

Industrial Remnants

building on the ruins of
postindustrial Europe

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Abstract

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As a result of the industrial revolution in the late 19th century and the decline of this industry in the last decades, Western Europe has been left with a multitude of former industrial sites. Whether being redeveloped from a top-down perspective, in co-ordination with inhabitants or completely left to their own, these sites make a shift from the functional (industrial) to the postindustrial. In these first moments of transition, the 'lost' spaces start to the public urban tissue again.

These (former) industrial areas can be found in extreme high density in the German Ruhr area, where a concentration of former coalmines still leaves its mark. Although of high architectural quality, many are being (or have been) demolished. On the other hand, specific constructions and even entire sites (like Zeche Zollverein) have managed to survive, getting the status of monument. Some (fragments of) sites however, are still 'alive', without being monumentalized. The project derives from a great interest in how these former isolated spaces function as public realm. Especially in the sites in transition, there is an extremely rich condition for architectural research and intervention.

This project aims to look at the state as found, researching on site the current conditions. The research is a modest attempt to understand the workings of the postindustrial site as public space and to understand the futile conditions of these areas in transition.

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Introduction

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a collection of principles

The project emerged from a personal attraction to large industrial structures (in decay) as well as an observation of the popularity of these structures and spaces as part of the scene of public activities amongst my generation. Former shipwarfs, factories, mining sites and switchyards are eagerly 'adopted' as part of the public domain. Either through organized events (STRP-festival / Flux-S festival on a former Philips terrain in Eindhoven, Roest cafe / club / terrace / exhibition space on a former shipwarf in Amsterdam) or without planned activity (former switchyard next to Warschauerstrasse S-Bahn station in Berlin, former shipyard on Refshaleøen island in Copenhagen). (fig. 2 - 5) This conception is the starting point for an investigation that takes the Ruhr area in Germany as a case study. The following principles are taken as an approach to the project.

As Found

My approach in research and design is largely determined by an inherent interest in and love for the ordinary and things as they are. An empty plot in a city for me does not mean an unfinished project, a stain in the neat city. Rather these ephemeral places are just as much part of the city fabric. (fig. 1)

Through their 'as found' approach, Alison and Peter Smithson indicated a new way of seeing the ordinary in the early 1950s. (Smithson, 1990) Being open to and indicating what they encounter in their direct environment, not just the building itself, but also the scrap heaps around it for example. (van de Heuvel, 2002). This way of looking is also apparent in the project 'A tour of the monuments of the Passaic'. (fig. 6-7) The artist Robert Smithson took a tour along the Passaic River, taking photographs along the way, of 'spaces in dissolution', framing them as monuments and inviting others (through a map, the photo's and a text in Artforum magazine) to take the same tour to find these 'monuments'. In this way the non-place of the outskirts of Passaic are framed in their natural state, displaying the aesthetics of the normal. (Careri, 2001, pp. 162-169) Although stylized in execution, the work of Bernd and Hilla Becher, was among the first to indicate the aesthetics of the industrial through a similar approach. (fig. 8)

A comparable way of looking can also be found in the movie 'Robinson in Space'. Director Patrick Keiller depicts the walk of a fictional character Robinson from London into the English countryside, encountering the hinterlands of highways, container ports and logistic sheds. (Keiller, 1997) (fig. 9) Framing the



*fig. 1 empty plot in Barcelona, 2014
Due to the demolition of a dwelling building, a void emerges in the street facade, allowing light to flow in from another angle and revealing previous layers of use.*

context in the abovementioned observant way, could contribute to the spatial specificity. In a comparable manner, the subject of the research, the former industrial sites, are investigated 'from ground level', and displayed in their encountered state.

Social Space

The way I read space always incorporates what people do. This also entails 'ordinary' activities, like how they move around, pick a table in a cafe and so on. This matter of viewing derives from a former education as industrial and interaction designer, in which the interaction between person and products was studied and designed for. I am interested in how people respond to their environment, how they read signals and act accordingly.

Viewing the above in a spatial context, it could be said that the space changes along with its social conditions. In such a way the same materiality can have different meanings at different times. To go even further, the space is not the same space in a different situation. This could be described as what Henri Lefebvre calls the sociospatial. As opposed to the classifiable space, in its material and formal aspects, Henri Lefebvre considers space as a social production. (Soja, 1980) "(space) is a (social) product"

Existential Space

Just like social space is ambiguous due to its spatial and social conditions, equally the perception of space is singular for each person. We read space through our own previous experiences; and in this the meaning of the space is different for each, tied together with the stories of the place. Pallasmaa argues that space as we perceive it, is always a fusion of memory, imagination, materiality and experience. 'Existential space' is structured on the basis of meaning and values projected on it...' (Pallasmaa, 2002) In this way it is possible for multiple spaces to exist in the same place. The narrative of the space could serve as a method to understand different stories present in the space.



fig. 2 Flux-S Festival, Eindhoven, 2009

The Flux-S art festival took place in a disused radio factory on a formerly closed Philips area in Eindhoven. This was one of the first public activities to take place, although there was not really an infrastructure for it yet. Visitors arrived over muddy roads, in a landscape of fences. Art installations were spread throughout the disused building, making the visit a discovery through unknown terrain. The officially accessible festival allowed visitors to explore not only the art, but also the factory in its ruinous state.



fig. 3 Roest, Amsterdam, 2014

Roest is a cafe / club / exhibition space / urban garden on a former shipyard in Amsterdam. The actual venue is located in a disused gas building, where drinks and food can be bought. In practice, especially when the weather allows, the venue spreads over the terrain, with people populating each corner or curb they can find.



