URBAN ARCHITECTURE BLACK HILL CITY

MINING & MAKING

They tell how it was, and how time, came along, and how it happened, again and again. They tell the slant life takes when it turns and slashes your face as a friend. Any wound is real. In church, a woman lets the sun find, her cheek, and [illegible] lesson: there are years in that book; there are [illegible] can't reach when they sing. Rows of children lift their faces of promise, places where the scars will be.

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On the cover
Scars by William Stafford

Fig. 1
Facade details
(own photograph, 2022)

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INTRODUCTION

To *perceive* the landscape is to carry out an act of remembrance, and remembering is not so much a matter of calling up an internal image, as of *engaging perceptually* with an environment that is itself pregnant with the past.

(Ingold, 1993)

Mining & Making; those two intertwined and consecutive actions became the subject matter of our group research. Positioning it in the context of the post-industrial city of Liège has revealed to us the multiplicity of readings of those themes.

At first, both topics seemed conspicuous due to the industrial history of the city. The consequences of the mining activities and steel-making industries were visible everywhere. In the landscape that has been exploited and altered to meet human needs; In the architecture of the neighbourhoods, built to house the workers of those factories.

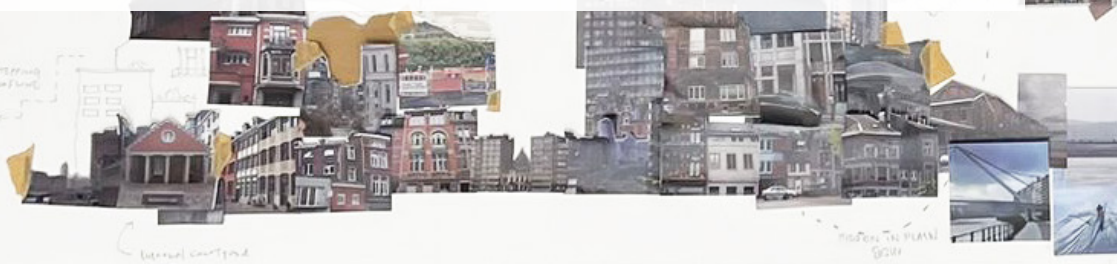


Fig. 2 Brainstorm, Collage
(own photograph, 2022)

Nevertheless, during the process of unravelling the past, we decided to shift our focus to different definitions of 'mining&making'. Looking at them through the lenses of the present and the future we dived into the topics of material reclamation (urban mining) and upcycling leaning towards a process of Re-Making.

While remained puzzled by the concept of what it means for a city to be considered [post]industrial, we tracked the changes in the urban fabric of Liège, focusing on Bressoux and Droixhe. Unveiling the different planning authority approaches as well as the existence of the post-industrial activities on our site became the highlights of the research. Curiosities that we have picked up on; the post-industrial heritage of the site, which currently is largely residential, became visible through the architecture that was born during the golden industrial era. Architecture which was a spectator to the passing of time.

Learning that mining and making are not only consecutive but also circular practices became an overarching theme throughout the coming pages. All of the data, materials and stories which have been 'mined', have also been [re]made into this narrative that tells the urban and industrial story of Droixhe&Bressoux.

SITE OBSERVATIONS

URBAN CONTRAST The striking differences in the fabric of the city made the city feel very fragmented. From a 'medieval-looking' Prussian walls we swiftly move to the 19th-century tenement houses standing right next to much taller, concrete modernistic blocks of flats.

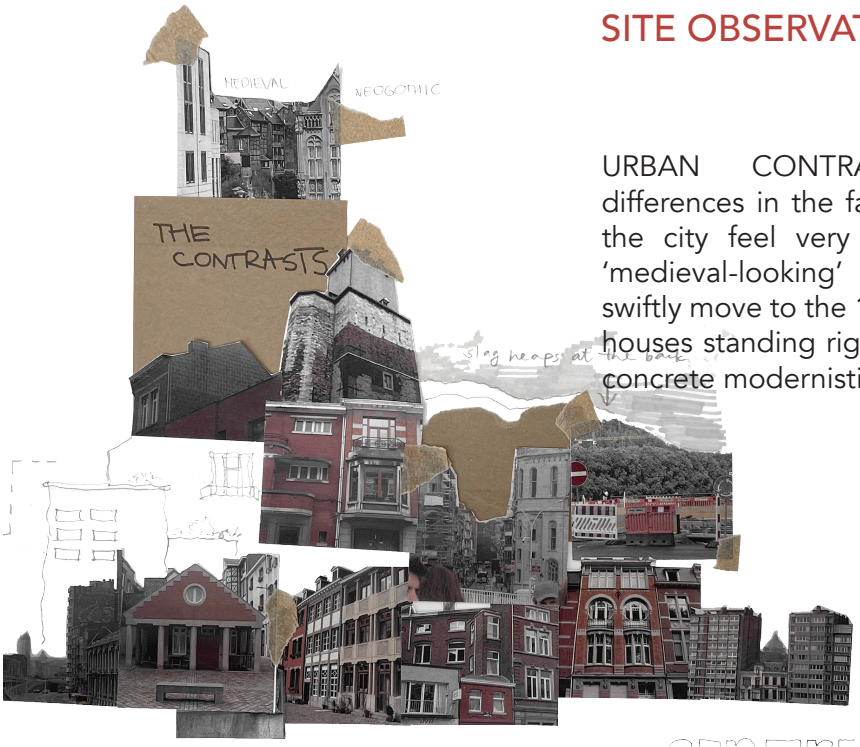


Fig. 3 Collage of building blocks in the city
(own image, 2022)

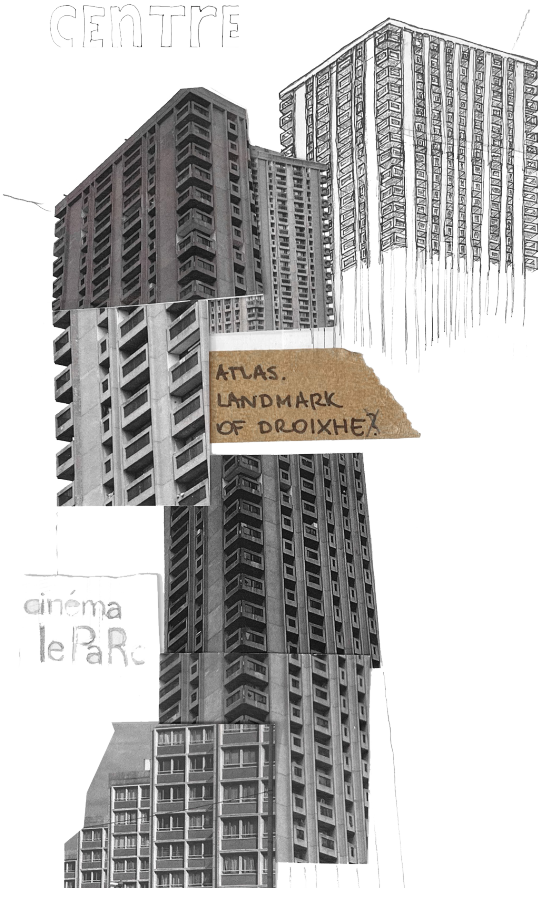


Fig. 4 Collage of Atlas Building, Droixhe
(own image, 2022)

THE LANDMARK Looking down on Droixhe and Bressoux is the Atlas building. Visible almost from every corner of the neighbourhood. As the last pillar of the modernistic neighbourhood it became a type of unexpected landmark that is towering over the city.

Fig. 5
Collage of vacant and industrial building, Liège (own image, 2022)

INDUSTRIAL SPACES The last markers of the industrial activity in and around the city of Liège. Even though the factories stopped working over 50 years ago, the giants, abandoned buildings remained where they were. Closed off and not accessible, slowly decaying behind the barbed wire.

IMPENETRABLE FACADE they were probably the most puzzling element, of what has been observed. A clear lack of visible identity of the inhabitants was shown through empty, bare streets and through ever-existing shutters on every door and every window. Whatever life was happening there, it was happening behind the curtains, remained to be unseen by the passer-by.

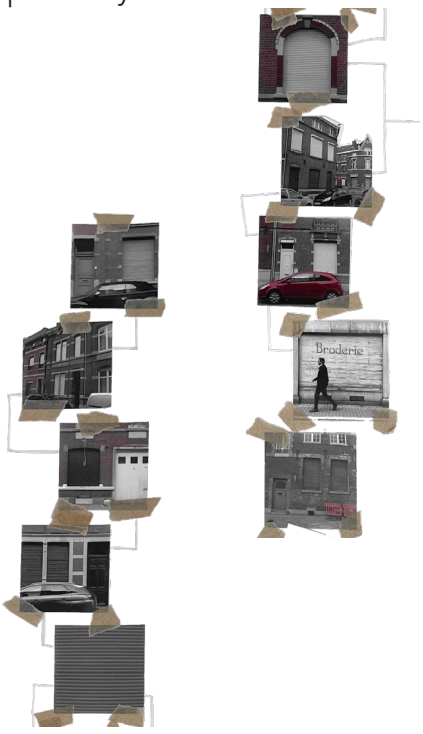
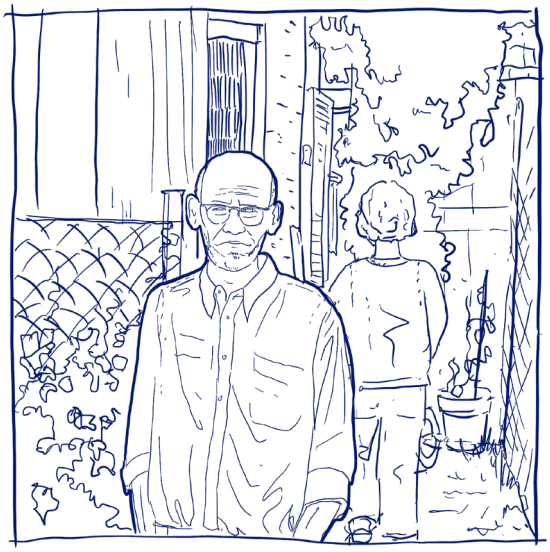


Fig. 6
Collage of closed facade, Droixhe (own image, 2022)



Trying to discover what was happening 'behind the façades' people from the community that lived or commuted to work in the neighbourhood were asked about their experiences, opinions and stories, to understand the inner workings of the life in Bressoux.

