

**The Living Library**  
research and process report

Sara Rose Perera-Hammond  
4747402

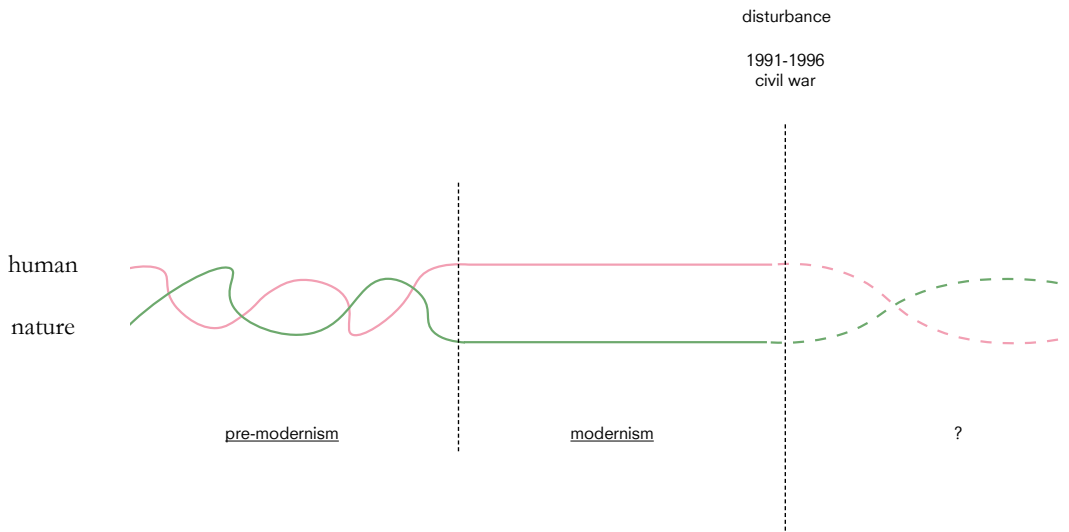
tutors  
Armina Pilav  
Ferry Adema



*nature growing from an urban ruin Mostar  
authors own, 2018*

# CONTENTS

<b>Introduction</b>	<b>5</b>
<b>Glossary</b>	<b>9</b>
<b>Prologue; The Living Library</b>	
<b>Nature and the historic city: Mostar</b>	<b>19</b>
<b>Post-war Landscape</b>	<b>27</b>
<b>Ruderal ecology</b>	<b>29</b>
<b>Interspecies Living</b>	<b>31</b>
<b>The site</b>	<b>39</b>
historical analysis	
methodology	
<b>Design explanation [approach]</b>	<b>81</b>
initial design exploration	
dealing with heritage and decline -man and nature relationships	
concept exploration	
<b>Reflection</b>	<b>99</b>

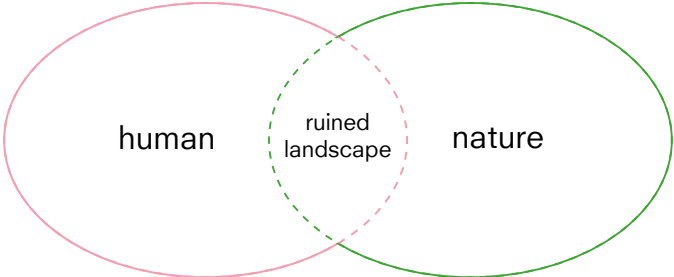


# INTRODUCTION

This research began with a broad interest to study nature in the city of Mostar as part of the research lab Neretva Recollections. The collective aim of the design studio has been to explore urban and landscape transformations taking place in the city of Mostar, as a result of the civil war from 1992-1996. This quickly led me to explore how human nature relationships and processes have changed and/or occurred from the as a result of the war and post-war destruction and to explore what this could mean within an architectural project.

I would like to point out that I did not search for rehabilitation, reconstruction and reconnection in the 'divided' post-war city of Mostar, whilst the war civil war has been a starting point for this project I have not focused on this as a primary problem within the research. Whilst along the way I have researched and tried to grasp an understanding of the social complexity I don't attempt 'fix' these issues. Instead I look with an ecological perspective to study the continuous change of nature and the landscape in relation to this destruction, to search, explore and experiment with material relations and new ways of living as a result of the war. It is not only in Mostar, in a landscape of physical ruins that we have to look for ways to recover from destruction. On a global scale it is also time think about undoing man's environmental affects after continuous degradation the landscape through industrialization and exploitation.

This research and consequent design project has been split into several chapters, firstly, I will look at the historical development of the city of Mostar up until the event of the war. Looking at the how the relationships between the nature, the city and it's citizens changed over time. In chapter two I will present the post-war landscape and reflect on how the event changed the landscape of the city. In chapter three I will take a deeper look at the topic



of ruderal ecology which has emerged in the contemporary landscape found in the post-war city of Mostar. I will use this research to explore multiple and alternative narratives to that of division, as ruined landscape presents breeding site where the boundaries between nature and culture collide. In chapter four I will present my field research and analysis from the study trip to Mostar with the accompanying methodologies. Finally, in chapter 5 I will reflect on the design as a result of this research, presenting ideas of collaborative survival both human-to-human and human-to-non-human, as a way to negotiate a positive future. This becomes part of a urban strategy for preservation of new ecosystems within the city which use human disturbance as starting point for this collaboration.





# GLOSSARY

**disturbance;**

destructive action which becomes a catalyst to alter  
the existing space to create new habitats

**decay;**


natural process of material transformation from one  
state to another

**collaboration;**

symbiotic relationships between human and non-hu-  
mans

**co-cultivation;**

a shared inhabitation of the landscape between hu-  
man and non-human



**“In a global state of precarity, we  
don’t have choices other than than  
looking for life in this ruin.”**

Anna Lowenhaupt Tsing- Mushroom at  
the End of the World, 2017

# PROLOGUE

**Living;** derived from the word life, meaning to have life or the act of being alive. In the Oxford dictionary three definitions of the word life is as follows;

- i The condition that distinguishes animals and plants from inorganic matter, including the capacity for growth, reproduction, functional activity, and continual change preceding death.
- ii The existence of an individual human being or animal.
- iii The period between the birth and death of a living thing, especially a human being.

**Library;** A word used to describe a building or room containing a collection, usually books to be read, studied or borrowed, all produced in the same style or about the same subject.

These two words lend themselves to the title of this project and its research. This projects aims to address the multiple aspects of the notion of living. Firstly to question and reflect with my research on how we regard the lives and livelihood of living and the non-living, the human and the non-human. Secondly, to explore and highlight new ways of living, as the act of survival in collaboration in regards to the former. This will be told through design of the project of the Living Library, taking the ruined landscape of the post-war city of Mostar as a starting point for new ruderal life. In an effort to show how we must adapt to a future interspecies living<sup>1</sup>: taking a post-human position where we engage in the care and responsibility of other species. The Living Library will explore ways to think about co-creating landscapes with non-humans in a mutually beneficial relationship for a future of survival.

---

1 Tsing A. (2015) *The Mushroom At The End Of The World*, Princeton University Press

# CONTEXT





# timeline

1468

The region comes under Ottoman rule.

1800's

Mostar develops off the River Neretva from the 15th - 17th century as part of the Ottoman Empire. Bosnia-Herzegovina is a quiet provincial outpost.

1878

Treaty of Berlin gives Austro-Hungarian Monarchy control over Croatia and Bosnia rather than giving control to the Serbians, making the area part of the Austro-Hungarian Empire.

1918

WWI ends along with the Austro-Hungarian empire. Bosnia joins the Kingdom of Serbians, Croats and Slovenes, and in 1929 the name of the union is formally changed to the Kingdom of Yugoslavia.

1941

WWII ends. Postwar tensions and nationalistic tensions remain. Yugoslavia remains a country known for its cohesion. Ambitions of leaders of Croatia to remain.

5

ds.  
President Tito  
nal economy of  
ia keeps ethnic  
at bay. Bosnia  
one of the coun-  
w for it's social  
s of nationalist  
f Serbia and  
o annex Bosnia

1980

Tito's death.

1992

Following an inde-  
pendence referendum  
Bosnia and Herzegovina  
becomes an independent  
country in 1992.

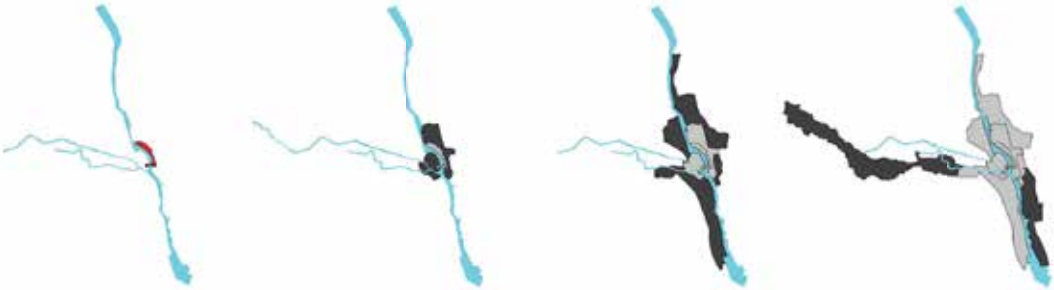
1995

The Dayton Agreement,  
is the peace agreement  
reached, by the different  
parties that put an end to  
the Bosnian War.



# urban growth

Mostar city expansion along river Neretva from Ottoman Empire to the contemporary situation



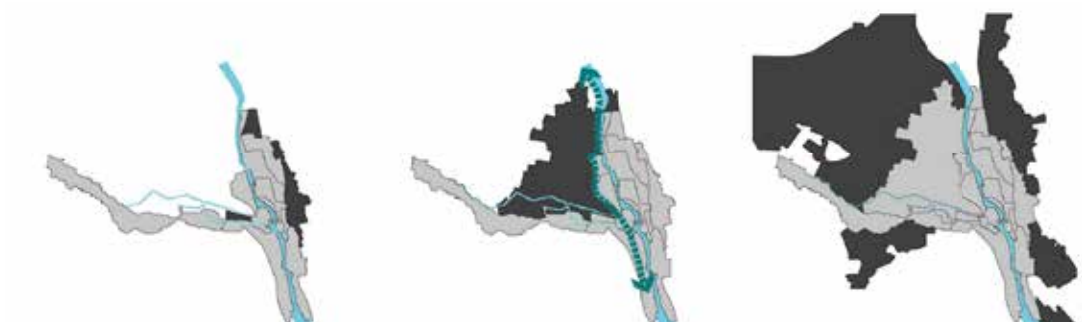
15th century

16th century

17th century

18th century





19th century

20th century

21st century



Mostar postcard of the  
bridge, 1911

# NATURE AND THE HISTORIC CITY; MOSTAR

Mostar is a city located in Southern Bosnia and Herzegovina, situated at an altitude of 40-70 metres above sea level on the banks of Neretva and Radobolja rivers, about 60 km distance from the Adriatic Sea. Nestled in the valley of the Dinaric Alps it's hard to picture Mostar without picturing the natural landscape. The very image of the city is tied to it's environmental features; built along the emerald blue Neretva river nestled in between the mountains of the Dinaric Alps. The same image appears over and over again on postcards, that and of course the Stari Most bridge it is key to the image of the city. This image of the city as beautiful as it is seems to be both a blessing and a curse. Since the civil war beginning in 1992, tourists pour into the historic city to see the historic bridge situated on Neretva, it's reconstruction a symbol of a unification. Still divided or not, all inhabitants of the city face the same social, and economical issues of recovering from the war, these problems appear to get inundated by the comm modification of the war narrative of this historic place. It's picturesque image becomes a deceiving one cloaking many of the real issues taking place, and becoming an open air museum for the war.

The city is undeniably tied to it's landscape and topography, which has had a large influence on many factors from it's image, social and urban structuring. to of course the climatic conditions. Firstly the city is home to river Neretva is the largest karst river in the Dinaric Alps. The fragile ecology of Neretva hosts biodiverse collection of flora and fauna.

In the South and coastal areas of Bosnia and Herzogovia the wild dominance of flora and fauna the populations has developed a and cherished the knowledge of this nutritious additional food source over the years seasons. Wild edible flora did not play a major role in the population's survival only in ancient days. It was crucial in maintenance of lives during the recent war in Bosnia and Herzegovina, especially in the cities that were under siege<sup>2</sup>.

