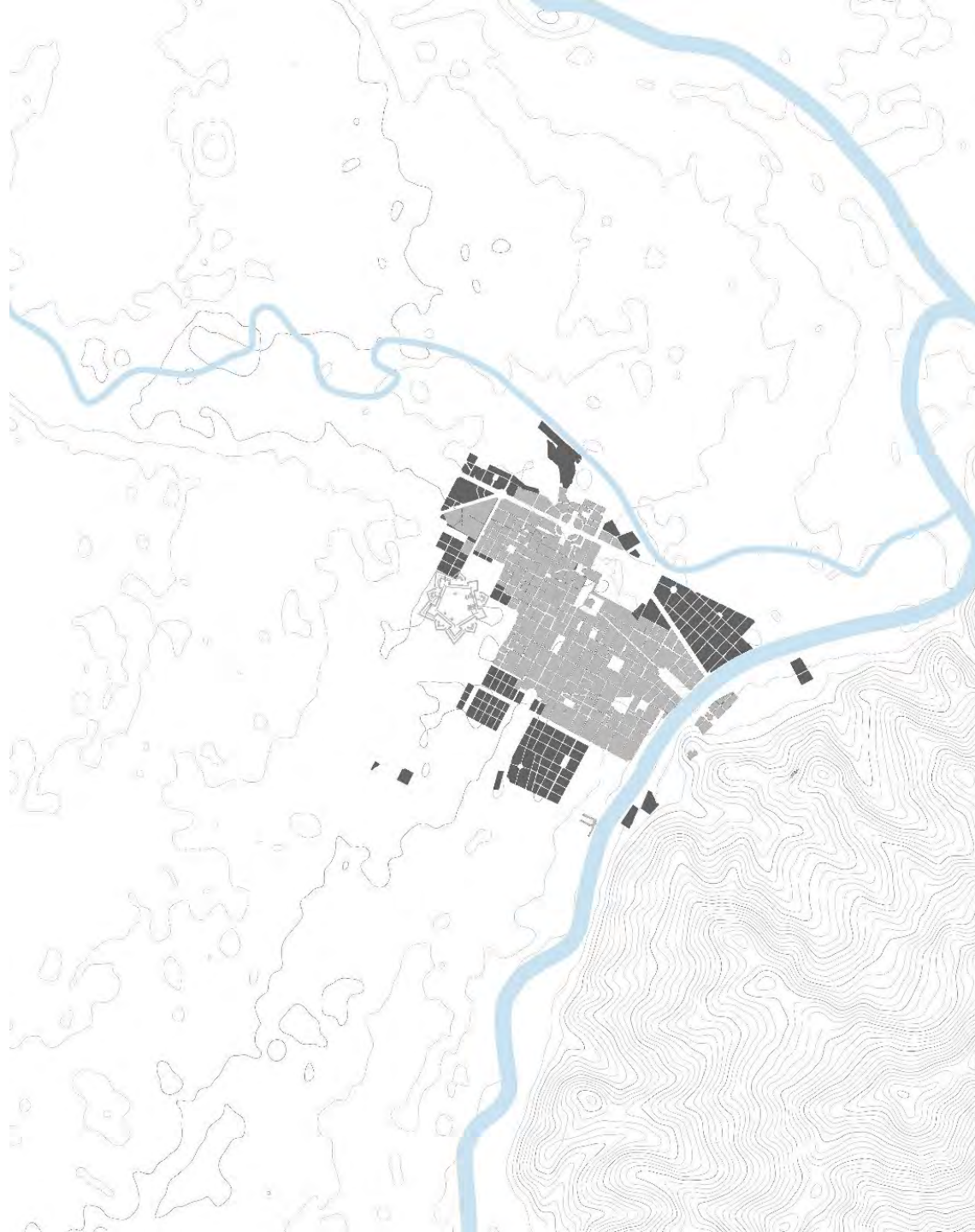
1640 - 1680



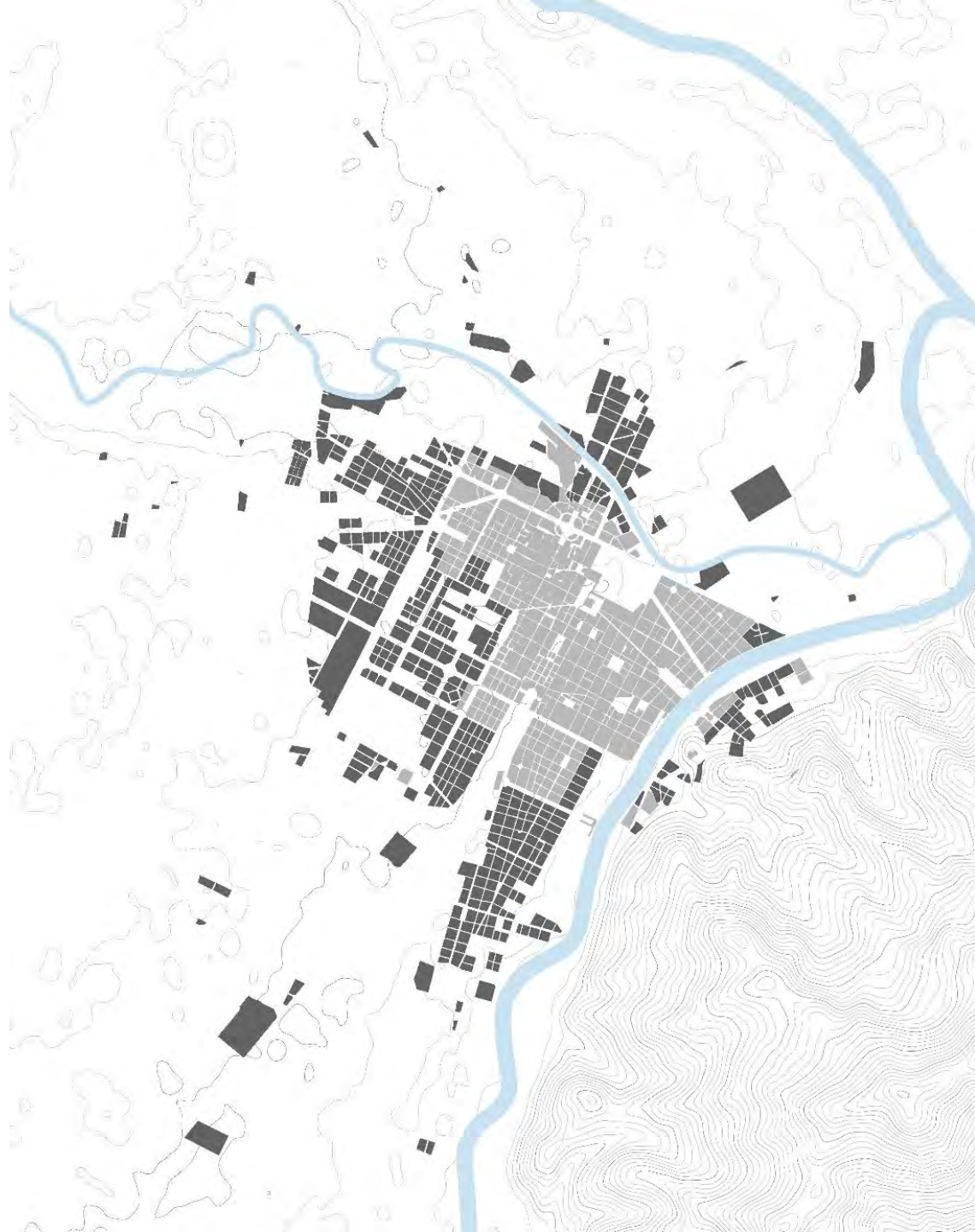
1680 - 1762



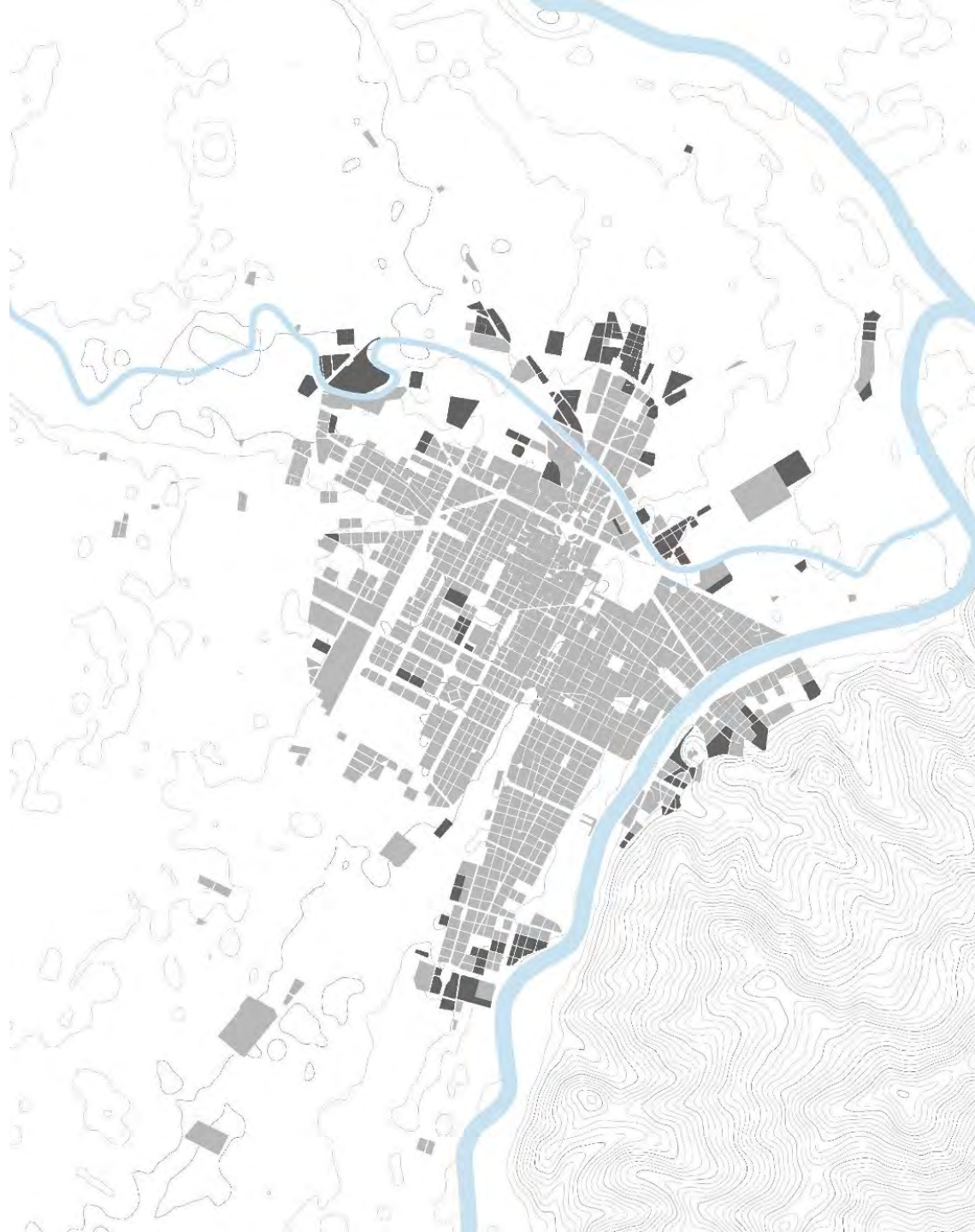
1762 - 1839



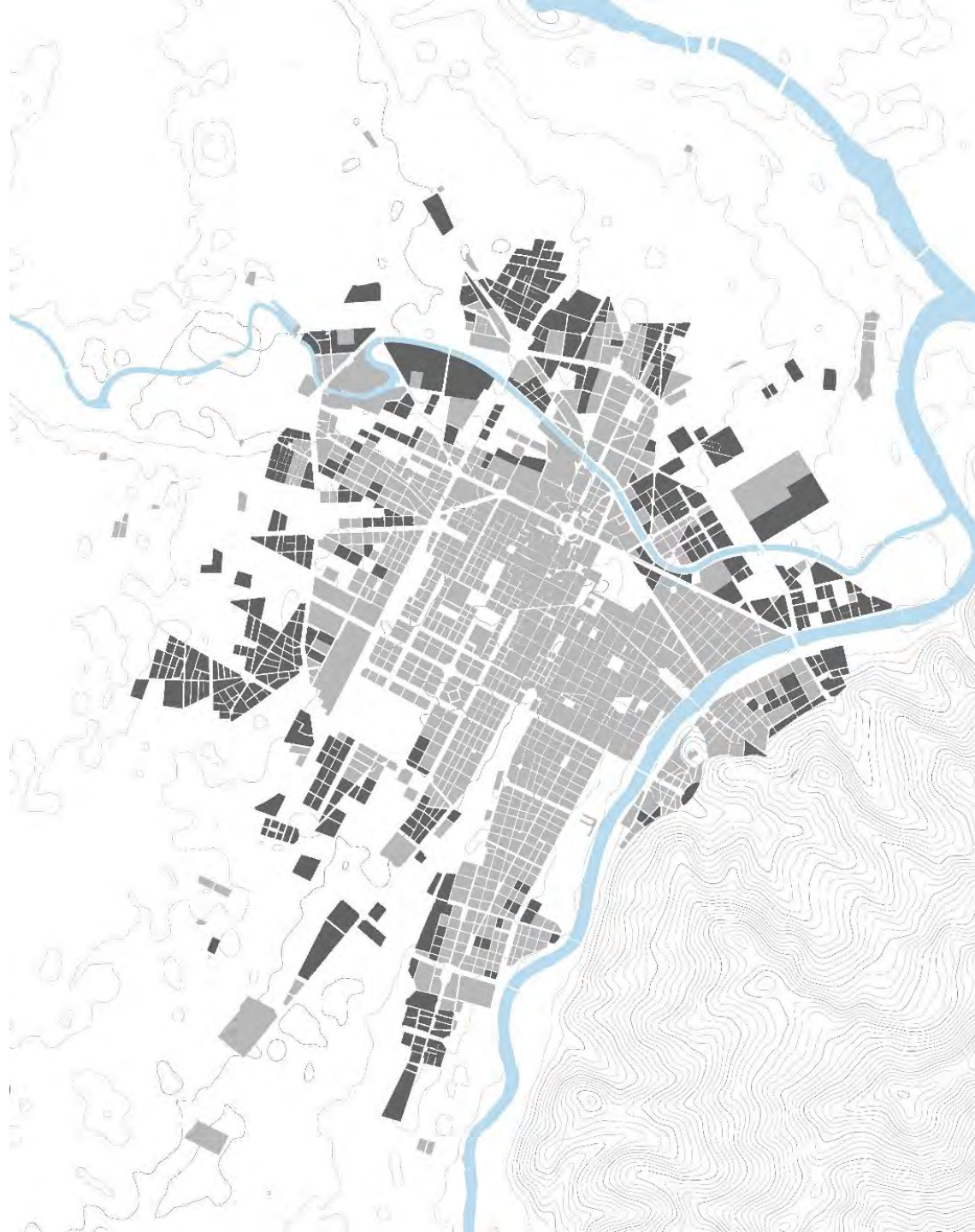
1839 - 1861



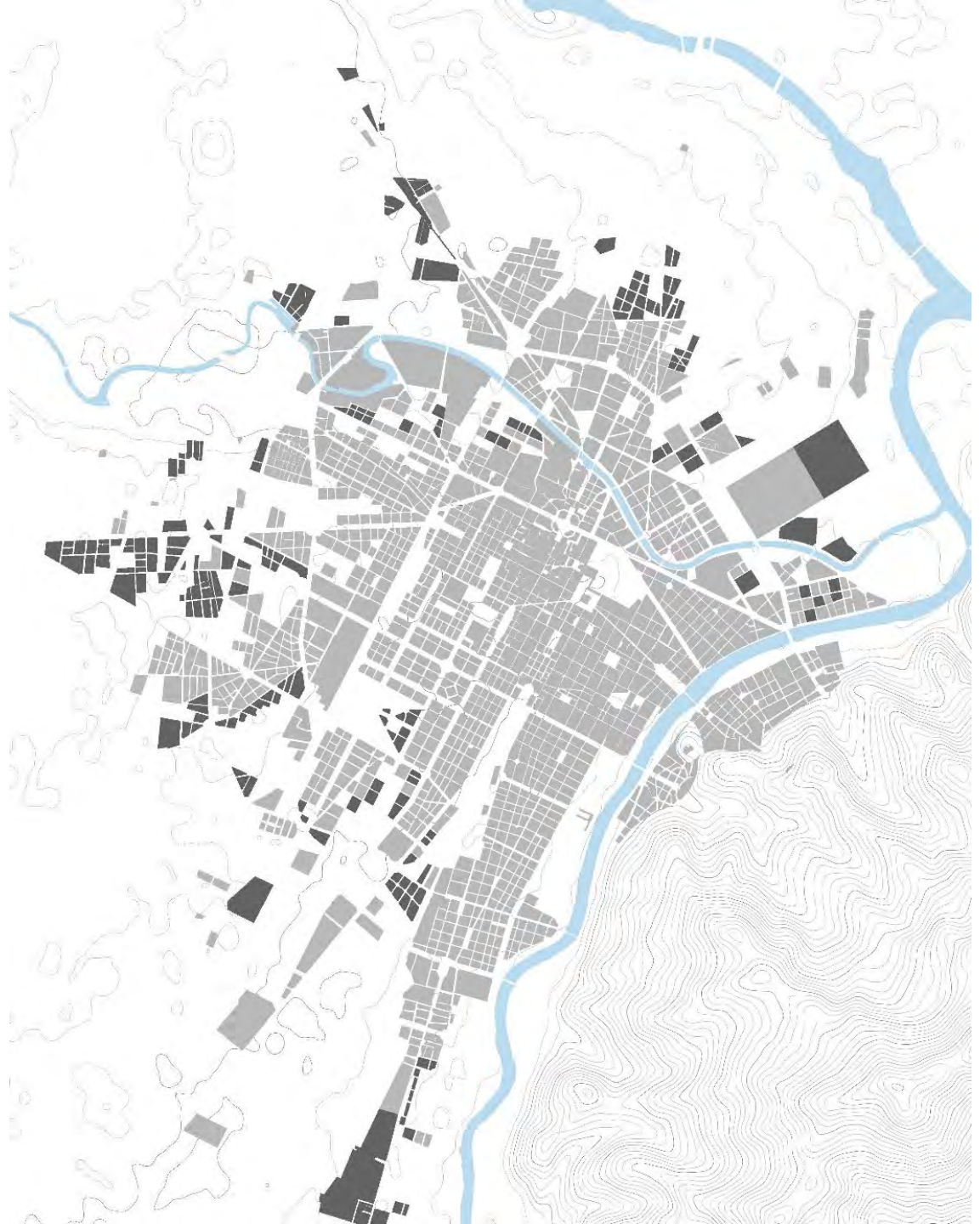
1861 - 1881



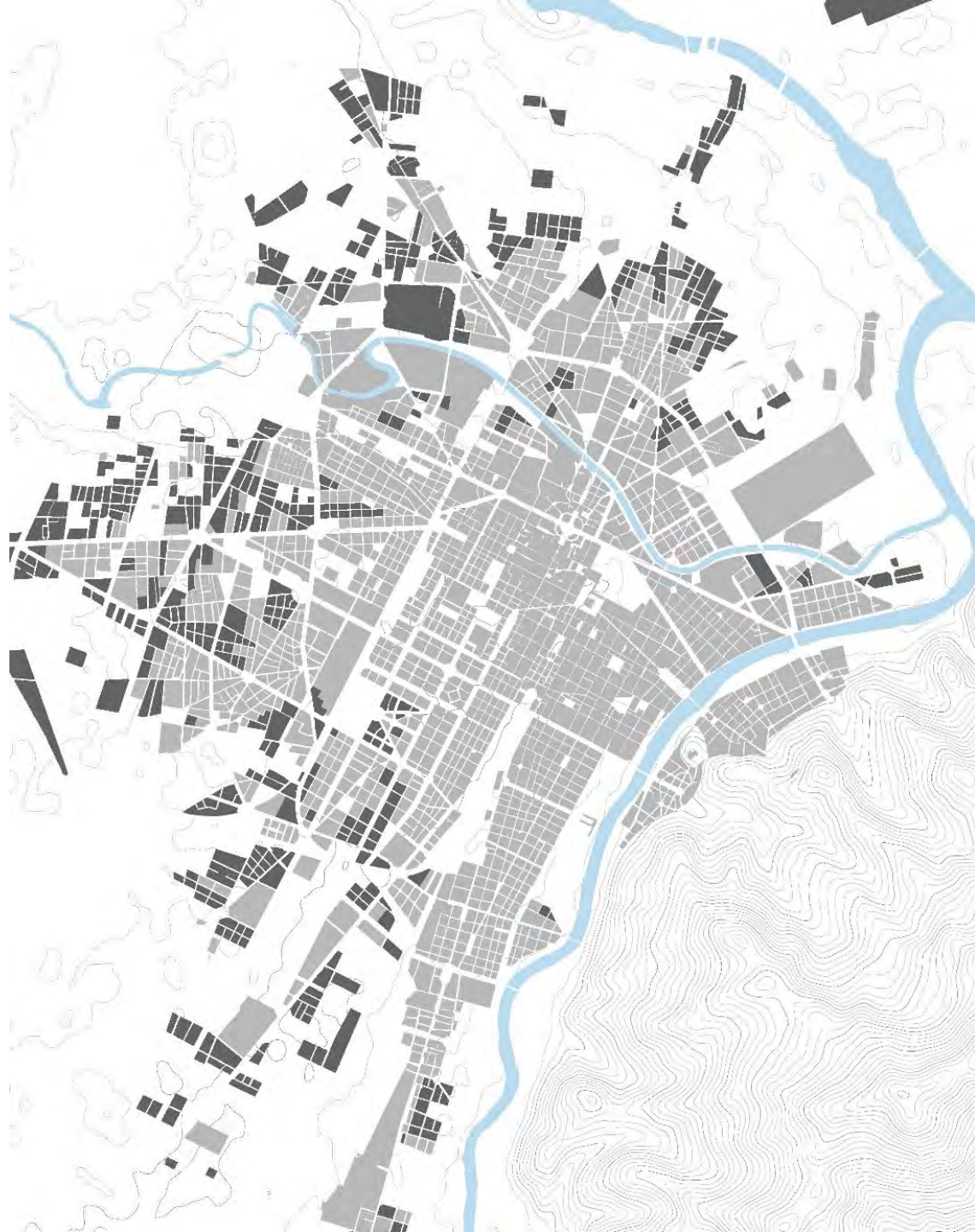
1881 - 1901



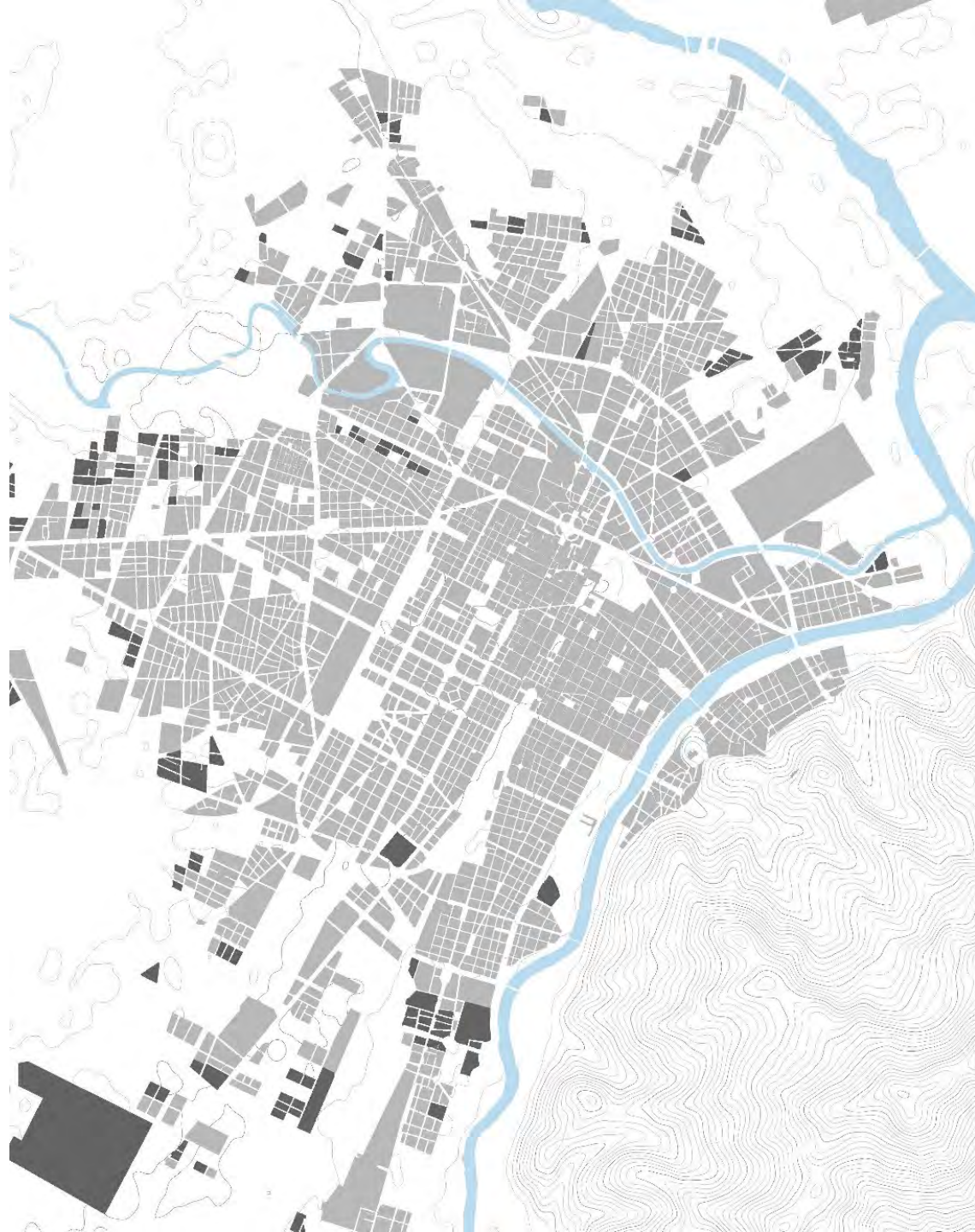
1901 - 1911



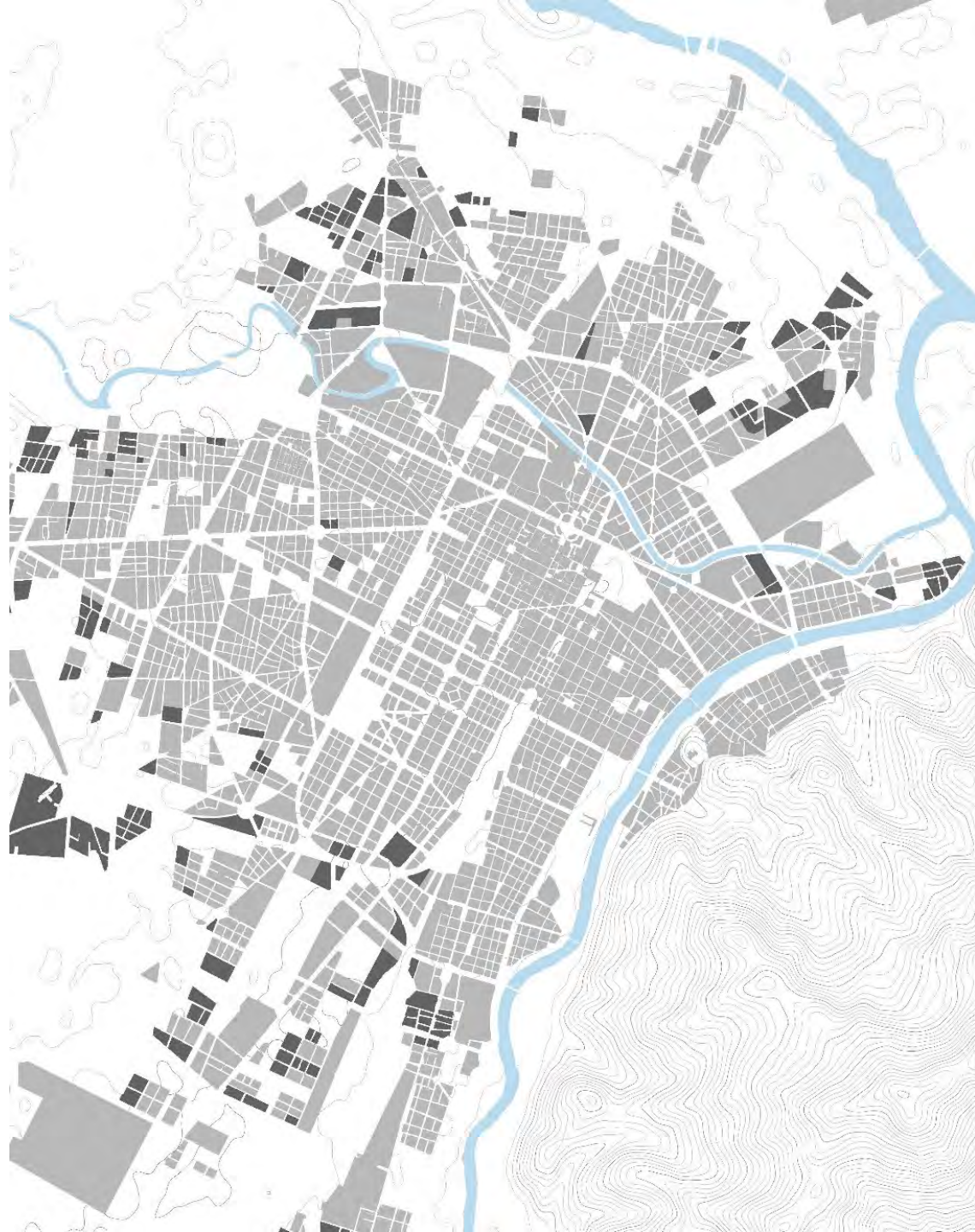
1911 - 1921



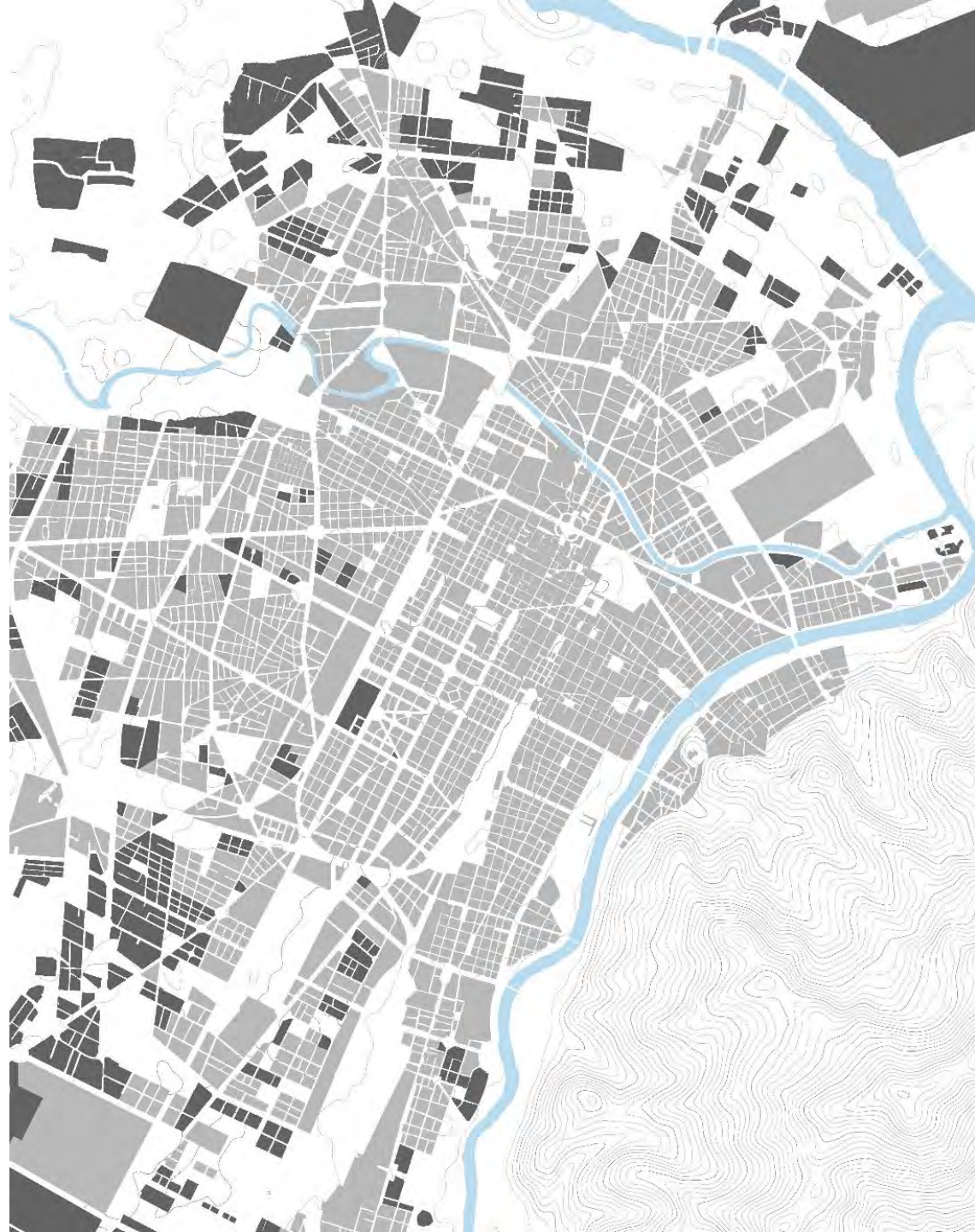
1921 - 1931



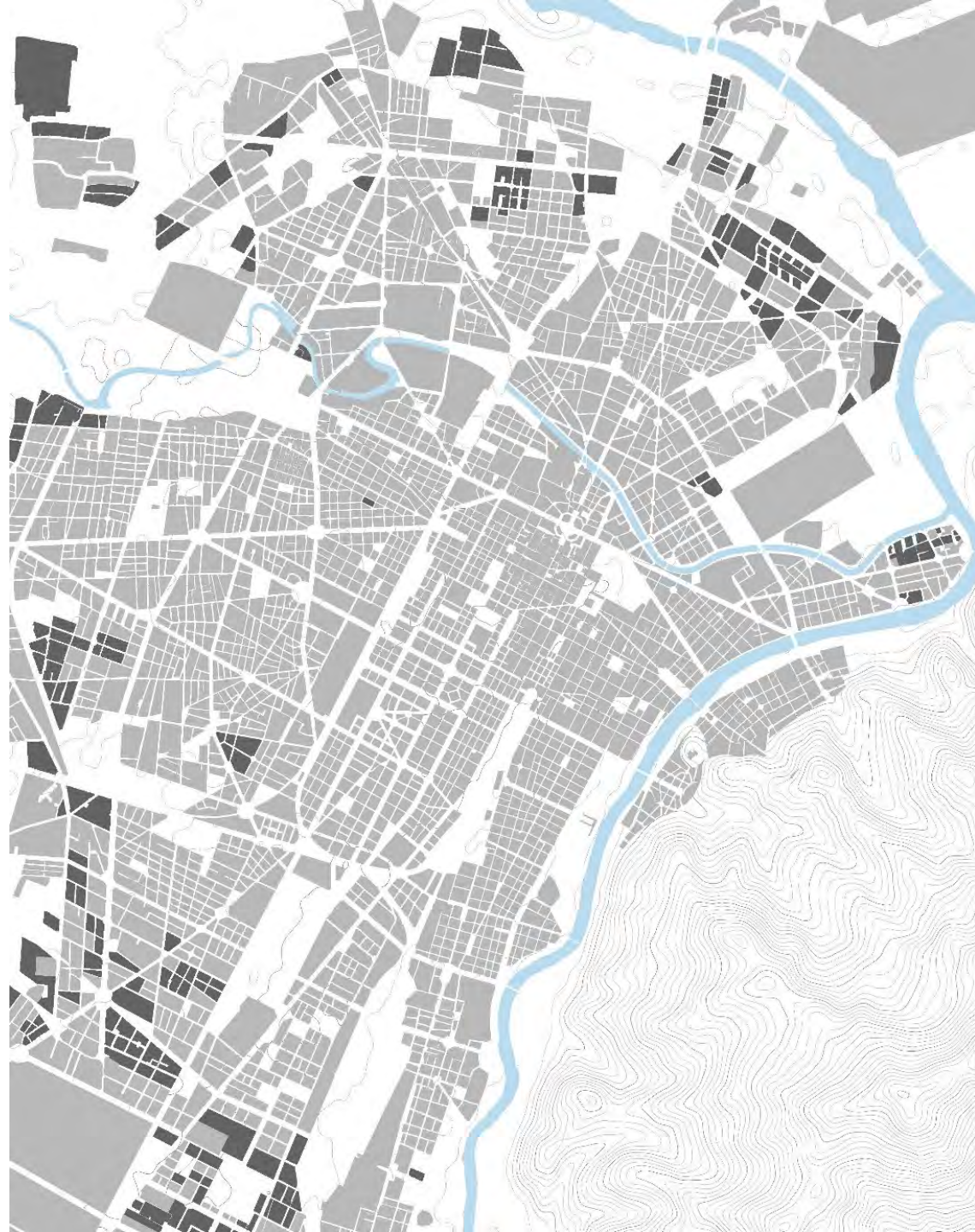
1931 - 1941



1941 - 1951



1951 - 1961



1961 - 1971



1971 - 2012



Presenting the Gran Torino

Atlas by : Bernard Colenbrander, Andreas Hild, Hans Kollhoff, Silvia Malcovati, Carlo Moccia, Fritz Neumeyer, Christian Rapp, Uwe Schröder, Luigi Snozzi

Organized and led by: Silvia Malcovati, Haike Apelt

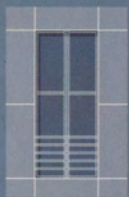
Politecnico di Torino
Castello del Valentino
Salla delle Colonne
21 february 2015



Milano
Centrale



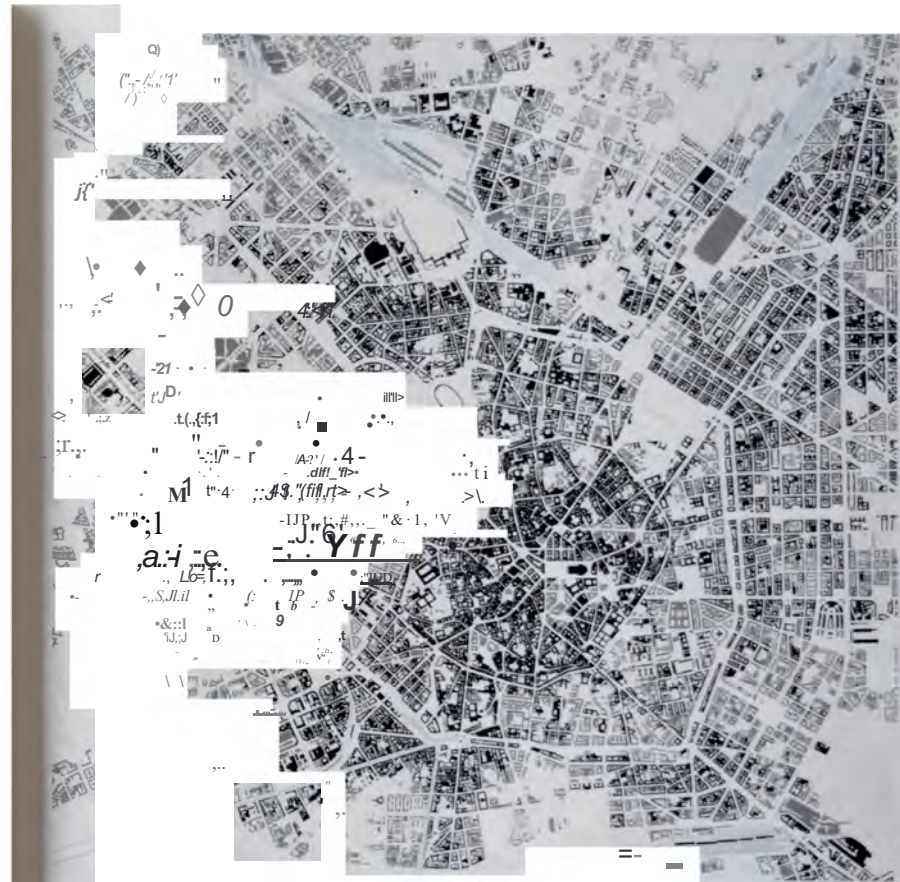


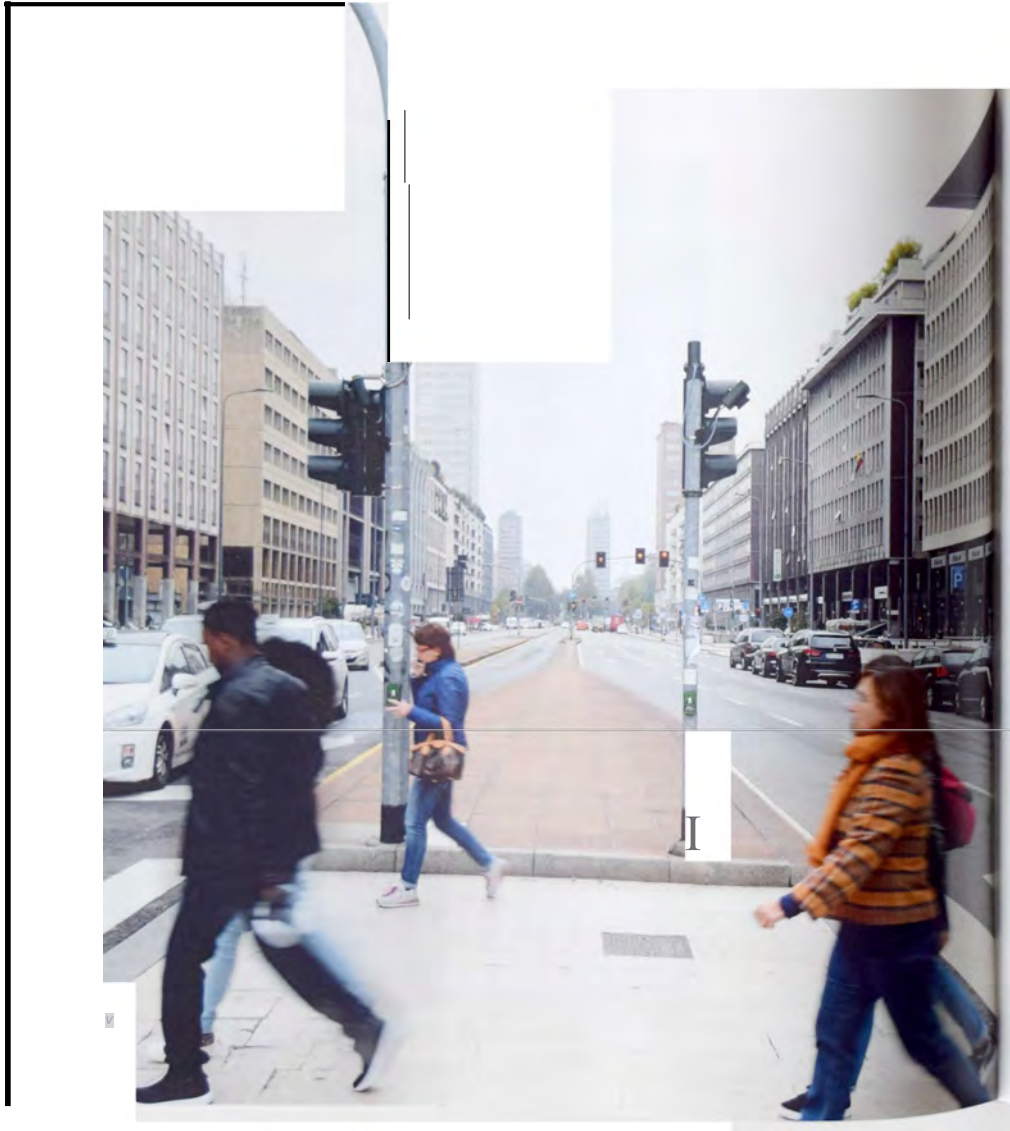