fig. 4 former switchyard and train maintenance terrain, Berlin, 2013

In between the S-Bahn station Warschauerstrasse and the Friedrichshain neighborhood in Berlin lays a former switchyard and train maintenance terrain. Some of the buildings are squatted, whilst some house a venue, like a vegetarian cafe and a club. On the terrain people can always be found, even on a cold winter day when venues are closed. During the day, it's mostly people strolling, while towards the evening people sit and drink their beer from the nearby supermarket.



fig. 5 Refshaleøen island, Copenhagen, 2013

A former shipyard island in the north of Copenhagen containing enormous structures lays mostly unused. The large buildings are not accessible, but the terrain is free for access, attracting people on a stroll or informally organized gatherings.



fig. 6 'Negative Map Showing Region of Monuments along the Passaic River', map, Robert Smithson, 1967
In 1967 artist Robert Smithson took the bus to his hometown Passaic, New Jersey. Along the way he decided to get off and walk the remaining distance towards the city. In his walk through the outskirts of Passaic, he documented the monuments of an area in dissolution through black and white photographs. These photographs were later displayed, along with a map and description at an exhibition at the Bwan Gallery New York, as well as in magazine Artforum.

Image taken from 'Walkscapes, Walking as Aesthetic Practice', F. Carreri (2001). Image courtesy of the artist.



fig. 7 'A Tour of the Monuments of Passaic', collection of photographs, Robert Smithson, 1967
 The artist Robert Smithson was known for creating sculptures with found materials along journeys he took by foot. In the Passaic project, however, no sculpture is displayed. The photographs display the landscape in its 'natural', at least 'as found' state. The map displays only the region, not the actual location of the photographs. Through an advertisement in magazine *Artforum*, others are invited to take the map as a guide for their own tour along the Passaic River.

Image taken from 'Walkscapes, Walking as Aesthetic Practice', F. Carreri (2001). Image courtesy of the artist.



fig. 8 Winding Towers, Bernd and Hilla Becher, 1966-1997

Image taken from 'Typologies' Bernd and Hilla Becher (2004). Image courtesy of the artist.



fig. 9 still from Robinson in Space, Patrick Keiller, 1997

Still taken from the movie 'Robinson in Space', image courtesy of the artist.

Decline / non-productivity

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Building on the postindustrial ruins of Europe

As mentioned previously, a multitude of disused industrial sites are present throughout Europe. This chapter looks into the changing European economy and its spatial consequences.

The 'old economy' of Europe can be described as one of trade and production, where production traditionally can be found near resources and areas of distribution. Through developments in infrastructural networks, logistics and ICT, the production of goods has already been disconnected from the place of production and distribution. Moreover the actual production of goods is largely disappearing towards Eastern Europe and Asia, making the productive economy of Western Europe largely disappear. The current economy is for more than 2/3s (70%) based on services, as well as a production of knowledge, rather than a production of goods. This 'new economy' seems to concentrate even more in the city, as it depends on knowledge institutions and ICT-infrastructure for success. (Evers et al., 2006)

The Ruhr area

As a case study, to investigate the more concrete consequences and actual (on-site) conditions of the above sketched situation, the research takes the Ruhr area in Western Germany as a case study.

Due to the discovery of (amongst others) black coal, the cities between the rivers Rhein, Ruhr and Emscher started to grow enormously since the end of the 19th century. This created an urban agglomerate around Essen, Dortmund and Duisburg. Reaching the limits of the coal layers, mines started closing from the mid 20th century onwards. The opening of new mines, as well the closing of them, is related to the distance of the uppermost layer of coal to the earth's surface, and consequently their geographical position. The earliest mines originated in the South of the Ruhr, expanding towards the deeper layers of the North, as techniques improved. The oldest mines, and the ones that have closed the earliest, can therefore be found in the Southern and central parts of the Ruhr area. (fig. 12). Of the over a 100 mines that the Ruhr had, only two are still in use today.

The very present form of the industry (large chimneys, elevator shafts,



*fig. 10 Zeche Ewald Fortsetzung, 1959
The most right shafthead frame (Fördertum) is the only remaining on this site.*

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Artist unknown*



*fig. 11 forner Zeche Ewald Fortsetzung, January 2015
Current condition of former mining site Zeche Ewald Forsetzung (in use 1904-1992).*