---

<sup>2</sup> Sule Jman Redzic, 'Wild Edible Plants And Their Traditional Use In The Human Nutrition In Bosnia Herzegovina' (2006) 45 Ecology of Food and Nutrition.



key

tributary

urbanised area

cultivated nature

uncultivated nature

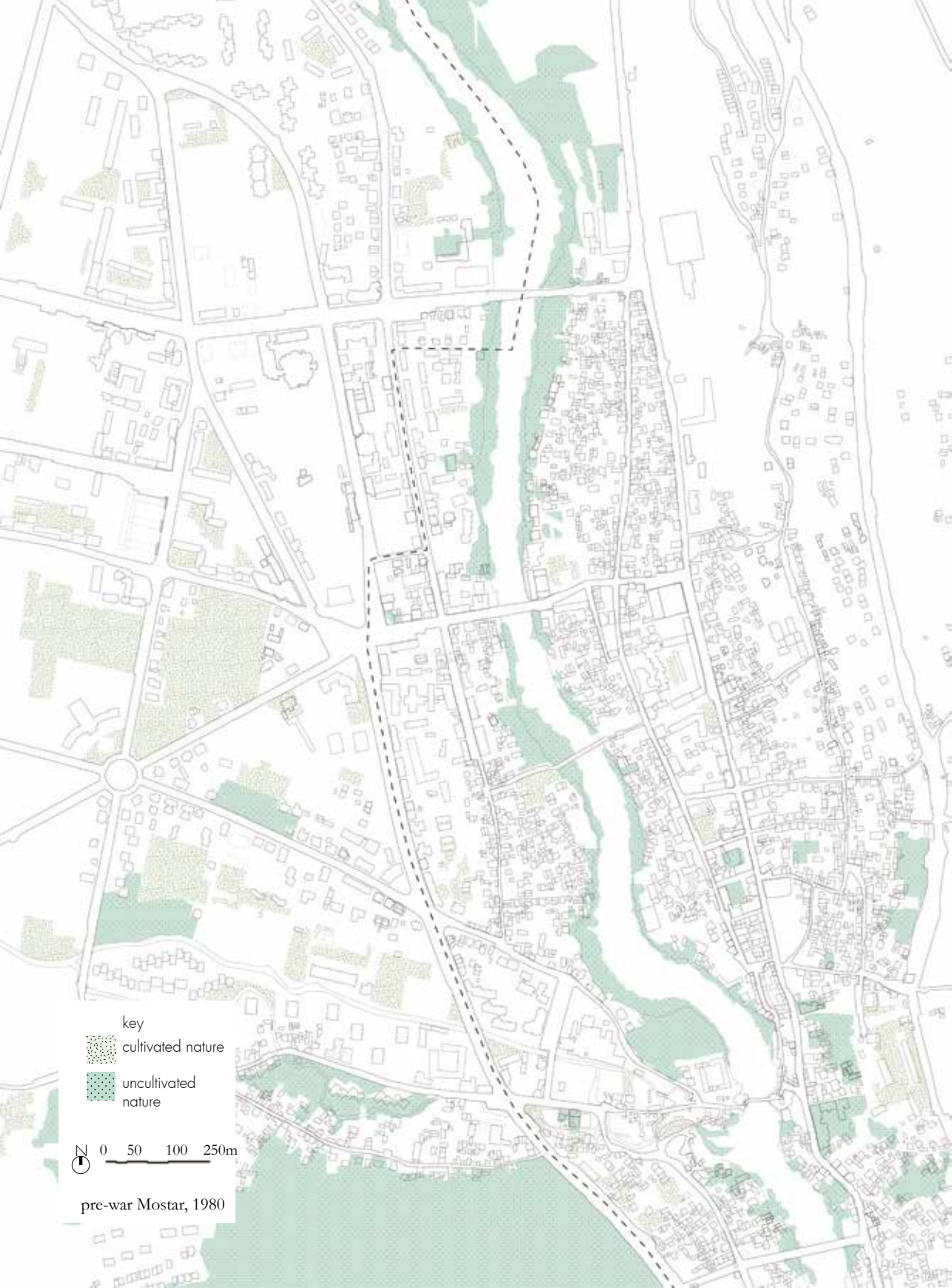
0 50 100 250m

Mostar, 1881

## OTTOMAN


The city began as a provincial outpost for the Ottoman Empire during the 15th century, settled on the banks of Neretva and Radobolja rivers. We can imagine that the very reason the city developed in its current location with the river acting as a transportation artery on trade route between the Adriatic and central Bosnia and the topography of the valley where the space between where the mountains meet the river allowed for the settlement to expand. The urban pattern which developed during the Ottoman period developed organically responding to the regional topography showing a direct relationship between the people and the surrounding landscape. By the 16th century the settlement had grown to inhabit both banks of Neretva. In 1474, the first mention of the name Mostar was documented, derived from Mostari meaning bridge keepers referring to the existence of a wooden bridge from the market on the left bank of the river which was used by traders, soldiers, and other travellers. With this expansion we can see first stages how the Ottomans changed the landscape, creating a largely agrarian landscape in the West, cultivating the floodplains of Radobolja, using its tributaries as irrigation canals to replenish the agricultural fields. From the urban pattern we can understand that the direct cultivation resulted in a relationship where people shaped the land and the land shaped the people.






key

 cultivated nature

 uncultivated nature

 0 50 100 250m

pre-war Mostar, 1980

## AUSTRO-HUNGARIAN

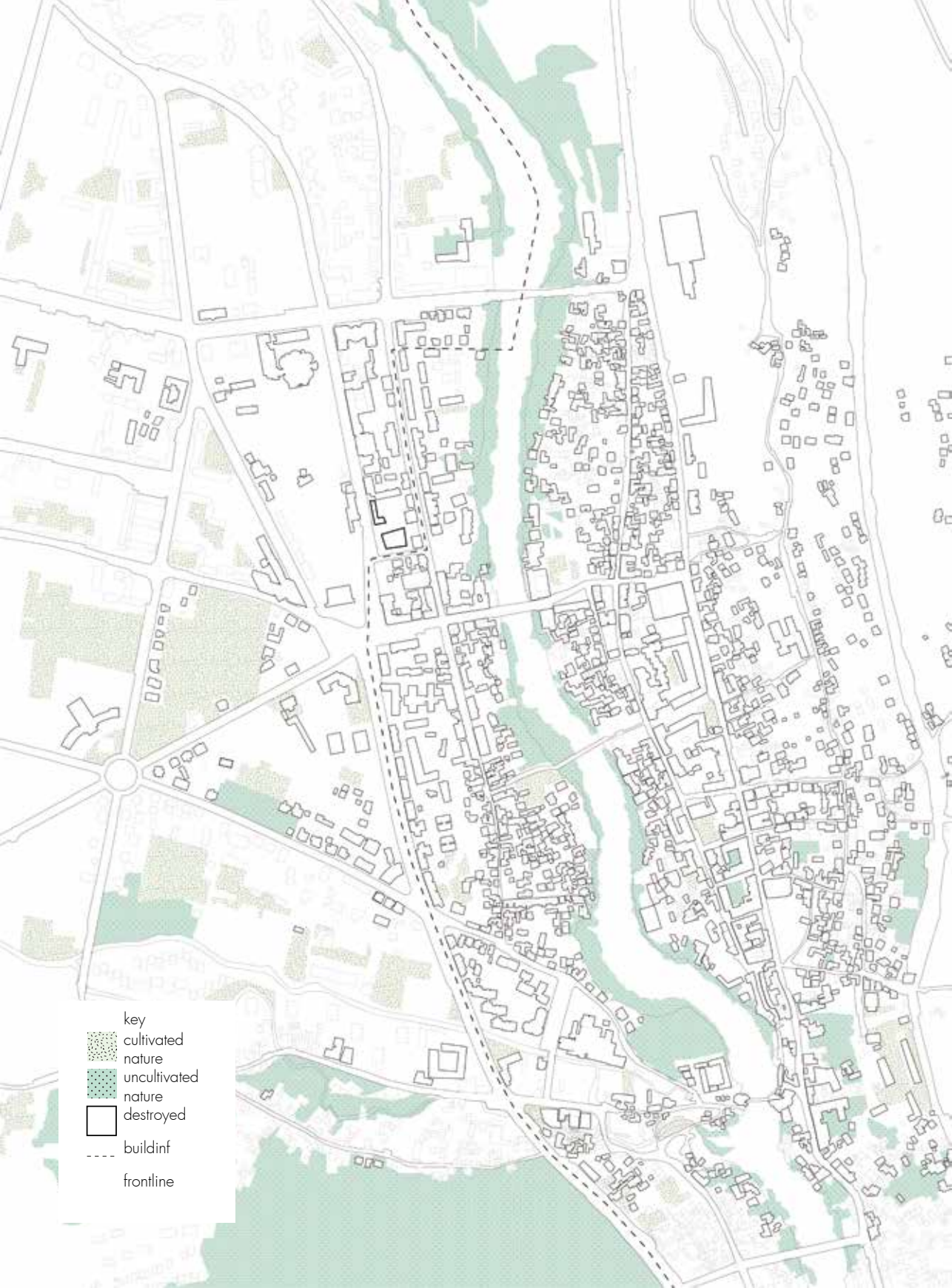
In 1878, the major European powers under The Treaty of Berlin restructured the Balkan region, during this time control over Croatia and Bosnia was given to the Austro-Hungarian Empire. This was the beginning of the Austro-Hungarian rule in Mostar. With the spread of Western modernisation Austro-Hungarian ruling brought along rapid industrialisation and the city experienced a building boom with large industrial expansion. During this time landscape formed a crucial resource during this time of economic growth the Austro-Hungarian developed many industries in the region, mainly through the production of raw materials, tobacco, lumbering, and iron ore industries<sup>3</sup>. Urban planning concepts were implemented from public space and large-scale infrastructure interventions. The city developed rapidly Westwards with modern Austrian standards and a gridded urban pattern. The Boulevard which later became the frontline during the civil war becomes the new border of new/old city, whilst providing a corridor for economic growth. As well as this the developed city structure provided many designed many open public spaces and parks, where man made nature could be a place of recreation in the city.

## THE KINGDOM OF YUGOSLAVIA

In 1918, WW1 ended along with Austro-Hungarian rule. Bosnia joined the Kingdom of Serbians, Croats and Slovenes, which in 1929 the name of the union is formally changed to the Kingdom of Yugoslavia. This was considered the most prosperous period in the Balkans. Under the rule of Marshal Tito, many countries and ethnicities were united under one identity and preserved with the economic benefits which were shared throughout. This was the height of socialism and ethnic inclusivity which was also reflected in many of the public space designs. During this peri-

---

<sup>3</sup> Robert Donia, 'THE PROXIMATE COLONY Bosnia-Herzegovina Under Austro-Hungarian Rule' [2007] Revisited.



key

-  cultivated nature
-  uncultivated nature
-  destroyed
-  buildinf
-  frontline



od landscape architects such as Bogdan Bogdanovic constructed many monuments in a new neutral language which was meant to be identifiable with all, such as the Partisan Memorial in Mostar. Many of them were based on landscape elements, therefore not relating to any religious symbolism and identifiable with all ethnicities.

During this period territory becomes a symbol of identity instead of race. In these times prior to the civil war public space played a large role in the city culture of Mostar, holding with is a civil nature of the city and its inhabitants for which it became known for its lack of tension between ethnic groups<sup>4</sup>. Public space was a big part of the urban culture, a place where various rituals would take place- bridge diving and comedy shows, walking on the korso. This public life meant a strong relationship with the landscape and urban spaces promenading outdoors was a safe place where people mixed. In Mostar the inhabitants identified as 'Mostari' landscape being a natural identity.

#### WARTIME CITYSCAPE

Peaceful co-existence ended along with Tito's death in 1980. Not long after came the civil war. The landscape features of Mostar played a strategic role during the war, the mountains acted as sniper points and the river became a sniper target for people crossing from one side to the other. The bridges were destructed stopping the transferability of goods and resources.

---

<sup>4</sup> Ma ki , A. (2016). *Mortal Cities Forgotten Monuments*. Park Books.



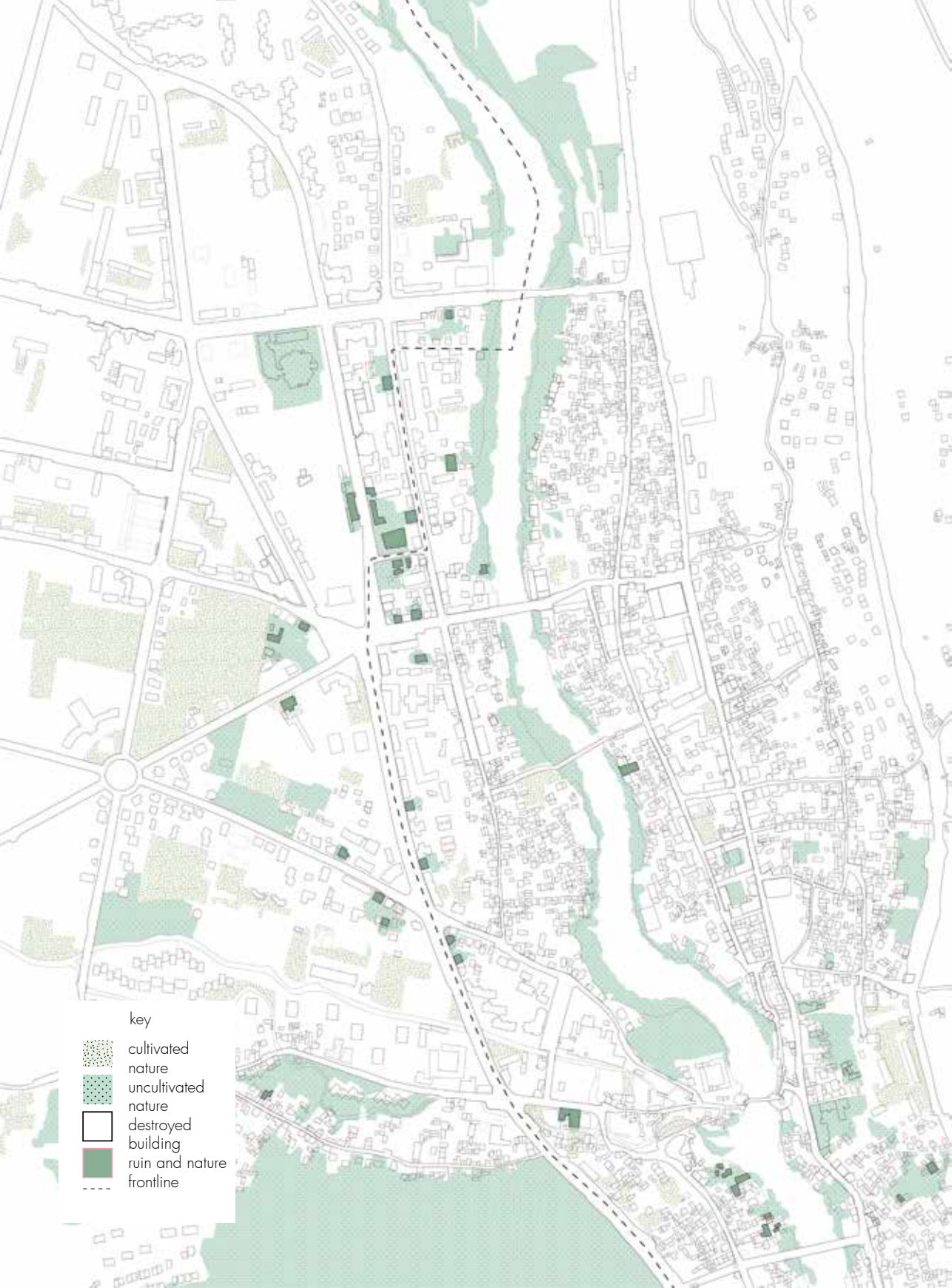
Inner city destruction, 1993, Mostar cidom.org

# A CITY IN RUINS- postwar landscape





After the devastation of the war the urban fabric was destroyed. The city had burst apart at the seams, all the organised pieces of the city that had been organised into their rightful places had been exploded, thrown up onto the surface, visibly mixed up and entangled. The disorder was visible. The man made urban landscape was beyond human control. Formal order and function had been shattered. The city was literally turned inside out, buildings roof had been blown off and people homes. Citizens had to improvise for survival, new material relationships we made, a door now longer became a door but became a barricade<sup>5</sup> Furthermore, the relationship with the natural environment also altered, for devastating reasons the division between man and nature had been literally ripped away, people struggled to find shelter and shared homes. People's living rooms were open air, outside, the spaces that had been built to protect man from the affects of the environment creating comfortable conditions to live in had gone.