Milano
Centrale.

1922-1946

III III





4. Stazione Centra'le

Symbol of a Contemporary Movement (1:1)

the Stazione Centrale is a landmark building in Milan, Italy, designed by Giuseppe Pagano. It is a prime example of the Rationalist movement in architecture, characterized by its functional and geometric forms. The building's facade is composed of a grid of windows, and its overall structure is a simple, rectangular volume. The building is situated in the Piazza della Repubblica, a major square in Milan. The photograph shows the building from a low angle, emphasizing its height and the scale of the surrounding urban environment.





EXTRACT ARCHITECTURAL DRAWING



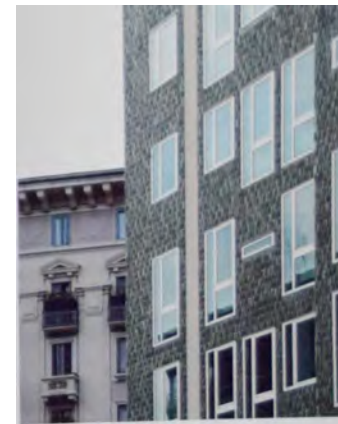
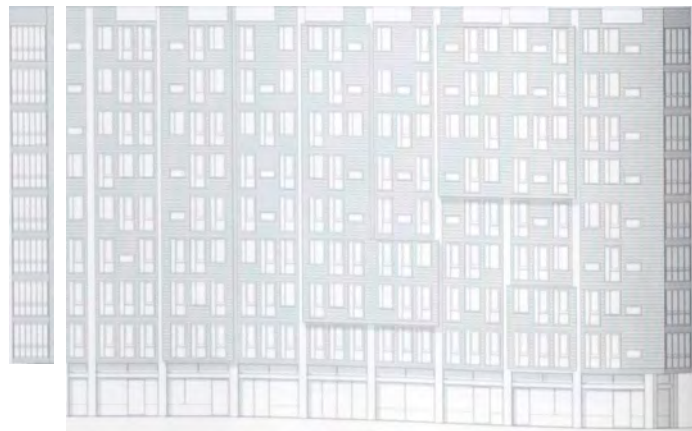
1:10
The building is ended with multiple setbacks and
roof garden.

Architectural drawing showing a section of a building facade with a grid of windows and decorative elements. The drawing is overlaid with a semi-transparent text box containing architectural details and a scale of 1:10.