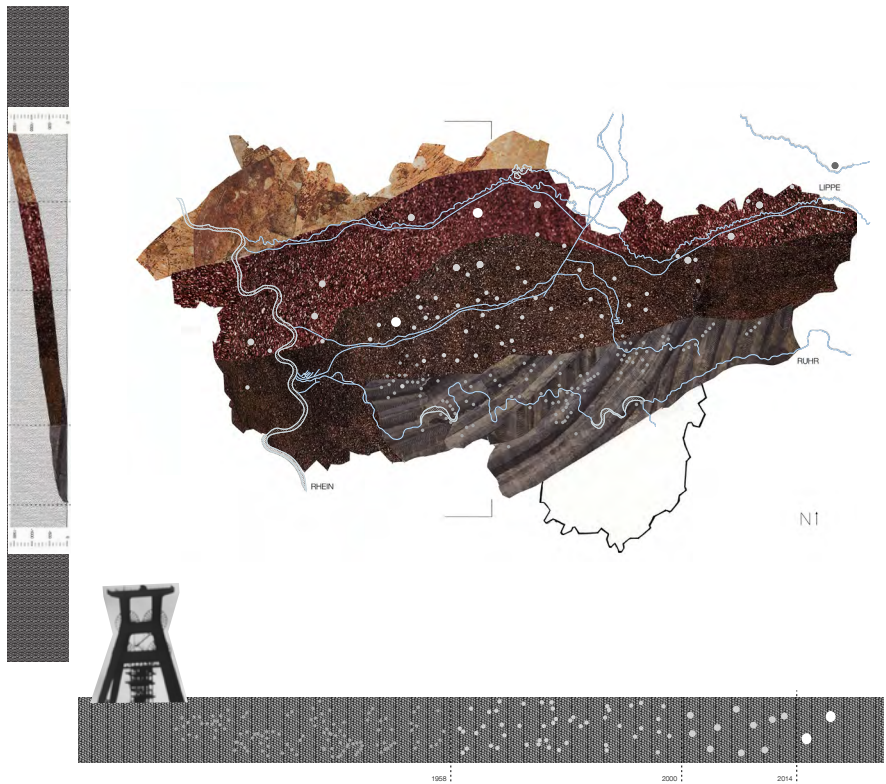


fig. 12 Ruhr as a coalmining district

The first coalmines were excavated in the 1840s, located where the first layer of coal lay closest to the surface. As mines started to exhaust the grounds supply and techniques improved, mines could be excavated in deeper layers as well. The depth of the coal layers is reflected in the 'movement' of mines, emerging firstly in the southern Ruhr, closing lastly in the northern Ruhr. Where the earliest mines started as independent endeavours, they were later connected underground, or taken over by competing neighbours. Especially in the 1990s independent shafts were either closed or taken over by a consortium, making the youngest ruins owned by large cooperations.

connecting bridges, large brick and steel structures) now lay in stark contrast to the economic and demographic conditions. (fig. 10-11)
With its inhabitants density and urbanity comparable to Hamburg and Berlin (economically flourishing cities), but an unemployment rate and inhabitant decline comparable to former Eastern Germany (Germany's poorest area), the Ruhr area is a large urban area dealing with shrinkage and decline. (De Kleine Bosatlas, 1978 & De Grote Bosatlas, 2012)

It might be expected that an area which loses the main reason from which it grew, in the case of the Ruhr area, the coalmining and production, would simultaneously lose its inhabitants and consequently urbanity (when not able to shift to another type of productive economy). An extreme example of this situation can be found in Detroit after the closure of the motor (and other) industries. (Bruin, 1998)

To get more insight into the question of what happens in an environment of decline, European cities in the Middle Ages were studied. As Henry Pirenne demonstrates in his book 'Medieval Cities', the loss of urbanity in the medieval Europe was not caused by a lack of productive force in the cities themselves. According to Pirenne the decline of Western Europe in the Middle Ages is not caused by the fall of the Roman Empire, but rather by the Islamic invasion of the Mediterranean. Due to this shift in power, the European cities (except for Venice) lost their trade-supply and merchants (and consequently other inhabitants) moved away. (Pirenne, 1925, pp. 1-15) (fig. 13)

In the decentralized feudal system that followed, peasants were bound to their land and self-supplying. This meant the peasants produced enough food to supply themselves (and the lords or princes to which they were bound). Moreover the medieval peasants made their own furniture, houses and tools. In the feudal system the land was divided into districts, organized around a burg. These burgs were however more of a fortress than a city. Those living within the wall were the clergy and the knights. The princes all lived on rural estates and visited their burgs occasionally. It can therefore be said, that the towns or structures of the early middle ages (+ 9th century) can not be considered cities in our meaning of

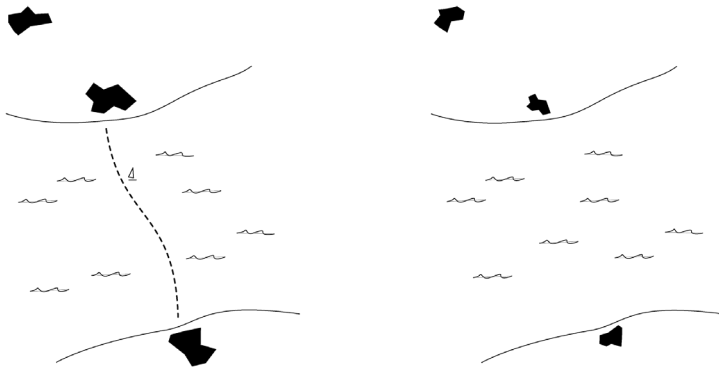


fig. 13 Loss of Trade

As Henri Pirenne argues in his book 'Medieval Cities' the Islamic siege of the Mediterranean cut Europe off from its Eastern trading partners. To this effect the Mediterranean ('middle of the earth') became a border rather than a focal point. The consequence for European urbanity was devastating, causing merchants and consequently other inhabitants to leave the cities.

the word. In the words of Henry Pirenne: 'It is therefore safe to say that the period which opened with the Carolingian era knew cities neither in the social sense, nor in the economic sense, nor in the legal sense of the word. The towns and the burgs were merely fortified places and headquarters of administration. Their inhabitants enjoyed neither special laws nor institutions of their own, and their manner of living did not distinguish them in any way from the rest of society. Commercial and industrial activity were completely foreign to them. In no respect were they out of key with the agricultural civilization of their times.'(Pirenne, 1925, p. 32)

Due to the conditions in the Middle Ages; the absence of foreign trade, peasants that were bound to their land and princes and lords reigning over their own district, communication between different areas was very scarce. Pirenne goes on to argue that the emergence of foreign trade in the 12th century (amongst others through invasions of Norsemen in the north and re-establishment of trade over the Mediterranean in the south) re-establishes the communication between different areas, and through the settlement of merchants allows modern cities to emerge. (Pirenne, 1925) (fig, 14-15)

It can thus be said that the emergence of cities in the late Middle Ages was driven by the re-emergence of tradesmen, connecting the different burgs, eventually allowing them to grow into cities. This shows a loss of urbanity due to the lack of connection (trade) and not due to a lack of productive power. This also means the current decline of the productive economy in Western / Northern Europe, does not necessarily have to entail a decline in urbanity.

It can thus be said that trade (and communication) is the main driver for urbanity. In the 'old economy' of material production, the exchange of goods would mean the physical exchange of material goods. However, looking at the 'new economy' where material production has been replaced by production of knowledge and information, exchange of goods need not be physical per se.