---

<sup>5</sup> Pilav, A. (2017) 'Sarajevo: Material Mediation and Survival Bodies' The Funambulist



key

-  cultivated nature
-  uncultivated nature
-  destroyed building
-  ruin and nature
-  frontline

# RUDERAL ECOLOGIES

## CONTEMPORARY CITY

Today the landscape continues to play a role in the reading of the city in different ways. Neretva's strong geographical feature also plays strong role in enhancing the contemporary narrative of Mostar the divided city. Often being mistaken for the boundary between the East and West.

Throughout the city in this period of recovery the mental and physical health of the city can be reflected in each other. Many current sites of ruins including the river itself have become spaces of spatial hate, pollution, neglect and disengagement with the environment. Neretva itself as a living archive has become storage to numerous types of human waste, from garbage to sewage. This has led to the development of 'disturbed gardens' in these abandoned spaces throughout the city, where specific plants of ruderal species have inhabited the spaces.

## Ruderal

LATIN rudus- 'rubble'

Ruderal is a term used to describe plants species growing in disturbed landscape. They are often marginalised species perceived as weeds, for their 'invasive' and opportunistic nature. They are paradoxical in nature representing disaster and abandonment and the same time resilience and renewal.

Ruderal ecology gives a new lense to see nature in the city, on one level it can be seen as healing of the city after the war.(urban acupuncture) Furthermore, it gives a perspective which is not human centric but recognises the agency of nature to 'take back' and transform man made spaces into non-human habitats. In the contaminated landscape the roles are reversing, ruderal ecology demonstrates the agency of the non-human to adapt and survive to these disturbed conditions. It shows natural processes occur-

---

Anna Lowenhaupt Tsing, *The Mushroom At The End Of The World* (Princeton University Press 2015).

ring in artificial conditions from contamination and impurities.

In Mostar, this comes from the emergence of increased plant species thriving from different conditions of disturbance. Due to the number of abandoned structures this form of decay presents a new ecology has flourishing from the ruined and abandoned spaces of war. These species have the ability to transform rubble and building materials into soil, acting as pioneers creating habitats for themselves and other species in the landscape. Growing from this disturbance they show unintentionally designed landscapes <sup>6</sup>. between humans and nature where certain species are thriving from these conditons, telling a story of violence and renewal. It offers opportunities to work with these processes of destructive transformation in order to move from contamination to collaboration<sup>7</sup> and make spaces in the city for both human and non human.

Opportunities of observing many of these processes in Mostar, highlighted the importance of preservation of assistance of this ecology in the city. Whilst in many cases plant and other non human species have been exploited by man “capitalists exploit ecologies not only by reshaping them but also by taking advantage of their capacities” <sup>8</sup> my project aims to find new ways of working towards interspecies living through care and awareness. It allows for on the short term decontamination and ecological restoration to a long term goal of collaboration and sustaining of the ecosystems.

---

6,7,8 Anna Lowenhaupt Tsing, *The Mushroom At The End Of The World* (Princeton University Press 2015).









# adapted survival



own photo, natural history museum Rotterdam, 31.03.19



own photo, natural history museum Rotterdam, 31.03.19

During the research phase I visited the Natural history museum in Rotterdam to find the contemporary collection of different animal species living from different human waste.

These images show both the result of the adapted survival of other species in dealing with the consequences of human destruction, by creating new material relationships similarly to the actions of the cities inhabitants during the war in Mostar.

*“In the countryside, mute swans construct their nests from water plants. In cities these are not available, so the swans refer to tober material that is more readily present: floating debris. They do not seem to care and happily sit on the eggs amidst this urban waste. We humans look at this in disgust, but the swans just make use of all the good material the city offers them. There are other birds too that use urban waste to make nests. Coots, for example, are specialists in this craft.”*

Mute Swan on a nest of floating debris, Rotterdam Natural History Museum

*“This nest of a carrion crow was found in Dordrecht. It is built on a natural tree branching but consists mostly of unnatural material: tie-wraps, binding wire and other waste from a construction site. The birds happily used whatever was available, so it seems advantageous to make a nest close to a building site.”*

Nest carrion crow, Rotterdam Natural History Museum

MAX [1998]

RA

DUST IMAGINE:

WHAT WOULD HAPPEN IF I WERE TO START  
TO LIVE AS AN AMMONITE, AS A STUFFED DUCK,  
AS A PINK CRYSTAL, AS A SNOWFLAKE, AS  
THE COLOR SPECTRUM, AS THE MATERIAL THAT  
THIS VERY WOODEN FLOOR (ON WHICH YOU ARE NOW  
STANDING) IS COVERED WITH...?

NORMALLY, EVERYBODY DREAMS TO BE  
"SOMEBODY ELSE": A FAMOUS ACTOR, A BRAVE  
KNIGHT, A RICH HERO....

I WANT TO BE "A SOMETHING ELSE" —  
"SOMETHING" WHICH I KNOW FROM MY OLD  
SCHOOL BOOKS, FROM THE NATURAL HISTORY  
MUSEUMS' COLLECTIONS OR JUST FROM  
THE INANIMATE NATURE.

WHO KNOWS — MAYBE IN THIS CASE:  
WITH ME AS AN AMMONITE, AS  
A STUFFED DUCK, AS A SNOWFLAKE... ,

I COULD ESTABLISH A MORE  
SUITABLE RELATIONSHIP  
WITH THE SOCIETY AROUND ME....

# INTERSPECIES LIVING

Just imagine:

What would happen if I were to start to live as an ammonite, as a stuffed duck, as a rock crystal, as a snowflake, as the colour spectrum, as the material that this very wooden floor (on which you are now standing) is covered with.....?

Normally everybody dreams to be “somebody else”: a famous actor, a brave knight, a rich hero..

I want to be “a something else”- “something” which I know from my old school books, from the natural history museums’ collections or just from the inanimate nature.

Who knows- maybe in this case:  
with me as an ammonite , as a stuffed duck, as a snowflake...  
I could establish a more suitable relationship with the society around me...

Nedko Solakov, 1996



# THE SITE

post-war



<https://mapio.net/pic/p-76841821/>

pre-war



Reclaiming Historic Mostar, 1999



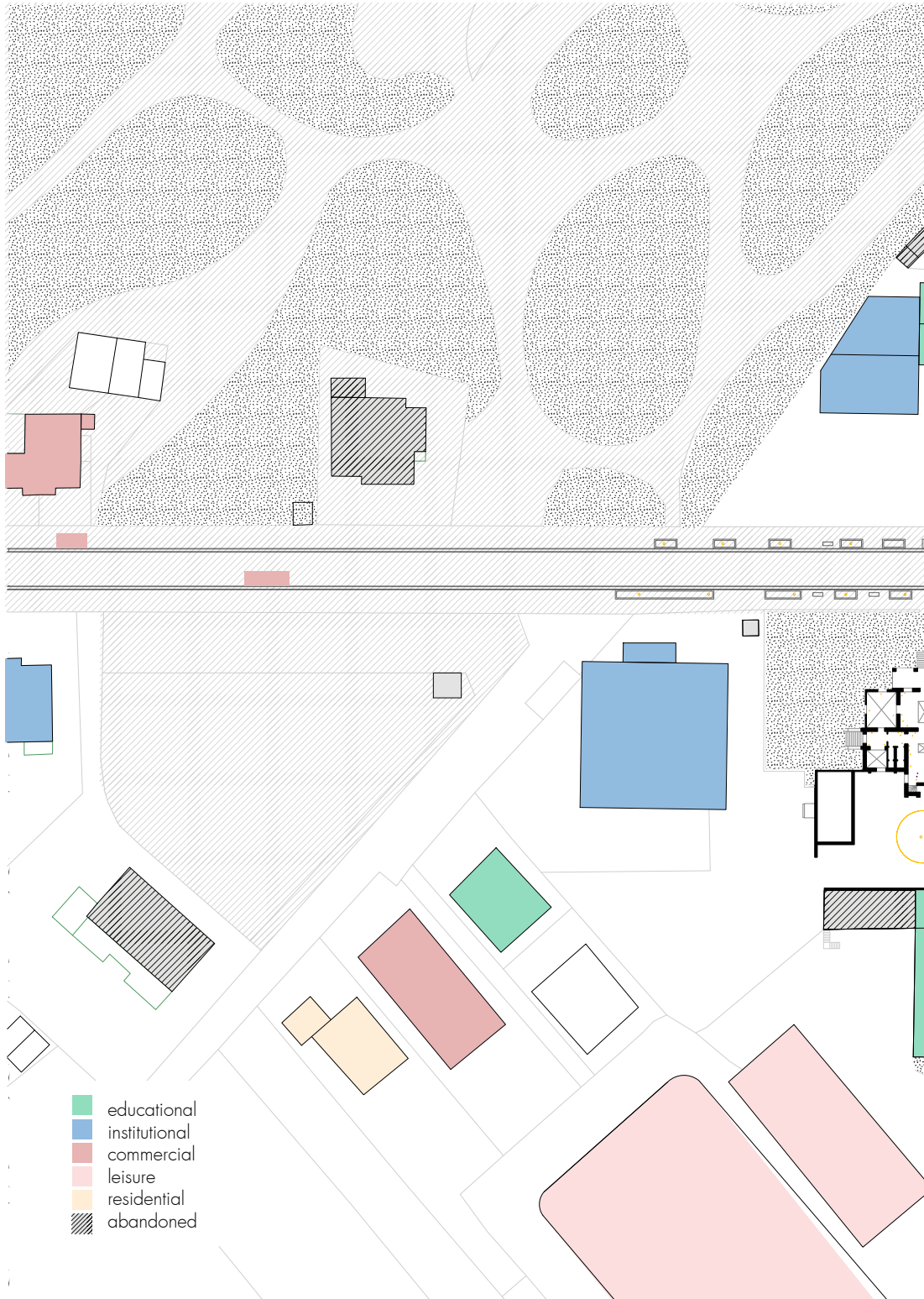


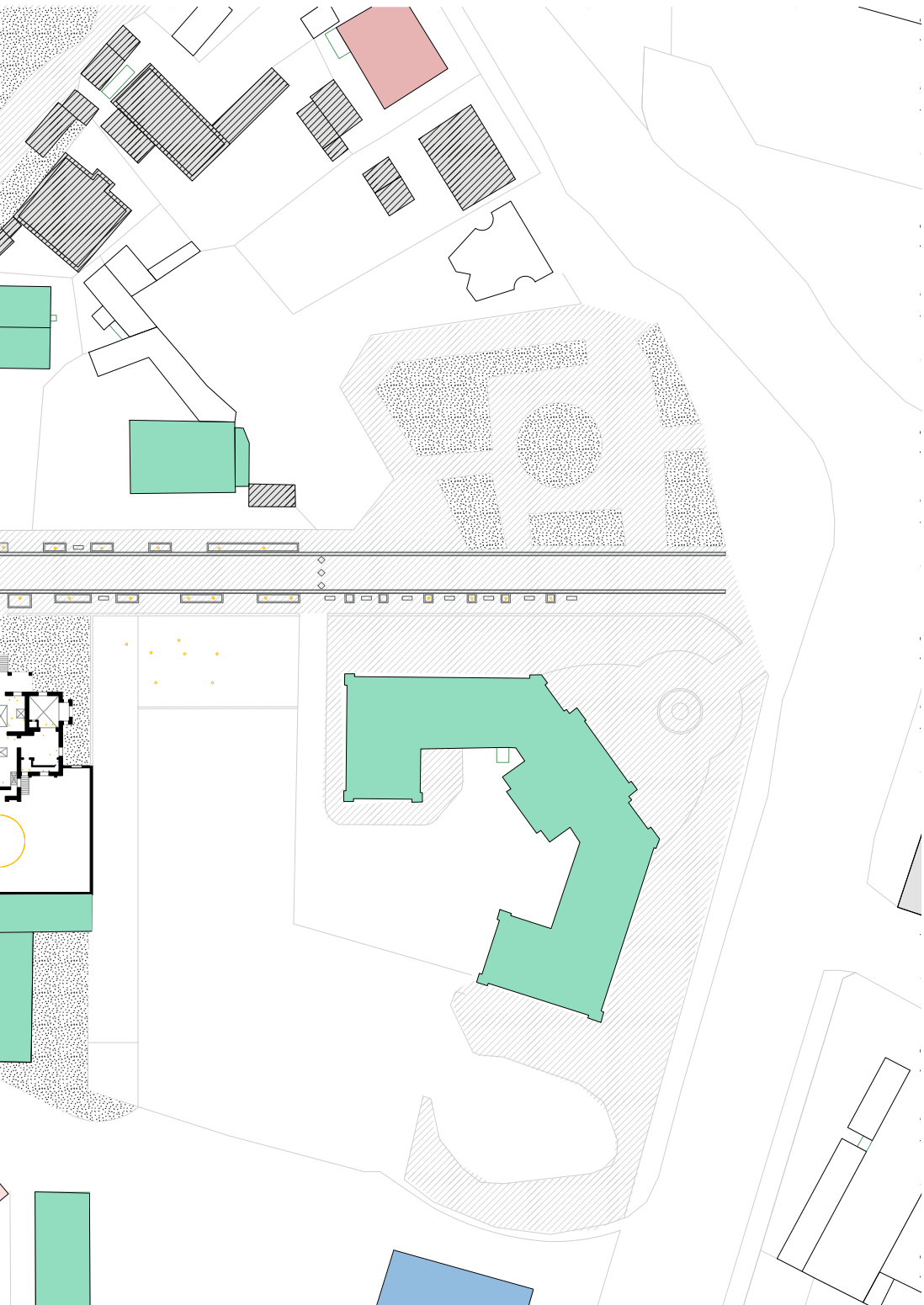


# location









# historic analysis

construction and characteristics:

The original building of The Living Library was constructed in 1898, during the Austro-Hungarian period. Originally the building was built as a private home for the Mayor of Mostar at the time, Mujaga Komodina and his family. The building was designed by Milos Komadina in a neo-classical style following a Villa typology along with many others in the development of the Rondo neighbourhood. This was one of the first developments in the expansion of the city of Mostar to the West.