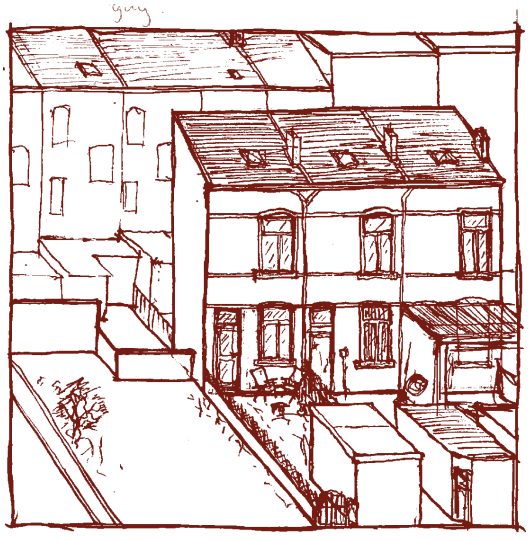
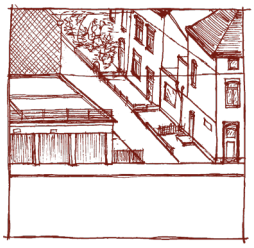
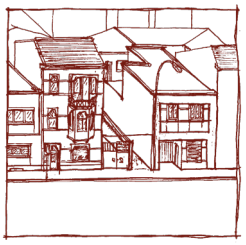


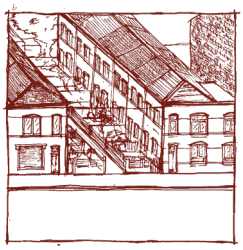
Fig. 6

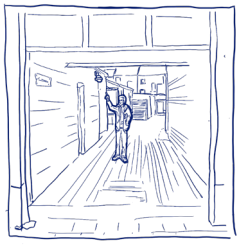
Conversation with people working and living in Droixhe illustrated in scene drawing (own illustration, 2022)



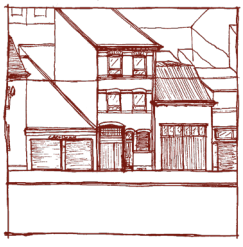
The discoveries caused us to reconsider our approach to reading the site. We experienced how impermeable

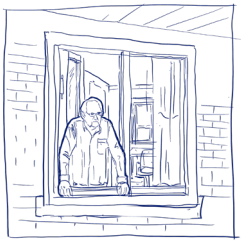


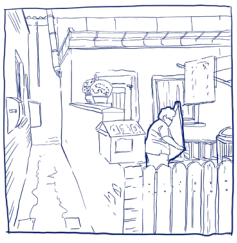




the garage doors and closed shutters were, therefore hiding the making industries and entreprises behind them. When asked, people disagreed with the concept of Liege being a post-industrial city. This aspect was only visible in the surrounding architecture, the passive spectator to the







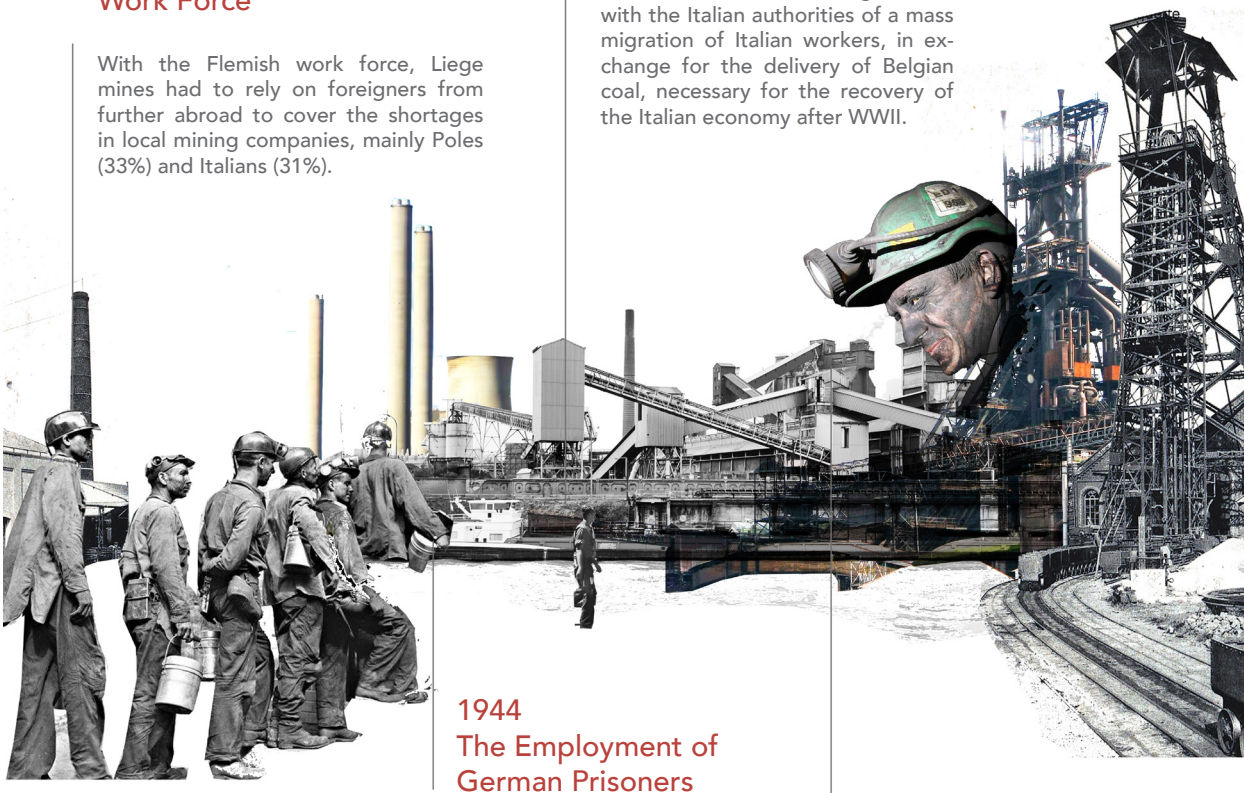
dynamic demographic changes in the neighbourhood. The industrial Liège was long gone, as new generations came to live in Droixhe and Bressoux, making it their own.

1923
Arrival of the Flemish Work Force

With the Flemish work force, Liege mines had to rely on foreigners from further abroad to cover the shortages in local mining companies, mainly Poles (33%) and Italians (31%).

1946
Mass Migration of Italian Workers

Fédéchar had reached an agreement with the Italian authorities of a mass migration of Italian workers, in exchange for the delivery of Belgian coal, necessary for the recovery of the Italian economy after WWII.



1944
The Employment of German Prisoners

Because of the growing international pressure, German prisoners of war had to be discharged in 1947, which lead to a new substitude labour force mainly found abroad.

1952
Fluctuations on the Number of Foreigners

The fluctuations from 1952 to 1958 correlated with the yearly coal stocks of the mines. In the fifties as increase in the coal stocks seerned to be accompanied by a decline in the recritment of foreign workers.

Fig. 7

Timeline of the mining history in relation to the foreign work forces. Own illustration.

1956
Mining Disaster in Marcinelle

After the mining disaster of Bois-du-Cazier in Marcinelle (close to Charleroi) in 1956, the Italian goverment put the official migration towards the Belgian mines to stop.

1969
Recruitment Agreement with Tunisa & Algeria

In 1969 a recruitment agreement was reached with Tunisia; a year later a similar deal with Algeria was made. These countries delivered the last batch for the foreign legion, which kept the mining industry in Liege alive until 1980.

1964
Bilateral Treaty with Turkey

Turks and Moroccans were now systematically recruited. The Turks even took up the second place after the Italians.

CONCEPT OF THE U.P.I.C.

While looking into the building blocks of Bressoux, we stumbled upon a variety of structures nestled into the urban blocks. Due to their frequent use of garage doors and atypical morphology, we asked ourselves: ***could these buildings be a form of (making) industry, integrated into the building block, like the structure on the historical photo of Liège (fig. 8)?*** Extensive research on maps lead us to believe there were a lot of these buildings, but on our site visits we found that most of them are tucked away behind unsuspecting facades or closed garage doors. Sadly, we couldn't enter most of the buildings as they were closed and we were sent away multiple times, hence the acronym: Unidentifiable Possibly Industrial Complexes (U.P.I.C.).