Plan first floor
scale 1:250



2019
Pisano, Montador & Associati, Roma, Andrea
2019
2019
2019

LA CASA URBANA

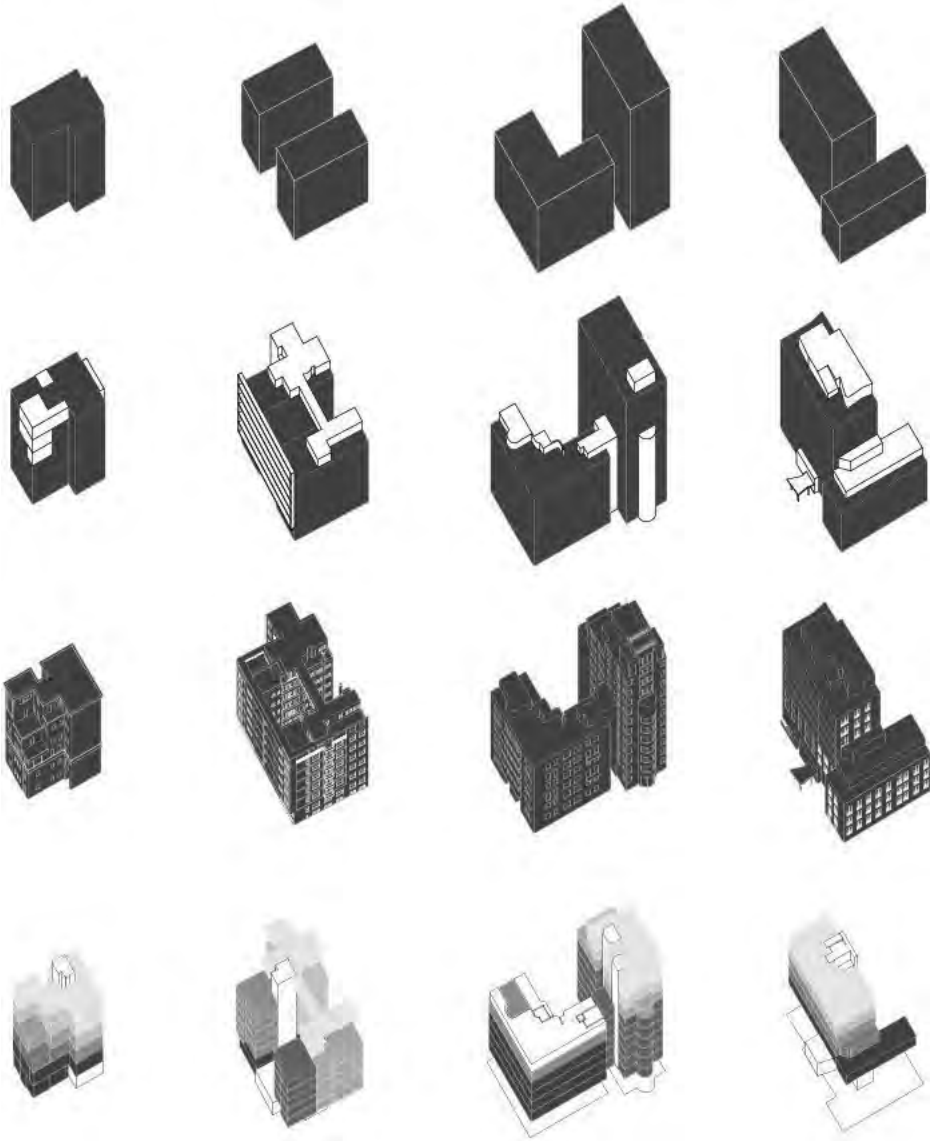
MAX VAN DER WESTERLAKEN

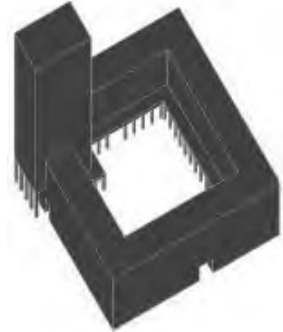
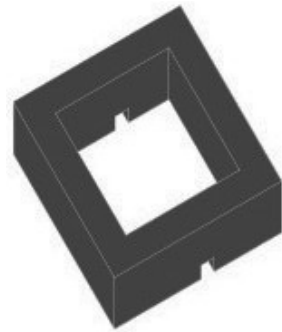
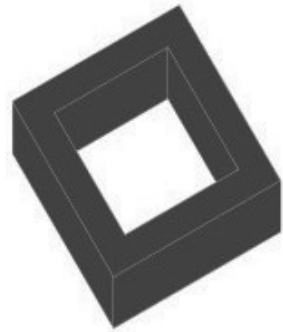
La Casa Urbana

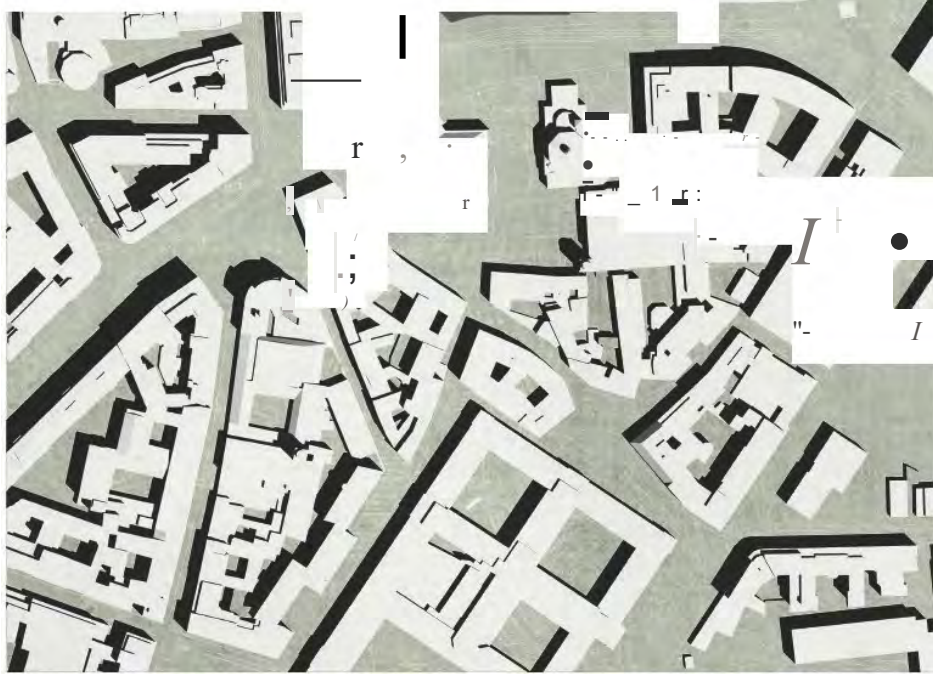
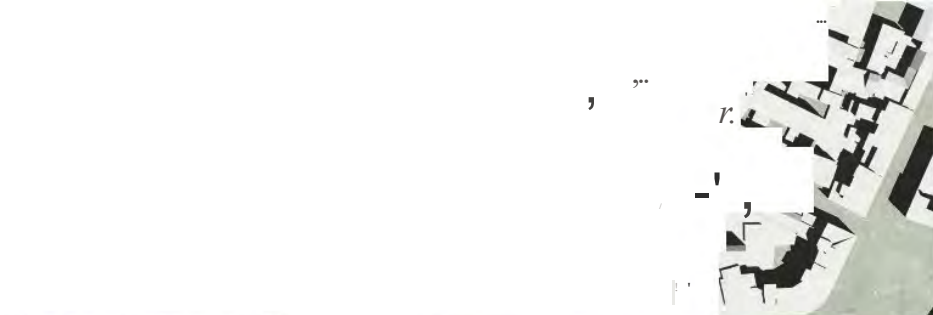
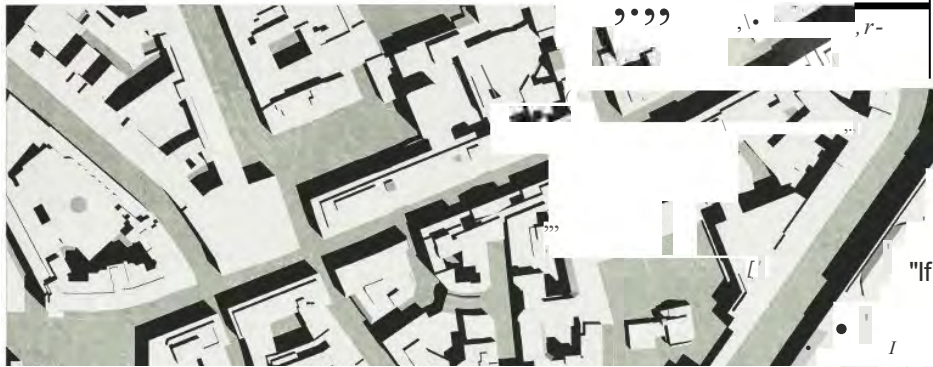
Dwelling and the Urban Condition in Milan

Research question

“How can the relation between the early twentieth century apartment building and the urban condition in Milan’s city centre be defined and employed today to strengthen the dense and highly urban characteristics of the city’s fabric?”

















Firenze
Analogo



FIRENZE ANALOGO

TU/e Technische Universiteit
Eindhoven
University of Technology



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DIDA
DIPARTIMENTO DI
ARCHITETTURA

RATIONAL ARCHITECTURE

chair

research

teaching

contact

european city studios

firenze, a room with a view
atlas

morphological series
fragment analysis
individual buildings
graduation projects
jitse ickenroth

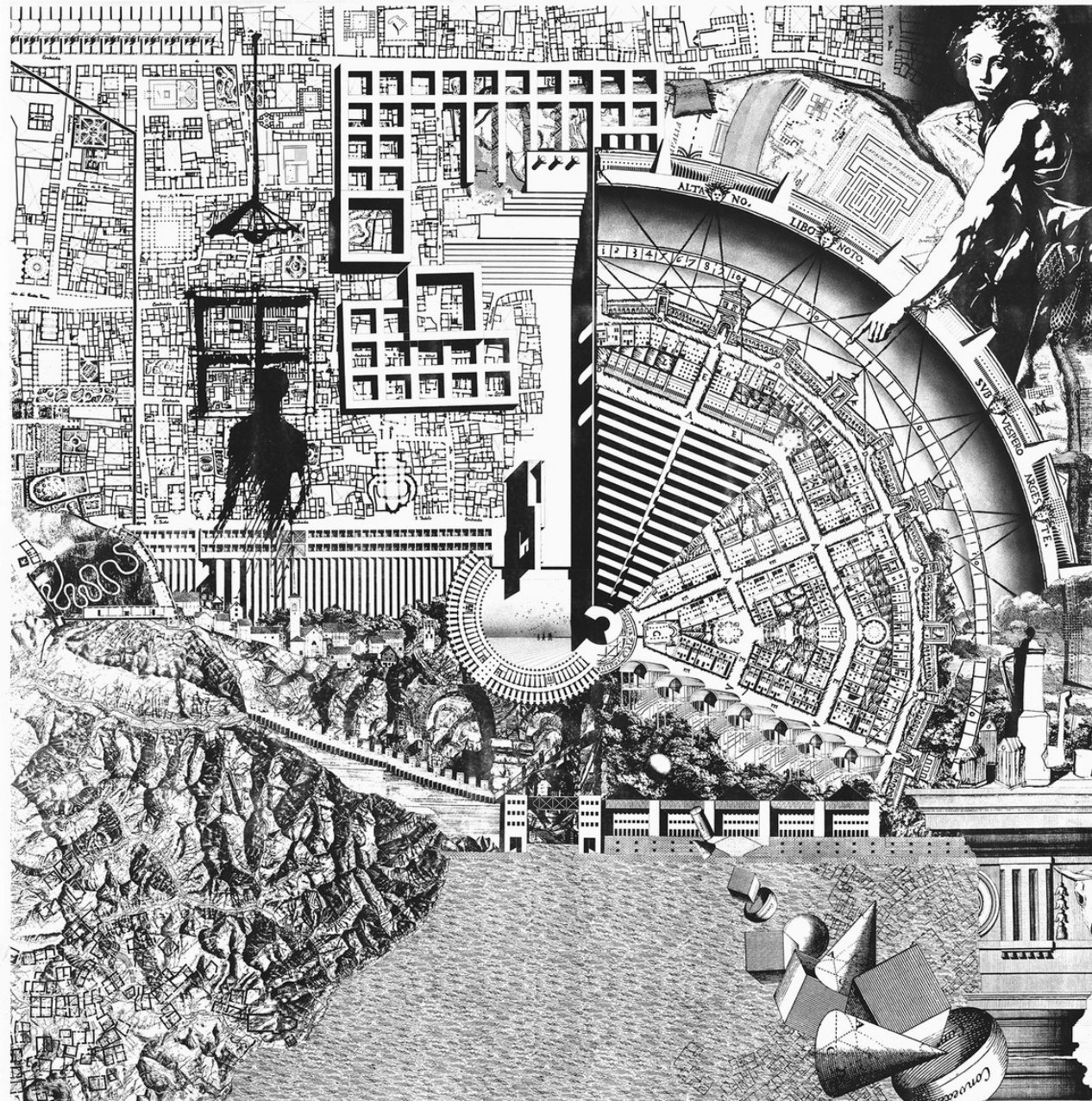
napoli, viaggio in italia II
napoli, viaggio in italia I
marseille, patchwork city
madrid, topography of power
milano centrale
antwerpen, de geteekende stad
la città di roma
gran torino
münchen rekonstruiert
potsdam unraveled
berlin als modell
de rede van amsterdam
amsterdam langsdoorsnede
amsterdam dwarsdoorsnede



The aim of this research is to explore the city's origins and most important periods of transformation, through research on different scale-levels, encompassing the full range of relevant urban and architectural levels. The focus of the first chapter is to track down and identify the key urban and architectural systems present in the city of Florence, and to understand how these systems have shaped the architectural and urban street-scape of the city. Chapter two approaches the city from the urban fragment (1:5.000) and the urban ensemble (1:1.000). This chapter has an architectural character; by means of presenting certain buildings, their role within the city and connection to the urban fabric is explained. Chapter three combines the knowledge of chapters one and two and presents a reflection upon the given information.



Città Analoga, 1973 (Arduino Cantafora)



Città Analoga, 1975 (Aldo Rossi, Fabio Reinhart, Bruno Reichlin and Eraldo Consolascio)



Uffizi, Florence

L.B. Alberti: *De Re Aedificatoria*,
1485
house = small city
city = big house

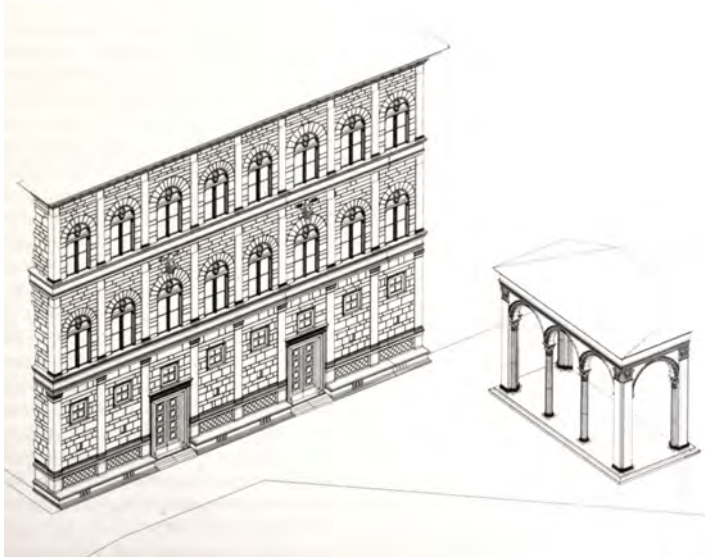


Laurentian Library,
Florence

Aldo Rossi: *Voraussetzungen meiner Arbeit*, 1977

the city and urban building demonstrate their interdependence by the reoccurrence of basic patterns. the relationship to city is principal problem of architecture, for example. due to likeness, every corridor is a street, every yard a square.

= a building (re)produces places of the city



ANALOGY

a correspondence or partial similarity

[mass noun] **Logic** a process of arguing from similarity in known respects to similarity in other respects: argument from analogy.

TYPE

a person or thing exemplifying the ideal or defining characteristics of something from Latin **typus**, from Greek **τυπος** 'impression, figure, type'

VARIATION

a different or distinct form or version of something

- **Music** a version of a theme, modified in melody, rhythm, harmony, or ornamentation,

as to present it in a new but still recognizable form

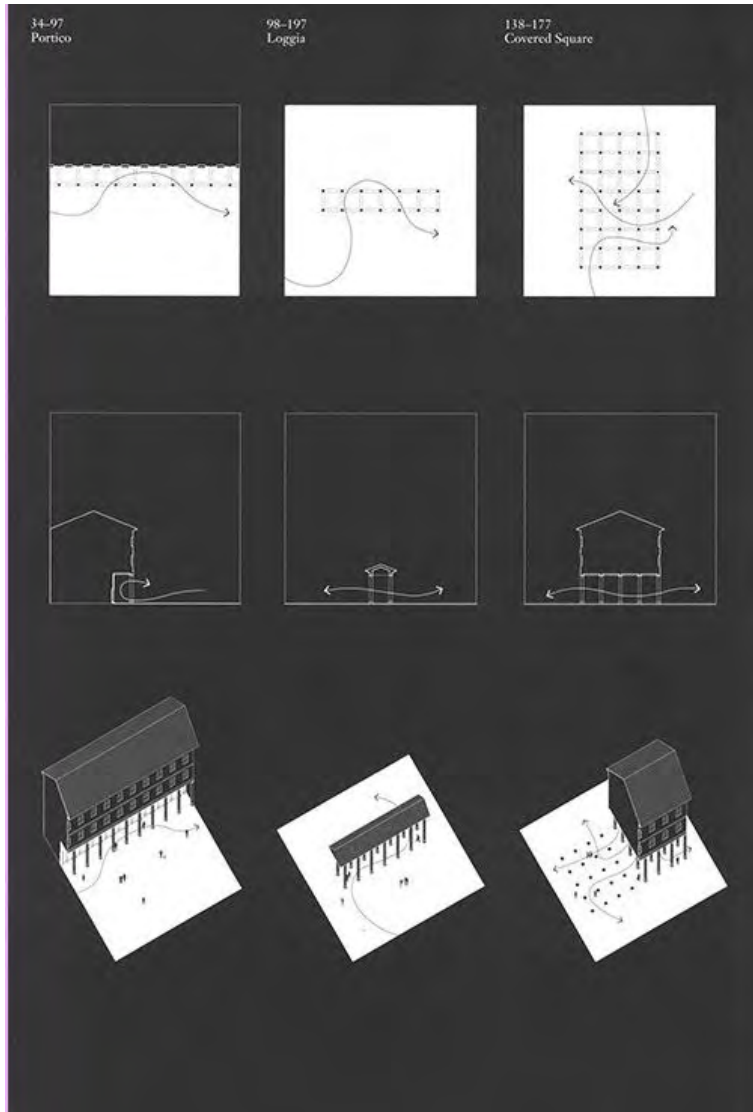
FORM

the visible shape or configuration of something

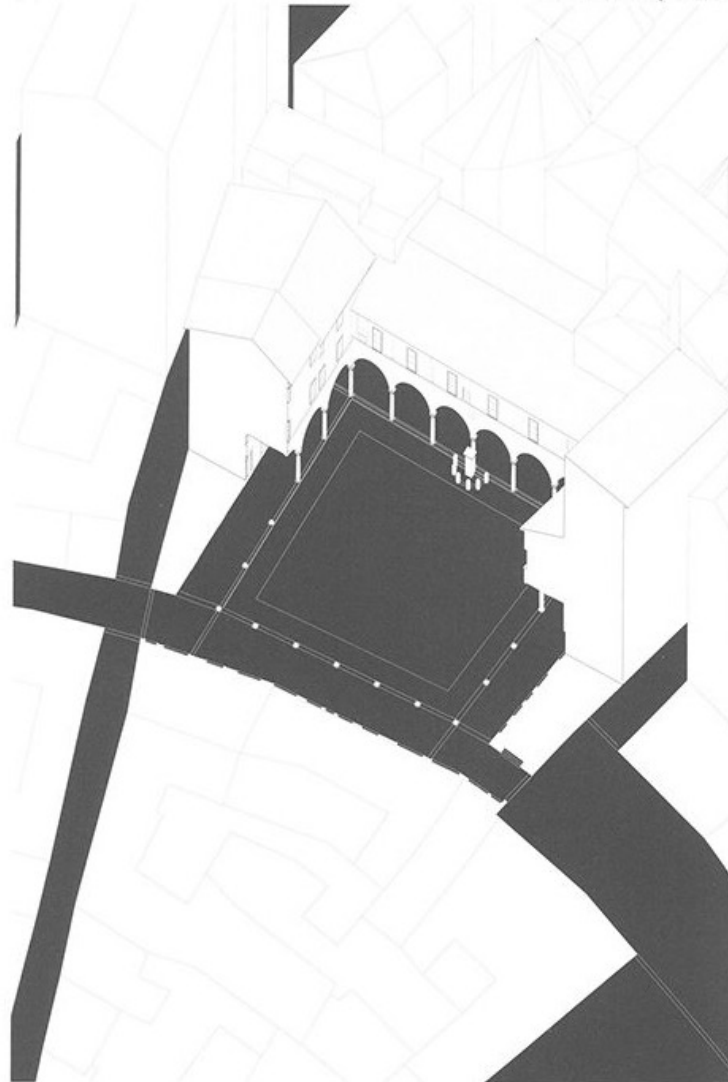
[mass noun] style, design, and arrangement in an artistic work as distinct from its content

...

(labics)



80



81





FIRENZE ANALOGO

Urban Islands – Cherishing nature in the Metropolis

prof. ir. Juliette Bekkering, dr.-ing. Cristina Nan

j.d.bekkering@tue.nl, i.c.nan@tue.nl

An aerial photograph of a city, likely Stockholm, Sweden, showing a river winding through the urban landscape. In the foreground, a lush green island is surrounded by water. The city buildings are densely packed, and a prominent church spire is visible in the distance. The sky is blue with scattered white clouds.

URBAN ISLANDS

CHERISHING NATURE IN THE METROPOLIS
GRADUATION STUDIO ADE CHAIR | 2024-25

SYNTHETIC ISLAND, AI x CRISTINA NAN

WHO



PROF. IR. JULIETTE
BEKKERING
ADE CHAIR



ASSIST PROF. DR.-ING.
CRISTINA NAN
ADE CHAIR

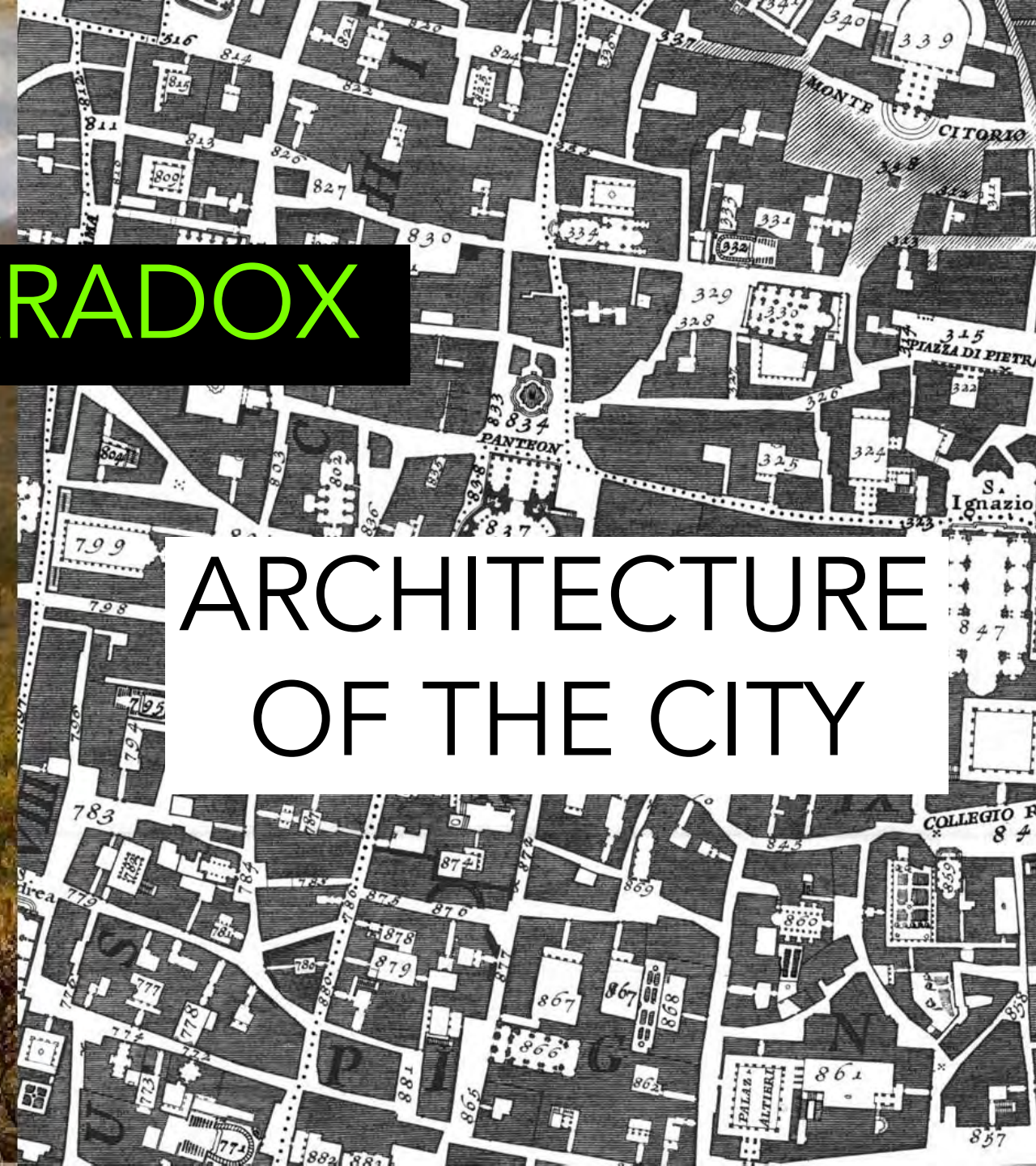


ASSIST PROF.
INGE GOUDSMIT
CUHK SCHOOL OF ARCH.



THE PARADOX

RETREAT IN
NATURE



ARCHITECTURE
OF THE CITY

An aerial photograph of Central Park in New York City, showing the dense green trees of the park on the left and the dense urban skyline of Manhattan on the right. A diagonal line runs from the top left to the bottom right, separating the park from the city. Several black text boxes with green text are overlaid on the image.

BOUNDARY CONDITIONS IN THE METROPOLIS

DUALITY OF
THE PRISTINE VS URBANIZATION

[UN]

NATURAL

NATURAL

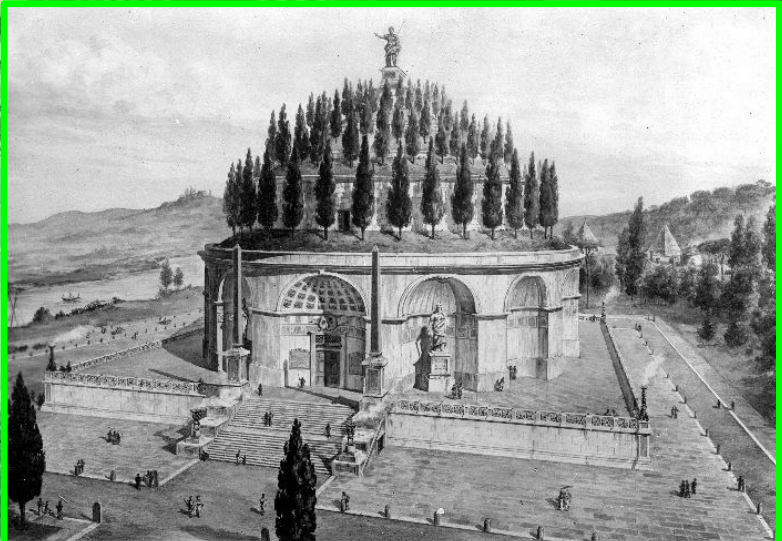
[UN]

NATURE
RETREATS IN THE
HEART OF THE
METROPLIS

AUGUSTUS MAUSOLEUM, ROME



DESIGNING THE EXCEPTION
IN THE HEART OF THE CITY



MAUSOLEO DELL' IMP. AUGUSTO NELL' ANNO 27 AV. CR.
UN GRANDE TUMULO DI TERRA, INNALZATO PRESSO AL FUME, SOPRA UN' ALTA BASE ROTONDA
DI MAFIHO DIANCO, TUTTO DIVERGENTE DA ALBERI SEMPRE VERDI, FINO ALLA CIMA, SULLA QUALE
ERA LA STATUA DI AUGUSTO, IN BRONZO, INOLTRO E SOTTO DEL TUMULO VI ERANO LE CELLE SEPOLCRALI DELLE
DEI SUOI PARENTI E DEI SUOI FAMILIARI (S. 77, 1882 - I. B. V. capo 3, § 8). - Oggi ANFITEATRO COREA.
RESTAURO ESEGUITO SOTTO GLI AUSPICI DEL COMUNE DI ROMA - DICEMBRE 1912.