The character of the building was designed to depict the intended bourgeois character of the area, following the neo-classical style with a formal facades, a large entrance portico, cut stone pillar and balustrades. The facades have been designed with large aligned windows with detailed classical mouldings, deep cornices.

Spaces:

The house was designed comprised of one basement floor, two living floors and one attic floor. On the groundfloor you enter into a large central hall. The original public spaces of the building have been designed for official entertaining, for the city Major and developer, the client at the time. The attic floor was designed to be used as living quarters for service staff.

Uses:

The building has had varied functions over time. Since being built as a residential home the building has been used used as a Workers house and Youth centre from circa 1970. The building hosted a range of uses from exhibition spaces, poetry readings and even a club in the basement. In 1977 the University of Mostar was established and in 1980 the building became the University Library for little over a decade before the civil war.

#### Structure:

Much of the original building structure can still be read, the original stone foundations and supporting walls are 600mm width. Ground floor construction above the basement is made up of Prussian vaults. The no longer existing first and second floors would have been constructed from wooden frame, with brick partition walls (see objects C.1.1 and C.2.2 in the Construction Waste Collection) and iron supports beams for extra support at the location of staircases. Additional material findings of partial concrete beams and blocks suggest adaptations to the original building structure may have also taken places to support the change in use from the Youth Centre to a Library in 1980 (please see C.2.3 and C.2.4 in the Construction Waste Collection).

#### Damage:

The building now lies as an open ruin since suffering severe damage during the first battle in Mostar in 1992. Repairs were made in the first year but the building was damaged again during the second battle in May 1993. The bombing led to the loss of the roof, first and second floor. The ground floor remains partially damaged with parts missing. Some original supporting interior walls remain seperating the ground floor into it's original spaces. There are no windows or doors and the plaster on all walls has been heavily damaged both exterior and interior.

# historic development

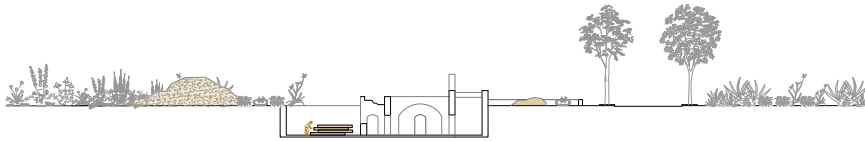


1  
site used as a cultivated tributary to the Radabojia river

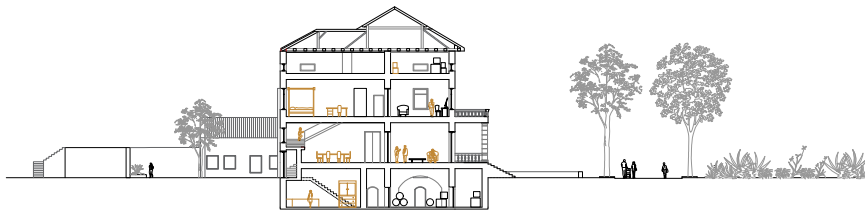


1  
Lenin Promenade developed as one of the first axis in the West of the city





3 Building begins to be constructed 1989 in Neo-classical style



4 building is a home of Major Mujaga Komadina



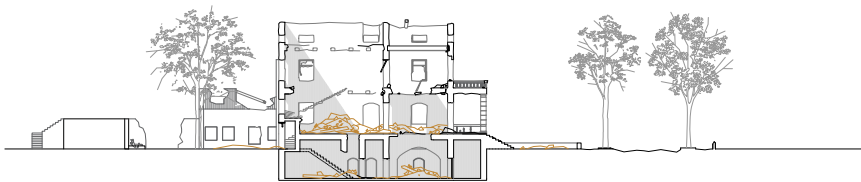
5  
Workers Club



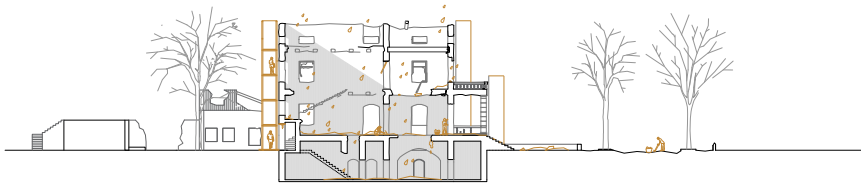
1  
University Library



7  
Civil war destruction 1991



8  
first year of abandonment



9  
first year repairs



10  
second destruction



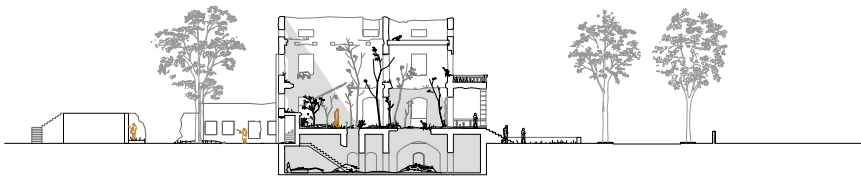
11  
next years of abandonment, open structure



12  
first stages of transformation: autumn



12  
winter; weathering



13  
spring; growth of new ruderal species

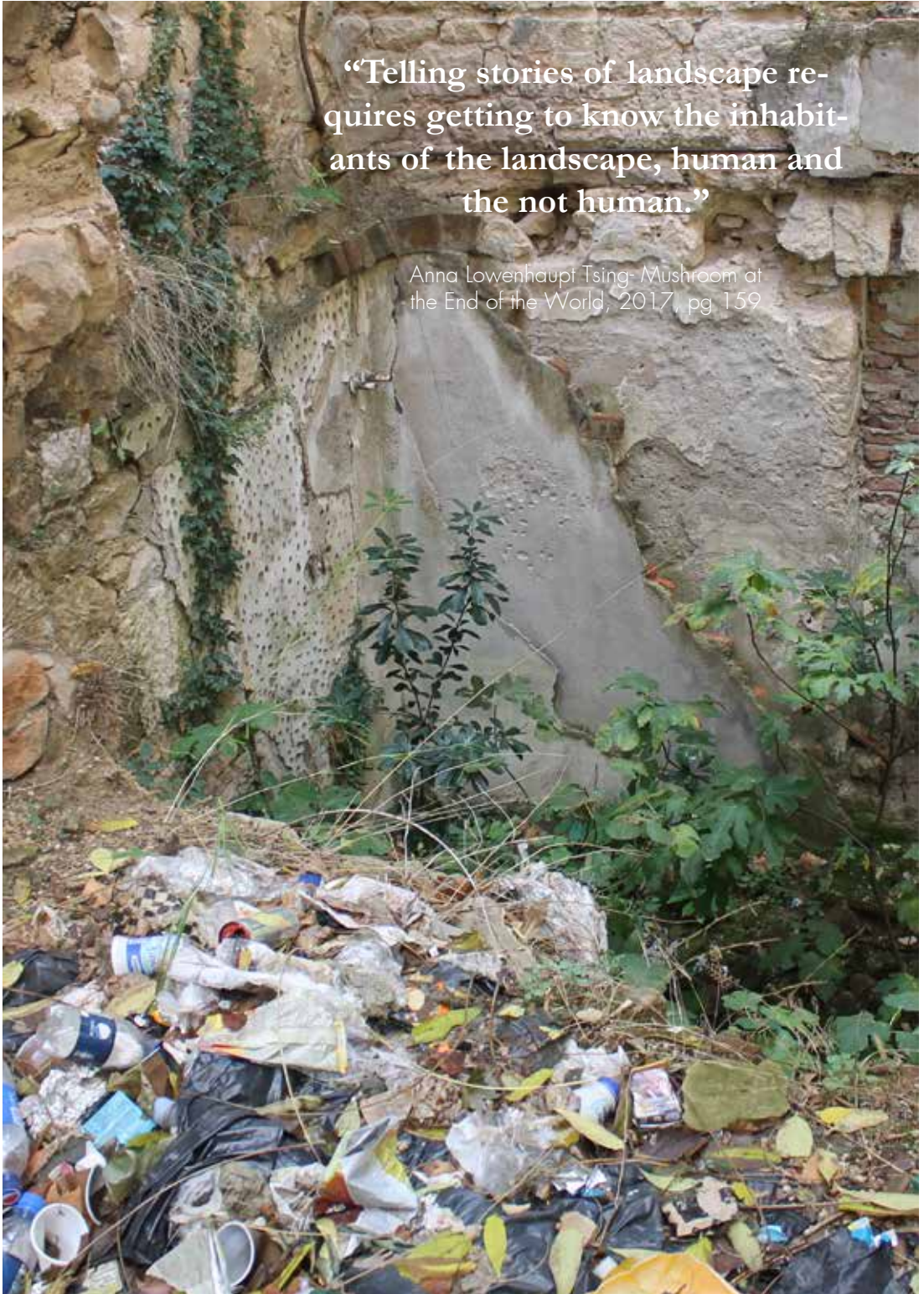
# contemporary situation



14  
summer; several years later space has been rehomed to plant and animal life

“Telling stories of landscape re-quires getting to know the inhabit-ants of the landscape, human and the not human.”

Anna Lowenhaupt Tsing: Mushroom at the End of the World, 2017, pg. 159





# METHODOLOGY

When spending time on site in Mostar I took praxeology and material culture as methodologies for analysis. Using this combination of methodologies I was able to understand the site from two aspects and timeframes, to see how different human and non-human actors were interacting/or not with the space in its current condition (urban and site specific scale) and the invisible processes which were transforming the space over longer time periods than I could observe in my time spent there.

Praxeology allowed me to study the more immediate timeframe from a human centric position. Through mapping human site use, movement etc allowed me to observe the more immediate problems facing the site. This was an important part of the research to help me find ways to recontextualise it in the surrounding public and educational urban context and engage from a bottom up approach with the surrounding community in a way that made sense later in the design phase.

I used material culture as a methodology to study materials and processes in a longer timeframe for the site. This use of object based methodology also gave emphasis on the non-human actors working within the transformation processes. By making a material catalogue of the site in its current physicality, such as leaves, rubble, sand, broken wood, plastic bottles, meant I could not forget or ignore any problems or qualities coming from the site itself. These material findings or if to look at it scientifically; data, became the basis or input for the working with material processes in the ideas for site intervention. Through this the aim is that the ideas have come from the site itself and its materials. Taking into account material processes was essential to envision a longer timeframe for the site and its transformation which has been essential for working with trying to create new ecologies through reorganisation of current site materials, and recognising what plant species thrive in certain conditions, to predict and work with succession.

# material mapping

artificial waste



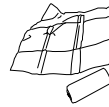
processed degradable

newspaper  
tissues  
paper  
cardboard



plastic

plastic cups polystyrene containers  
plastic bottles cartons  
plastic plates bottle cap  
plastic cutlery coffee stirrer  
plastic bags



metal

cans  
tin foil



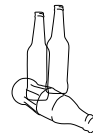
composit

clothing  
shoes  
toys  
elecattrical wiring



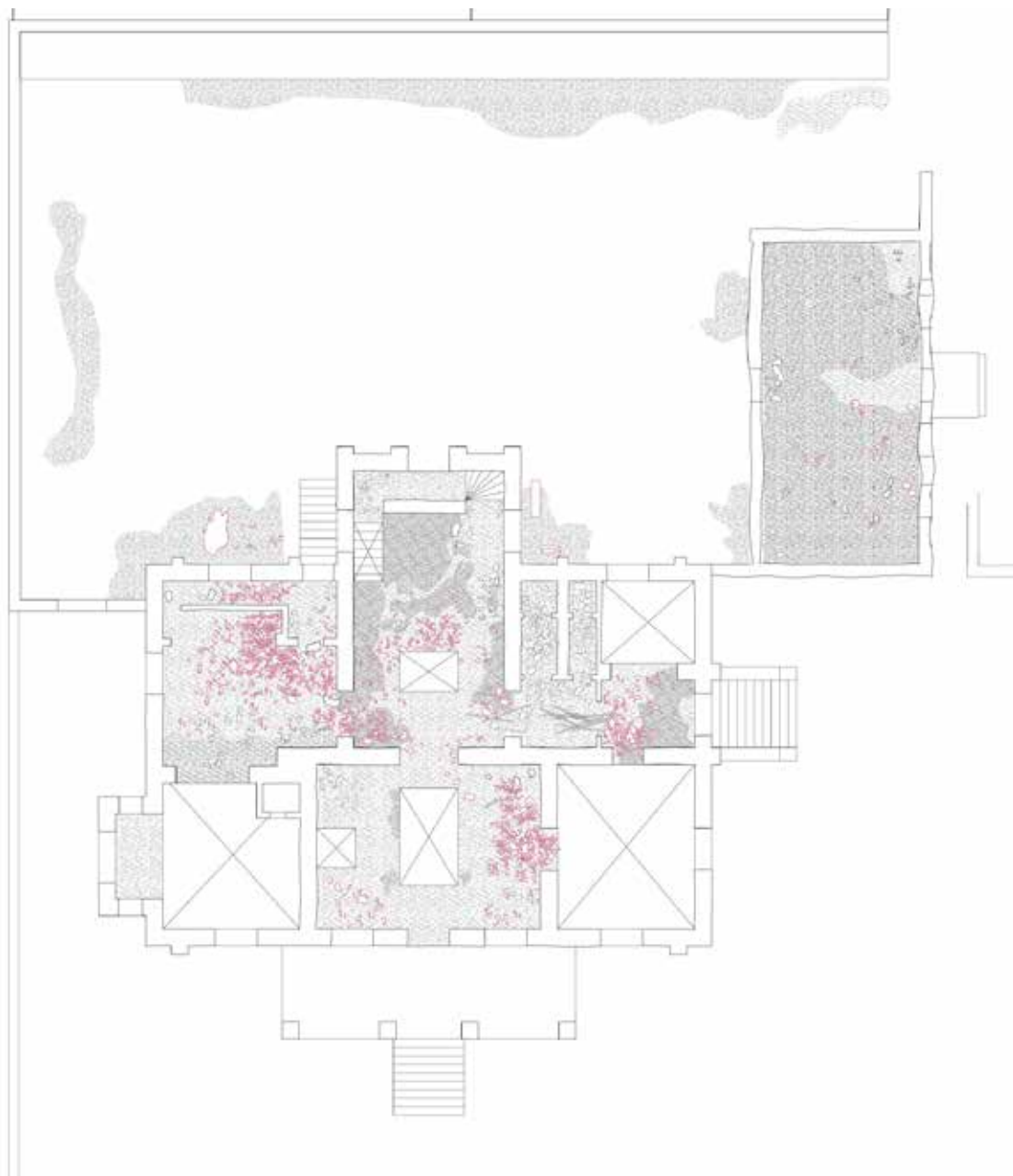
toxic

spray cans



glass

glass bottles



# material mapping

artificial waste



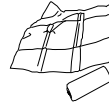
processed degradable

newspaper  
tissues  
paper  
cardboard



plastic

plastic cups polystyrene con-  
tainers  
plastic bottles  
plastic plates cartons  
plastic cutlery bottle cap  
coffee stirrer  
plastic bags  
crisp packet