Fig. 8
AJAX-factory embedded in the building block, photo (author & year unknown)

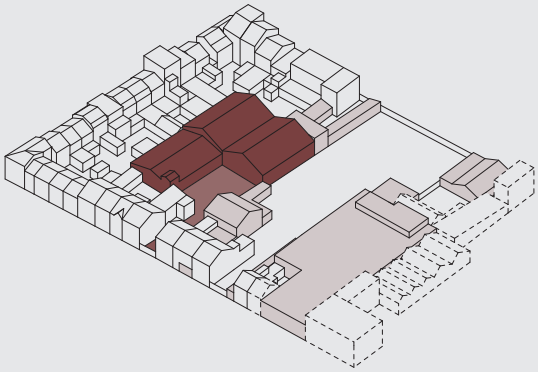
(from the left)

Fig. 9
Implantation diagram (own image, 2022)

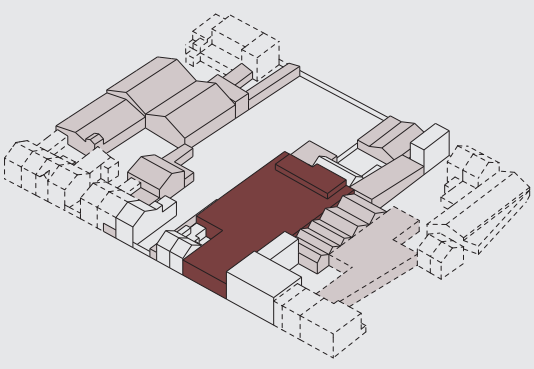
Fig. 10
Implantation diagram (own image, 2022)

Fig. 11
Implantation diagram (own image, 2022)

Fig. 12
Implantation diagram (own image, 2022)



284 Avenue de la Croix Rouge



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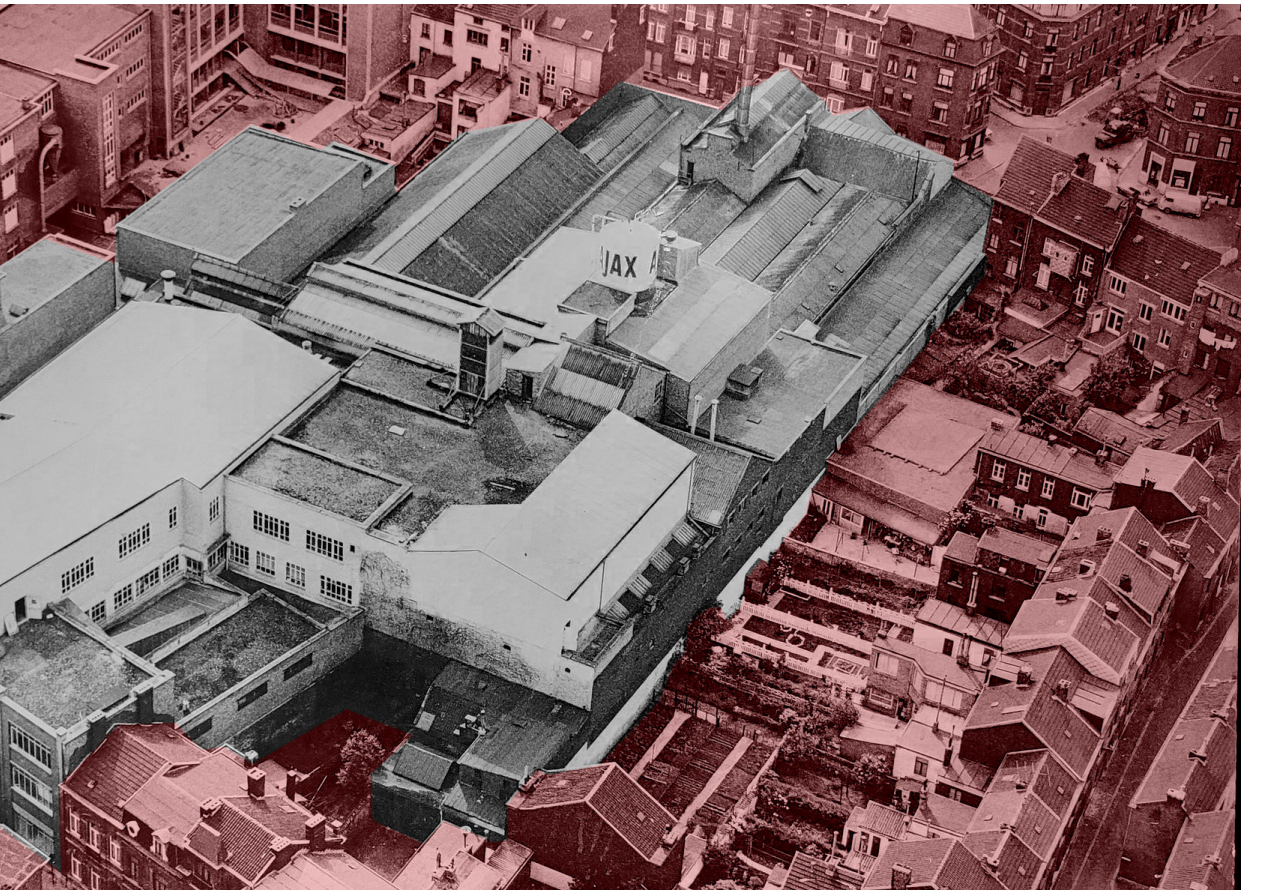
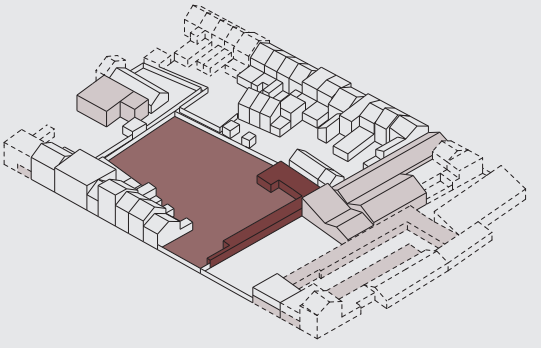
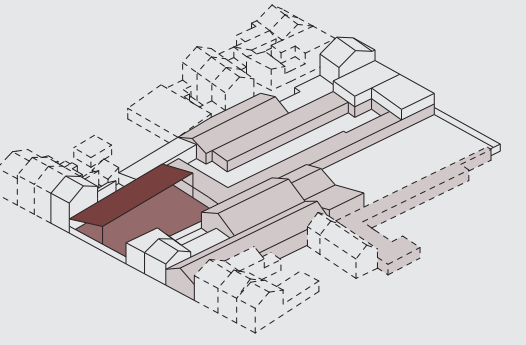




196 Avenue de la Croix Rouge



293 Rue du Moulin

FORMATION OF THE URBAN BLOCKS

After our discovery of the UPIC in the urban blocks, we were curious when these structures appeared here. Were these structures already intertwined in the building blocks since the beginning? Or did they form gradually? To research the development of the urban blocks, we approached different archives. Especially Département de l'Urbanisme of Liège provided us with many maps of Bressoux and Droixhe. When we visited them, they also taught us a few important things about urban planning in Liège that we didn't realise before.

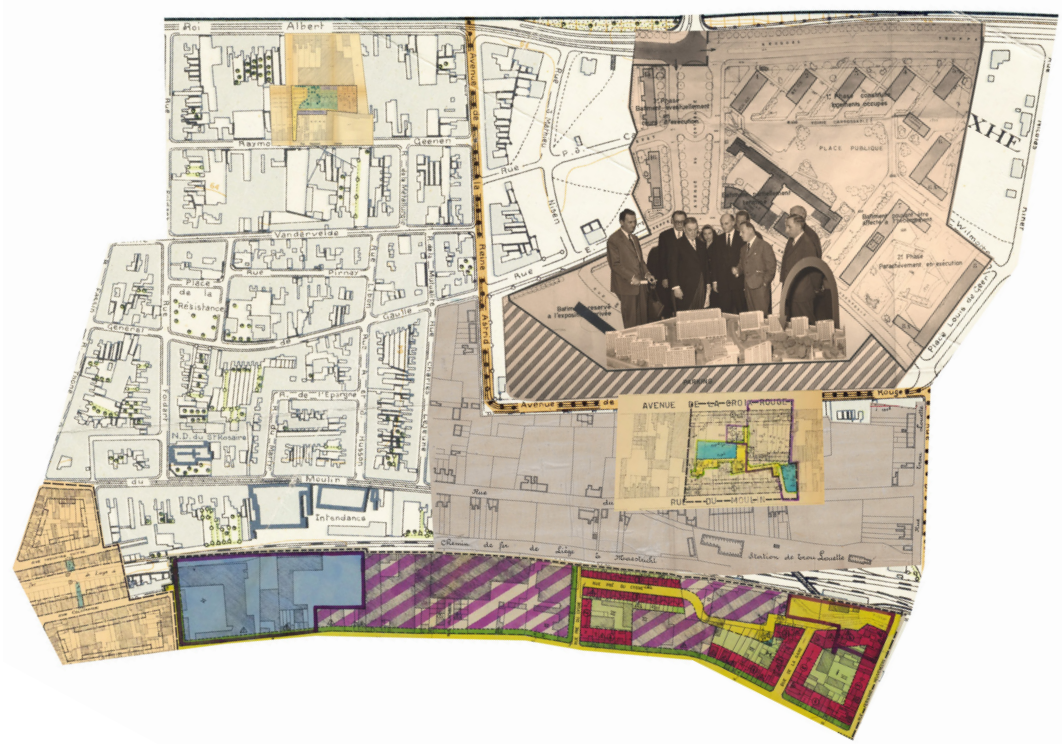
Bressoux was first an independant municipality, and in 1977 they became part of Liège. Therefore, according to the archivists, a number of maps might have gotten lost during the 'transfer', although there is also a possibility that there were simply no more developed plans than these. According to Jean-Pierre Ers, one of the employees at the archive, collective vision is also harder to accomplish in Belgium than in the Netherlands. Especially in Bressoux, developments in the neighbourhood have mostly covered the scale of a few plots.