HABITAT
DESTRUCTION,
DENSIFICATION,
URBANISATION,
INFRASTRUCTURE



PRISTINE
NATURE,
LOCAL
ECOSYSTEMS
&
BIODIVERSITY

EILAND VAN BRIENENOORD, ROTTERDAM

STUDIO THEMES

DUALITY
BETWEEN
THE URBAN &
THE PRISTINE

PRIVATE SPACE
PUBLIC SPACE

TYPOLOGY

VISIONARY
CONCEPTS

HABITAT &
ECOLOGY

SCENOGRAPHY

RADICAL USE

MATERIAL
PRACTICES

COMPUTATION

SUSTAINABILITY
CIRCULARITY

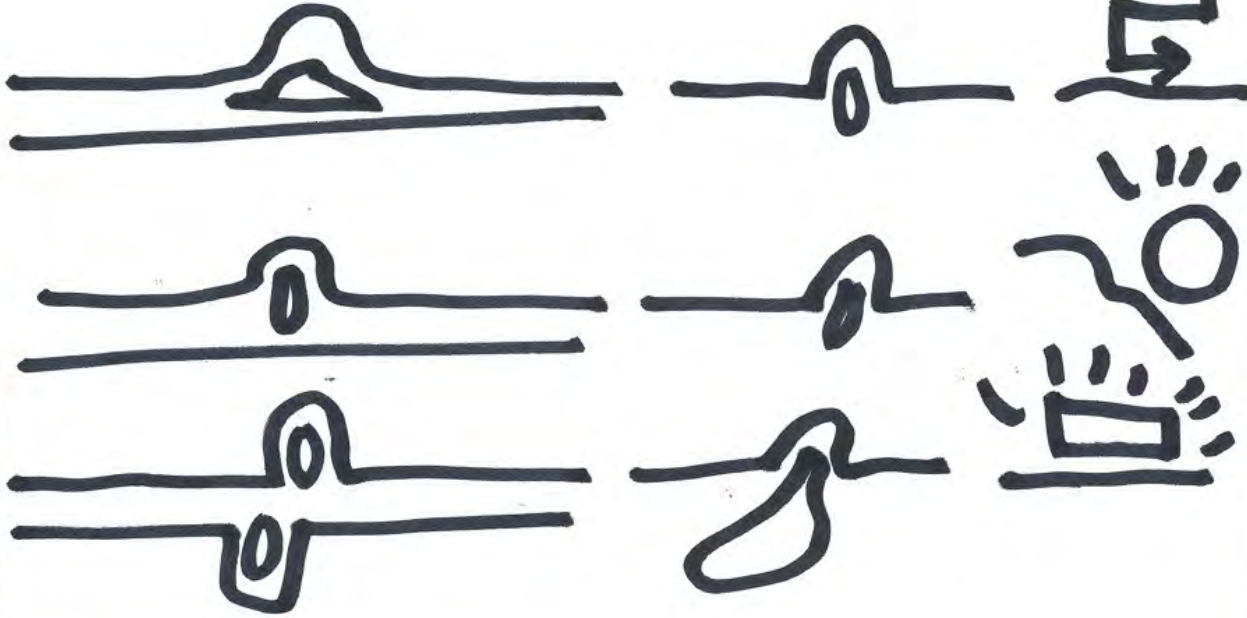
DIGITAL CRAFT

LOCATION

TYPOLOGY

PROGRAMME

RESEARCH



PAPER

POSITION

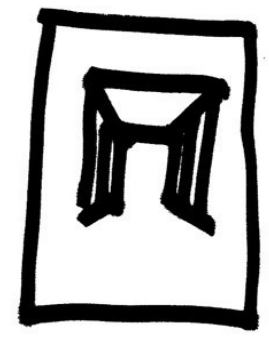
PARADOX



S

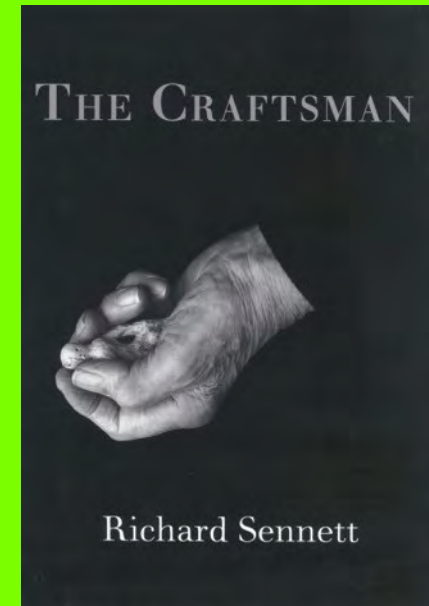
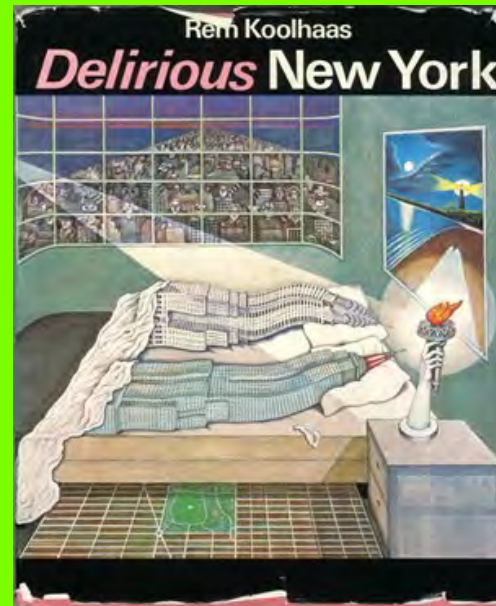
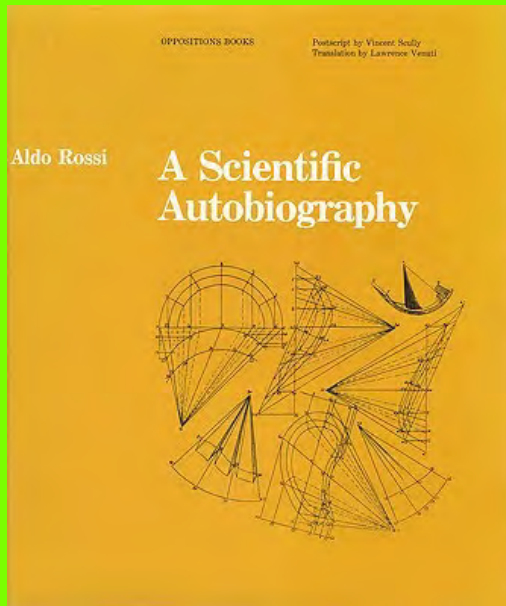


S

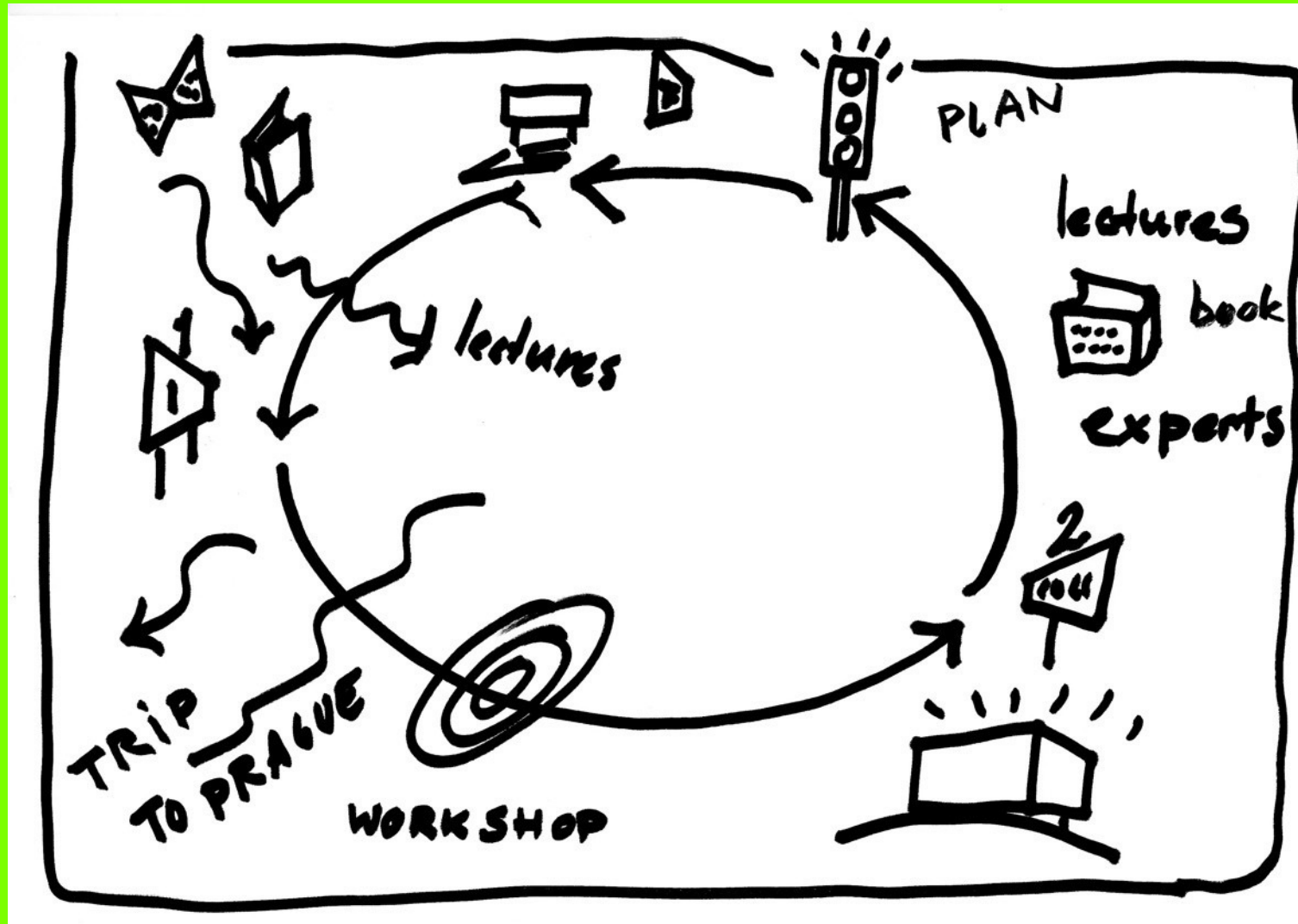


S

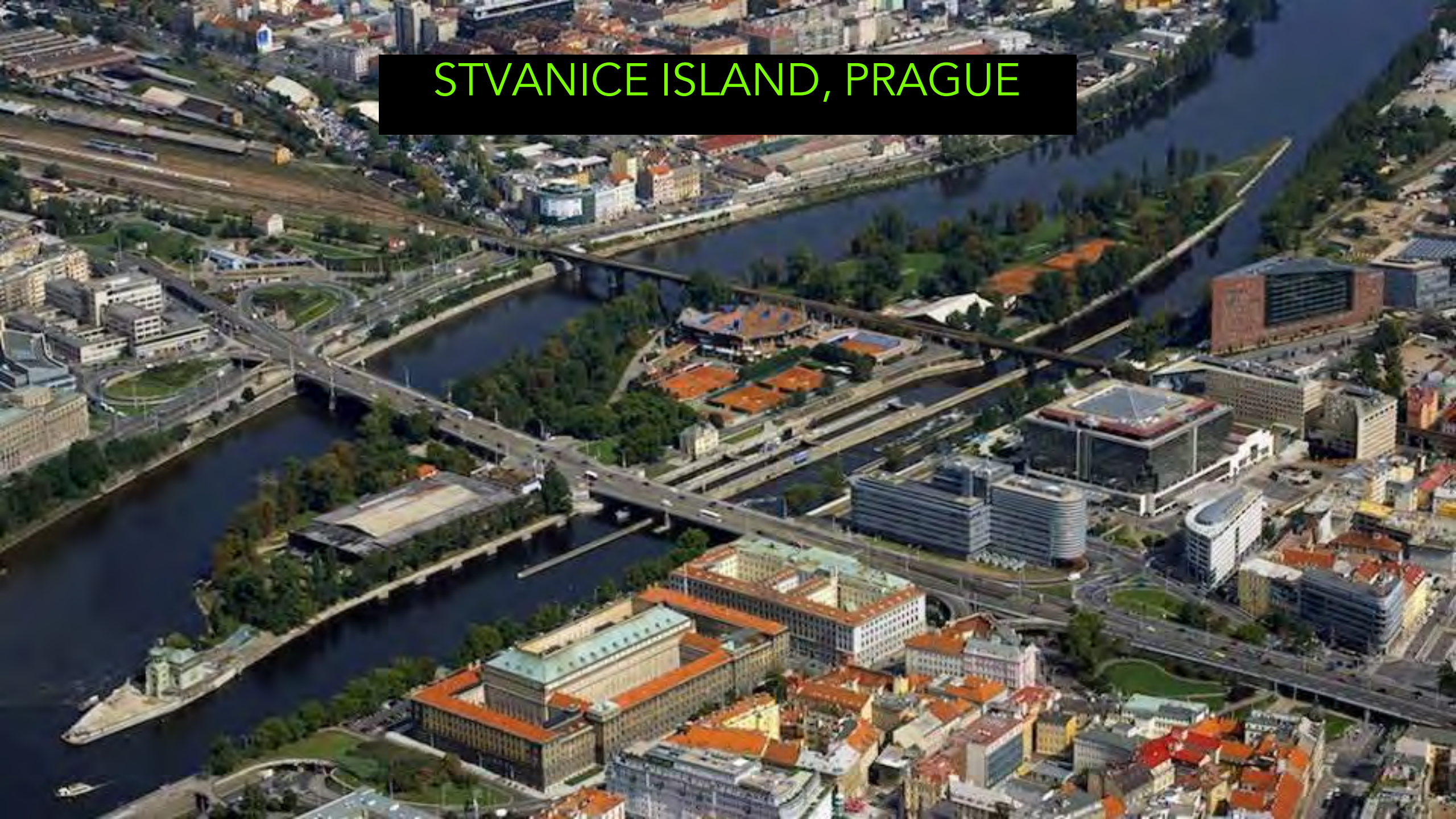
THEORY & CONCEPT



STUDIO CULTURE



STVANICE ISLAND, PRAGUE



FORTEILAND PAMPUS, AMSTERDAM



EILAND VAN BRIENENOORD, ROTTERDAM



HONG KONG ARCHIPELAGO





MARGARET ISLAND, MARSEILLE

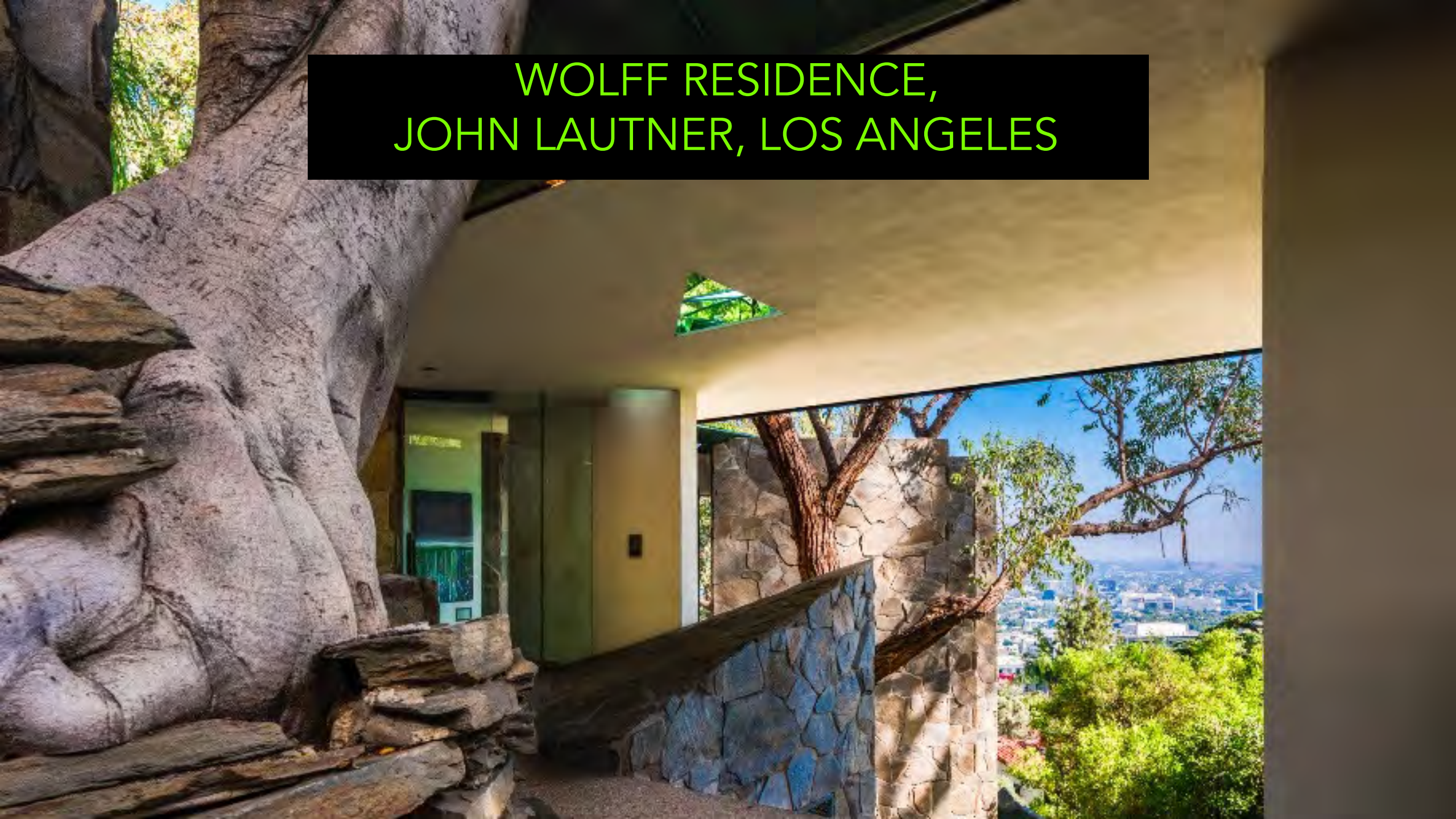
FIELD TRIP

(MANDATORY)
TWO WEEKS
WORKSHOPS
MAPPING + ANALYSIS

EUROPEAN CITY
LOCATION TO BE DISCLOSED SEM A



WOLFF RESIDENCE,
JOHN LAUTNER, LOS ANGELES



MULTI-PURPOSE COMPLEX,
RAW ARCHITECTURE, INDONESIA





MAGGIE'S CENTER,
HEATHERWICK STUDIO, UK



URBAN ISLANDS

CHERISHING NATURE IN THE METROPOLIS
GRADUATION STUDIO ADE CHAIR | 2024-25

SYNTHETIC ISLAND, AI x CRISTINA NAN

Unbuilt Antwerpen

dipl-ing. Haike Apelt, iMA B. Arch. Daryl Mulvhill

h.apelt@tue.nl

UNBUILT ANTWERP

COMBINED GRADUATION PROJECT ARCHITECTURE & URBANISM 2024-2025

60 ects

Dipl.-Ing. Haike Apelt, MA B.Arch. Daryl Mulvihill
Faculty of the Built Environment
University of Technology Eindhoven

RATIONAL ARCHITECTURE

chair

research

teaching

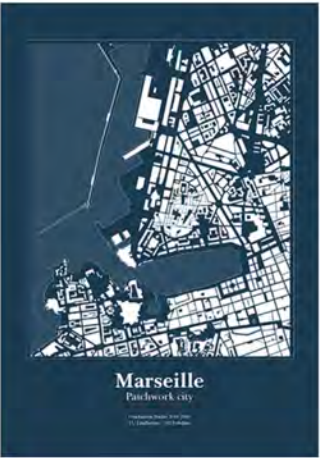
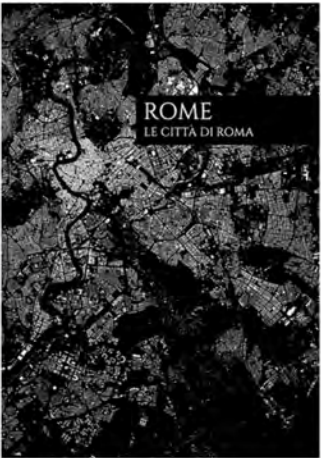
contact

european city studios

firenze, a room with a view
napoli, viaggio in italia II
napoli, viaggio in italia I
marseille, patchwork city
madrid, topography of power
milano centrale
antwerpen, de getekende stad
la città di roma
gran torino
münchen rekonstruiert
potsdam unraveled
berlin als modell
de rede van amsterdam
amsterdam langsdoorsnede
amsterdam dwarsdoorsnede



In the European City Studios, typomorphological analysis is used as a didactic method to teach students how to analyze the city and its characteristics in a structured and organized way. The analysis is done in groups of collaborating students, which means that each individual student carries out part of a greater research. These 'parts' can for example be periods in time or different parts of the city. The synthesis of the knowledge acquired through individual research is of great importance in order to understand, for example, the full history of a city (as opposed to just a single time period) or the city as a whole (as opposed to just a part of the city). A strong collaboration within the group will thus eventually lead to a better understanding of the city for each individual member of that group. The result of the group work is a book or 'atlas' in which all the collaborative research and analysis is combined.



Unbuilt
Amsterdam



La Città Ideale di Baltimore, 1480-1484 (Fra Comevale, after design by Giuliano di Sangallo)



La Città Ideale di Urbino (formerly attr. to Piero della Francesca)



La Città Ideale di Berlino, 1490-1500 (Francesco di Giorgio Martini (attr.), veduta architettonica ideale)



Capriccio con edifici palladiani, 1756-59 (Canaletto)

RATIONAL ARCHITECTURE

chair

research

teaching

contact

european city studios

firenze, a room with a view
napoli, viaggio in italia II
napoli, viaggio in italia I
marseille, patchwork city
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milano centrale
antwerpen, de getekende stad
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potsdam unraveled
berlin als modell
de rede van amsterdam
atlas
morphological series
fragment analysis
individual buildings
graduation projects
martijn schlatmann
amsterdam langsdoorsnede
amsterdam dwarsdoorsnede



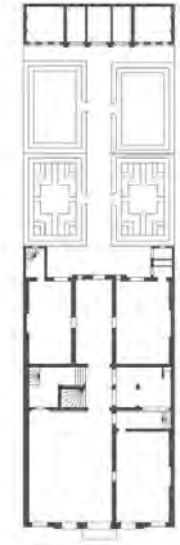
Deze atlas van Amsterdam omvat een analyse van de ontwikkeling van de gebieden langs de Amstel en het IJ door de eeuwen heen. De atlas het ontstaan en de transformatie van het gebied op verschillende schaalniveaus, van regio tot kavel. Daarnaast gaat de atlas in op de relatie tussen de stad en het water.