In the project 'A Simple Heart' DOGMA suggests that in the 'new economy' of post-Fordism, the factory machines are replaced by living labour. (fig. Moreover, production takes the form of language and communication. Based on this, they suggest a new city on the ruins of the post-Fordist city ('stations, chainshops,

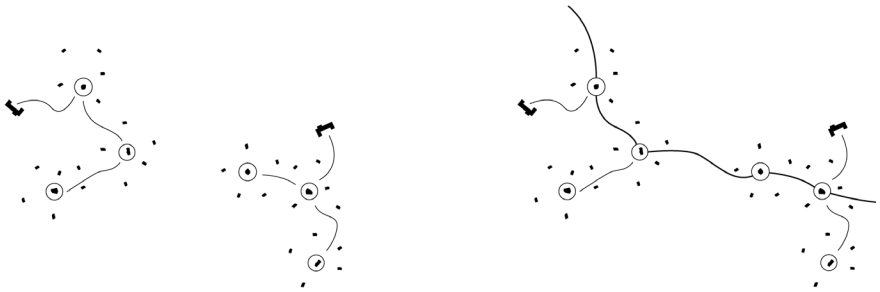


fig. 15 Ages of Isolation

In the 9th century a great part of Europe, covering countries we now call France, Belgium, Germany, the Netherlands and England, was organized by a feudal system. In this situation there was a lack of central organization as well as connection. Different districts of the reigning kings were in effect controlled by princes or lords, who lived in the countryside. A focal point for each of these districts were burgs, that can best be described as a fortress. Only the clergy and knight were living within the burgs, and all citizens were in effect self-supplying farmers. Markets were limited to village gatherings, where an accidental overflow of produce was sold or traded. In this condition, different districts were isolated from each other, so a scarcity in one district could well exist next to a prosperous neighboring district, without anyone being aware. This situation changed as soon as 'freebooters' started to move between districts, with their knowledge of supply and demand, and themselves as only carrier of goods and information in a central position. The revive of trade in the 12th century, in this way, was the starting point for our modern cities.

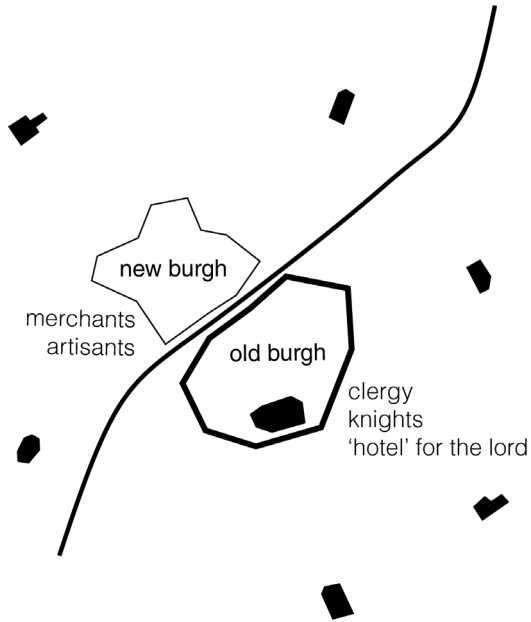


fig. 14 Emergence of the Modern City

The freebooters turned trader needed points of rest in their journeys, as well in the winter season. To this extent they started building settlements along their route. Not belonging to any lord, they were free of laws but also of rights. The earliest settlements were made outside the burghs, changing from temporary camps into proper living areas. As the merchants were the center of the trade, also places for trade, first markets, later covered markets and shops, emerged in these areas. With the wealth and power of the tradesmen flourishing, so did their settlement. This power and the absence of any law applicable to them, made it possible for them to gain special rights. The environment that started out as a place of rest for the outcast now became an entity in itself, an early modern urbanity.



fig. 16 'A Simple Heart', DOGMA. 2011

In the project 'A Simple Heart' architectural office DOGMA proposes an infrastructure of social factories on the ruins of post-Fordist Europe. They focus on the dense urban area on the borders of the Netherlands, Belgium and Germany. In each large university city with this region, they propose a similar inhabitable wall, enclosing existing infrastructural nodes.

Image taken from Architectural Design vol. 81(1). Image courtesy of the artist.

office blocks, meeting places that form the background to our 'productive' lives in the city'). The city is made explicit as a social factory; the workers themselves and their possible cooperation are the goods. (Aureli & Tattara, 2015) (fig. 16)

Although 'A Simple Heart' goes beyond the material production of Fordism, and even beyond the knowledge production of post-Fordism, the project assumes a mode of production as the driving force of the city. Their 'social factory' is interpreted as an economy based on social connections, cooperation and sharing of knowledge. According to this theory, it should be possible to counter the decline of the industrial area by providing meeting places, supporting chance encounters, exactly what constitutes an urban environment.

I would like to argue that, with regards to Pirenne, there need not be a productive force as the driver for the city. A possibility for trade, the exchange of goods, would suffice. In the new economy of the social factory, the goods could be information, ideas and knowledge. In this way the exchange of goods, namely the sharing and exchanging of information and ideas, becomes the good itself. In a twofold manner, what is thus required for the postindustrial city, is an infrastructure for exchange, the urban form itself.

Enclave / Burgh

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As mentioned in the previous chapter, the Ruhr functions as industrial and postindustrial area at the same time. Due to the 'movement' of the mines, this gives simultaneously disused industrial sites as well as in-use area's. This chapter focuses on the industrial site as an object, and its relation to its surroundings in different situations.