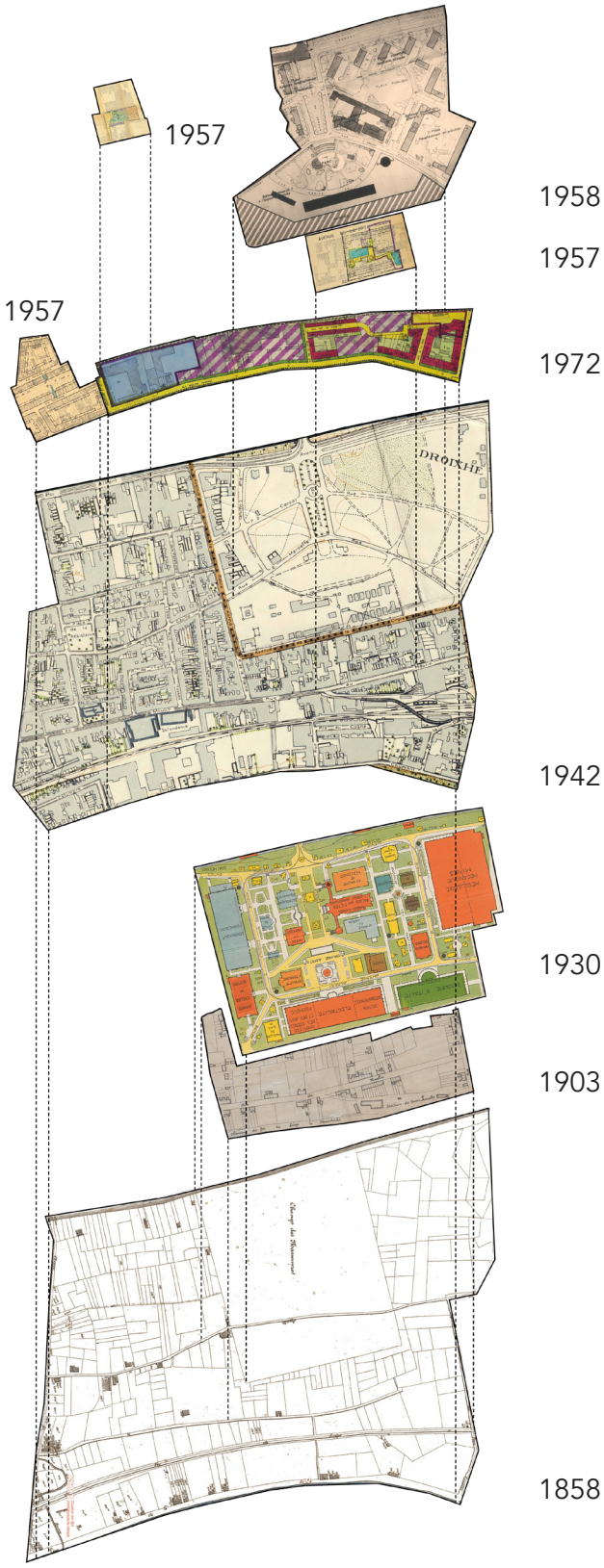
Fig. 13 (right)

Axonometric view of 3D thick mapping (own image,2022)

Fig. 14 (below)

2D-stacked thick map of Bressoux and Droixhe (own image, 2022)





By stacking these maps in 2D, valuable information got lost. Therefore we wanted to apply 'thick mapping', but in 3D.

To make the information on the historical maps more readable, we distilled the important ones into line drawings. The following timeline is composed of all the historical maps of of our site or its parts available. The maps show the gradual growth of the Bressoux a neighbourhood and the development of Droixhe, which have had different destinations in the past. From manoeuvre field into an exhibition area, and finally, whatever has left today of the former modernistic towers compex.

1858

Land parcellation plan that presents largely uninhabited area as of yet. The army's Manoevres Field is implemented regardless of existing parcellation.

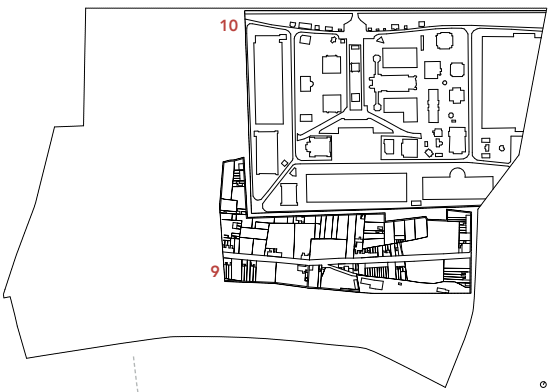
11. Bressoux parcellation plan - 1858

1903-1930

The number of houses in Bressoux increases, including incipient ribbon development along Rue du Moulin. In 1930, the Manouvres Field was replaced by pavilions of L'Exposition Internationale de Liège.

10. Site Plan of the International Exhibition in Liège - 1930

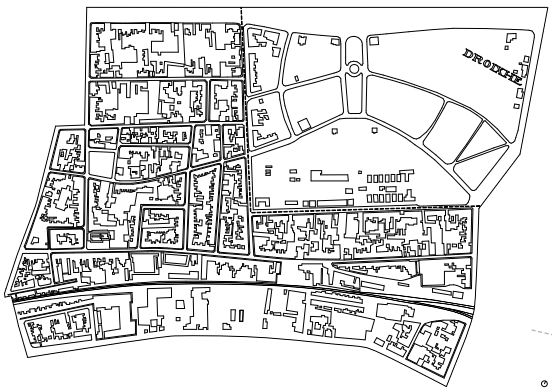
9. Plan of the urban block between Rue de Moulin and Avenue de Croix Rouge, Droixhe - 1903

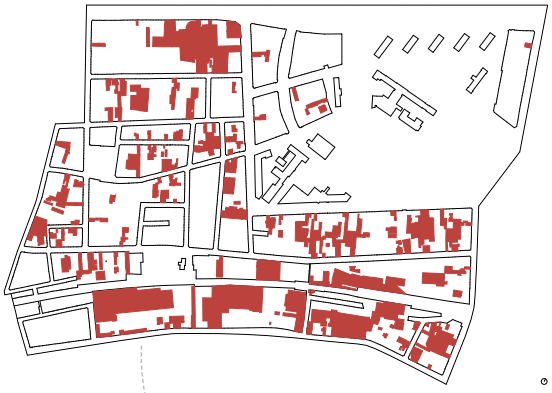


1942

The plan shows the differences in the results of planning approaches; Droixhe was a part of the city of Liège while Bressoux was outside the city's borders. The focus lies here on the enclosed residential urban blocks of Bressoux.

8. Urban plan of Bressoux and Droixhe - 1942

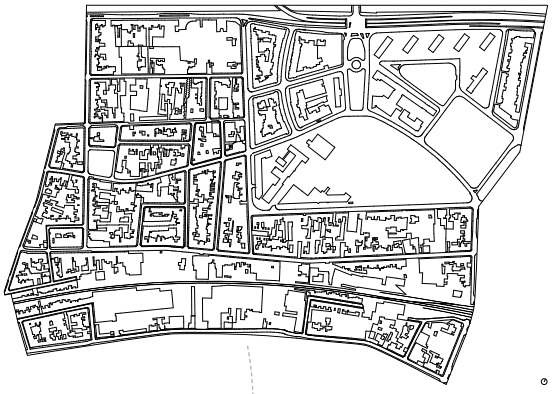




2022

Exposure of the number of spaces and buildings embedded in, primarily residential, urban blocks qualified as potentially functioning as small-scale industries and making enterprises.

1. Plan of unidentifiable structures within the urban blocks - 2022



2022

The current state of the district shows how the previously emptied spaces for public purposes have been housing unidentifiable structures

2. Map of Bressoux and Droixhe - 2022

1957-1972

Fragments of the neighbourhood urban plans that accounted for the creation of public space. Involving the expropriation of private land, plots embedded in the city blocks were created.

3. Plan particulier No. 8 Expropriations - 1957
4. Plan particulier No. 9 Expropriations - 1957
5. The urban plan of land expropriation for a public playground: Cour Jacquet - 1957
6. Exhibition on urbanism and housing Liège '58 - 1958
7. Destination alignment plan and town planning prescriptions - 1972

LEGEND

- plan for public function
- expropriation houses
- unidentifiable structures

Fig. 15
Changes on urban fabric
(own image, 2022)

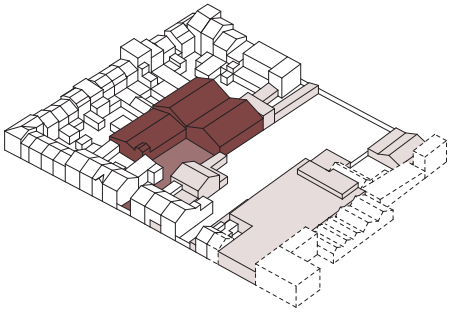
DISTRIBUTION

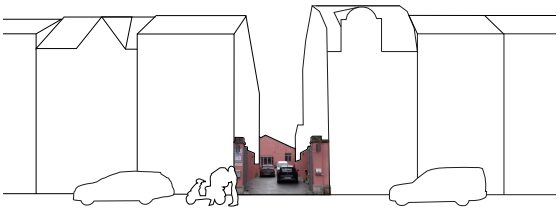
As we discovered more and more UPIS and started to understand their origin, the main question became 'How many UPIS are present in Bressoux, and where are they?'. This map was composed by overlaying maps and adresses, and looking closely at buildings through satellite maps to make an estimation of their occupation. Various clues like garage doors, signs, changes in pavement and outstanding morphology led us to the estimations on which this map is based. By combining our findings with on-site visits, we were able to confirm most of the accessed spaces, and to identify seemingly abandoned buildings on the map.