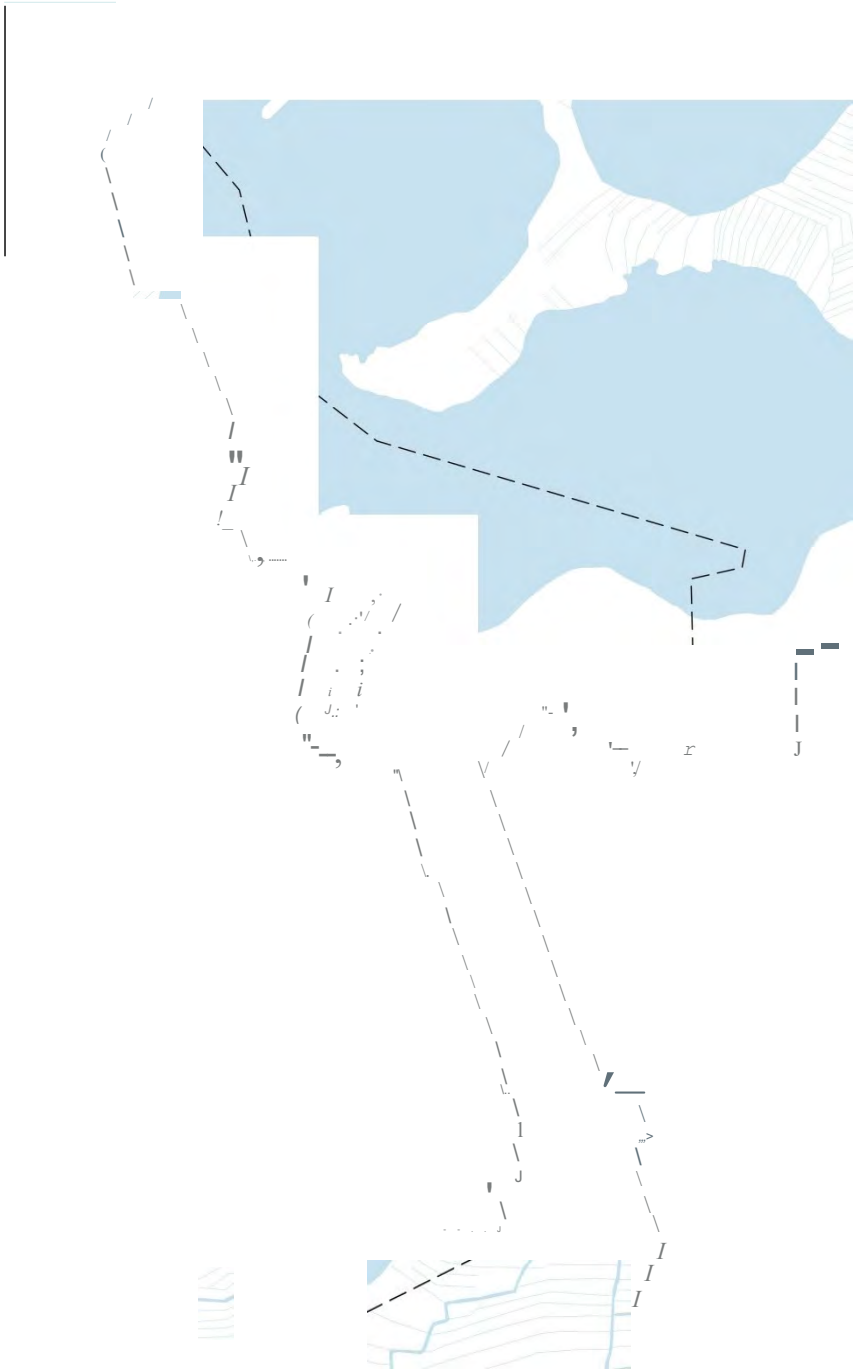
I
City Scale

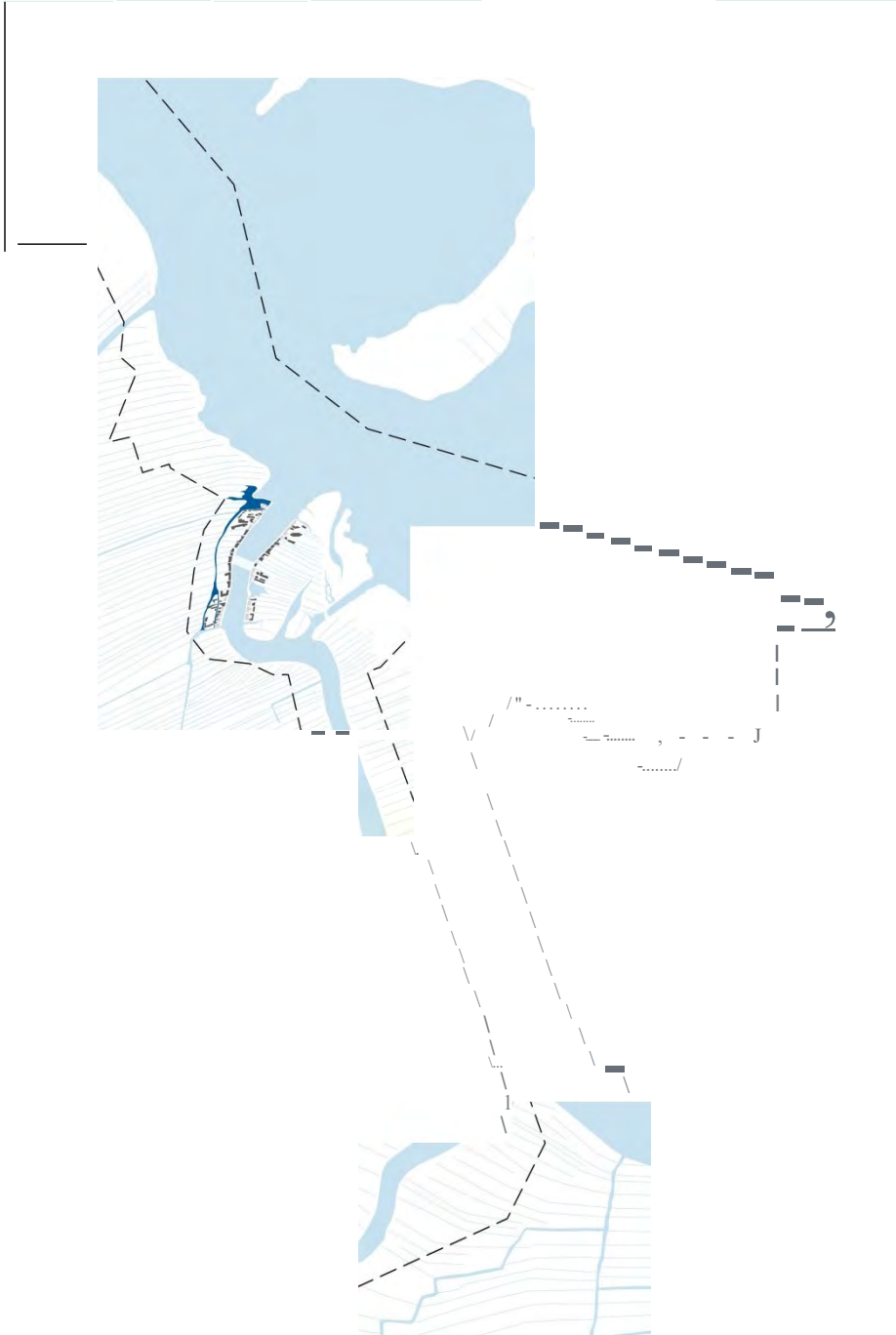


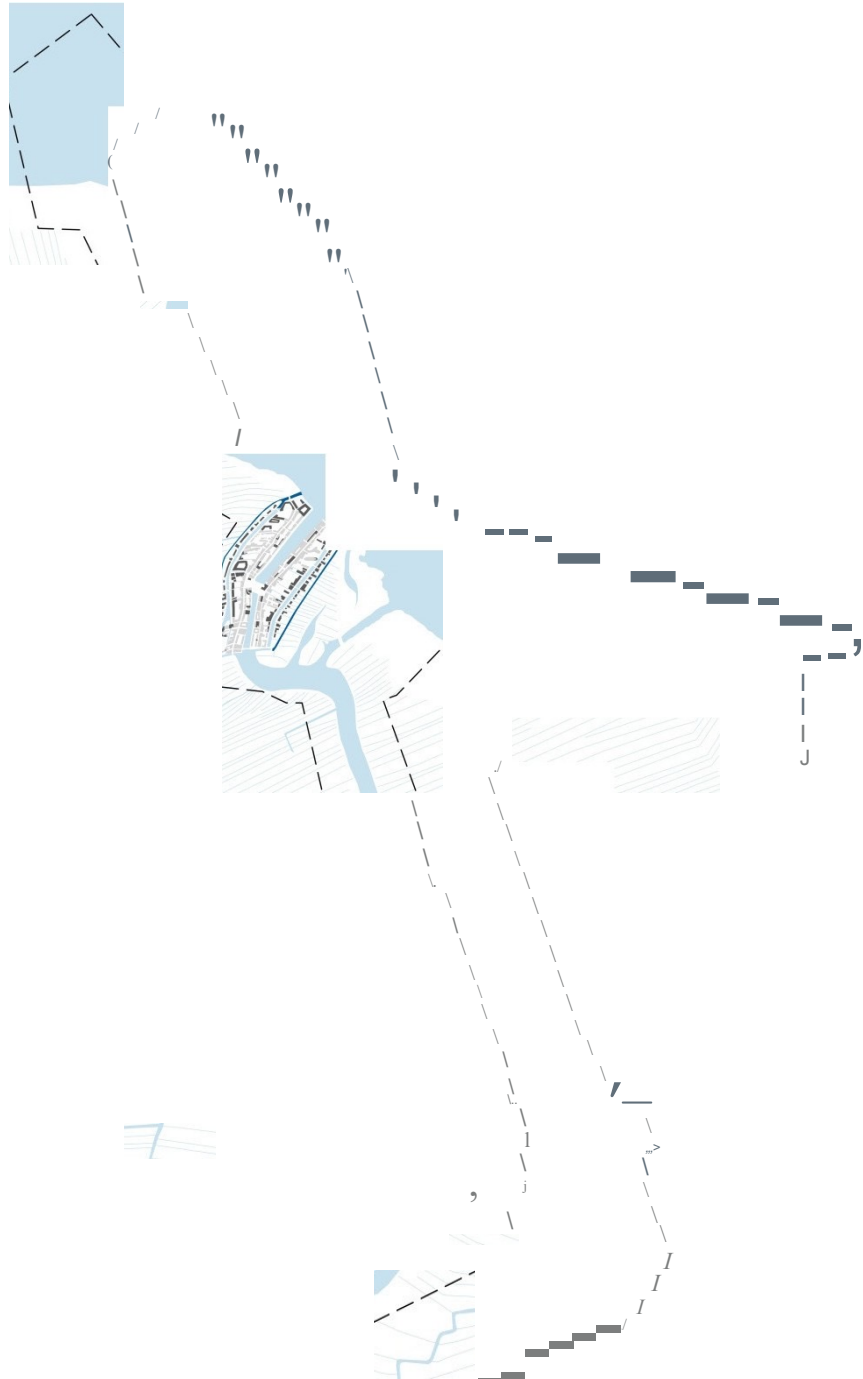
II
Fragment
Scale



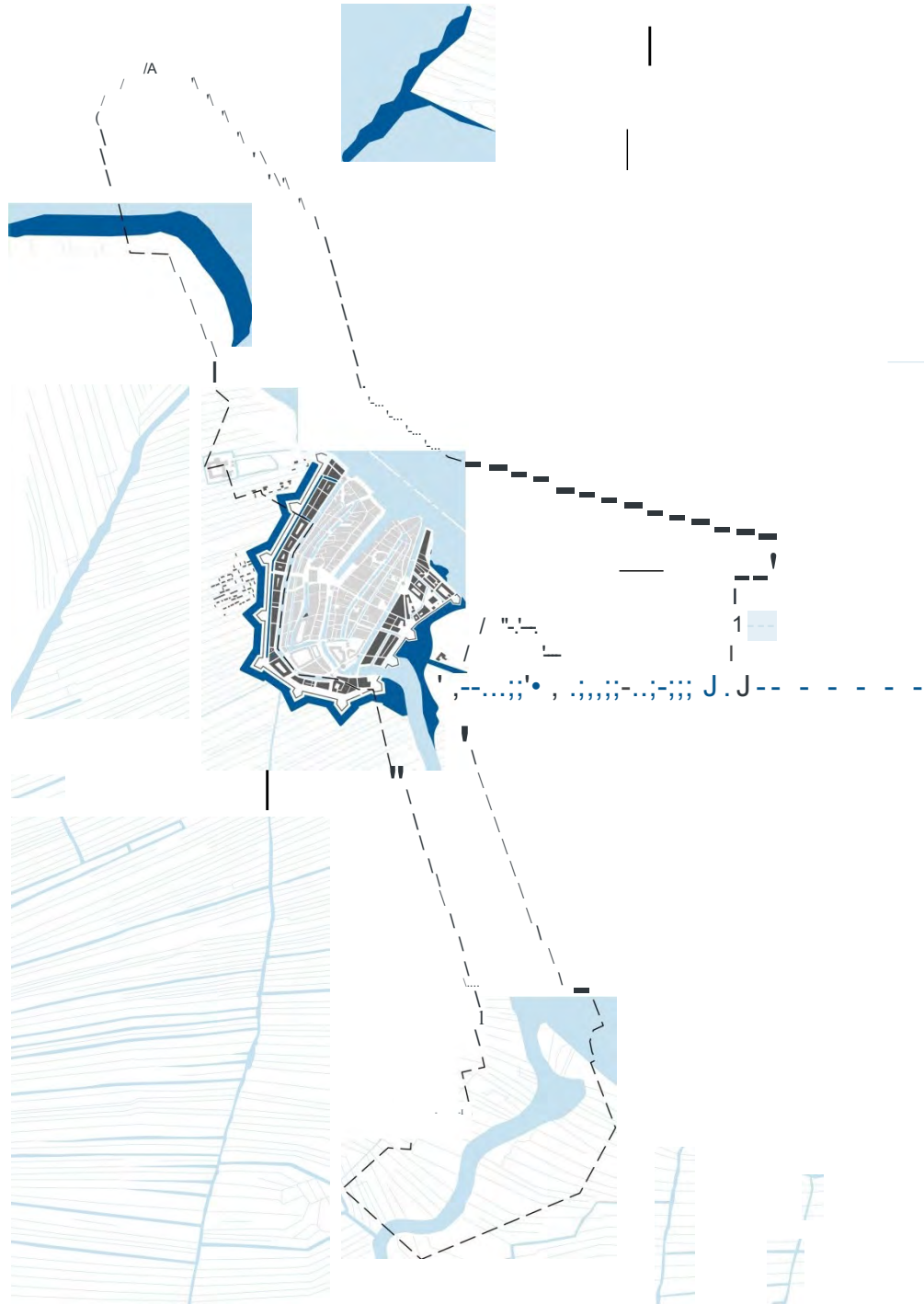
III
Building
Scale

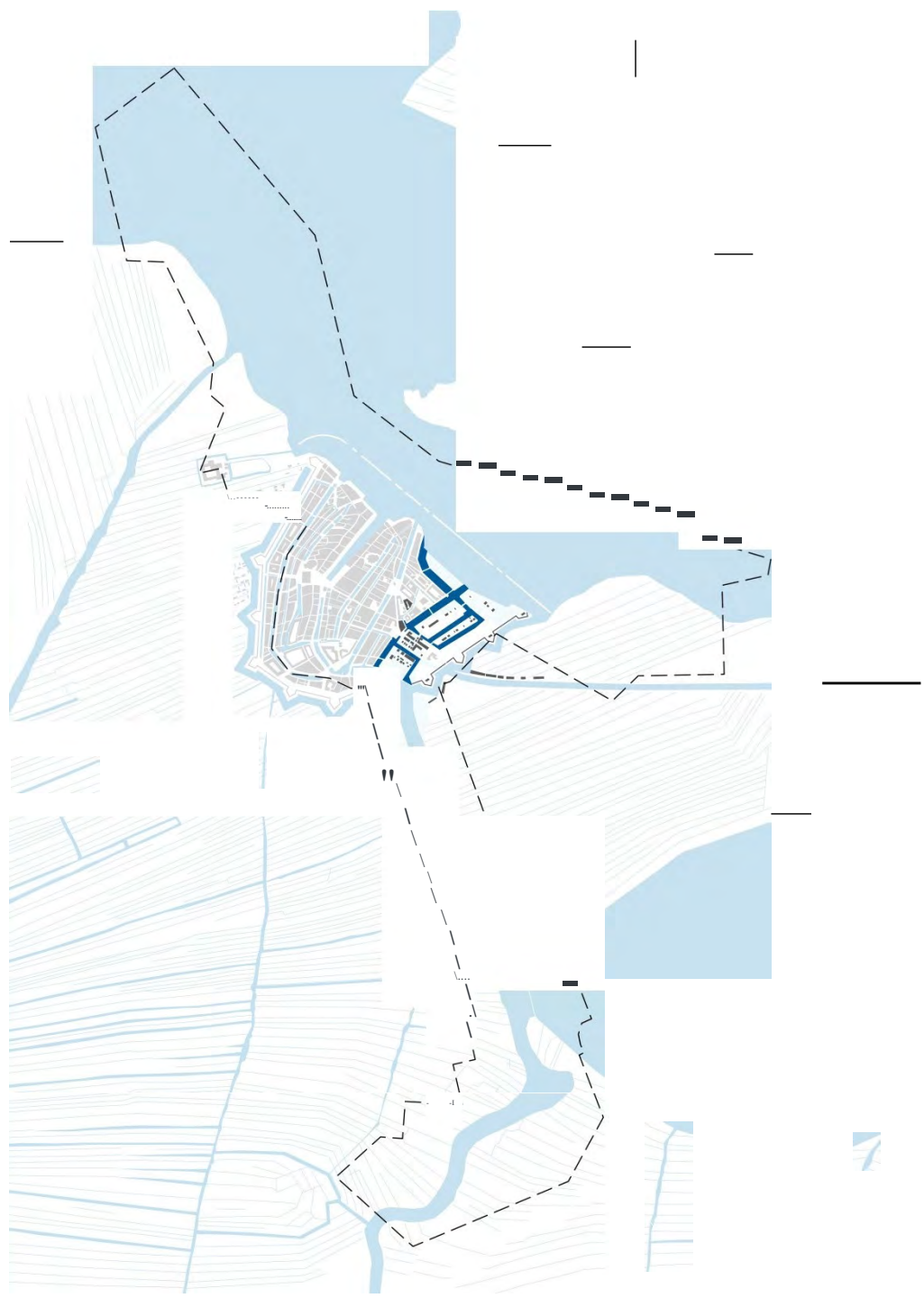




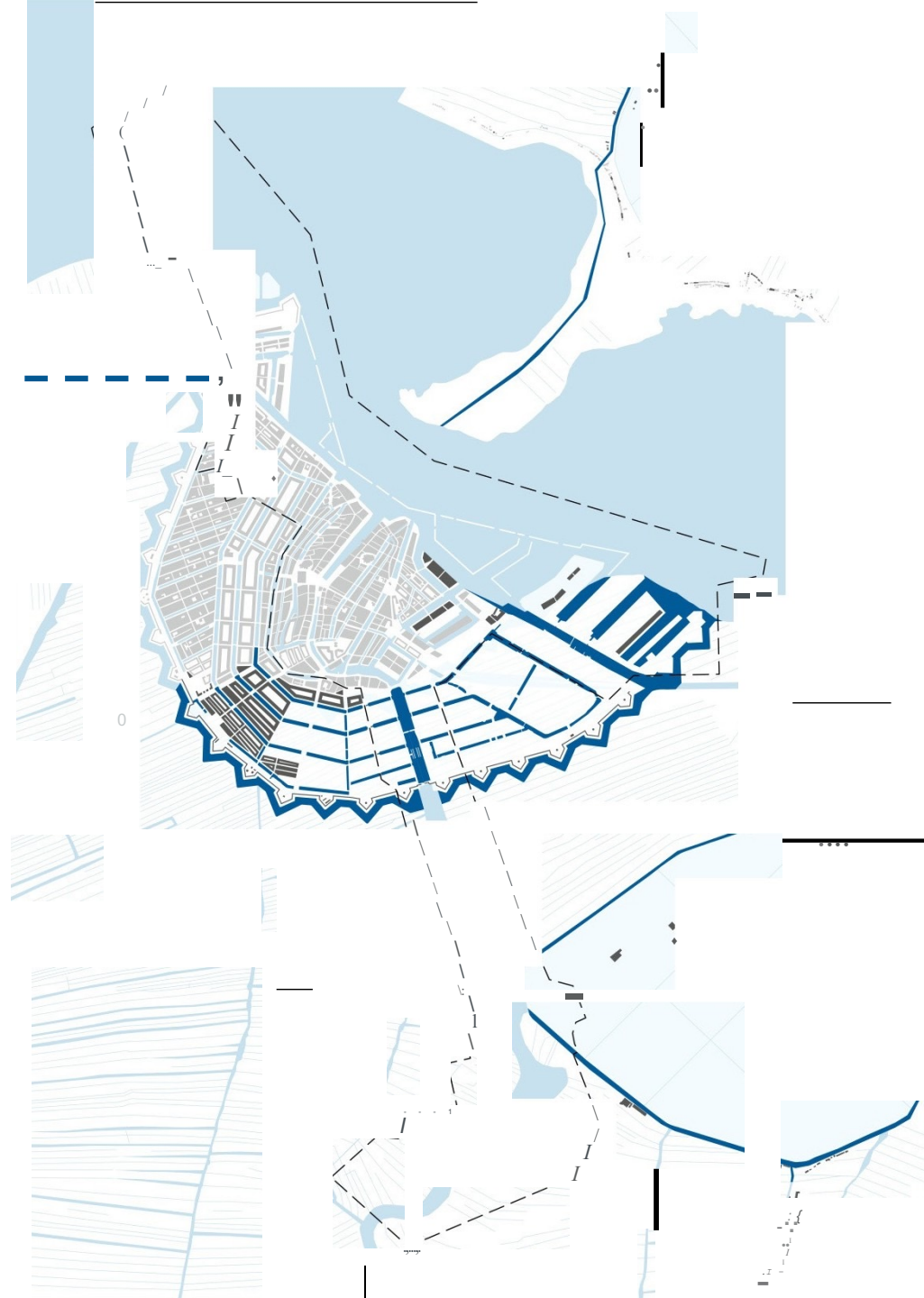










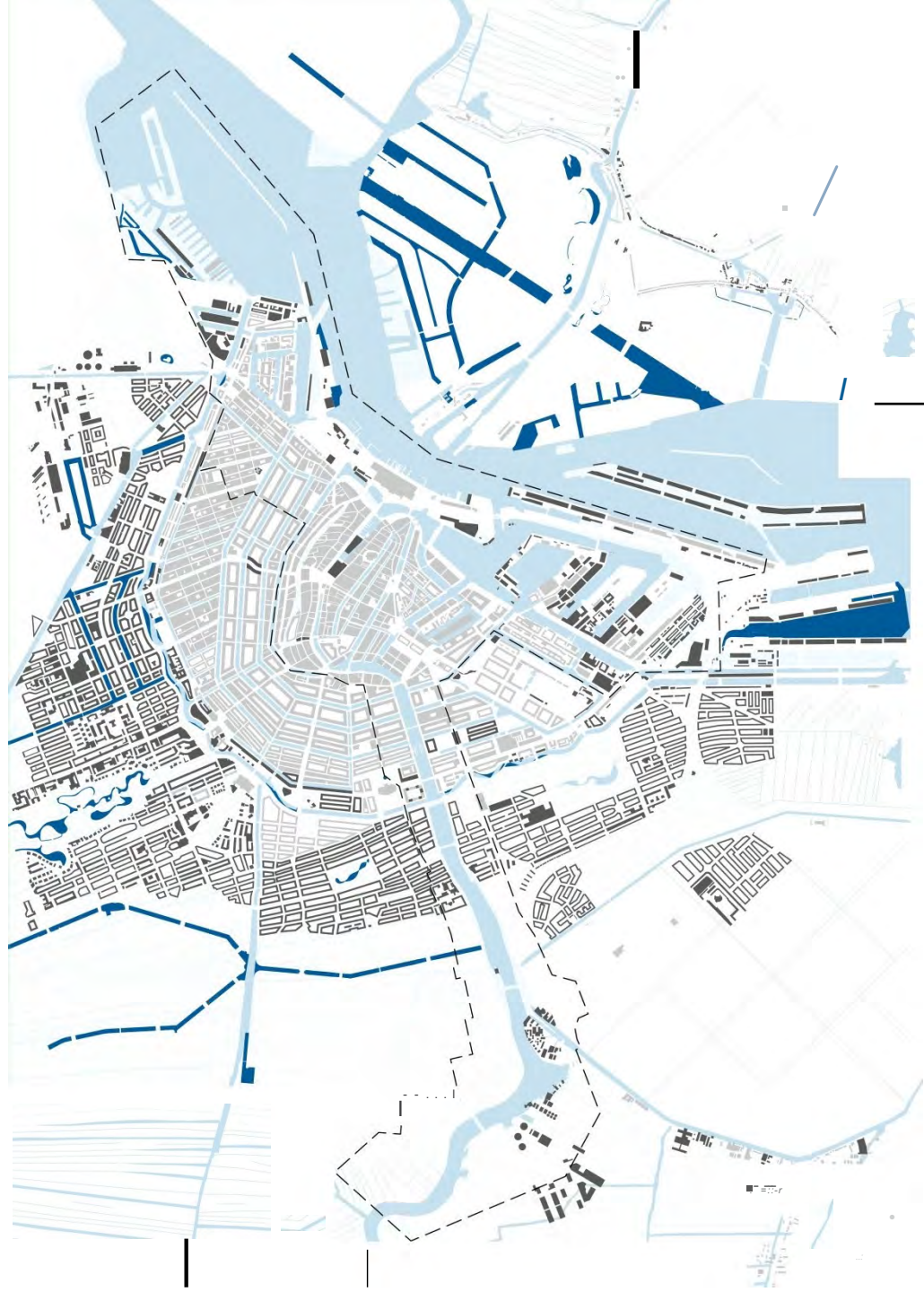


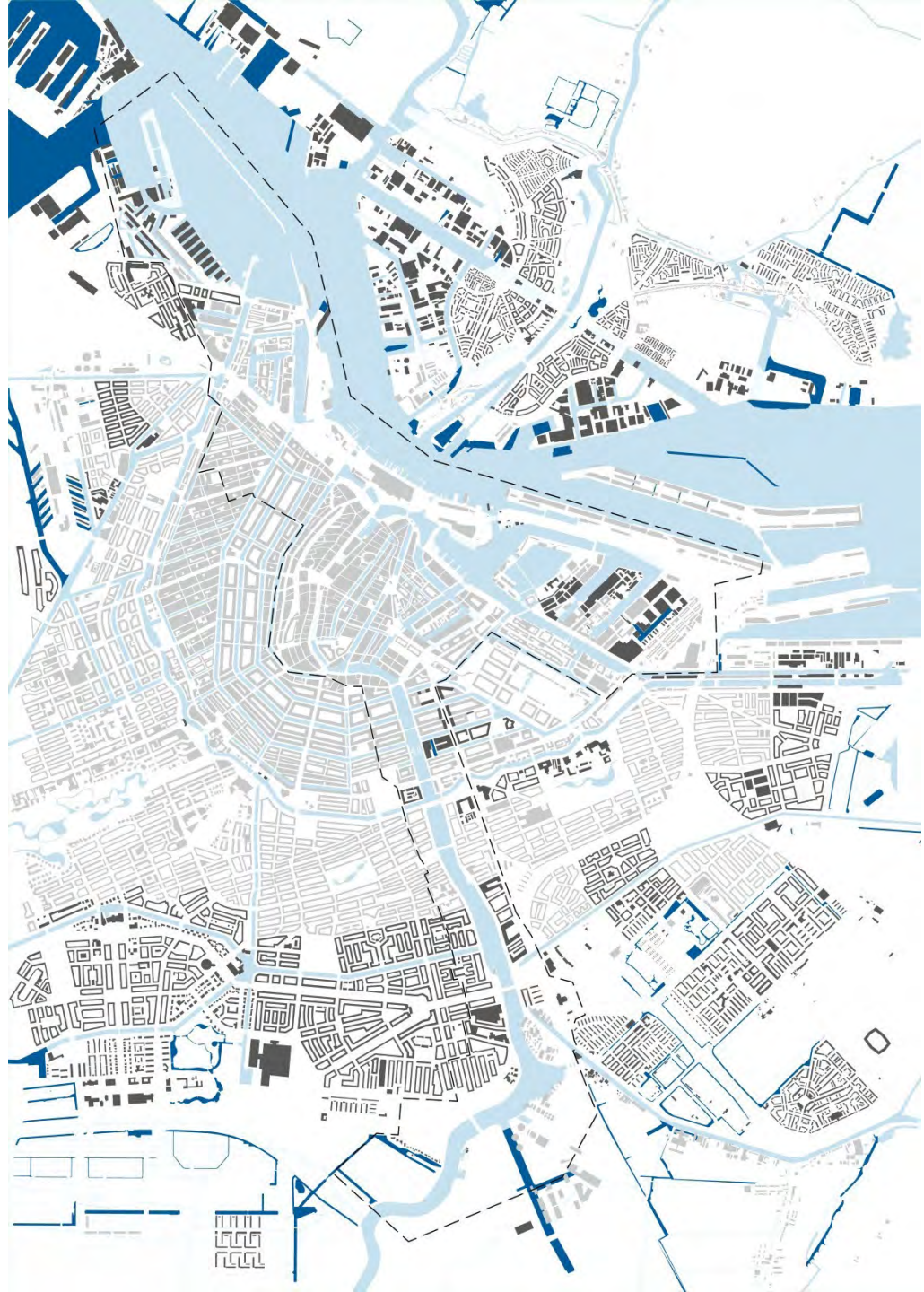


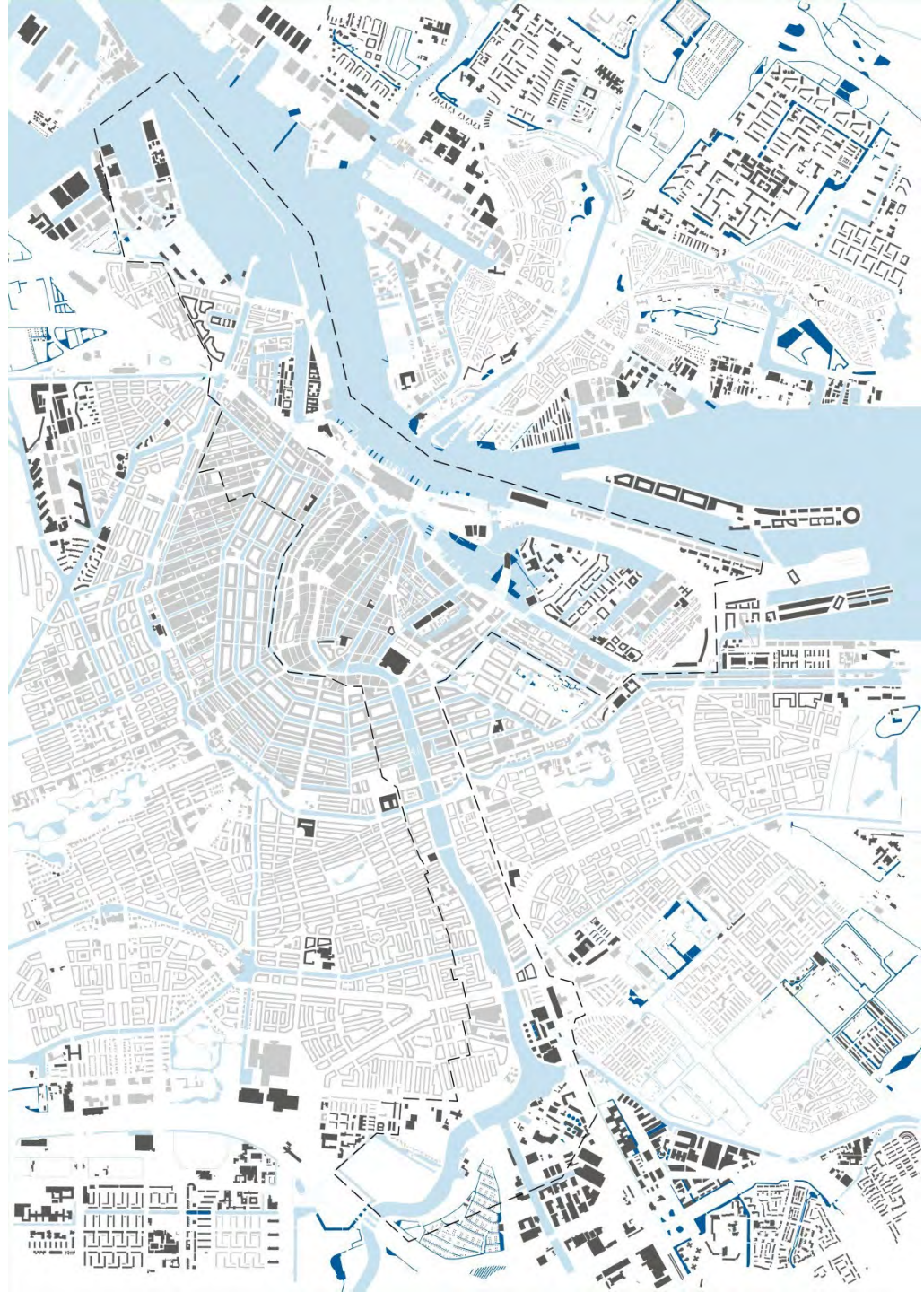


Legend

Scale







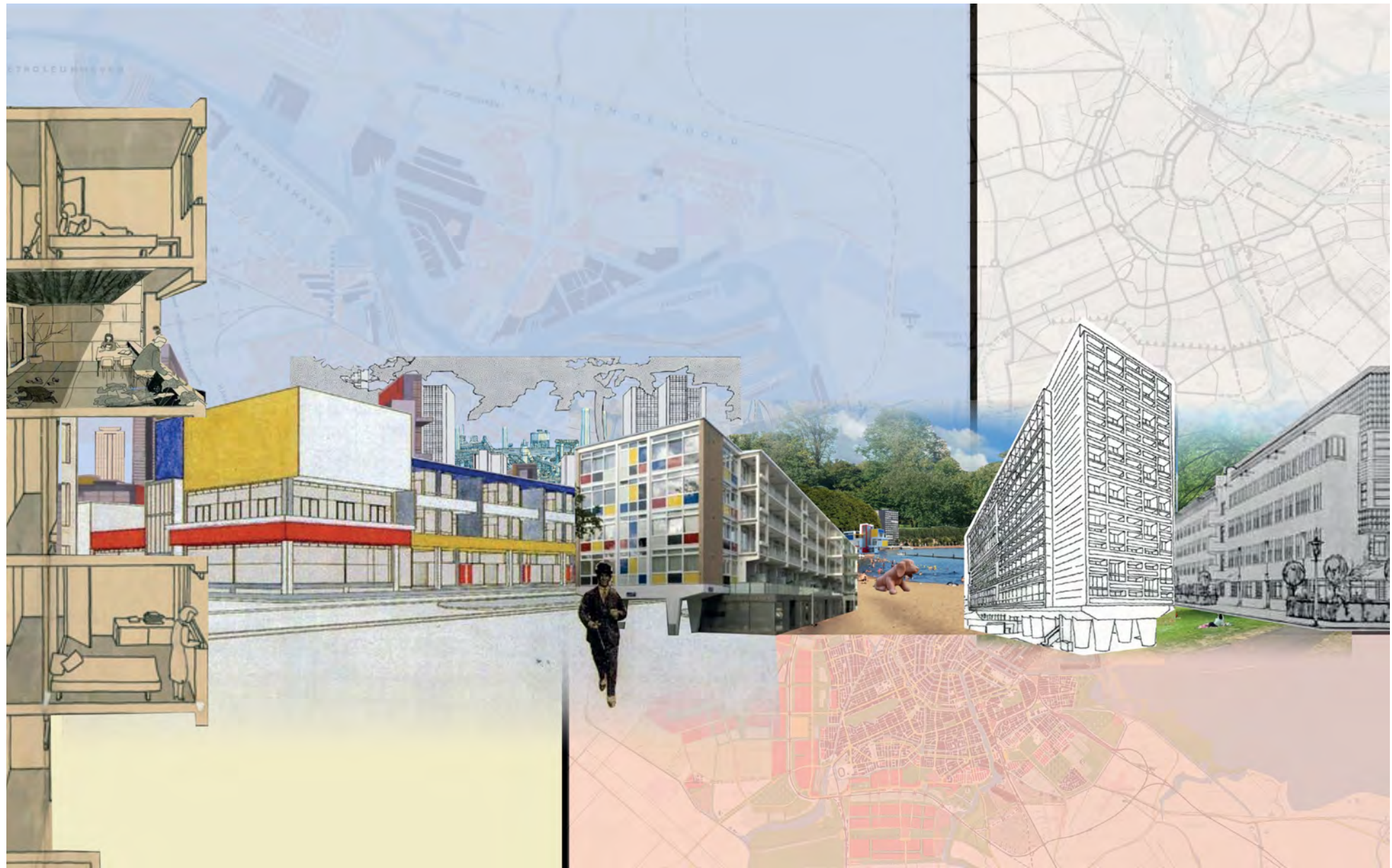


1:60000 N 0 1.5 3 km

collage of (ideal) plans



the picturesque city



the functional city

Unbuilt
Antwerp

RATIONAL ARCHITECTURE

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european city studios

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atlas

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jan konings

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potsdam unraveled

berlin als modell

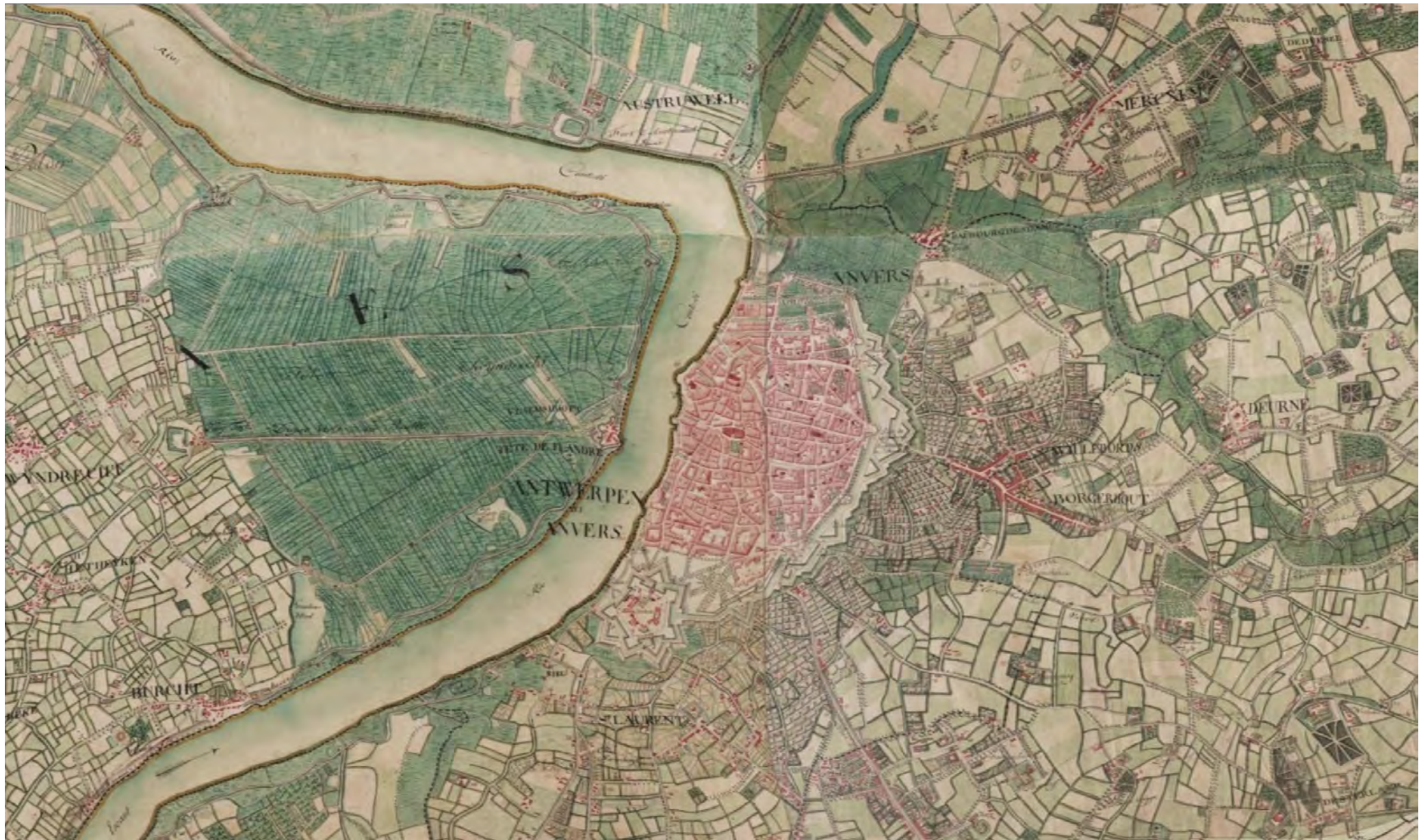
de rede van amsterdam

amsterdam langsdoorsnede

amsterdam dwarsdoorsnede



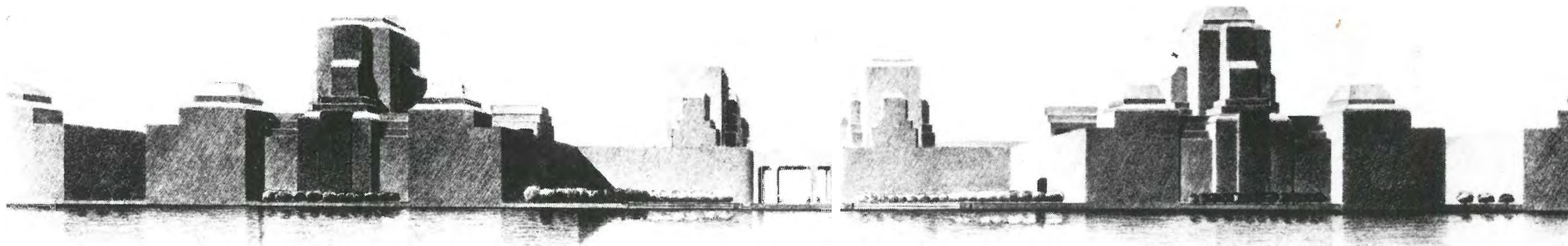
Het onderzoek naar Antwerpen heeft zich geconcentreerd op de morfologische en stedenbouwkundige ontwikkelingen van de stad. De belangrijkste vraag die is onderzocht is hoe Antwerpen zich in de loop der tijd