Enclave : center : terrain vague

In the greater part of the Ruhr area, the mining sites lay in the midst of an urban environment. Cities like Essen, Dortmund and Duisburg have flourished and grown due to the mining industry, making the Ruhr a large urban metropolis. The mining sites were, in this condition, closed off sites, impenetrable by common man (safe for common man in the form of worker). While the cities grew around the mining sites, these locations kept their industrious autonomy, and never became part of the inhabitants public life. As de Sola-Morales argues, these sites have become 'terrains vagues', a blank spot in the inhabitants memory map of their living environment. (fig. 17-18)

"These are obsolete places in which only a few residual values seem to manage to survive ... They are external places left outside the city's effective circuits and productive structures. ... industrial areas, railroads (...) have become areas where it can be said that the city is no longer. They are its margins, lacking any effective incorporation; they are interior islands voided of activity, they are forgotten, oversights and leftovers which have remained outside the urban dynamic. ... these are places that are foreign to the urban system, mentally exterior in the physical interior of the city ... "
(de Sola-Morales, 1996)



fig. 17 The Industrial Site as Void

“they are mental islands, voided of any urban productivity” -Ignasi de Sola-Morales

*Street between the two parts of Zeche Zollverein, Horst Lang, 1960s,
Image adapted by the author.*



fig. 18 The Industrial Site as Void

In the center of the Ruhr area, mining sites lay in the midst of an urban environment. Being inaccessible to the common man, these areas have become voids in the memory map of the inhabitants.

The two parts of Zeche Zollverein as indicated on a satellite image.



isolated enclaves



containing buildings and structures

fig. 19 Industrial Enclave

Both formally as well as socially the industrial sites can be seen as enclaves in the urban tissue. From an outside perspective, they are walled impenetrable structures. Where the surrounding areas are differentiated places for living, the industrial site has a purely productive function. In their content the various mining sites (in the Ruhr) show a large resemblance. A composition of headframes, elevator belts, tracks and warehouses make up the innerlife of the enclave.

Through analysing the way the mines appear and function in their surroundings, they can be characterised as enclaves. This counts both formally (walled sites, different typology than surroundings) as well as socially, a place of living versus a place of work. (fig. 19)

Written in 1996, the theory of the terrain vague mainly considers those areas that still fall outside the urban dynamics. Almost 20 years later the question emerges, what happened to the former industrial sites that have long passed their productive lifetime. To understand how these productive enclaves in the Ruhr have become (or have not become) part of their surrounding environment, a site research has been done. In the chapter 'Appropriation and Form' as well as Appendix D, a description and conclusion of this site visit can be found.

Periphery : burgh

De Sola-Morales' definition of the terrain vague certainly counts for the former mining sites in the midst of the Ruhr area (those within the urban agglomeration). However, the sites that have recently lost their productive function lay at the periphery of the Ruhr area. (fig. 20-21) These peripheral sites are all in the state of transition from functioning mining area. The post-industrial site is in this case opposite to the terrain vague that becomes available in a dense urban environment, whose sudden void inhabitants might welcome and even want to defend. In the periphery of the Ruhr the conditions are more like the relation between the middle ages' burghs and surrounding farms (fig. 22). The mining site can be seen as a closed burgh in the surrounding 'countryside'. The 'countryside' is in this case made up by patches of agricultural land, farms, one family houses, villages, suburban neighborhoods. This is a condition that never seems to become truly urban, but definitely can not be described as rural either. In such a situation the opening up of the 'burgh' is not a sudden void that lets the city breathe.

The former industrial site in a non-urban environment asks for a different definition. In an urban environment, the enclave and the surroundings are mutually dependant. The workers need the factory and the factory needs the workers, the city needs the open space and the open space needs the city dwellers. In the non-urban periphery, the 'burgh' needs its workers and workers need the burgh. However, the non-urban, non-rural condition does not 'need' another open space, or does it? Rather it runs the risk of being taken up by the ever spreading 'suburb' that can be



fig. 20 The Industrial Site as Burg

In the periphery of the Ruhr, mining sites are found in a patchwork area of agricultural land, villages and suburban neighborhoods. Here, the industrial wall does not protect itself from the growing city, rather the industrial sits alone overlooking and controlling its dispersed surroundings.



fig. 21 The Industrial Site as Burg

As an isolated area, the industrial site makes a strong contrast to its environment, providing a sense of order in a landscape in dissolution.

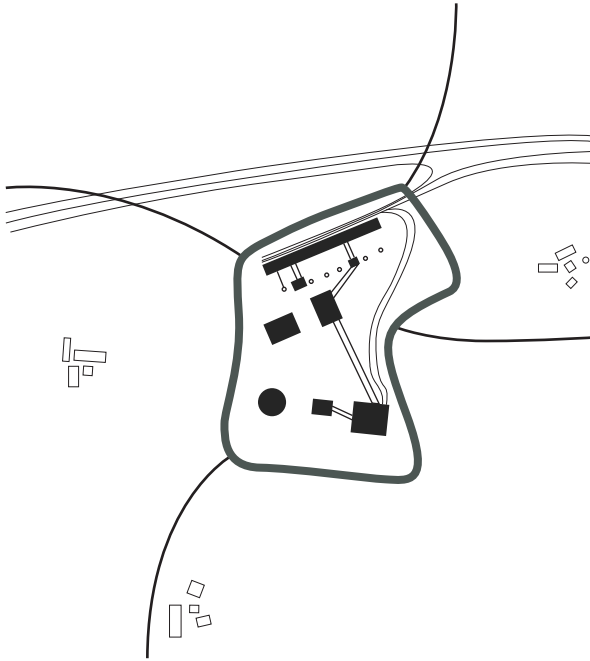


fig. 22 The Industrial Site as Burg

When in use, there is a clear dependency between the industrial, as provider of work, and the non-urban, as executor of work. What happens when this dependency changes, and the controlling element of the industrial burg dissolves?

found at the edges of the Ruhr area. What is the tension relation in such an environment?