Fig. 16
Map of UPIS in Bressoux (own image, 2022)

EXAMPLES

U.P.I.C.
open space
another U.P.I.C.
adjacent buildings



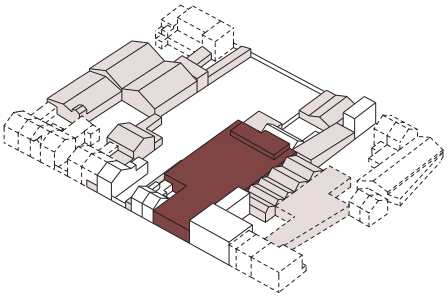


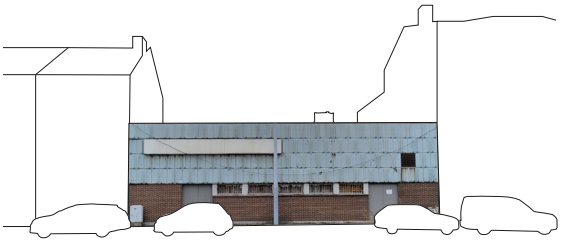
01.

Fig. 17
implantation diagram,
own image, (2022)

Fig. 21
street view diagram,
own image, (2022)

As can be seen on the diagram on the left, this example of a UPIC is formed by three relatively large linked buildings, directly adjacent to almost twenty backyards. Although it strongly influences these backyards, it is almost invisible from the street, being tucked away between houses.





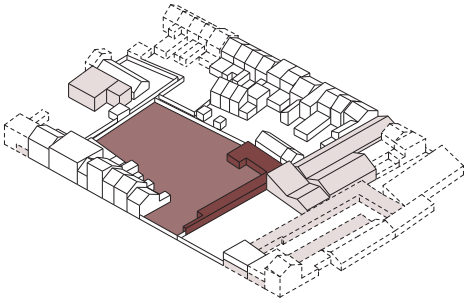
02.

Fig. 18
implantation diagram,
own image, (2022)

Fig. 22
street view diagram,
own image, (2022)

This closed facade defines the relation between the street and this building, which reaches 55 metres into the building block. It is adjacent to two backyards and a large open field on one side, while the other sides are completely enclosed, forming a cluster with neighbouring UPIC.

Map research, on-site observation and photography were combined to answer the question '***How are the UPIC integrated in the building block?***'. These diagrams display four case studies.

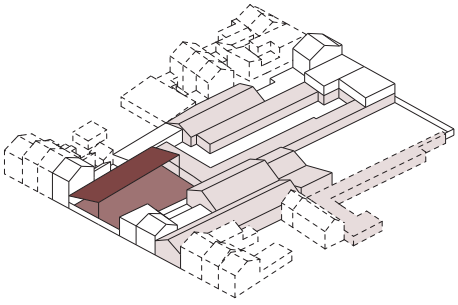


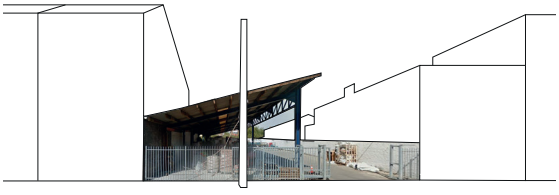
03.

Fig. 19
implantation diagram,
own image, (2022)

Fig. 23
street view diagram,
own image, (2022)

The closed fences and small buildings don't give a clear view of what happens behind them, but research on maps reveal a large industrial terrain, currently used to park trucks. Its high walls obstruct views from the adjacent alleys, where its large surface occupies large parts of the block.





04.

Fig. 20
implantation diagram,
own image, (2022)

Fig. 24
street view diagram,
own image, (2022)

This shed-like structure currently houses an enterprise that sells fuels. The open structure and fences provide an insight in the activities, but also increase noise pollution for direct neighbours, although most of them are closed-character UPIC that might experience less disturbance.

URBAN MINING AND UPCYCLING

Mining generally refers to harvesting raw material, often coming from the ground. Shifting from the industrial aspect of the mining, we engaged in 'urban mining', meaning to reclaim waste, loose, leftover organic and inorganic materials from building sites, vacant and deconstructed buildings for the purpose of reusing.
In the context of Liège, we conducted a twofold research: on one hand we regarded slag heaps and three types of vacant/abandoned buildings in Bressoux as a source, to answer the question "*What materials can be mined directly from Bressoux and Droixhe?*". These local resources are summarized into a catalogue and material flow chart at the end of this chapter.
On the other hand, to answer the question "*What can be made from raw materials that are mineable in Bressoux and Droixhe?*", we gathered and catalogued sand, rubble, stones, parts of tiles and other left behind pieces of raw material that we upcycled into new building materials such as tiles and bricks.

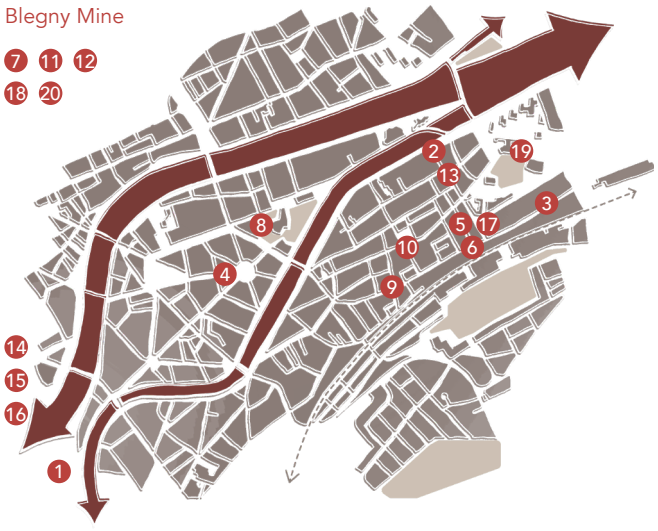


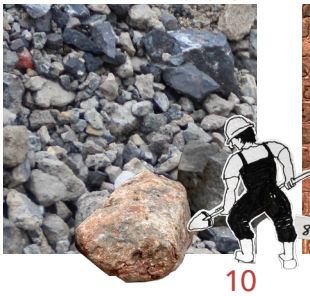
Fig. 25
Map of mined materials
(own image, 2022)

Fig. 26
Material photos
(own image, 2022)

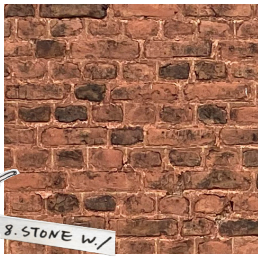
1

2

3,4,6,8



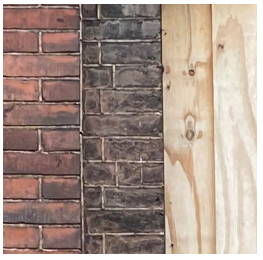
5



7

9,12

10



11

13

14

15

16

17

18

19

20

Fig. 27
Material
board
(own
photo,
2022)

1 branches

2 tiles

3,4 stone

5 brick

6 stone w./ concrete

7 andesite

8 stone w./ glazing

9,12 coal

10 brick parts

11 slate

13 marble

14 sand & asphalt mix

15 sand

16 asphalt

17 fence

18 rusted steel

19 hops

20 rubble


17
19
15
14
16
18
13
12
9
12
20

MATERIAL POTENTIALS

The history of the city is embedded within the soil. Re-using the ingredients of what once was, was the aim for creating new materials. Elements like broken bricks and tiles as well as sand and soil were gathered from the site. Materials were collected from significant historical places such as the Terril de Belle-Vue (a slag heap) and the remains of the demolished flats in Droixhe as well as from the rest of Bressoux. These new potential building materials, composed of soil and rubble, show not just the mining potential of Bressoux, but also how construction waste can be upcycled into pristine material.

Milky rubble tile

Gypsum poured over broken tiles and rubble collected from demolished flats in Droixhe, Liège

Tuile de Liège

A combination of 10:3 gypsum and coal dust from Terril de Belle-Vue. The aggregates consist of collected and broken up rubble from demolished flats in Droixhe, Liège

Brick waste tile

A combination of 2:1 gypsum and brick dust with aggregates collected from demolished flats in Droixhe, Liège

Fig. 37
Tile & rammed earth products front view (own image, 2022)

Fig. 38
Tile & rammed earth products side view (own image, 2022)

Mining waste tile

Gypsum mixed with coal and slate gathered at Terril de Belle-Vue as aggregates

Coal tile

A combination of 2:1 gypsum and coal dust from Terril de Belle-Vue. The aggregates consist of coal collected from the same slag heap

Mining waste rammed earth

The soil - 5:1 dirt and clay - was collected at the terril de Belle-Vue and consists of dirt and mining waste. The soil is mixed with concrete (10:1) for strengthening

Pure mining waste rammed earth

The soil was collected at the terril de Belle-Vue and consists of dirt and mining waste. The soil was filtered and sorted to establish a 7:2:1 dirt, silt and clay ratio to avoid the use of concrete

RAMMED EARTH RECIPE

1. Place the dry soil on a clean work surface

2. Add 1:10 concrete to the soil and mix thoroughly (this step can be skipped when the soil has a 7:2:1 dirt-silt-clay ratio)

3. Add 1:10 water to the mix, depending on the humidity of the air and soil, adjusting accordingly

4. Mix thoroughly until the earth resembles damp sand and holds its shape when squeezed

5. Place an exact amount of the earth in the mold

6. Ram the earth til a flat surface, sturdy surface is created

7. Continue this process till the top of the mold

8. Flatten top surface and let dry for at least 12 hours.


1.


2.


3.


4.


5.


6.


7.


8.

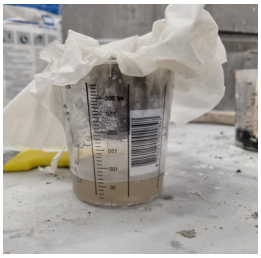
Fig. 39
Rammed earth making process photograph (own image, 2022)


1.


2.

Coal and slate collected from the slag heaps of Liège used as aggregates 1.

Mix water with soil for coloring of the tile. A slight greyish tint 2.


3.


4.

Filter the water 3.

Add water and coaldust to gypsum and let rest for 2 minutes before stirring thoroughly 4.