metal

cans  
tin foil



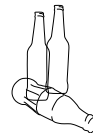
composit

clothing  
shoes  
toys  
electrical wiring



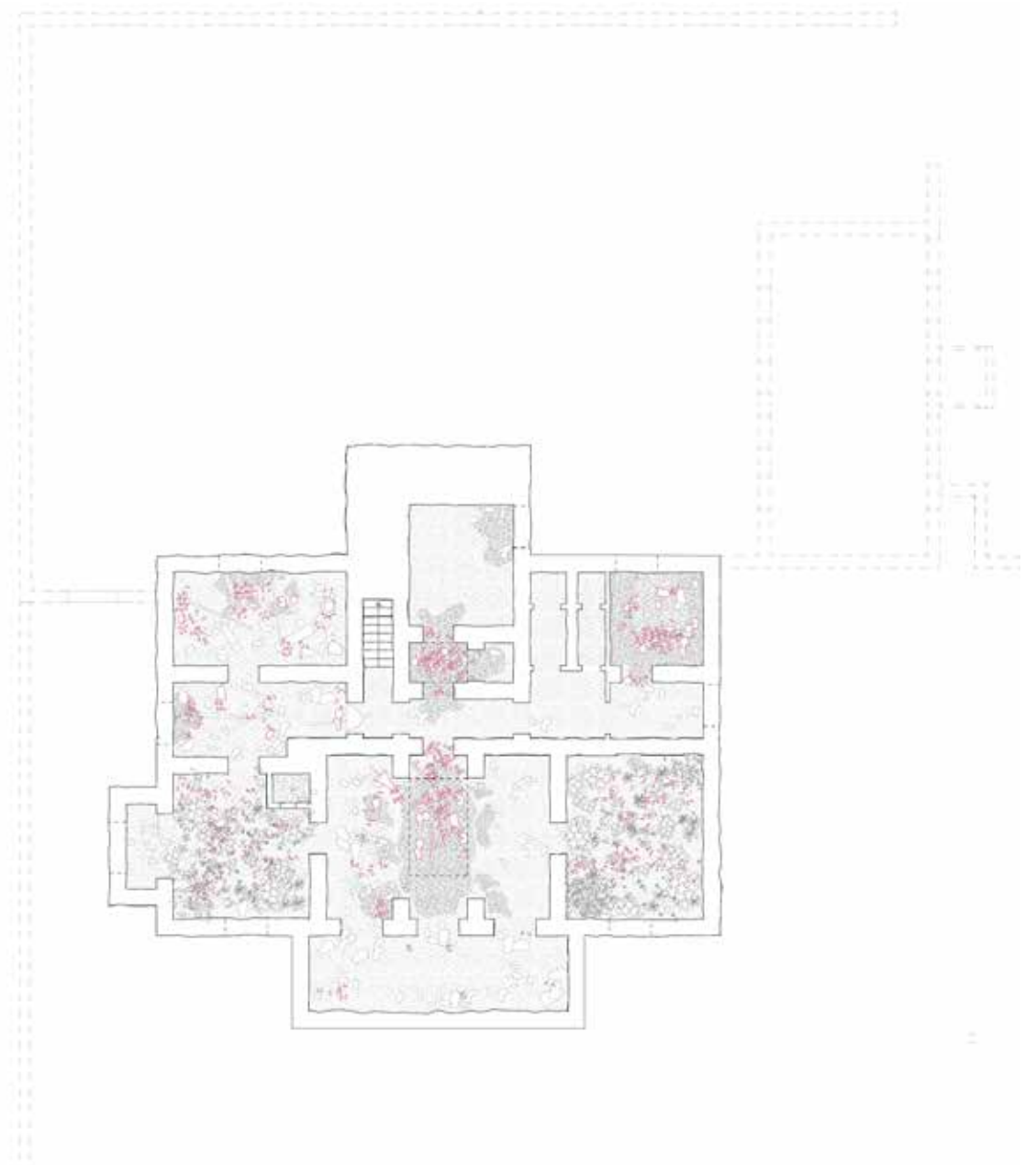
toxic

spray cans



glass

glass bottles



# material mapping

construction waste



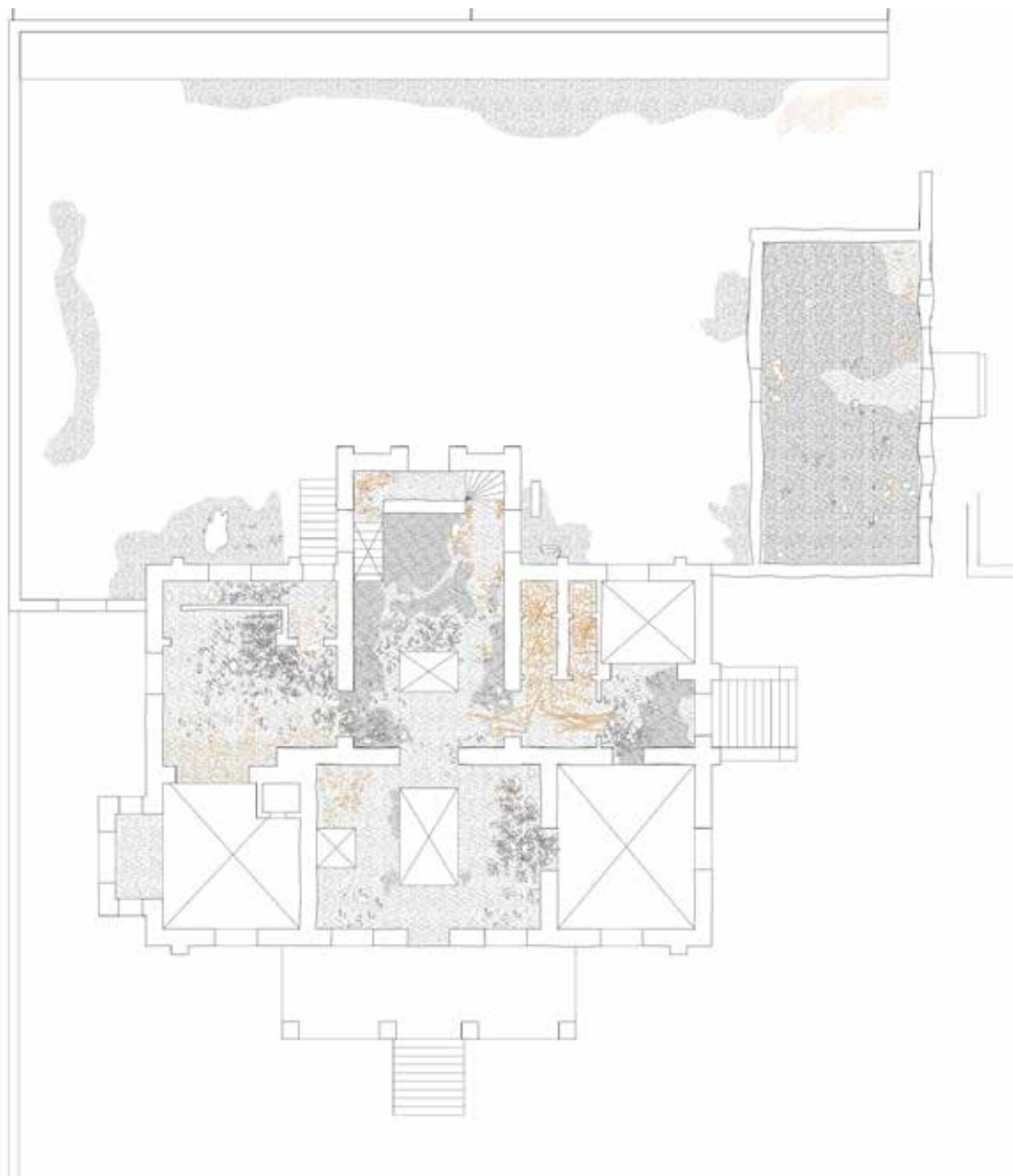
metal  
brackets  
beams  
screws



debris  
sand  
bricks  
concrete blocks  
plaster  
tiles  
rocks/rubble  
pebbles



degradable  
wooden planks  
wooden beams



# material mapping

construction waste



metal  
brackets  
beams  
screws

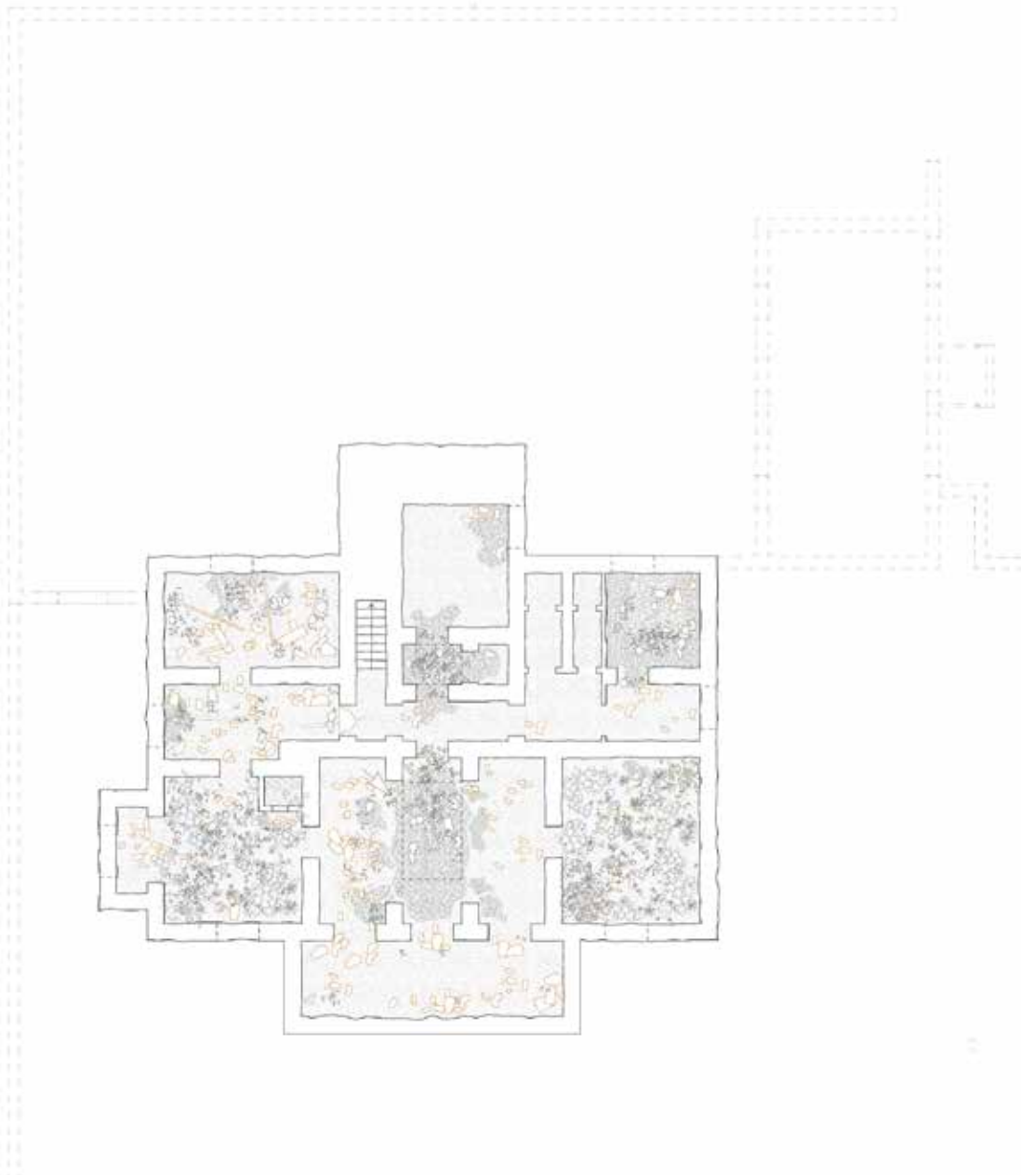


debris  
sand  
bricks  
concrete blocks  
plaster  
tiles  
rocks/rubble  
pebbles