The question emerges, what happens in the recently closed mines at the periphery of the Ruhr, that are not surrounded by urban environments. A second site visit, focusing on the peripheral area's of the Ruhr, is described in the chapter 'Appropriation and Control', as well as Appendix E.

Appropriation

- public figures and open form

The project partially originates in the observation of disused industrial sites that are used as public space throughout Europe. [Appendix A] To understand whether (and how) this is the case in the Ruhr area, as well as to understand the condition of the former productive enclaves, a first field trip was undertaken. The first site-research was focused on the condition of post-industrial sites (specifically mining sites) in the Ruhr area, especially their public use. For this purpose a selection officially accessible (redeveloped or made public) mining sites in the central Ruhr area were located and researched on site, through participative observation.

Visited sites

The visited sites are located in the center of the Ruhr and lay in urban environments. Among the visited sites are the Duisburg Landscape Park, the Zeche Zollverein in Essen, as well as several 'haldes' and remainders of sites near the centers of Essen, Duisburg and Dortmund.

In the visited projects there is a difference in degree of 'publicness'. Some sites have become part of the urban tissue, containing sports fields and dwellings. The former enclave structure is barely visible in the current condition. (fig. 24-24) Others can be considered as projects, with a focal point and periphery. Examples are the gasometer in Oberhausen which is accessible to the public, or the center of Zeche Zollverein, where also the Ruhr museum is housed. These projects however also have a periphery, where the site is/looks less developed, and consequently it is (way) less crowded by external visitors. Although at first sight these areas are not a familiar public space it is used by local inhabitants for walking, exercising, cycling, sitting meeting. (fig. 25)

From the perception of the user as urban dweller, the industrial sites contain strange elements, not something related to public use. During their lifetime, the industrial sites are not accessible for public use, their relation is limited to work. Moreover, the present elements composing the industrial site, are out of any human scale. (fig. 26)

The industrial site is, in intention, what Jeremy Till describes as hard space. (Till, 2009, pp. 119-121) The elements are designed in a functional manner: to support the transport of coal from earth to surface. In the industrial sites productive lifetime there is, due to its strict functional form, no other use or interpretation

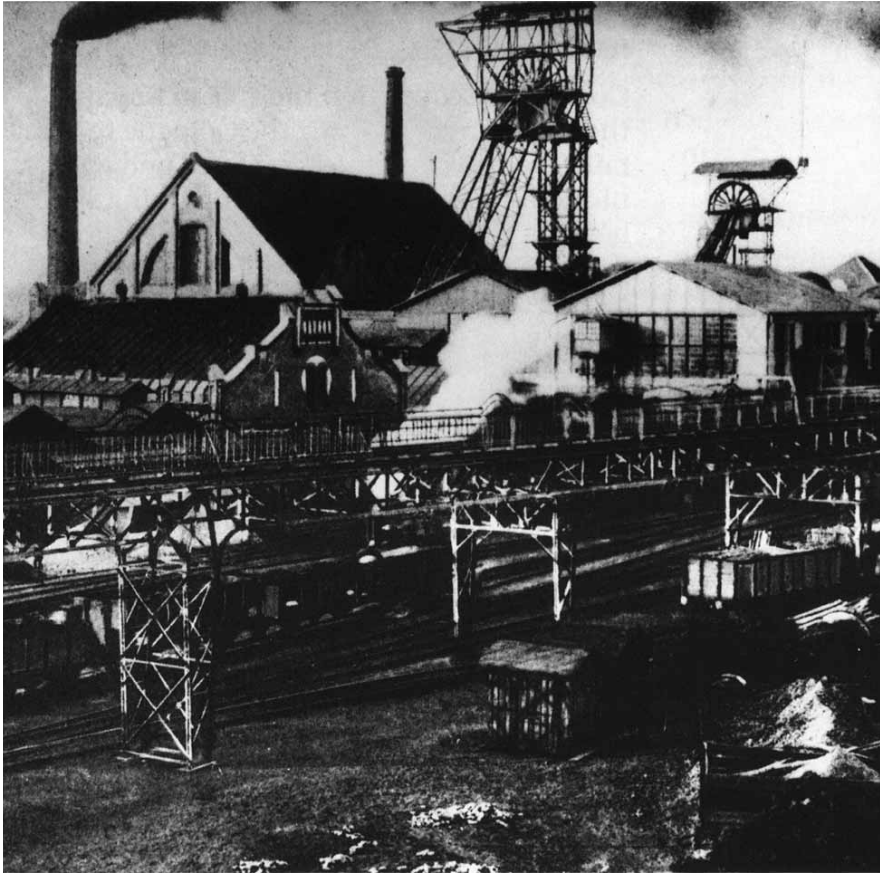


fig. 23 Zeche Rheinelbe, early 1900s, author unknown



fig. 24 remainders of Zeche Rheinelbe, 2014

The land of Zeche Rheinelbe, which already closed in 1928, is barely recognizable in today's landscape. Although some of the structures remain, the borders of the former site have faded, due to the building of dwellings and sports fields amongst others.

Image taken from Halde Rheinelbe, the trellis overlooking the former mining site.



fig. 25 Industrial Choreography, Ruhr, 2014



fig. 26 Typical Elements

Amongst the elements that structure the former industrial site at ground level, are large columns and tracks.