5.


6.

Add the aggregates to the mix 5 .

Make sure to reserve a few for placement in the mold 6.


7.


8.

Pour in the gypsum mixture and vibrate / tap the mold to prevent air bubbles from settling 7.

Let it dry for at least 4 hours before sand it. Sand the tile and wash it afterwards. 8.

Fig. 40
Terrazzo tiles making process photograh (own image, 2022)

SLAG HEAP

Terril du Gosson N°1 and N°2
Rue Chantraine 161,
4420 Saint-Nicolas, Belgium

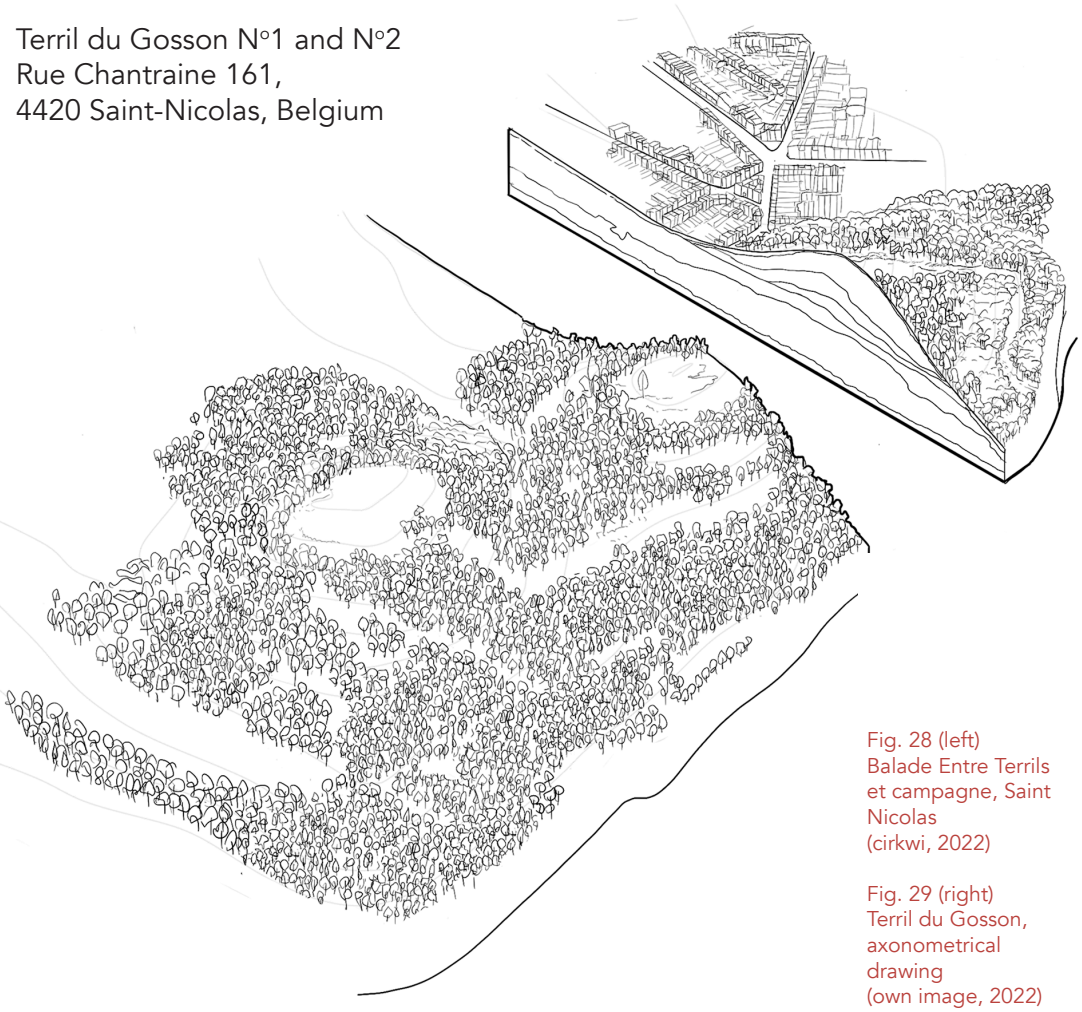


Fig. 28 (left)
Balade Entre Terrils et campagne, Saint Nicolas
(cirkwi, 2022)

Fig. 29 (right)
Terril du Gosson, axonometrical drawing
(own image, 2022)

Coal Dust

Red Shale

birch woodland
man-made

slate

Coal Dust
(anthracite pieces)

soil deposits

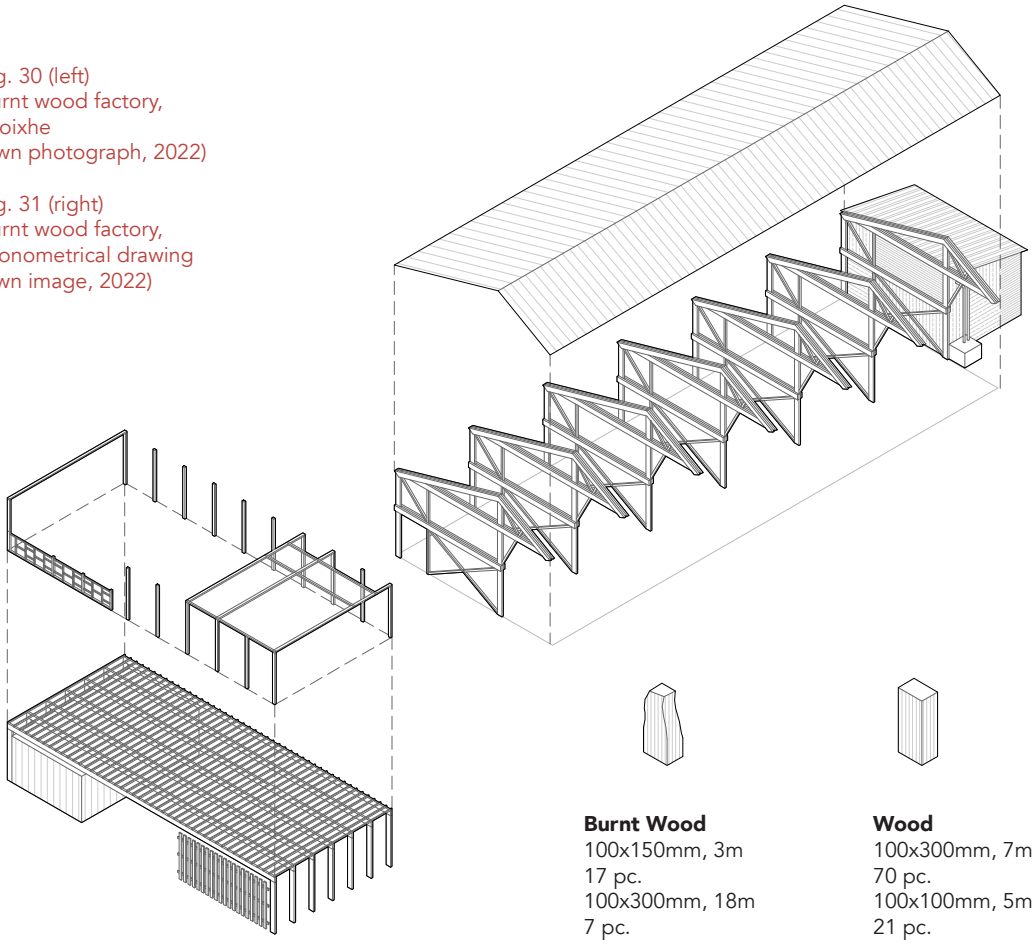

Le bois...
notre métier!
Négoce Spécialisé FNN
J. Portier/spri

BURNT WOOD FACTORY

Rue Raymond Geenen 70,
Droixhe, 4020 Liège, Belgium

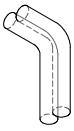
Fig. 30 (left)
Burnt wood factory,
Droixhe
(own photograph, 2022)

Fig. 31 (right)
Burnt wood factory,
axonometrical drawing
(own image, 2022)

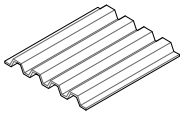


Burnt Wood
100x150mm, 3m
17 pc.
100x300mm, 18m
7 pc.

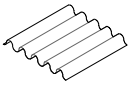
Wood
100x300mm, 7m
70 pc.
100x100mm, 5m
21 pc.



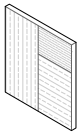
Plastic Pipes
radius 355mm
long 5m
2 pc.