degradable  
wooden planks  
wooden beams

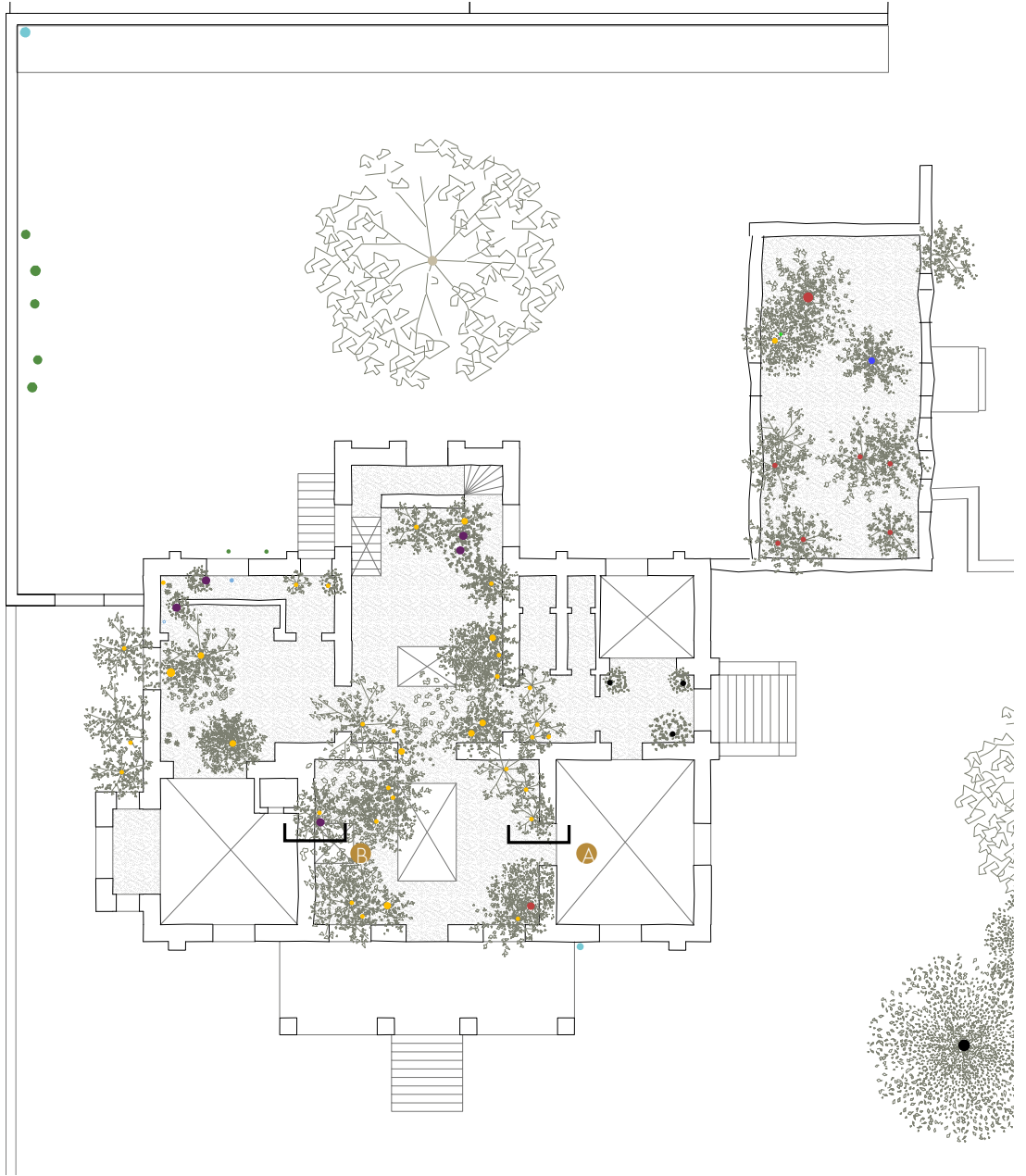




# material transformers

transformative species

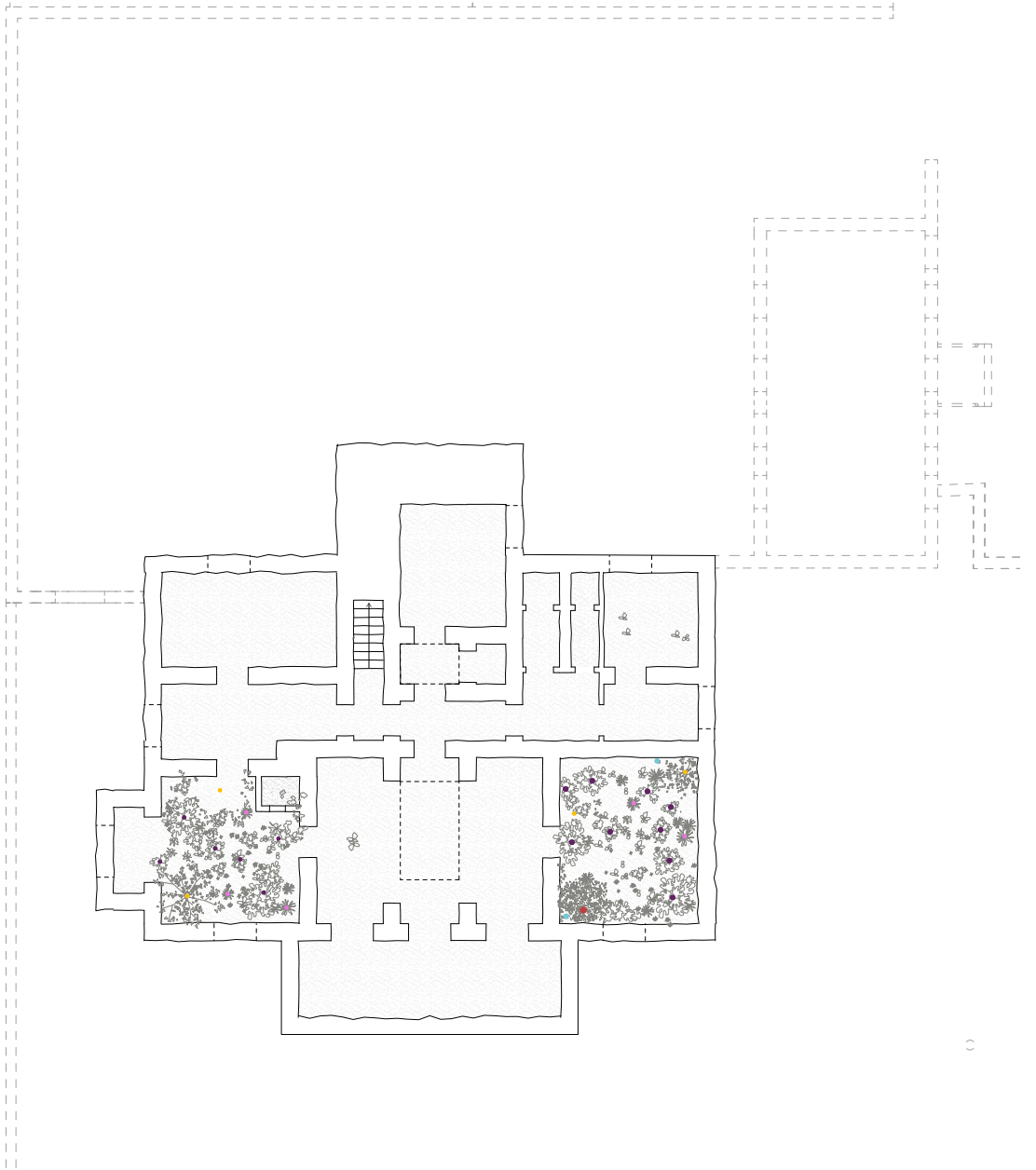
- ailanthus altissima
- Ficus carica
- broussonetia papyrifera
- Robinia pseudoacacia
- hedera helix



# material transformers

transformative species

- ailanthus altissima
- Ficus carica
- broussonetia papyrifera
- Robinia pseudoacacia
- hedera helix



0

# other species- the actor's

inhabitants

*permanent users*



- tree species
- - - -> micro-organisms
- - - -> soil
- - - -> debris
  
- insects
- birds
- bee's
- cats
- dogs
  
- - - -> waste
- humans

*temporary users*

visitors



*ailanthus altissima*  
tree of heaven  
deciduous

Height of 17-27 metres

All parts used in Chinese traditional medicine. Considered to have properties to treat insomnia as well as external use for boils, abscesses and itches.

Considered invasive species

The tree prefers moist and loamy soils, but is adaptable to a very wide range of soil conditions and pH values. Tree of heaven is an opportunistic plant that thrives in full sun and disturbed areas. It spreads aggressively both by seeds and vegetatively by root sprouts, re-sprouting rapidly after being cut. It is considered a shade-intolerant tree and cannot compete in low-light situation.

Primary wind dispersal and secondary water dispersal



*figus carica*  
fig tree  
deciduous

Height of 7-10 metres

Produces edible fruits.

Considered invasive species

It prefers relatively light free-draining soils, and can grow in nutritionally poor soil. Situated in a favorable habitat, old specimens when mature can reach a considerable size and form a large dense shade tree. Its aggressive root system precludes its use in many urban areas of cities, but in nature helps the plant to take root in the most inhospitable areas.

Ficus carica is dispersed by birds and mammals that scatter their seeds in droppings. The infructescence is pollinated by a symbiosis with a kind of fig wasp (*Blastophaga psenes*).



*broussonetia papy-*  
*papery mulberry*  
*trifera*  
deciduous

Height of 10–20 meters

Produces edible fruits.  
Also cultivated in Asia and some Pacific Islands for many centuries for fiber, and medicine as well as food.

Considered invasive species in some regions

It tolerates disturbance and air pollution, so it has been useful as a landscaping plant on roadsides. It is a pioneer species that easily fills forest clearings, and it has been considered for reforestation efforts. It grows well in many climate types.

Seed dispersal is accomplished by animals that eat the fruits, and the plants can form wide, dense stands via their spreading root systems



*robinia pseudoacacia*  
black locust  
deciduous

Height of 12–30 metres

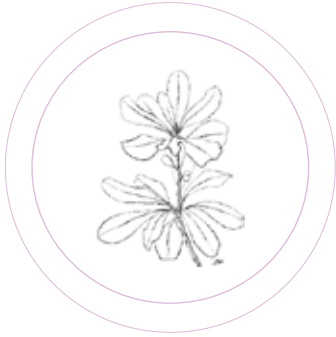
Producer of acacia honey.  
Also used in Indian traditional medicines, used as laxative, antispasmodic, and diuretic. Furthermore flowers are used for a sweet and perfumed jam in Romania.

Considered invasive species in some regions

Black locust is a typical early successional plant, a pioneer species, it grows best in bright sunlight and does not handle shade well. It prefers dry to moist limestone soils but will grow on most soils as long as they are not wet or poorly drained. This tree tolerates a soil pH range of 4.6 to 8.2 lack locust is a shade intolerant species.

Black locust reproduces both sexually via flowers, and asexually via root suckers.





*pittosporum tobira*  
japanese cheesewood  
evergreen

Height of 5-10 metres

Cultivated as an ornamental plant.

It can grow in semi-shade (light woodland) or no shade. It prefers dry or moist soil and can tolerate drought.

Seeds contained within berries dispersed by birds.



*hedera helix*  
ivy  
evergreen

Growing to heights of 20–30 metres

Cultivated as an ornamental plant.  
Within its native range, the species is greatly valued for attracting wildlife. The flowers are visited by over 70 species of nectar-feeding insects, and the berries eaten by at least 16 species of birds.

Considered invasive species in some regions

Prefers non-reflective, darker and rough surfaces with near-neutral pH. Prefers moist, shady locations and avoids exposure to direct sunlight, the latter promoting drying out in winter.

Seeds contained within berries dispersed by birds.



*melia azedarach*  
chinaberry  
deciduous

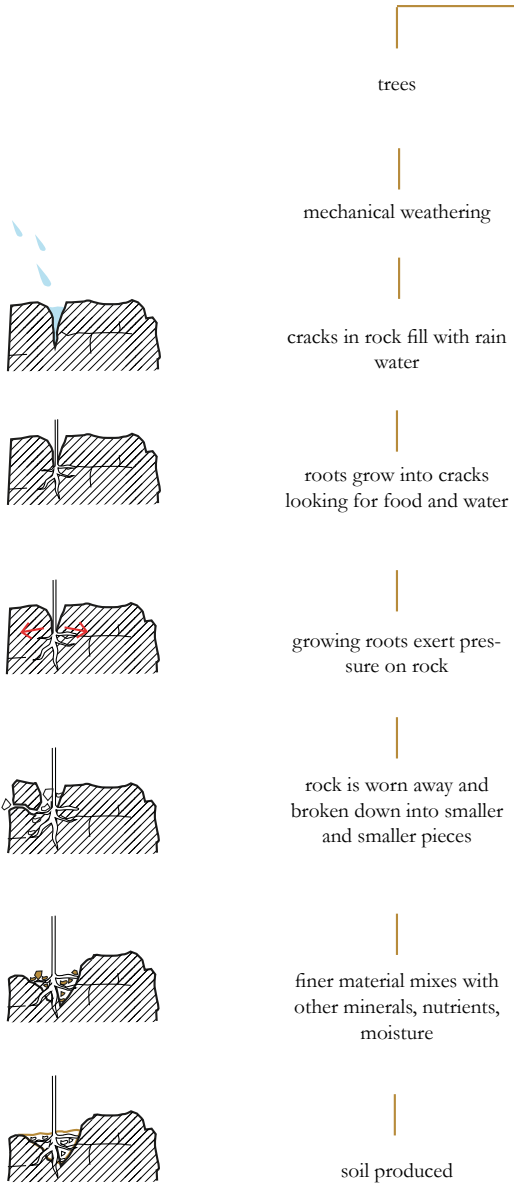
Heights of 7–12 metres

Cultivated as an ornamental plant.