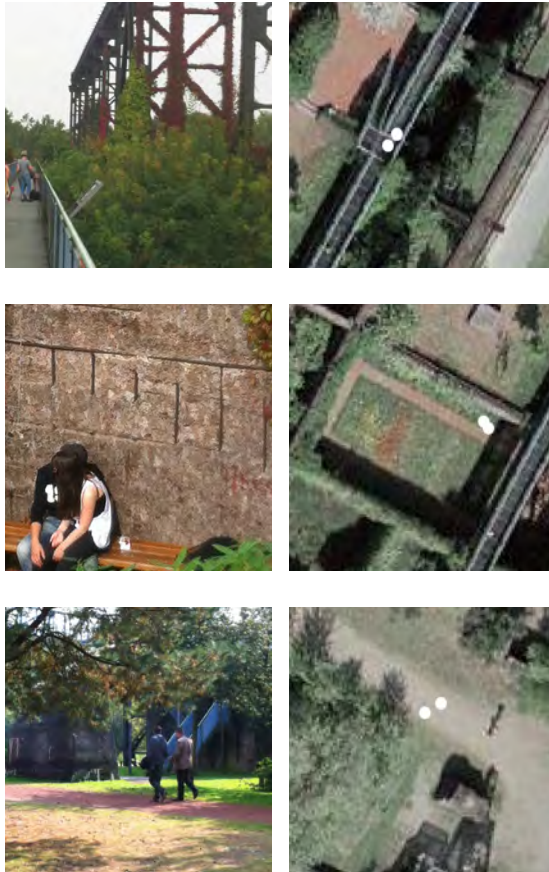


fig. 27 Public Ruhr, 2014

Different stories unravel around the same object. A young couple, immersed in their own world, seeking to hide from the public eye, finds shelter in a garden under a walking bridge. This same bridge is a part of the walking route a middle aged couple takes across the terrain, at moments stopping and looking around. Simultaneously two older men stroll in circles around the raised walkway, softly chatting.

of this space possible. This hardness of the space is in contrast with the freedom it seems to allow in the current condition. Perhaps it is exactly the aforementioned estrangement, that makes it possible to read another function onto them. Considering Pallasmaa's existential space, the narrative of the dwellers differs from the narrative of the workers. (Pallasmaa, 2002) For the urban dweller, there is no preconceived idea of function, and thus no 'proper' use.

Openness

Next to the accidental openness of function as described above, the idea of not having a preconceived idea of the function of a space has been inherent to architects' ideas. Below I will discuss the work of two architects that promoted an 'open form' and did not attempt to program a singular function into their work.

Herman Herzberger - polyvalence

In his work Herman Herzberger looks to accommodate a variety of interpretations and uses of spaces, through a knowledge of general human behaviour. This is achieved with what Herzberger names polyvalence, clearly differentiating it from multipurposeness.

"the difference is (...) (that) the notion of polyvalence is where it is not established beforehand how a form or space will act in unspecified situations." According to Herzberger, unexpected uses can be provided for by introducing "the greatest number of spatial conditions, that can play a part in every situation whatever the function, and can simply be put to use on each new occasion". (Herzberger, 2014) An example of these ideas can be found in the Appolo School in Amsterdam, where a staircase functions as a play area, circulation space and 'theatre' simultaneously. (fig. 26)

Aldo van Eyck - inviting geometry

In his designs for playgrounds in post-war Amsterdam, Aldo van Eyck looked for simple, abstract, geometrical forms. The play structures are built up out of simple concrete blocks and steel tube frames. In a child's play, the steel dome, could be a mountain, a hut, a ship and so on. Through the use of simple archetypal forms, Aldo van Eyck attempted to impose not a fixed function, but to suggest many different uses. (fig. 28) (Strauven, 1998)



*fig. 28 Playground Mariniersplein, Amsterdam, designed by Aldo van Eyck
The simple, archetypical forms that make up Aldo van Eycks playgrounds, are open to multiple readings.
The arch could be a structure to hide under, to climb in, to sit on.*

Image taken from the book 'Aldo van Eyck, de speelplaatsen en de stad' ed. Lefaivre, (2002). Image courtesy of the artist.



*fig. 29 Apollo School, Amsterdam, designed by Herman Herzberger
The central circulation space, serves as stairs, play area and theatre at the same time. The child reading on the stairs, is the main character in the play the children at the top of the stairs are overlooking.*

The image is taken from the book 'Space and the Architect, Lessons in Architecture 2' by Herman Herzberger (2010)



fig. 30 Seeking Comfort in an Uncomfortable Chair, Bruno Munari, 1950
In this artwork by Bruno Munari, the affordance of the chair is explored in multiple ways. One could say that an object affords, whatever the user envisions as a possible use.

Image courtesy of the artist.

In a similar way as Herzberger, also van Eyck aimed for suggestive and inviting forms, rather than abstraction.

The work of both architects can be related to what Umberto Eco described as the open work.

“The author offers ... the addressee a work to be completed. He does not know the exact fashion in which his work will be concluded, but he is aware that once completed the work in question will still be his own. ... At the end of the interpretative dialogue, a form which is his form will have been organized. [...] The author is the one who proposed a number of possibilities which had already been rationally organized, oriented, and endowed with specifications for proper development.” (Eco, 1989)

The works of both van Eyck and Hertzberger contain unspecific elements that allow for different types of use. The rationally organized elements structuring the industrial sites, like columns or tracks, can in the same manner be considered unspecific in their current condition. As Tim Edensor argues in his work on industrial ruins, after the closure of an industrial site, the previous ordering falls apart. The elements fall out of their context, which allows people to construct new stories and meanings onto them. (Edensor, 2005 & Edensor, 2005a, p.115)

Affordance

In the field of interaction design the term affordance is used to explain what use an object allows. Through its form, the object signals possibilities, which people interpret (in split seconds) to understand its possible use. For example, a door handle affords pulling, whilst a flat surface on the same door affords pushing. (Norman, 1988) (fig. 30-31)

As Eco states, in an open work the author proposes possibilities for the user to read and interpret. However, in the industrial sites the author did not, in any way, foresee a public use of his possibilities. As based on the way they are used, the figures in the researched sites ‘afford’ public use. So what are the keys in these industrial sites, especially the researched mining sites in the Ruhr, that ‘afford’ public use, that send the signal of public space?