stedenbouwkundig en architectonisch heeft ontwikkeld en welke politieke, economische en religieuze achtergronden hieraan ten grondslag hebben gelegen. De analyse omvat de ontwikkeling van Antwerpen van keizerlijk nederzetting tot moderne metropool. Om deze tijdsperiode te analyseren is de atlas opgedeeld in tien hoofdstukken die betrekking hebben op de belangrijkste ontwikkelingen van de stad.



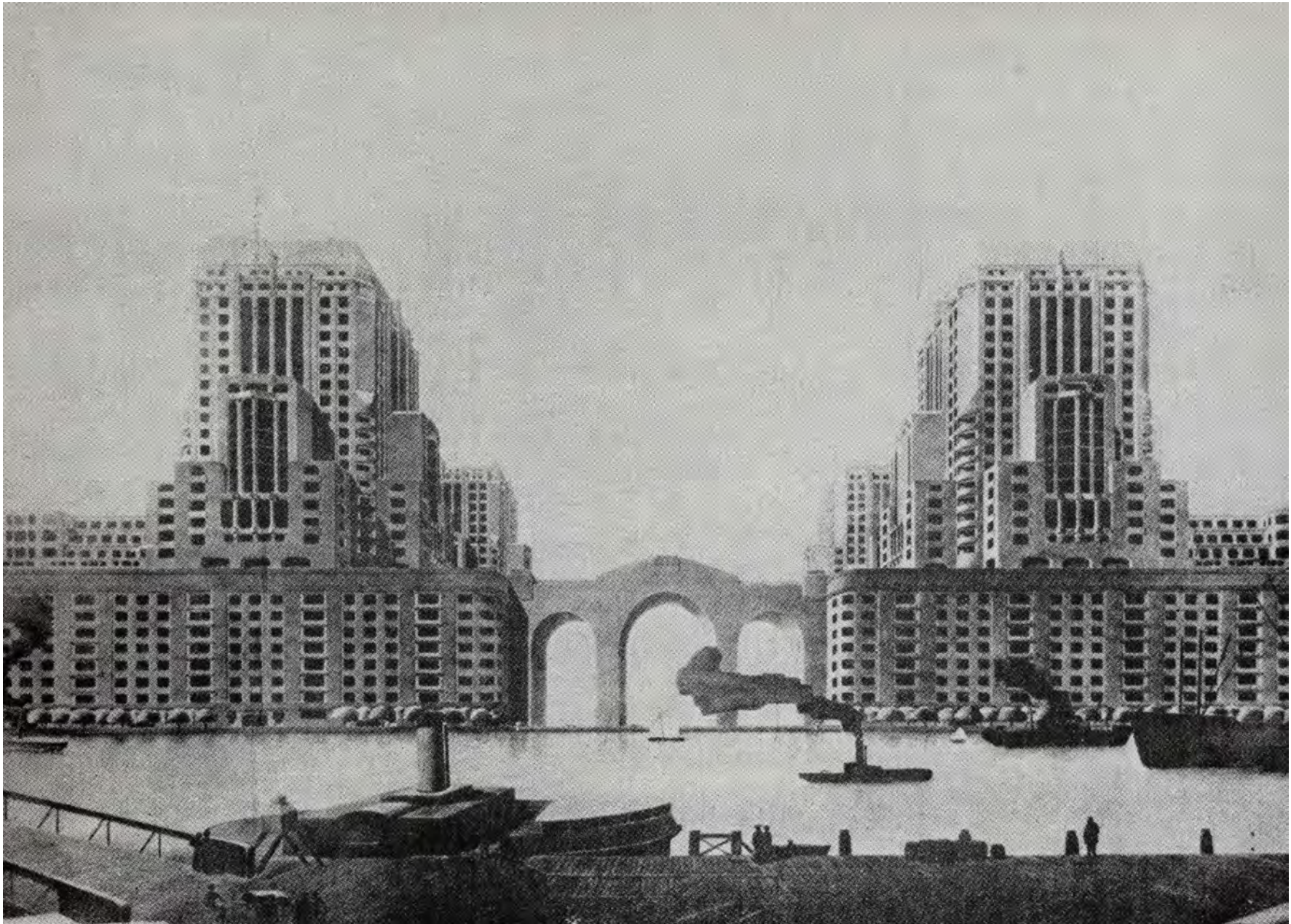
Ferrariskaart, 1771-1778



View on Antwerp seen from the Left Bank, 1729 (Friedrich Bernhard Werner)



Ontwerp *Poort van Vlaanderen* Van de Velde voor Linkeroever (1926)



Henry van de Velde, Poort van Vlaanderen, 1926



Le Corbusier, plan for the Left Bank, ca. 1926



Emiel van Averbek, plan for the Left bank, ca. 1930



Boerentoren Antwerpen, 1929-32 (Jan Vanhoenacker, Émile Van Averbeké and Jos Smolderen)



UNBUILT ANTWERP

Density and other Matters

dr.ir. Dena Kasraian, Aroosha Zahid MSc

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Density & other matters





Credit: BlowUp Media

Kramer Ops. og modif. extraBox self-storage



Steps

1. Conceptual model
2. Literature review
3. Spatial analysis
4. City strategy / toolbox
5. Neighborhood Design

Methodological steps

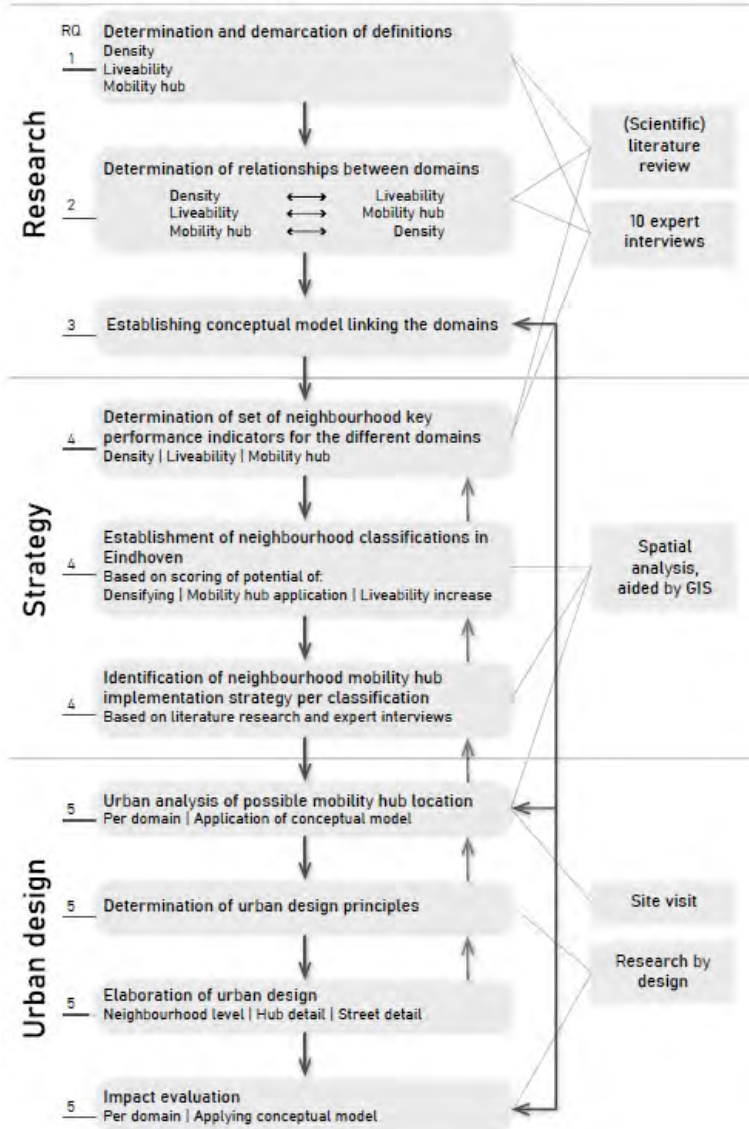


Figure 1, Methodological steps.