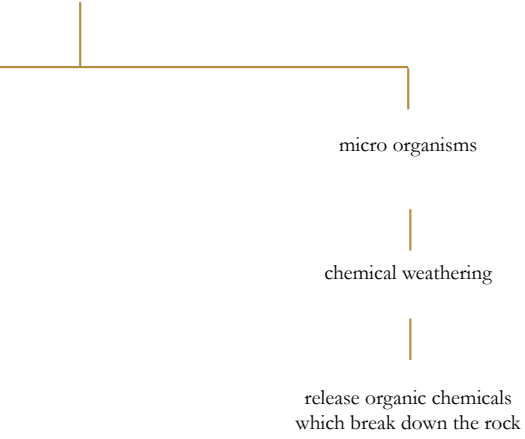
Considered invasive species in some regions

# transformative processes

bio

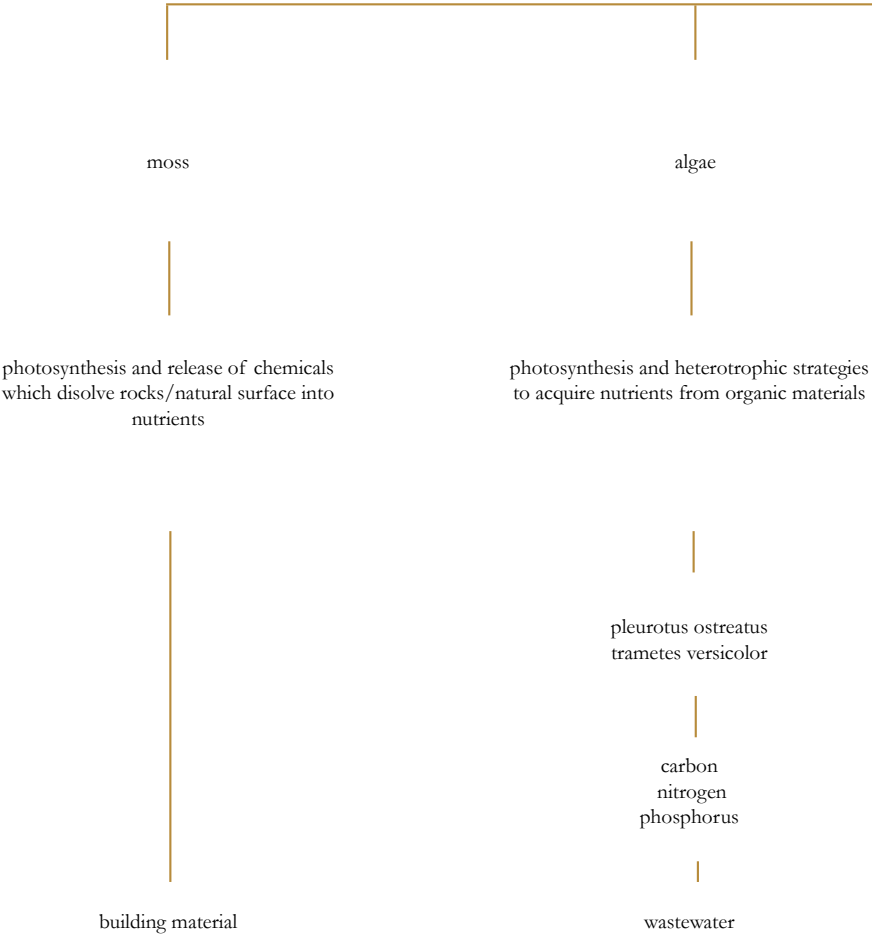


biological weathering



# transformative processes

micro-organisms



# organisms

fungi

digest food whilst still in the environment.  
Secrete enzymes that breakdown molecules  
into smaller compounds to be absorbed

aspergillus tubingensis  
fungus

polyurethane

plastic

pleurotus ostreatus  
trametes versicolor

polychlorinated biphenyl

building material  
pesticides  
dyes  
explosives  
wastewater  
organic materials

lichens

symbiosis of algae/cyanobacteria and fungus.  
Excretion of various organic acids, particularly oxalic acid, which can effectively dissolve minerals and chelate metallic cations

nitrogen  
sulphur

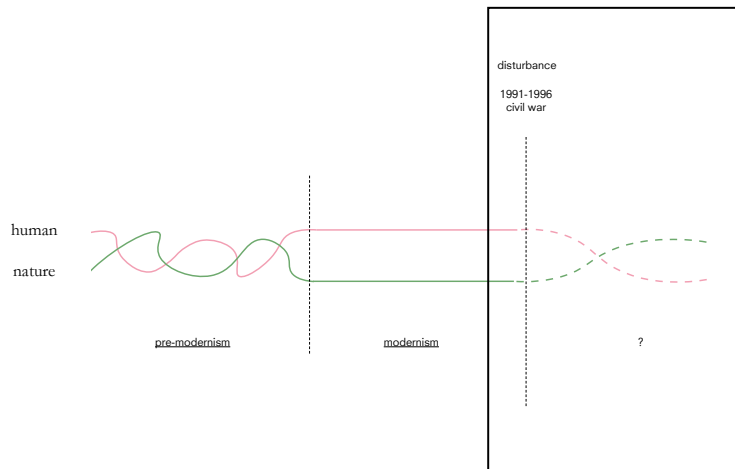
air pollutants  
building material



# DESIGN ELABORATION

Project aims:

- learn and work with this material relationships of decay
- enhance the existing ecosystems that are not just for human
- aim bring man and nature closer



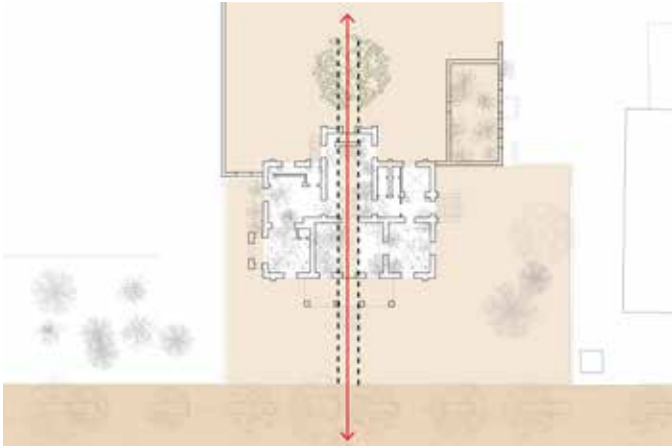
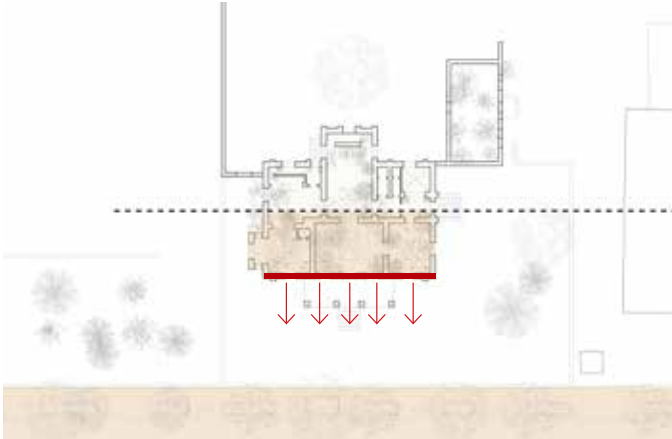
# Initial design explorations

Initial explorations into design by removal, decay and undoing in order to open up the ruin to create a new space and embrace the concept of destructive transformation and ruderal ecology.





# decay, removal, undoing



# reference projects

## gordon matta-clark; building cuts

Reverting a lineal way process of thinking towards architecture, by cutting openings in abandoned buildings to break the outdated concept of space and architecture. Deconstruction of reality and the way we perceive the world.



<https://newrepublic.com/article/146929/gordon-matta-clark-saw-city>



cuts;

daylight,  
moisture  
access  
visibility  
framing



<https://www.emerson.arch.ethz.ch/design-studio>

# reference projects

## Bunker 599, RAAF + Atelier Lyon

Radical slicing the bunker challenging cultural heritage policies and to make people look at their surroundings in a new way. The cut frames a military line of defence by intentional flooding, reminding people the surrounding water is not from removal of sand but from inundations from times of war. Furthermore revealing the interior of the bunker not usually visible .



[https://www.raaf.nl/en/projects/7\\_bunker\\_599](https://www.raaf.nl/en/projects/7_bunker_599)



# method exploration

1 remove front facade



2 remove all façades



pro's  
visibility to the street  
domestic spaces

con's  
historic facade gone

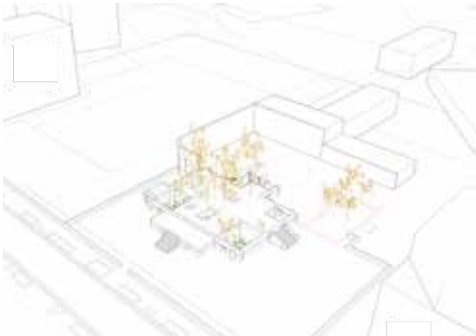
pro's  
visibility to the street  
some domestic spaces  
internal accessibility

con's  
historic facade gone  
intimacy lost

3 remove all walls



4 remove interior walls



stage for plants  
light and water for plants on basement

no domestic spaces/privacy  
no feeling of being inside whilst outside  
nice facade gone

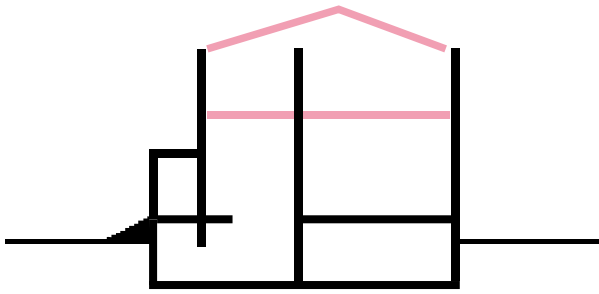


light and water for plants

no domestic spaces  
limited visibility to street

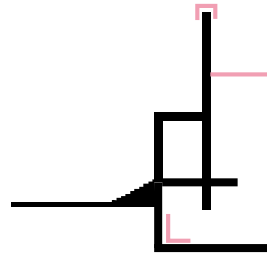
# building a strategy; heritage and decline

1 restoration



- remove all nature
- add climate protection  
e.g roof

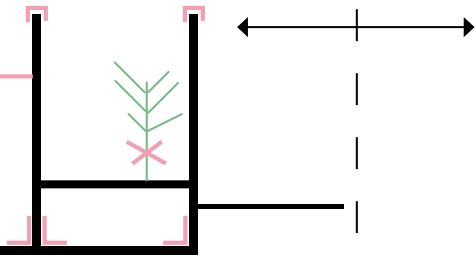
2 preservation



- remove all nature  
from walls
- protect all nature- weather  
capping



vation

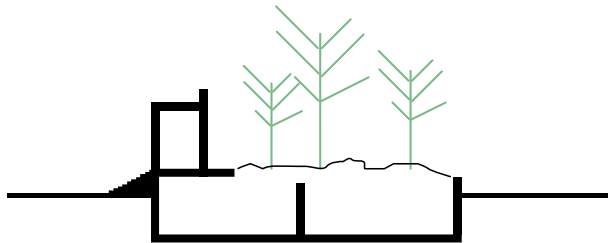


all nature/growth

and support struc-  
herproofing and

3

decay  
\*ruderal ecology

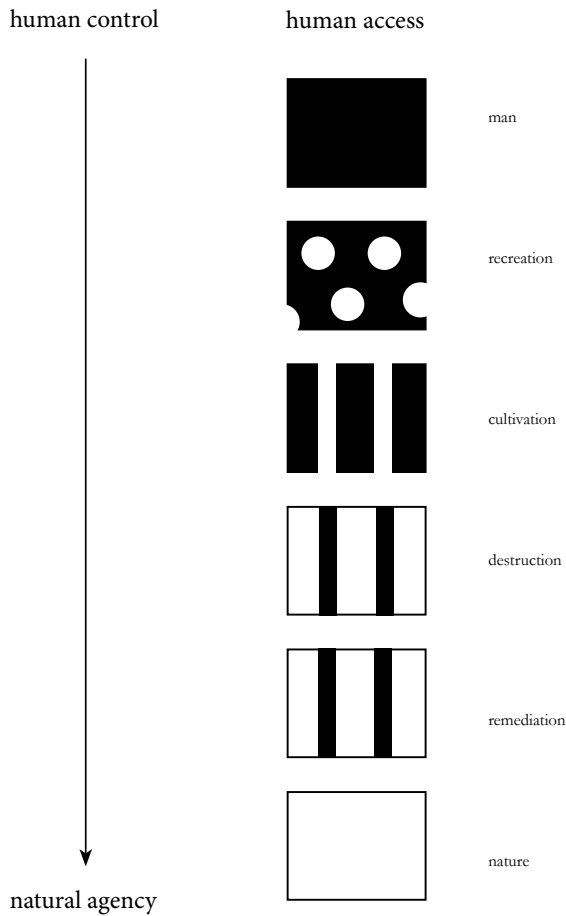


- do nothing

- nature flourishes

- heritage building  
disappears

building/spaces provide optimal conditions for thematic spaces  
exploring open/closed and porosity