Corrugated Panels
steel
grey - white
42m^2



Roof Tiles
clay
210m^2



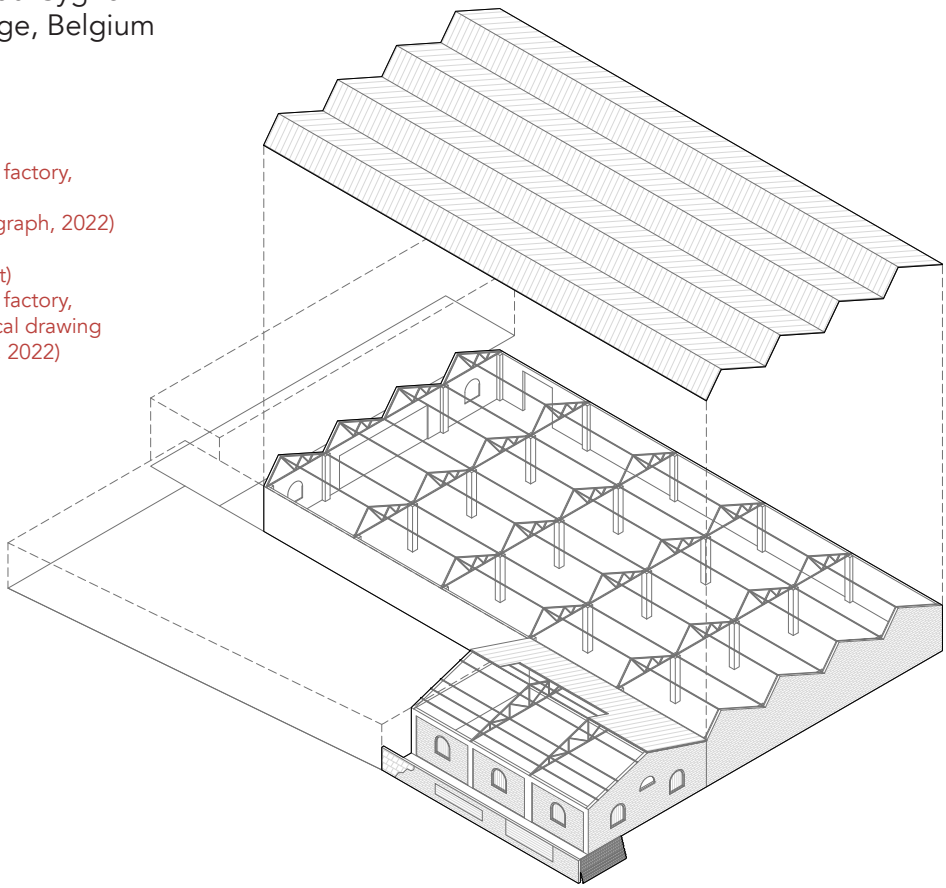
Wall Panels
composited wood
119m^2
burnt wood
78m^2

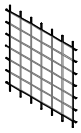
ABANDONED FACTORY

Rue Pré du Cygne 2-44
4020 Liège, Belgium

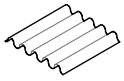
Fig. 32 (left)
Abandoned factory,
Droixhe
(own photograph, 2022)

Fig. 33 (right)
Abandoned factory,
axonometrical drawing
(own image, 2022)



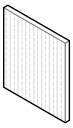


Mesh Wire
steel - grey
30m², 4 pc.

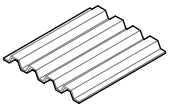


Roof Tiles
clay - dark brown
216m²

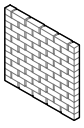
Beam
steel - grey
50x75 mm, 4m
64 pc.



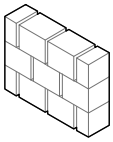
Wall Panel
composited wood
30m²



Corrugated Panels
steel - grey white
200x300x200mm
48m²



Bricks Wall
brick - red
90x190x90mm
720m²



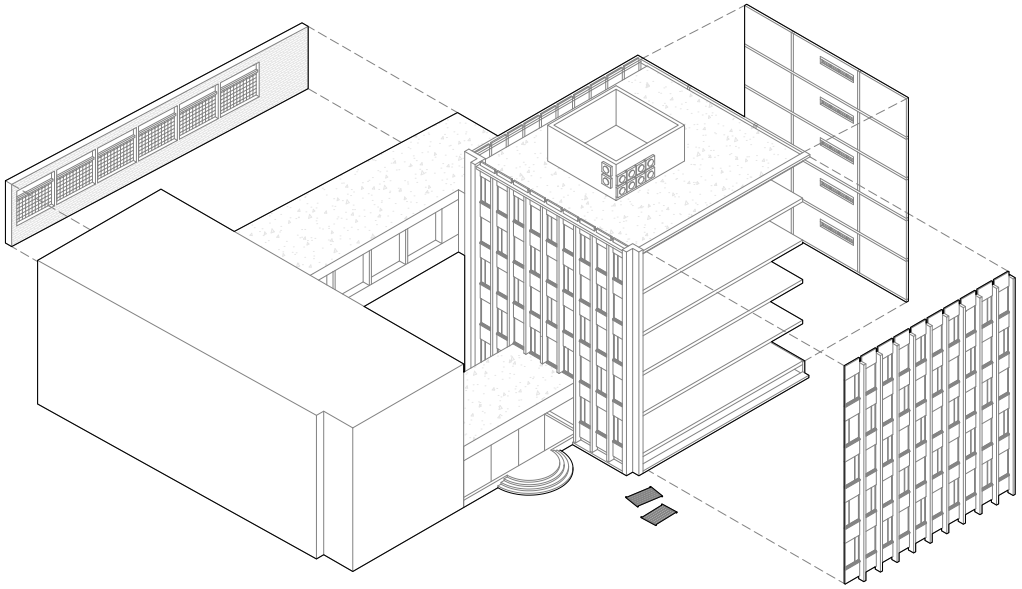
Bricks Wall
stone - grey, white
200x300x200mm
85 pc.

OFFICE BUILDING

Bressoux rue de la Plaine
4020 Liège, Belgium

Fig. 34 (left)
Office building, Bressoux
(own photograph, 2022)

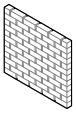
Fig. 35 (right)
Office building, axonometrical drawing
(own image, 2022)



Curtain
aluminum - lightgrey
1.4x2.1m
141 pc.

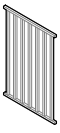
Window Frame
aluminum - grey
1.4x2.1m
141 pc.

Window Glass
double glazed -
transparent glass
0.9x2.1m
0,35x2.1m
141 pc.



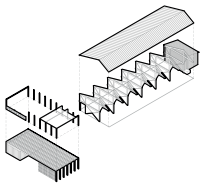
Bricks Wall
brick - red
90x190x90mm
265.2m^2

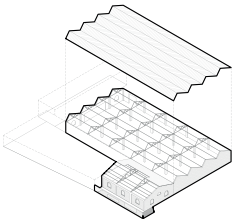
Insulation Panel
aluminum - grey
mineral wool
141 pc.

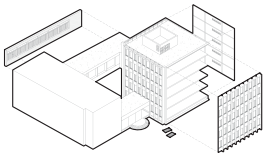


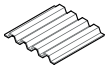
Steel Frame
steel - grey
1.4x2.1m
4pc.

MATERIAL FLOW

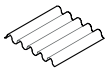




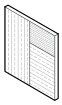




corrugated steel panels
42 m²



clay roof tiles
210 m²

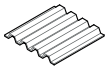


composite wood wall panels
119 m²

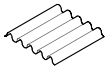
plastic pipes
radius 355mm, 5m, 2 pc.

wood
100x300mm, 7m, 70 pc.
100x100mm, 5m, 21 pc.

burnt wood
100x300mm, 18m, 7 pc.
100x150mm, 3m, 17 pc.

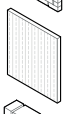


corrugated steel panels
48 m²



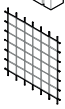
clay roof tiles
216 m²

brick wall
720 m²



composited wood wall panel
30 m²

stone wall
200x300x200mm, 85 pc., 5,1 m²



steel mesh wire
30 m²

steel beam
50x75mm, 4m, 64 pc.

mineral wool insulation panel
1400x1000mm, 141 pc., 197 m²

brick wall
265 m²

window glass, double glazed
900x1950, 141 pc., 247,5 m²
300x1950, 141 pc., 82,5 m²

aluminum window frame
1400x2100mm, 141 pc., 84,5 m²

aluminum sun shading
1400x2100, 141 pc., 367 m²

steel fence
1400x2100, 4 pc.