Emiel Groenhagen (2022)



Reflection on the impact of public participation on urban design and planning projects

Figure 1.1 Simplified overview of the project

Ilke Klasen (2022)

Conceptualisation



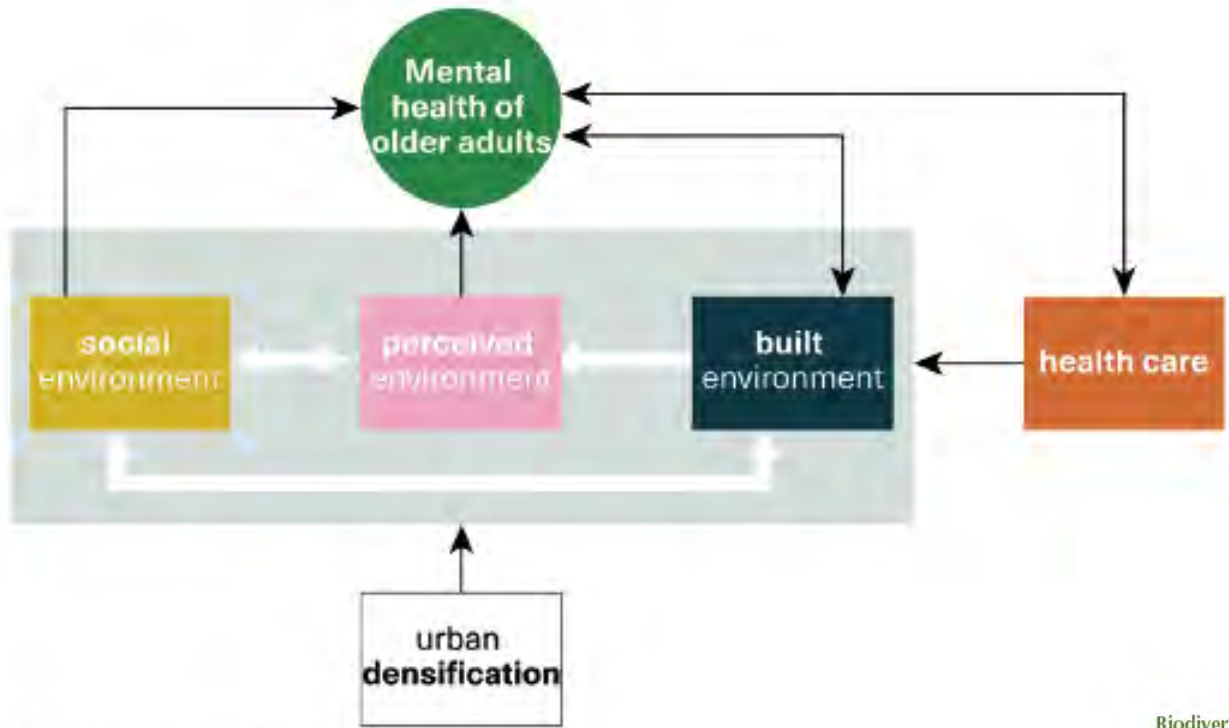


Figure 4 Adapted theoretical framework

Sarah Selanno (2023)

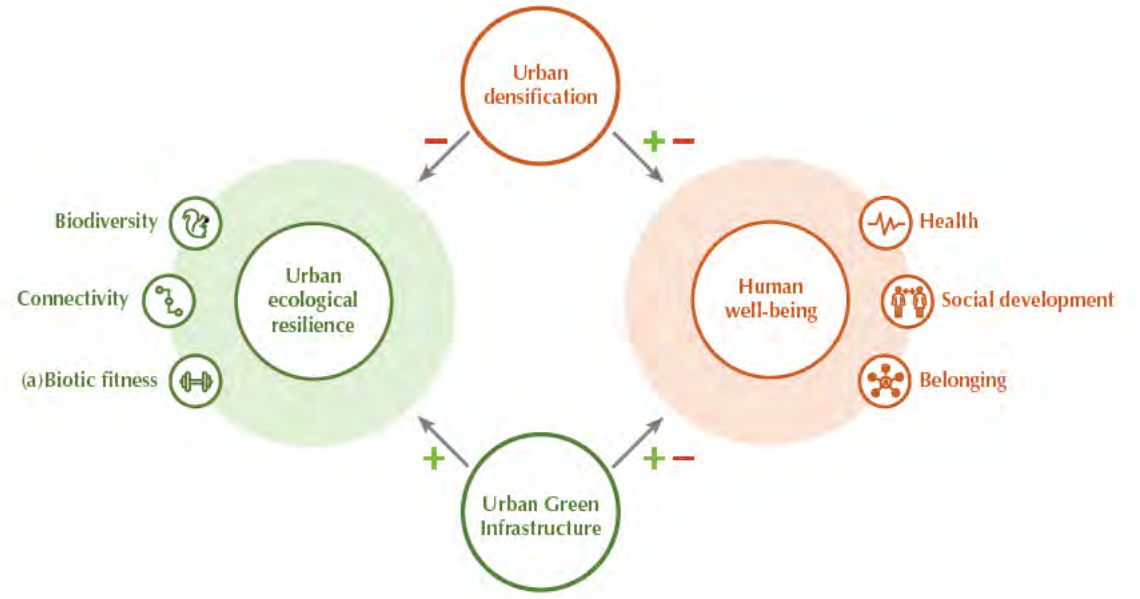


Figure 11 Conceptual model of the relationships between the key concepts

Merijn van der Does (2024)

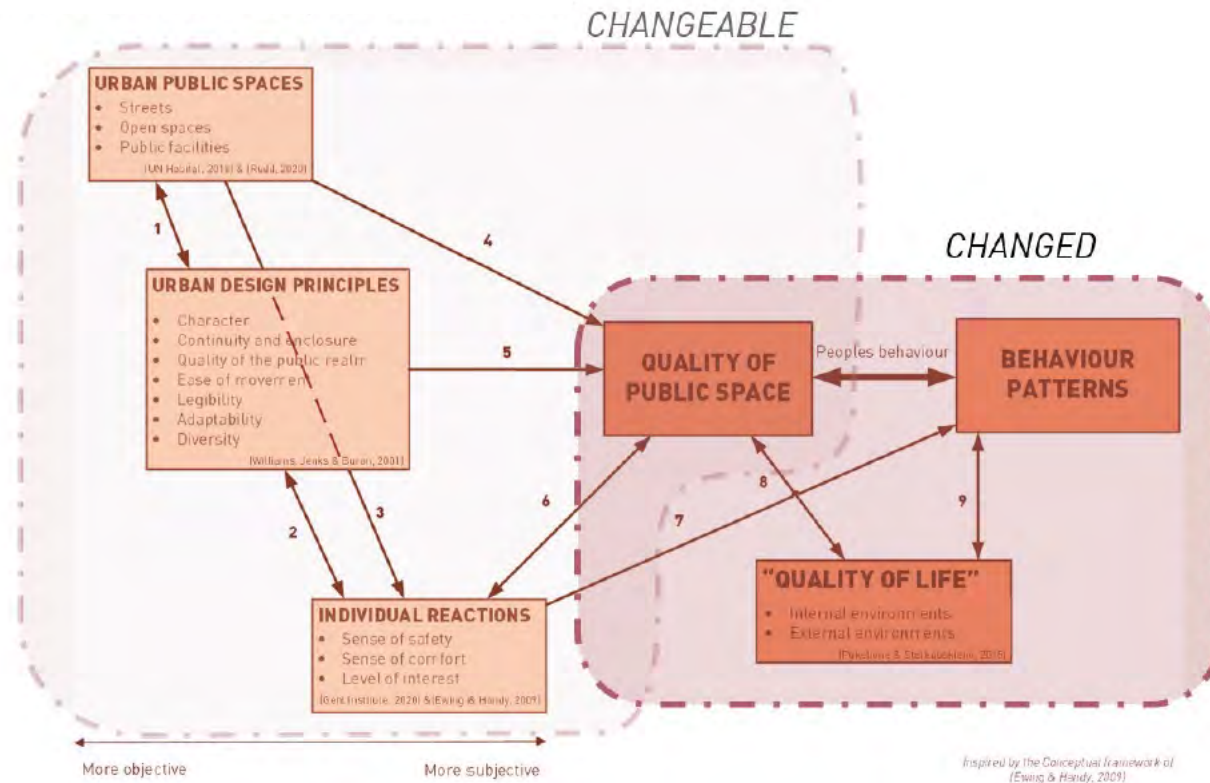


Figure 3.2: Theoretical framework + influences urban designer

literature review

1. Academic literature
2. Policies
3. Handbooks
4. Use cases



3 All t
15 Euro
25 India

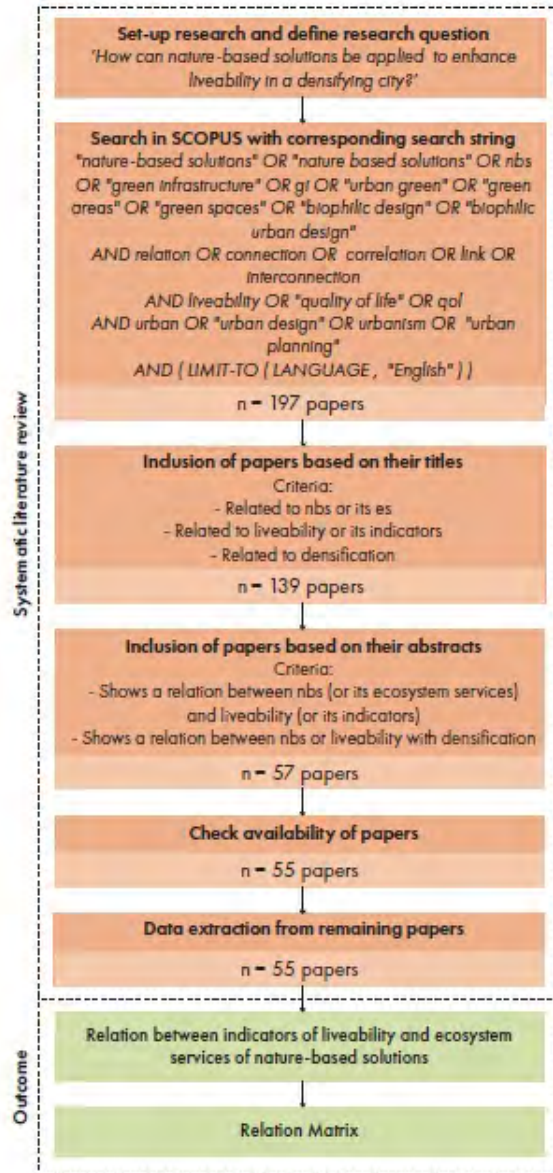
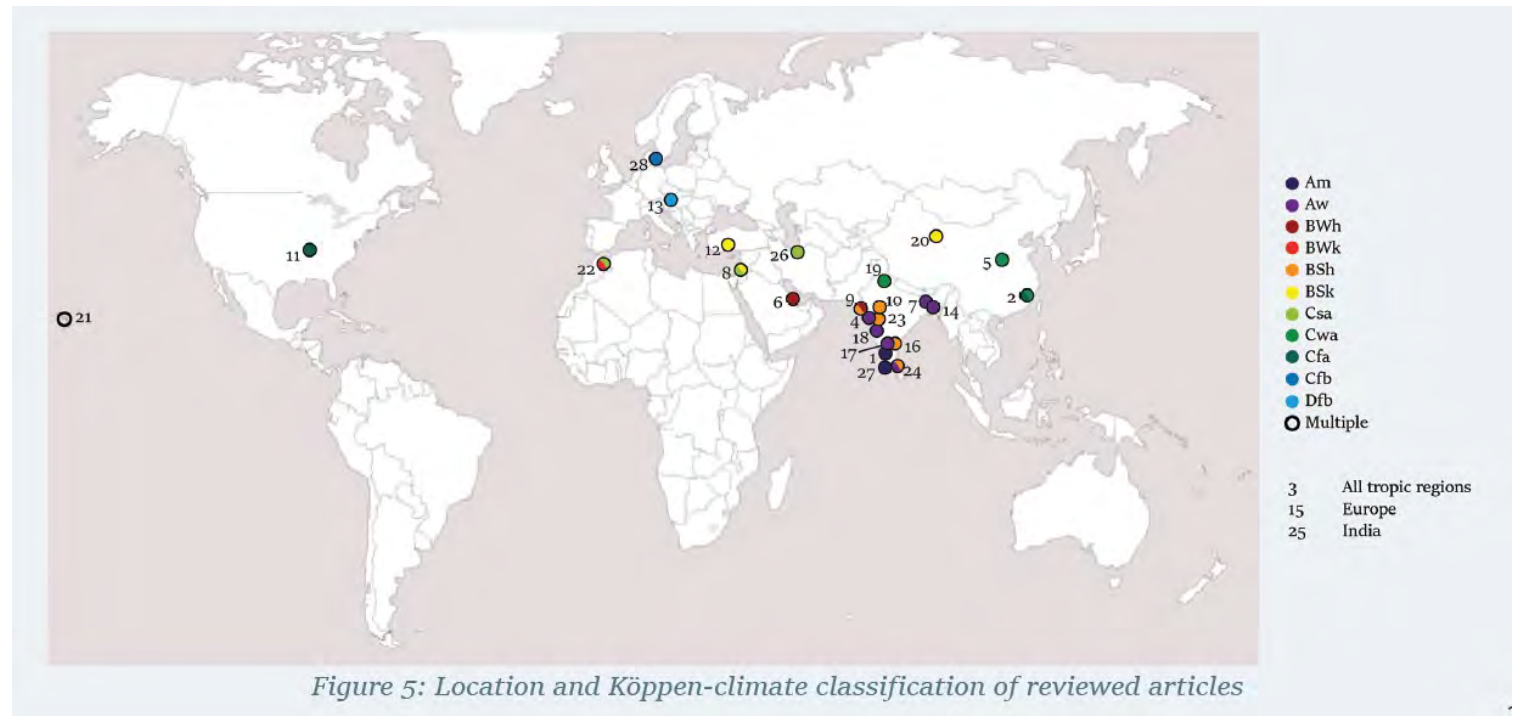


Figure 2, Methodology systematic literature review

Isabel Conti (2023)



Wilco Verpoorten (2024)

Table 3 Relationship matrix for the environments and their corresponding indicators in relation to mental health of older adults

		built environment											social environment					perceived environment								
		Land-use mix	Proximity to green space	Accessibility	Walkability	Proximity to public space	Street network density	Street interface density	Wind penetration	Facility features	Water	Activities	Physical activity	Recreational services	Social Cohesion	Social interaction	Sense of Community	Sense of place	Air quality	Noise levels	Crowdedness	Light	Privacy	Temperature	Aesthetics	Safety and security
ID	Scale	6	15	13	16	4	1	-3	1	7	-1	17	9	14	13	14	11	7	10	-13	-10	4	7	-4	11	14
1																										
2	S		1										1						1	1					1	1
3	S		1	1	1					1		1	1					1	1						1	1
4	S		1			1				1	-1	1	1	-1		1		1	1			1	1	1	1	1
5	S		1			1				1		1		1	1		1			1	1	1	1	1	1	1
6	S		1	1	1					1								1	1					1	1	
7	S	0	1										1		1											
8	S/M	1	1	1	1					1		1	1	1	1	1	1	1	1	1	1		1		1	1
9	S/M		1							1		1	1	1	1	1	1	1	1	1	1		1		1	1
10	S/M		1			1				1		1		1	1	1	1	1	1	1	1		1		1	1
11	S/M	1	1	1	1					1		1		1	1	1	1	1	1	1	1		1		1	1
12	S/M	0	1	1	1	1	1			*		1		1	1	1	1	1	1	1	1		1		1	1
13	M	1	1	1	1		1					1	1	1	1	1	1	1	1	1	1				1	1
14	M							1		1		1		1	1	1	1	1	1	1	1				1	1
16	M						1							1	1	1	1	1	1	1	1				1	1
17	M	1		1	1	1	0					1		1												1
18	M	0	1	1	1	1						1	1	1	1	1	1	1	1	1	1					1
19	M	1		1	1					1	1	1		1	1							1	1	1	1	1
20	M	0	1	1	1		1	-1		1		1		1				1	1	1	1		1		1	1
21	M	0		1	1	1						1				1				0					1	1
22	M	1	1	1	1		1	1				1	1	1	1	1	1	1	1	1	1		1		1	1
23	M/I						0							1	1	1										1
24	L			1	1	1	1					1			1											1

1	Positive relation
0	Mixed results
*	result found, not significant
-1	Negative relation

social environment

built environment

perceived environment

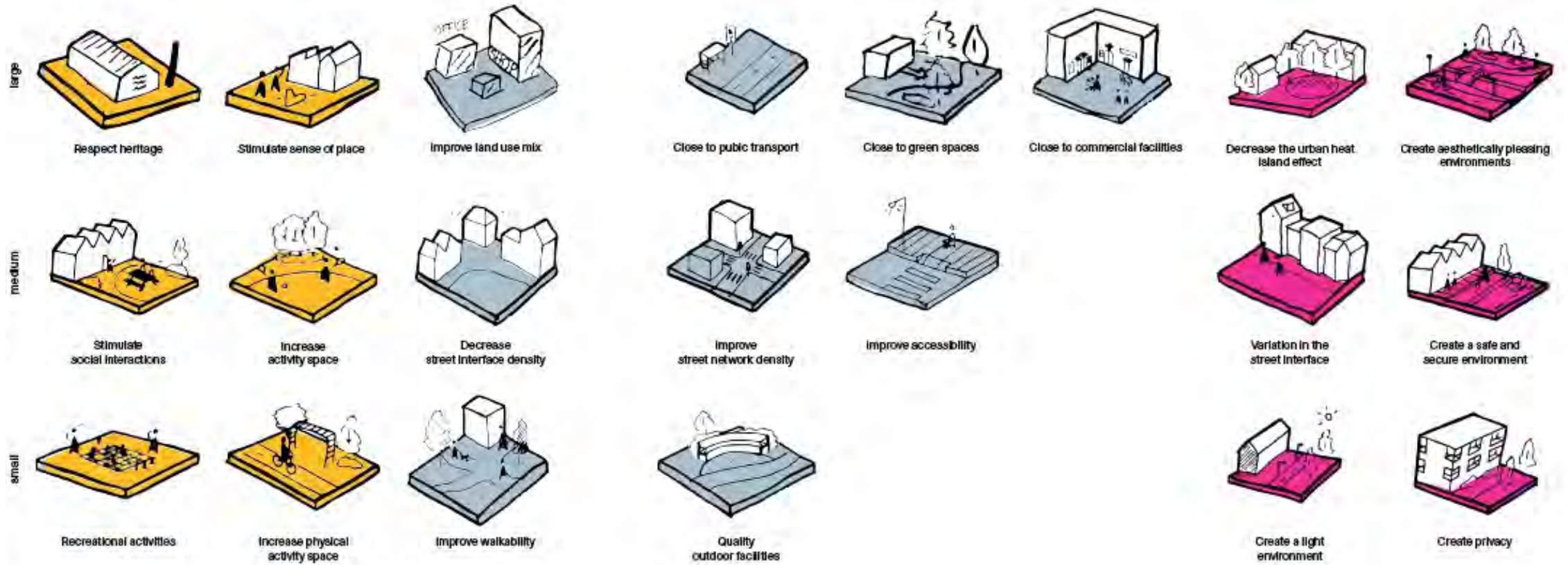
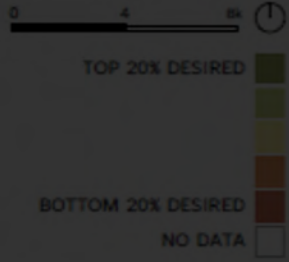


Figure 14 Design principles for healthy ageing in the city



CONTACT WITH FRIENDS,
FAMILY AND NEIGHBOURS



PARTICIPATION AND
ACCOUNTABILITY



OFTEN FEEL SAFE IN THE
NEIGHBOURHOOD

Spatial analysis



LAND NATURE MANAGMENT



NITROGEN DEPOSITION AND
TERRESTRIAL NATURE



URBAN EXPOSURE TO FINE
PARTICLES



ENVIRONMENTAL PROBLEMS



Health



Social development



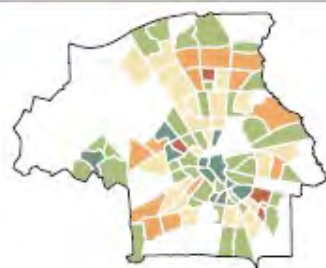
Belonging



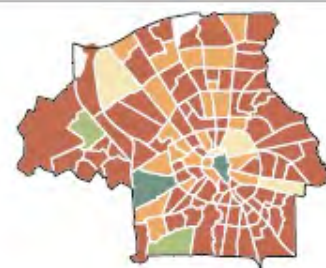
Limited by health



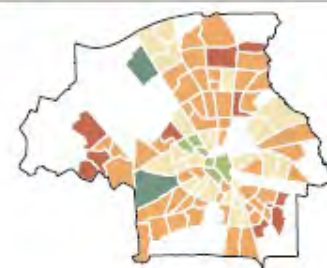
Complies with exercise recommendations



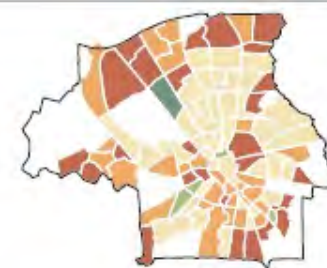
Has a starting diploma



Netto employment rates

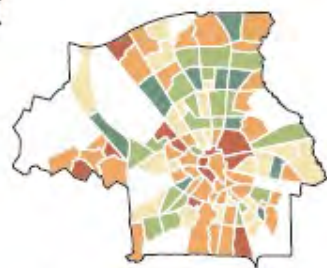


Feels at home in own neighbourhood

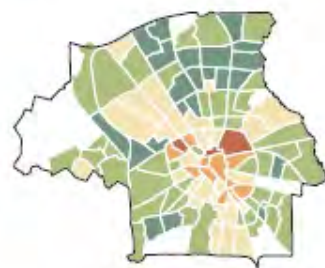


Social loneliness

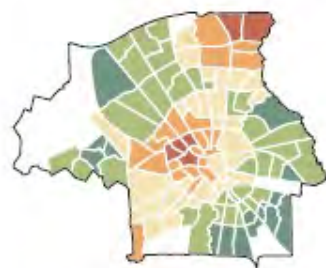
physical



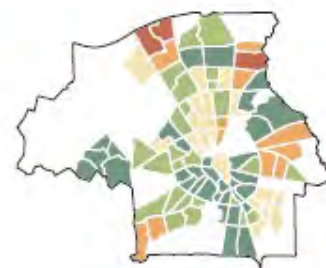
Good perception of own health



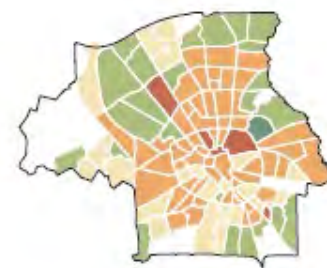
Overweight population



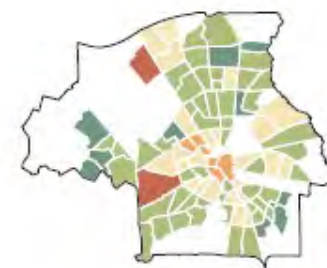
Distance to recreation



Regularly visits big parks



Distance to cooling

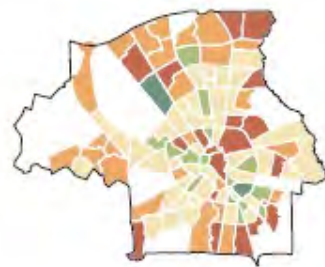


Noise pollution

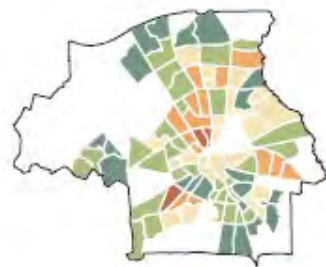
mental



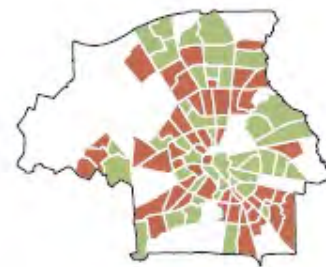
High risk for depression



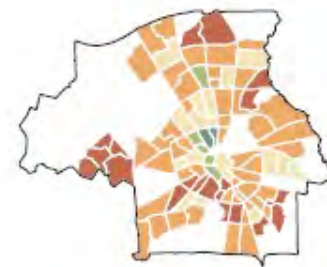
Experiences stress



Feeling of unsafety



Walk and cyclability



Satisfied with public space in own neighbourhood

Spatial indicators human well-being

SCORING TOP 20%

SCORING BOTTOM 20%

No data



Figure 21 Spatial indicators human well-being

Eindhoven City Strategy 2040

1:70.000

- Densification and mobility strategy**
- Urbanized area
 - Max: FSI 5,08
 - High: FSI 4
 - Average: FSI 3
 - Low: FSI 1,34
 - Direction of densification development
- Potential densification zones:**
- Larger locations
 - Smaller locations
 - Groenstedelijk
 - Existing train station
 - Proposed train station
 - Existing HOV bus line 500m buffer
 - Proposed extension of HOV bus line

- Urban Ecological Resilience**
- Urbanized area
 - Strengthening Dommeldal
 - Greening blue corridors
 - Re-introducing Gender
 - Regenerating agriculture: climate buffers
 - Strengthening 'Groene Wiggen'
 - City parks
 - Radial and concentric green corridors