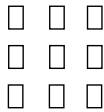
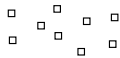


human control



natural agency

porosity



destruction  
/decomposition

remediation

cultivation

recreation

man

wild

nature

dark/damp

dark/damp

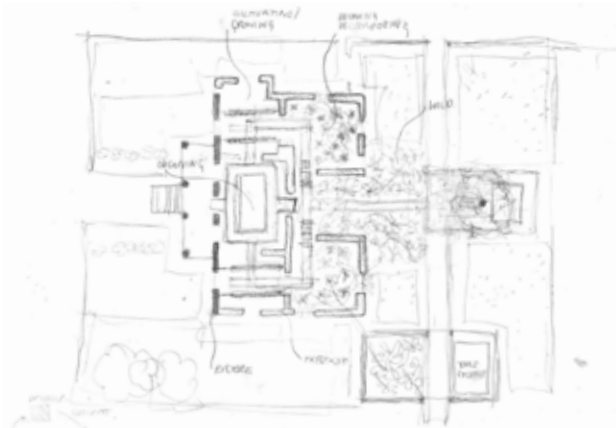
sunlight/openings

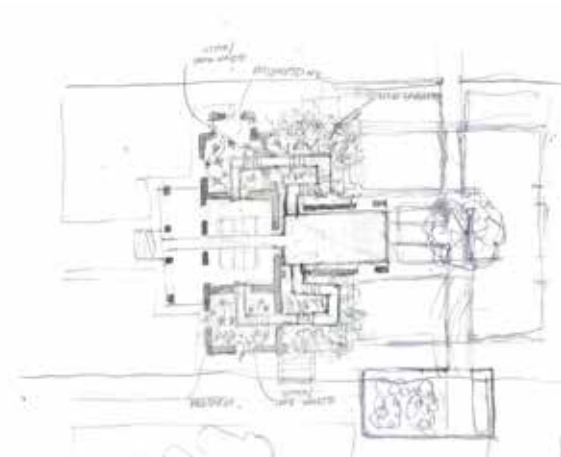
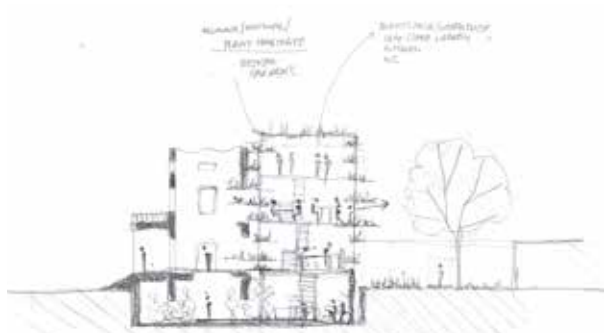
shade/sunlight/openings/  
views/access

shade/sunlight/openings/  
views/access

sunlight

# massing exploration

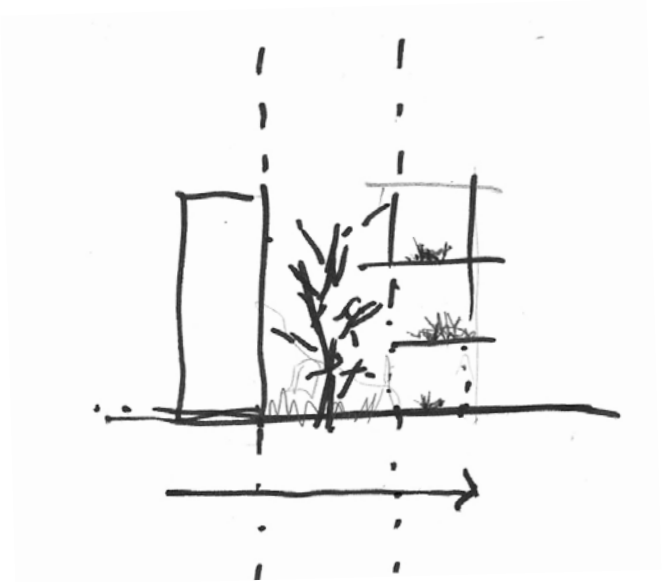






# final concept

sandwich [chosen concept]



man

nature

both

acknowledging the past

celebrating the present

embracing decay for collaborative future

old

transition

new

programme

edu  
transforming the site into an educational library for plant life

- cafe
- kitchen
- events space
- permaculture gardens- fruit trees, herb garden, vegetables
- tool shed
- composting
- toilets
- greenhouse- seedlings





co-creating landscapes  
collaborative living

human	nature
man-made empty of plants	nature is wild no human influence
waste	food
food	waste



# Reflection

## *Approach to the relationship between research and design*

Choosing Methods and Analysis studio was a very conscious decision for me as to how I would like to explore working in the Architectural profession. The studio has provided a strong focus on research and analysis making it the leading aspect for the design from choice of site to programme, this freedom has meant thorough and strong reflection and reliance on research for all parts of the process in order to justify decisions for our ideas from the outset. With this an understanding of a place has been essential to defining the research as so to try and limit the imposition of the ideas of the individual architect to a site which is usually unknown to us. My approach has rather been to draw answers and work with the context as much as possible. This has been a constant process where my own fascinations and intuition along with contextual understanding of the site and theoretical readings have constantly been aligning, adjusting and realigning iteratively through the research and design.

Before arriving in Mostar, I had already begun researching into theories regarding 'terrain vague' and spaces of abandonment with the idea of working with such ruined spaces in Mostar. Furthermore, in a parallel precedent study I had already been drawn to the ruined structure of the former University Library, which brought me closer to the topic of ruderal ecologies in the context of the post-war landscape. However, before arriving in Mostar, I was still trying to define my interest or angle of focus for my research whilst remaining open to being influenced by the feeling and experience of the city and therefore studio trip became an essential part of developing the specifics of this. Being in Mostar allowed me to have a personal understanding of the contemporary city life taking place there, what was the atmosphere of the city, how did people interact with space intangible aspects which

could not otherwise be understood through literature of the city, mainly based of the past wartime events.

In the time we spent walking around the city we came across a multitude of ruined structures with some form of plant life emerging from the space, this fascination became more solidified. Whilst these structures are undeniably reminders of the violent past they also allowed me to see the contrast between destruction and renewal offering potential new meaning to the space emerging from the destruction of the war. The context both of the post-war landscape of Mostar and the site of Komadina Kuca therefore became an essential starting point for studying the process of decay as starting point for collaborations between man and nature more closely.

Having returned from Mostar it was a highlighting moment to arrive at relevant theories of ruderal ecology as a study of specific plant ecologies we had been mapping in these spaces, finding that they had also been researched in other post-war landscapes such as Berlin. Delving deeper into post-modern theories taking the agency of nature and interspecies living into account became essential to the design project. Looking beyond a human centric approach to create and maintain spaces for other species has become the essence of the project which arose both from site and theory. From the outset I have been interested in working with another approach, taking nature as a focus hence the choice for the joint landscape lab studio.

As part of my first evaluation I presented my analysis of the site, showing the potential of these ruined spaces to recognise and give value of such ruderal plant life in undoing the destruction of the war. My initial reaction or feeling towards the site was that I almost wanted to do nothing, maybe even providing access to

the space was already enough. At first, I found difficulty in transitioning from research to design and to spatialise as aim for the site. The beauty of the ruderal plant life and other natural agency was that it opposes architectural intervention and exists naturally without human intervention or control which was not sustainable towards creating an architectural project. In order to create a design, I had to take some control and set aims in order for the design to give some experience or function to the end users. In order to overcome the paralysation on how to respond to this, I had to think of how as a designer I could use this as a tool to tell a story and give another meaning to the site, highlighting the relevance and importance of these processes.

*Elaboration on research method and approach – scientific relevance*

When spending time on site in Mostar I took praxeology and material culture as methodologies for analysis. Using this combination of methodologies I was able to understand the site from two aspects and timeframes, to see how different human and non-human actors were interacting/or not with the space in its current condition (urban and site specific scale) and the invisible processes which were transforming the space over longer time periods than I could observe in my time spent there.

Praxeology allowed me to study the more immediate timeframe from a human centric position. Through mapping human site use, movement etc allowed me to observe the more immediate problems facing the site. This was an important part of the research to help me find ways to recontextualise it in the surrounding public and educational urban context and engage from a bottom up approach with the surrounding community in a way that made sense later in the design phase.

Furthermore, I used material culture as a methodology to study materials and processes in a longer timeframe for the site. This use of object based methodology also gave emphasis on the non-human actors working within the transformation processes. By making a material catalogue of the site in its current physicality, such as leaves, rubble, sand, broken wood, plastic bottles, meant I could not forget or ignore any problems or qualities coming from the site itself. These material findings or if to look at it scientifically; data, became the basis or input for the working with material processes in the ideas for site intervention. Through this the aim is that the ideas have come from the site itself and its materials. Taking into account material processes was essential to envision a longer timeframe for the site and its transformation which has been essential for working with trying to create new ecologies through reorganisation of current site materials, and recognising what plant species thrive in certain conditions, to predict and work with succession.

*the relationship between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS).*

By embracing ruderal ecology at this intersection between man and nature the aim of the project is to bring nature and culture closer together, by engaging in processes of education and care for other species which result in an environmental awareness. The studio 'Neretva Recollections; materiality of war, flowing memories and living archive' aims to study the urban and landscape transformations in the city of Mostar since the civil wars in 1991-1996 through investigation into the material and immaterial residuals. In this way my project relates closely to the post-war landscape of Mostar taking a nature orientated perspective towards these material transformations.

Firstly, the archival practice of preserving the knowledge of these ecologies is also a way to preserve this history and story of human disturbance in Mostar. We can speculate that many of these species have also arrived since the disruption of the war, as similar case studies of post-war botany show in cities such as Berlin (n), where species came into the country of the boots of soldier or refugees.

The aim suggest alternative approaches to the appropriation of ruined spaces in the post-war landscape, which shows the benefit of how some sites can be preserved for other species in order to achieve a wider sustainable approach for the city. A sustainable approach to the site as to limit further human disturbance to the existing environment seems particularly relevant as the emergence of this landscape is already born from the event of human destruction (war). Plant species have an important role as remediators of the landscape, turning rubble and waste material into soil and new habitats. At present many of these ruined sites continue to be subject to environmental neglect, through illegal waste dumping. The project also responds to this post-war neglect disengagement with public space and the environment by making the local community actors within the process of caring for these eco-systems. This topic of contamination shows us how within the field of architecture we can think from different approaches, every time we make an intervention we impact or change habitats of other species to our own benefit, but working with the concept of a garden allows us the think about a more inclusive approach towards this. This may not be applicable in all situations where other problems may be more dominant to face, but the topic highlights a sustainable approach towards architecture.

*Relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.*

Within the wider field the project addresses global issues of ecological awareness and human impact on the environment. By looking towards an approach with minimal environmental harm and to work with nature is also to ensure survival of human kind on a long term scale for facing current issues of environmental destruction and climate change.

The project tests ways to work with such natural processes of decontamination and sustainable approaches within architectural field which can also be applied to other projects. Phytoremediation as a tool becomes more and more incorporated into the way we work, being used in many landscape projects through use of hyperaccumulators to remediate different types of waste lands, from construction waste/war debris in postwar sites to post industrial sites with heavy metals. The project shows that in some cases working with undoing, decay and removal can mean to create spaces for other species.

We have to think critically about the future of such sites, as to build means the human is to disturb if to then wish to further create space means we must do it in a way which minimize anthropogenic impacts on the ecosystem. Moreover if we do alter the environment we should be able to do it in a way which is sustainable taking into account other living beings. Integrating sustainability and closed loop systems into designs is very important and by expressing them it can also become an educational tool. Incorporating non-human users into the design requires different ways to think about space and timeframes. Taking other user needs such as use of water and light into design allows also for a



more sustainable integration of closed loop systems such as rain-water collection and sewage composting to benefit both human and non-human use.

Moreover this projects highlights a approach critical with our use of materials, minimal intervention where needed and maximising the recycling and re-using of materials.

*Aspect 5 Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.*

The main ethical dilemma I faced during the project was balancing the heritage value of the ruin of my site against the value of the existing ruderal ecology. Encouraging and enhancing this process of plant growth also meant the destruction of a building which has been culturally relevant in the city since its construction in the Austro-hungarian period. The non-traditional approach of decay and undoing becomes a controversial approach to justify against this.

During my second evaluation I was asked if I valued the meaning of the building, as by valuing the nature meant it's inevitable destruction and therefore not to value the building. My interest and fascination was in this hybrid of plants growing from the walls of this ruin but the fact was this hybrid was unsustainable and eventually would lead to the walls disappearing. This meant the issue of destruction of man versus nature became more prominent and obvious in this site, with heritage being on the of highest forms of human value of which my theories were opposing. Incorporating this feedback into the design approach meant defining different stages of decay within the site, by conducting a heritage value assessment to preserve the most historical elements of the

building this meant to also include undoing the process of decay and restoring and protecting it into a space where vegetation was not able to grow uncontrollably.

This meant critical reflection of the aims of each defined areas of the site and being clear on the intention of what could take place there and to be explicit about any contradictions in order to achieve a design goal which in the end the contrast between these different areas human and non-human make the concept of collaboration between the two stronger. In the area of decay within the design it also meant to develop a strategy for controlled or ecological restoration, uncontrollable decay as so to encourage growth and enable visitors to observe and learn and engage with this process in a safe way. This meant accepting that this nature is not in fact 'wild', even if the intention is not to exploit the plants for human need but to encourage the development habitat with the overall aim of collaboration of care. This has meant I have learnt to be very clear in my position and the meaning of every addition to the site I make in a way that supports the idea and intention of the project as an outcome of the research.



# BIBLIOGRAPHY

Mačkić, A. (2016). *Mortal Cities Forgotten Monuments*. Park Books.

ALBRECHT, G. (2016). *Exiting the Anthropocene and Entering the Symbiocene*. MINDING NATURE 9.2.

Barron, P. (2013). *Terrain Vague: Interstices at the Edge of the Pale*. Routeledge.

Bennett, J. (2010) *Vibrant Matter; a political ecology of things*. Duke University Press.

Braae, E. (2015). *Beauty redeemed*. Risskov: Ikaros Press.

Donia R, 'THE PROXIMATE COLONY Bosnia-Herzegovina Under Austro-Hungarian Rule' [2007] Revisited

Gissen, D. (2012). *Subnature*. New York, NY: Princeton Architectural Press.

Haraway, D. (2016). *Staying with the trouble*. Durham: Duke University Press.

Henare, A. (2006). *Thinking Through Things*. London: Routledge

Holling, C.S. (2001). "Understanding the Complexity of Economic, Ecological, and Social Systems." *Ecosystems* 4:390-405.

Jman Redzic S, 'Wild Edible Plants And Their Traditional Use In The Human Nutrition In Bosnia Herzegovina' (2006) 45 *Ecology of Food and Nutrition*

Muller, M. (2016) "Assemblages And Actor-Networks: Rethinking Socio-Material Power, Politics And Space" *Geography Compass*, Vol. 9/1

Pilav, A. (2017) 'Sarajevo: Material Mediation and Survival Bodies' *The Funambulist*

Potteiger, Matthew, and Jamie Purinton. 1998. *Landscape Narratives: Design Practices for Telling Stories*. New York: J. Wiley.

Tsing A. (2015) *The Mushroom At The End Of The World*, Princeton University Press

Walker, B.H. and D. Salt. (2006). *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. Washington, D.C., USA: Island Press.

Whatmore, S. (2002). *Hybrid Geographies*. London: Sage