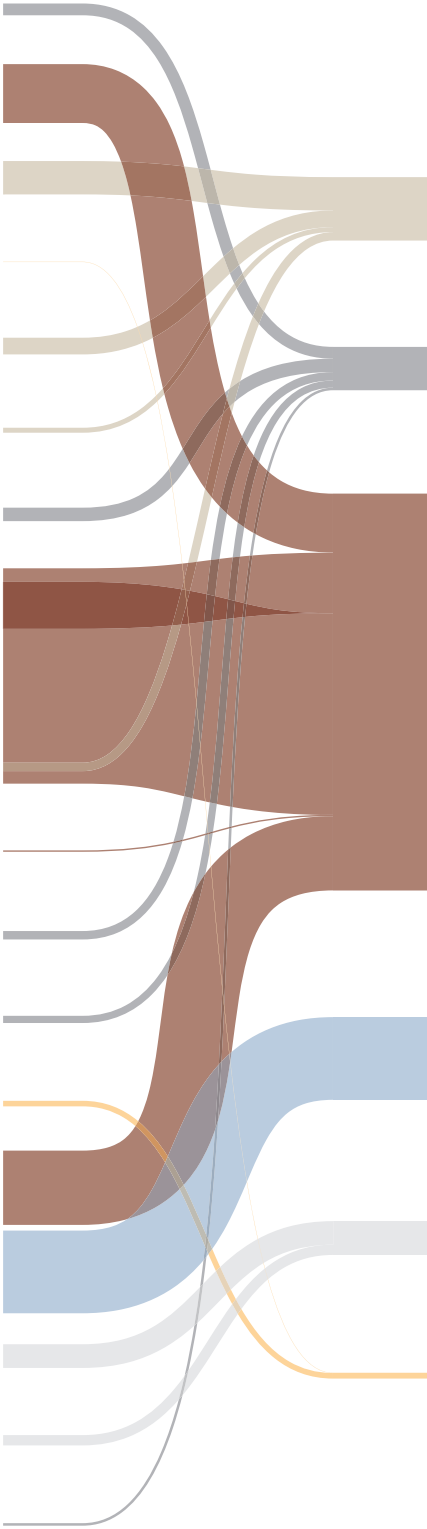
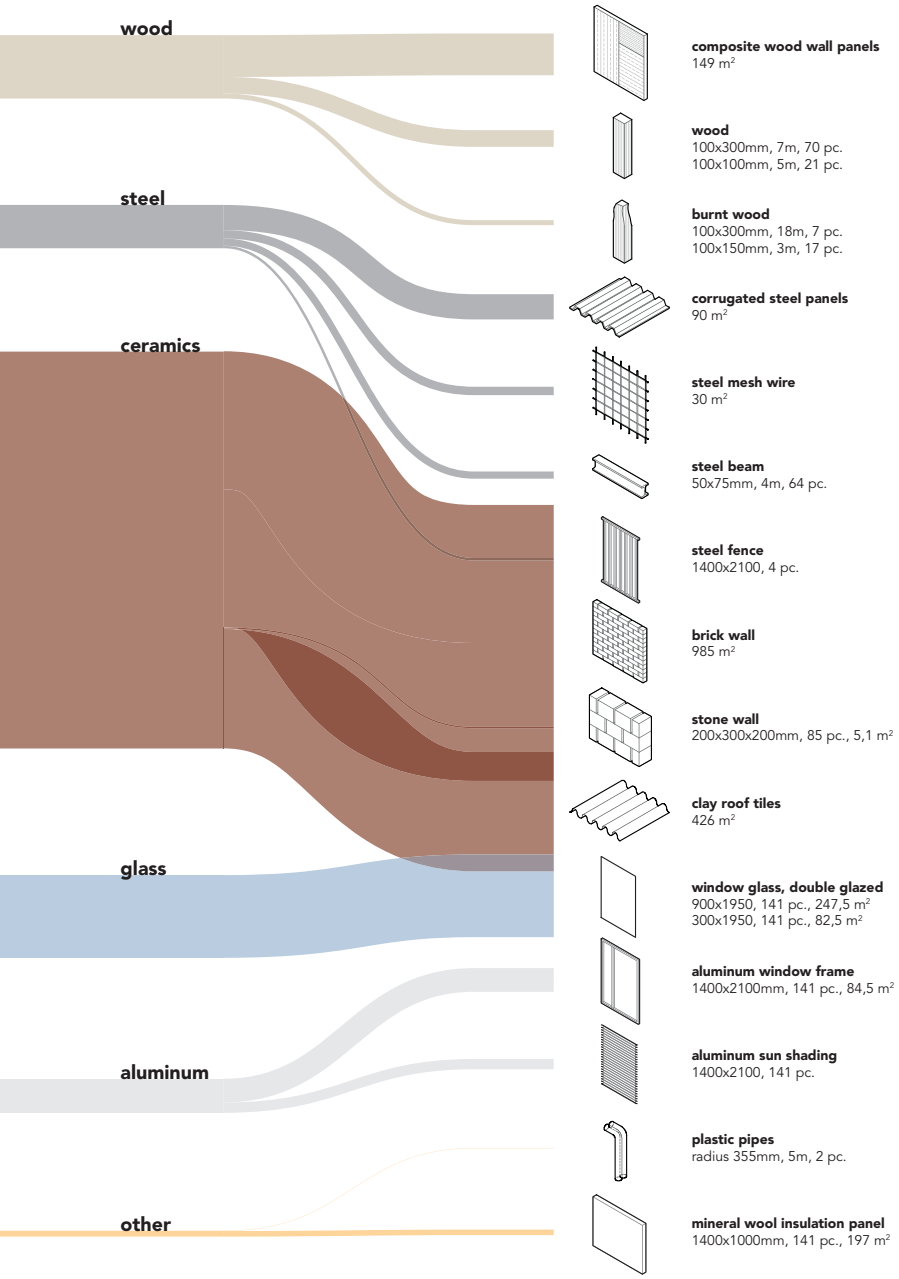


Fig. 36
Material flow diagram
(own image, 2022)



EXHIBITION OBJECT

Our first object exhibits a variety of materials which we mined from the site and its surroundings, together with the product of our exploration of their potential as new building material. By displaying both above one after, separated only a clear layer of perspex, a direct relationship between the mining and making - between source and outcome - becomes clear.

The second object consists of five extendable perspex layers that each show a different era in the history of the making culture in Bressoux and Droixhe, highlighting the large urban interventions that changed the structure of the building blocks. The sixth layer, fixed on top of this historical analysis, shows a result of those urban interventions: the unidentifiable potentially industrial structures that arose within the urban blocks. The bottom layer of the object, the backdrop of the top-down view through the historical layers, shows the geographical ground layer on which all other layers were built; pure soil, with traces of mining.

Fig. 41 (right)
Exhibition object 1
(own image, 2022)

Fig. 42 (bottom)
Exhibition object 2
(own image, 2022)

REFLECTION

The initial theme 'Mining & Making' turned out not to be as obvious as we had expected. The 'mining' – defined as 'extracting materials from a certain source' was immediately quite visible; the mining industry scarred the landscapes of Liège in the shape of slag heaps and abandoned mines. But the 'making' was far less recognisable. As we conducted primary research and looked closely at maps and photos of Bressoux and Droixhe, we discovered many, possibly, making industries or small businesses in the urban blocks.

To start our research, we intended to find out what was happening on the inside. But even by physically trying to enter and conduct interviews, we did not get much wiser about their activity or purpose. The photographs from the first site visit seem to accurately show the impermeability of the city block: closed garage doors and fences hide the activities behind the vertical walls of façades.

While taking the next step, we came to accept that their actual purpose might not become clear to us at this point. Therefore through conducting archival research and applying the method of montage, we tried to connect the present neighbourhood with all its unidentifiable structures to its past, in different historical layers. That timeline, combined with typology research on multiple examples of the complexes, provided insight into how these 'unidentifiable potentially industrial complexes' were partially facilitated by urban interventions.

Parallel to the findings on the making of the neighbourhood, we inventoried and analysed available materials in vacant buildings and sites, investigating their potential as local materials with the possibility to be upcycled, whereas raw materials found in Droixhe and Bressoux were used as ingredients to create prototypes of new materials which tie together the consecutiveness of material-mining in relation to material-making.

Despite the sometimes unsure proceedings of certain topics and seemingly continuous shifting of research methods, the process has led us to a diverse but satisfying end result. A combined effort to investigate and exhibit relationships between mining and making in Liège, in both material and spatial sense has not become an endpoint to a journey but a knowledge hinge to take us further.

IMAGE CREDITS & BIBLIOGRAPHY

Ingold, T. (1993). The Temporality of the Landscape. World Archaeology, 25(2), 152–174. http://www.jstor.org/stable/124811

Fig.1 *Facade details.* (2022). own photograph.

Fig.2 *Brainstorm in a Collage.* (2022). own photograph.

Fig.3 *Collage of building blocks in the city.* (2022). own photograph.

Fig.4 *Collage of Atlas Building, Droixhe.* (2022). own photograph.

Fig.5 *Collage of vacant and industrial building, Liège.* (2022). own photograph.

Fig.6 *Conversation with people working and living in Droixhe illustrated in scene drawings.* (2022). own illustration.

Fig.7 *Timeline of the mining history in relation to the foreign work forces.* (2022). own illustration.

Fig.8 *TAJAX-factory embedded in the building block.* (year unknow). photograph.

Fig.9-12 *Implantation diagram.* (2022). own image.

Fig.13 *Axonometric view of 3D thick mapping.* (2022). own image.

Fig.14 Archives de la Ville de Liège. (1903). Plan pour l'agrandissement du Champs des Manoeuvres.
Archives de la Ville de Liège. (1930). Exposition Internationale de Liège 1930 plan officiel.
Archives de la Ville de Liège. (1957a). Plan particulier Cour Jacquet.
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Warzée, C. (2020, June 19). Plan de Liège en 1947. Plans Anciens De Liège. https://plansanciensliege.wordpress.com/2020/06/19/plan-de-liege-en-1947/

Fig.15 *Changes on urban fabric.* (2022). own image.

Fig.16 *Map of UPIS in Bressoux.* (2022). own image.

Fig.17-20 *Implantation diagram.* (2022). own image.

Fig.21-24 *Street view diagram.* (2022). own image.

Fig.25 *Map of mined materials.* (2022). own image.

Fig.26 *Material photos.* (2022). own image.

Fig.27 *Material board.* (2022). own image.

Fig.28 *Balade Entre Terrils et campagne (Saint-Nicolas). Cirkwi.* (2020, April 29). Retrieved November 2, 2022, from https://www.cirkwi.com/fr/circuit/184270-balade-entre-terrils-et-campagne-saint-nicolas

Fig.29 *Terril du Gosson, axonometrical drawing.* (2022). own image.

Fig.30 *Burnt wood factory, Droixhe.* (2022). own photograph.

Fig.31 *Burnt wood factory, axonometrical drawing.* (2022). own image.

Fig.32 *Abandoned factory, Droixhe.* (2022). own photograph.

Fig.33 *Abandoned factory, axonometrical drawing.* (2022). own image.

Fig.34 *Office building, Bressoux.* (2022). own photograph.

Fig.35 *Office building, axonometrical drawing.* (2022). own image.

Fig.36 *Material flow diagram.* (2022). own image.

Fig.37 *Tile & rammed earth products front view.* (2022). own image.

Fig.38 *Tile & rammed earth products side view.* (2022). own image.

Fig.39 *Rammed earth making process photograph.* (2022). own image.

Fig.40 *Terrazzo tiles making process photograph.* (2022). own image.

Fig.41 *Exhibition object 1.* (2022). own image.

Fig.42 *Exhibition object 2.* (2022). own image.

Mining & Making; those two intertwined and consecutive actions became the subject matter of our group research. Looking at them through the lenses of the present and the future we dived into the topics of material reclamation (urban mining) and upcycling leaning towards a process of Re-Making. Unveiling the different planning authority approaches as well as the existence of the post-industrial activities on our site has also become the highlights of the research. Learning that mining and making are not only consecutive but also circular practices became an overarching theme throughout the coming pages. All of the data, materials and stories which have been 'mined', have also been [re]made into this narrative that tells the urban and industrial story of Droixhe & Bressoux.