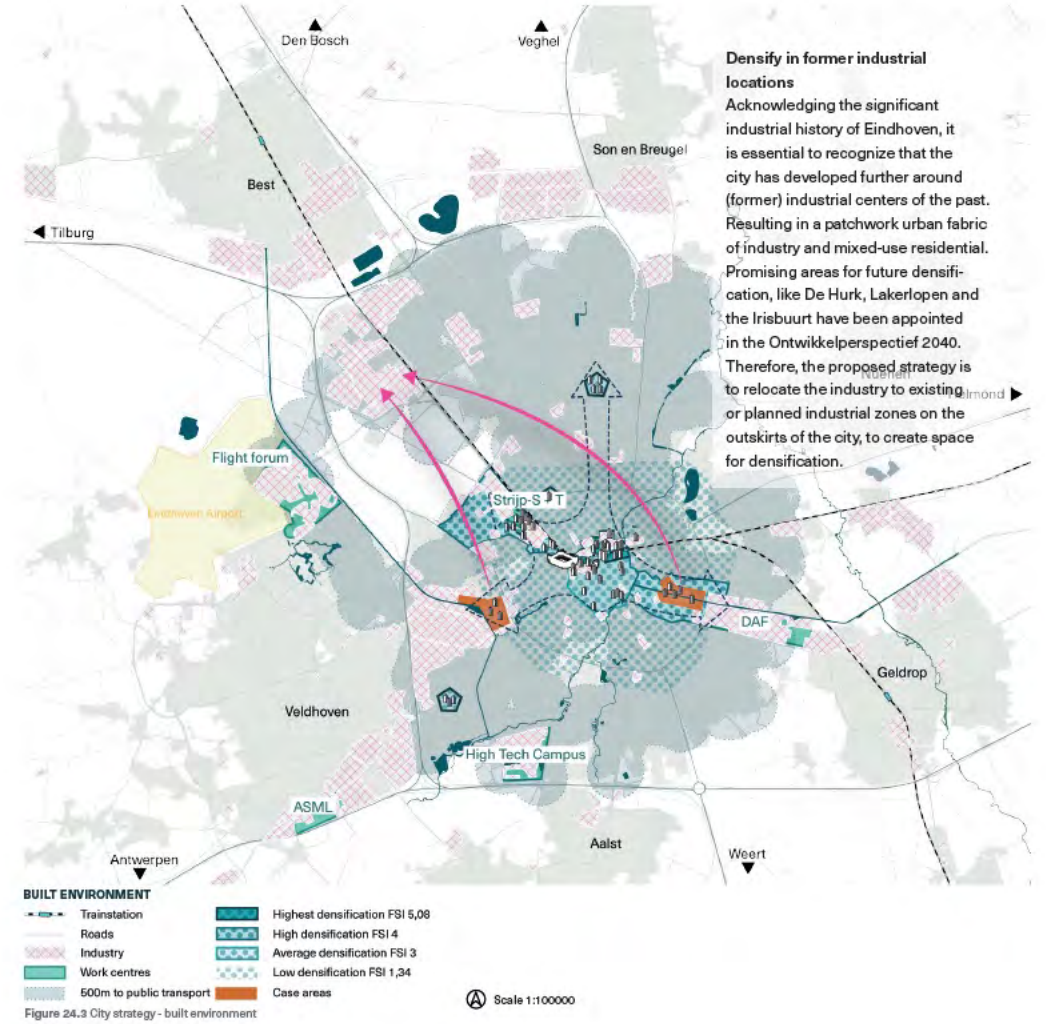
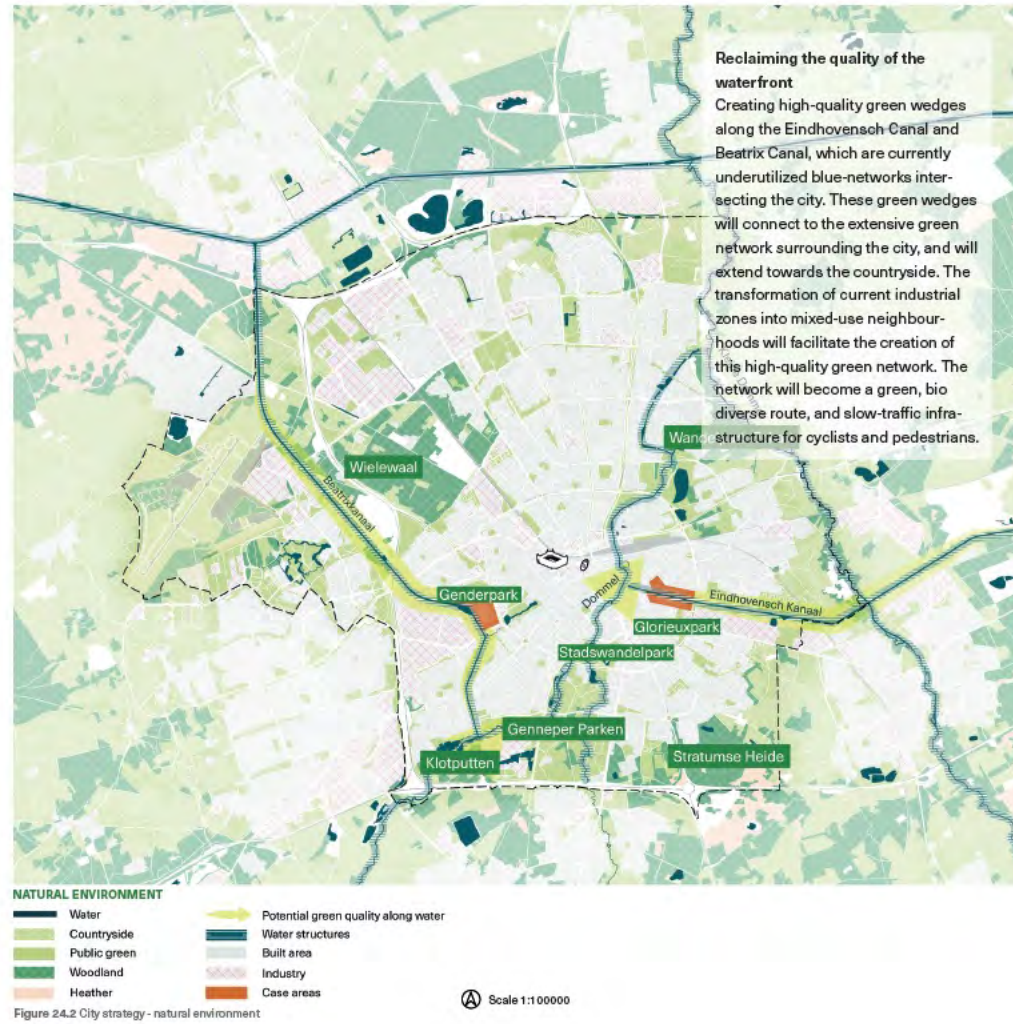
- Human well-being**
- Urbanized area
 - Reducing risk scapes
 - Greenspace of significant recreational value
 - Fast cycling lanes
 - Proposed fast cycling lanes
 - Proposed fine-grain recreational network
 - Strengthening human UGBS connections

City strategy

Figure 37 City strategy for Eindhoven 2040



Figure XIII. City scale strategy map. Principles and descriptions of colours are mentioned in figures XI and XII.



City scale strategy






























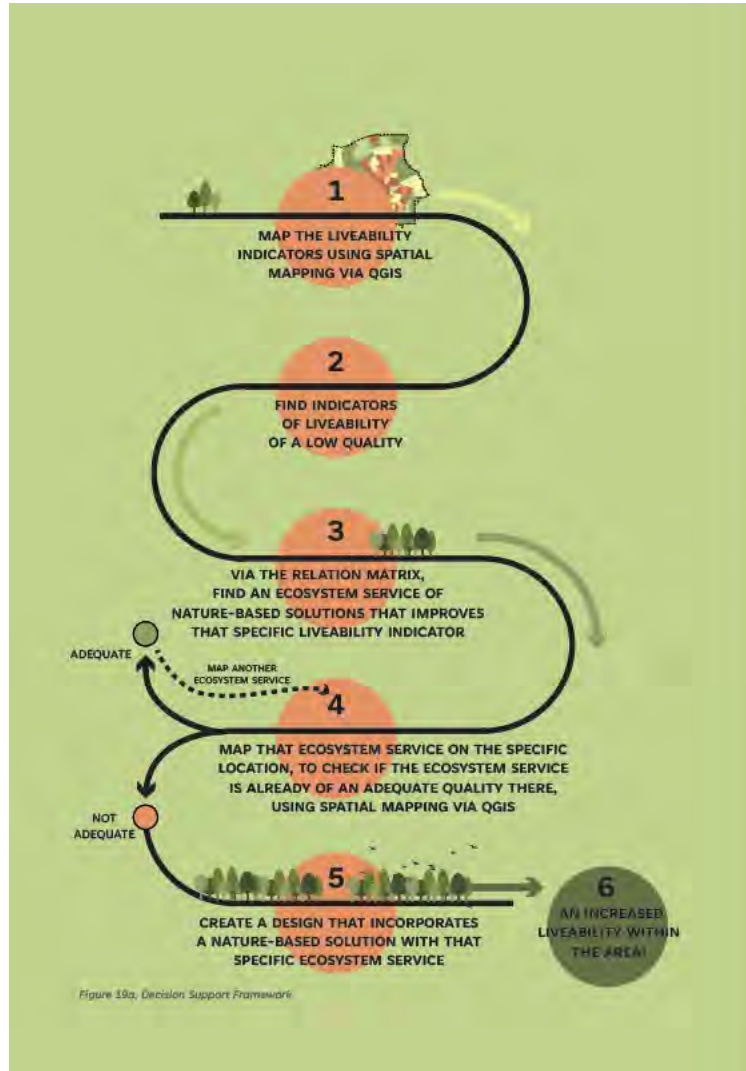
-  Railway
-  High priority bicycle network
-  HOV public transport line
-  Car infrastructure
-  Water infrastructure
-  City centre built area
-  Inner city built area
-  Outer city built area
-  Airport
-  Central train station
-  Small train station
-  Proposed new train station
-  Regional hub
-  City edge hub
-  Local hub zone
-  Ring road crossing altered
-  Large road presence reduction
-  Old village structure
-  State-protected city structure
-  Very highly-valued urban structure
-  Highly-valued urban structure
-  Very high parking area percentage
-  High parking area percentage
-  Moderate parking area percentage
-  City Hotspot
-  Densification tier 1
-  Densification tier 2
-  Densification tier 3
-  Parking lot



Figure 48 City-scale strategy



DECISION SUPPORT FRAMEWORK

Step 1 MAP

For the first step, the indicators of liveability are mapped on the scale level which is appropriate for the research or design. This is done by spatial mapping in QGIS.

Step 2 FIND

After all indicators are mapped, the indicators of low quality can be defined and found. The definition of 'low quality' can vary per situation and therefore need to be critically defined project specific.

Step 3 RELATION MATRIX

Now that indicators of low quality are found, the ecosystem services that enhance these liveability problems need to be subtracted from the Relation Matrix. For this, ecosystem services that have desired relations with the indicators of low quality are used.

Step 4 CHECK

After ecosystem services are found that will enhance the liveability problems, it needs to be checked if those ecosystem services are not already of adequate quality. The definition of 'adequate quality' can again vary per situation and therefore need to be critically defined project specific. This check is done by mapping the ecosystem services within the project area in QGIS. If the ecosystem services are already of adequate quality, improving them will not enhance the liveability problems. So, another ecosystem service needs to be mapped. This process is repeated until an ecosystem service of inadequate quality is found, which will enhance the specific liveability problems.

Step 5 SOLUTIONS

Now that ecosystem services of inadequate quality are found, nature-based solutions need to be defined that will provide those ecosystem services. Here, the nature-based solutions implementation research is used. From that table, nature-based solutions implementations that provide specific ecosystem services are subtracted. The table also allows to filter on the type of city, the level of density, and the scale of the project. This makes sure that the nature-based solutions are better tailored to the situation.

Step 6 DESIGN

A strategy or design that implements the found nature-based solutions is created, that will enhance the specific liveability problems in a project, thereby thus increasing the liveability there.



Neighborhood design

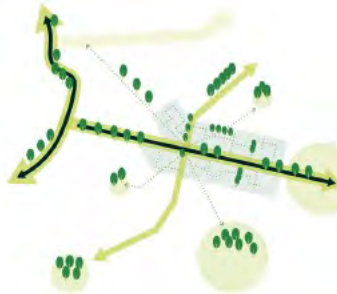
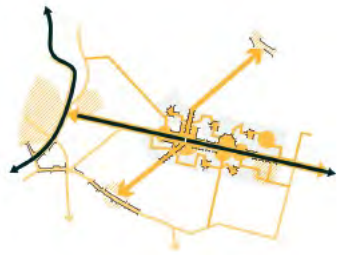


Figure 33 Conceptual diagrams.
 Top left: social environment
 Middle: natural environment
 Bottom: built environment
 Right: combined diagrams



3. CONCEPT

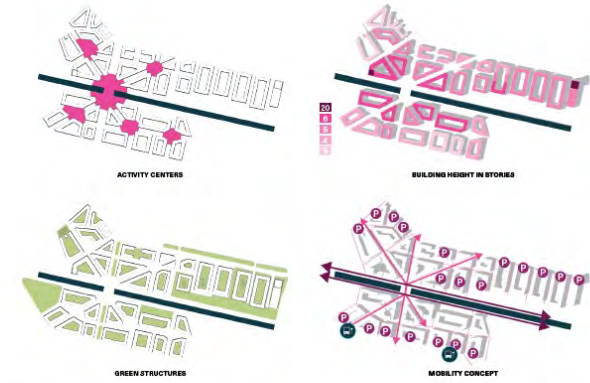


Figure 37 Thematic elaboration of the masterplan

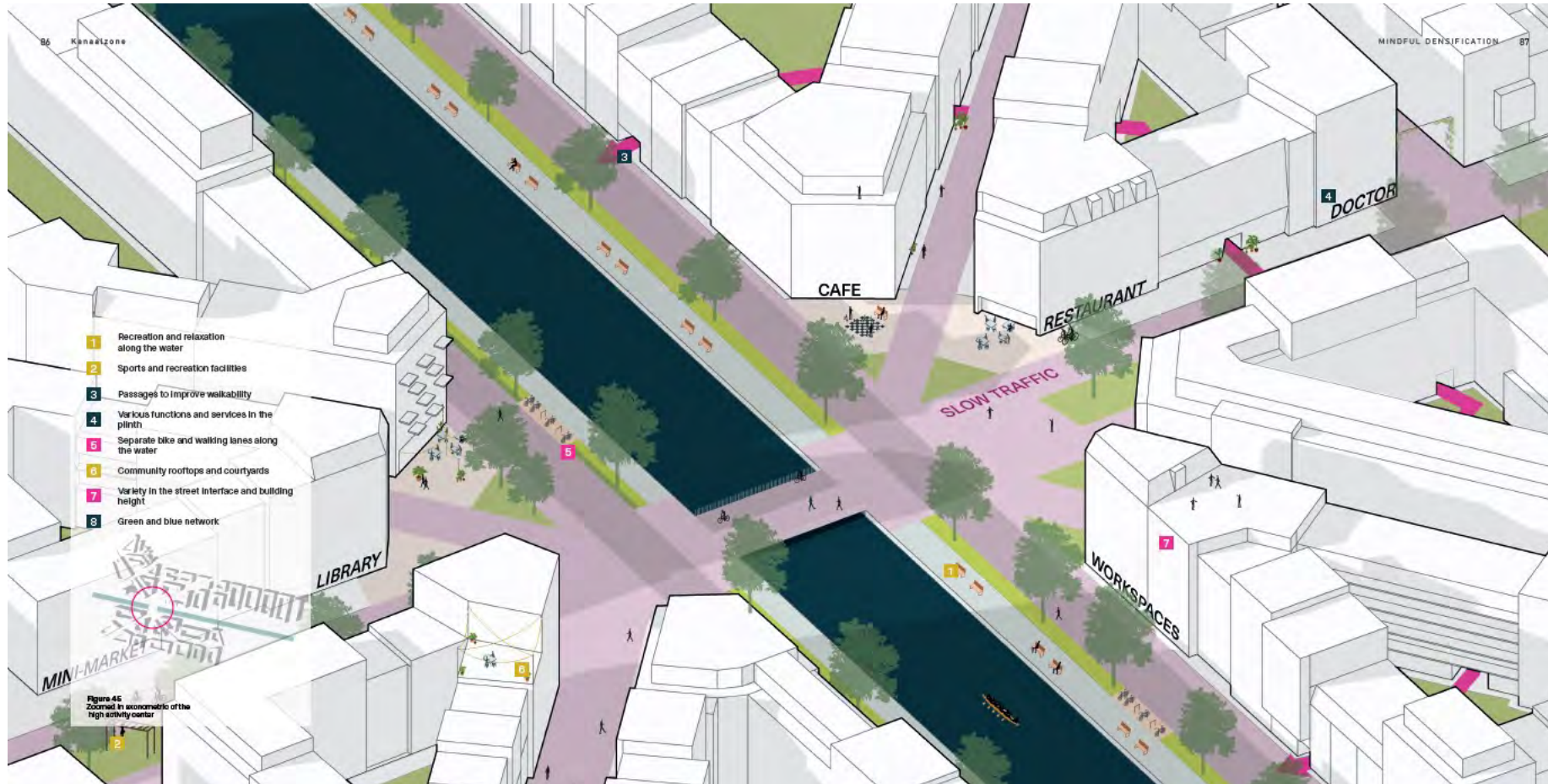
- Building blocks
- Cycle and pedestrian zone
- Bridge over the canal
- Green courtyards
- Public park
- Neighbourhood square

Figure 38 Urban masterplan for the Kanaalzone. SCALE: 1:5000

5. MASTERPLAN

The masterplan shows the proposal for the mixed-use high-density development for the Kanaalzone. The human scale forms the basis of the design, by focusing on the pedestrian and cyclist perspective. The high land-use mix creates a small-scale local center that will cater to the needs of the 55-74 year old demographic, as well as the families, starters and singles. The activity center in the middle is situated at the crossing of the large boulevard and the diagonals. Two height accents will be located at the north-side, along the canal and

along the Ring Road. Moreover, parking will be realized (semi-)underground under the building blocks. The (semi-)private courtyards will form the green heart of the building block, where people can come together.



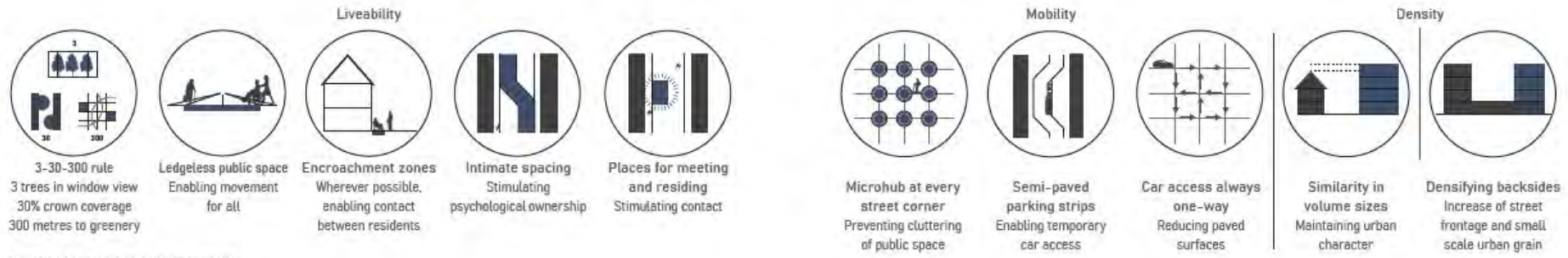


Figure XX. Urban design principles applied

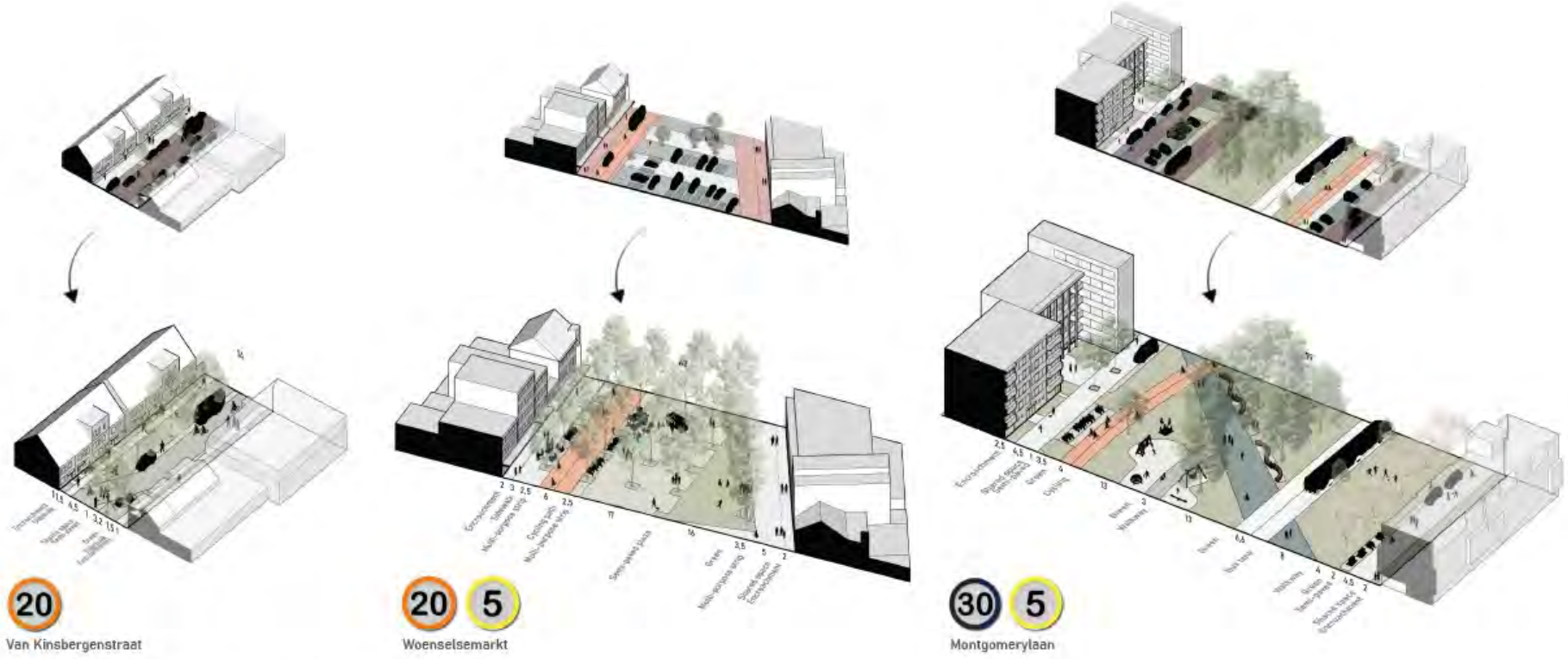


Figure XXI. Street sections showing the difference in PS usage of three locations

9.12 Urban sections

Section A and B in Figure 76 show longitudinal sections through the proposed Sectie-C development. Section A shows the large to be redeveloped buildings in which ateliers, the communal workshop and the main exposition building are situated. Furthermore, it shows how these existing buildings are topped up by residential towers, providing buffer from the railway. At the most western side, the mobility hub in front of the station is visualized and the entrance to Sectie-C is marked with a height accent. The most eastern side shows the connection to the region.

Section B shows the section through the line of Cityplots, showcasing a more diverse and mixed typology. On the most eastern edge, the scouts have remained their activity garden, which connects to the courtyard of the adjacent Cityplot. Along the Connector park, a height accent is placed, marking the edge of the site. Within the neighbourhood park,

a park pavillion is introduced. Finally, another height accent is placed at the edge of the Cityplot along the road and 't Karregat.

Section C shows a green corridor street from the main activity zone to the Spoorpark.

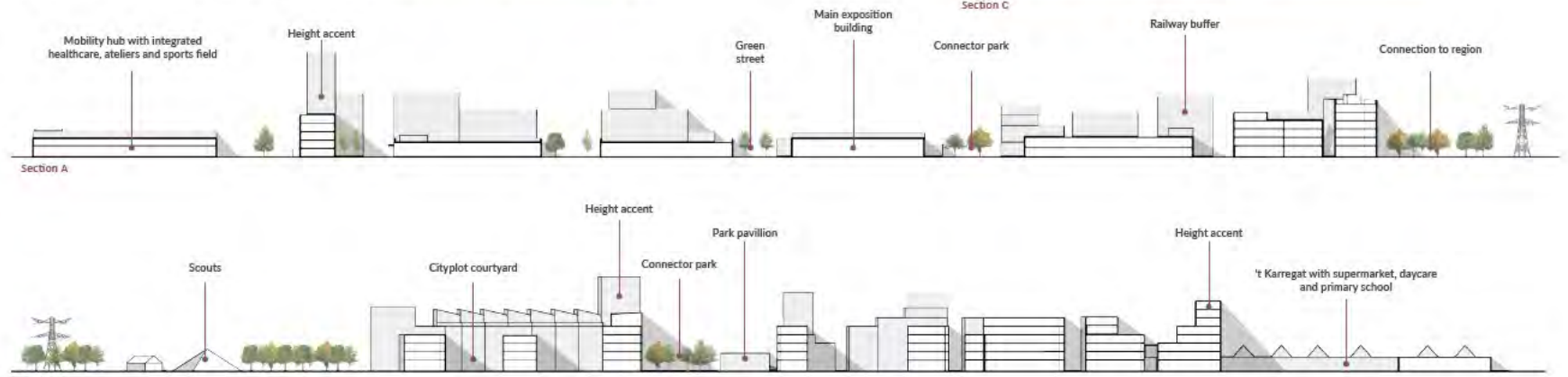


Figure 76 Longitudinal urban Section A and B Sectie-C, scale 1:3000, and green corridor street section, scale 1:300





Sarah Selanno (2023)



Figure 67: Future situation shared slow mobility path Irisbuurt