*fig. 31 still from 'The Social Life of Small Urban Spaces'
In a research on public spaces in New York, William H. Whyte shows the importance of spaces that afford multiple uses in the urban realm.*

Movie by William H. Whyte. Image courtesy of the artist.

To this extent the formal aspect of the former mining sites was analyzed. In their formal aspect, the sites show a reference to known public figures. The inherent urbanity of disused mining sites revealed itself on multiple layers; mainly in its reference to urban morphology as well in reference to known public figures. From the ground level, the postindustrial site can be experienced as a courtyard city, with narrow streets and unknown corners. (fig. 32-33) The composition of functional elements of raised floors, tracks and columns, also bears resemblance to the courtyard for example. (fig. 34)

The industrial site has thus moved from its productive function, with intended, singular meanings, towards an appropriated postindustrial site. The intentional 'hard space' transits into another kind of space, for which I would introduce Jeremy Till's 'slack space'. Based on the political theory of William Connolly, Till describes slack space as follows.

".. slack space has to be seen in time. In this it is open to changing use - not in terms of literal flexibility of moving parts and sliding gizmos, but in terms of providing a frame for life to unfold within. It is space that something will happen in, but exactly what that something might be is not determinedly programmed."

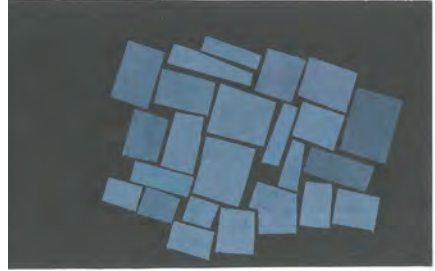
(Till, 2009, p. 134)

Due to the loss of its original function, 'cracks' appear in the hard space of the industrial site although its materiality (largely) stays the same. As Aldo Rossi describes in 'The Architecture of the City', although the functions of the city change, the form can remain, validating itself in new conditions. (Rossi, 1982) In the moments of transition, a space emerges that is not fully determined in functional form, thus allowing for multiple interpretations and uses. Due to the presence of references to known urban figures and forms, the slack space of the industrial ruin can be interpreted as a public function of different sorts.



fig. 32 Industrial Morphology

The morphology of the mining site follows a rational order, composed of simple geometrical forms.



as a city

fig. 33 Urban Industrial

The industrial site reveals itself as an urban structure, from ground level (left), as well as in experiential plan. In walking, the buildings and structures are experienced as a dense structure of alleyways and unexpected corners.

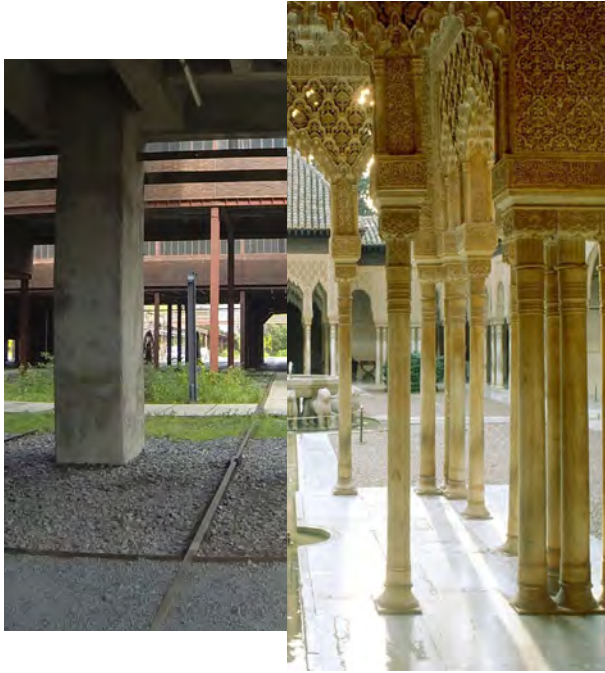


fig. 34 The Industrial as Courtyard



fig. 35 The Industrial as Pavilion



fig. 36 The Industrial as Canopy

Appropriation

-
(un)control

Next to 'allowed' public use, as seen in the previous chapter, there are also examples of the (illegal) occupation of the post industrial sites. This can be seen in the catalog of Public Use. (Appendix A) Cultural production in occupied spaces, by means of taking over spaces for public use has been firstly been described by Hakim Bey as the 'Temporary Autonomous Zone'. Bey, in an anarchist manner, refrains from defining the Temporary Autonomous Zone. "I don't intend the TAZ to be taken as more than an essay ("attempt"), a suggestion, almost a poetic fancy" and "In the end the TAZ is almost self-explanatory. If the phrase became current it would be understood without difficulty...understood in action." (Bey, 1990)

Taking the last description to heart, I would argue for the transitional industrial site as a possible Temporary Autonomous Zone.

To this intent, the second site-research was focused on understanding appropriation. What happens to the disused industrial sites at the moment of transition? For this purpose recently closed mines in the Ruhr area were located and researched on site. Through online satellite maps and blogs of local mine 'watchers', it was attempted to form an image of possible mine area's in transition. These sites appeared all to be in the Northern periphery of the Ruhr area, outside of the urban centers. (fig. 37) A travel guide was made based on this information, and the sites visited. (Appendix E)

The second goal of this site-research was learning the current conditions of specific sites, to be able to use those 'as found'-conditions as starting point for the design.

Through on-site research, nine disused mining sites in the northern Ruhr area were analysed in terms of accessibility, advancement, type of redevelopment as well as public use. The sites could be classified into four categories, mainly based on amount of present control in the sites. (fig. 38-41) Simultaneously to analyzing the formal elements, a picture was formed on the informal occupations taking place. From this it was learned that those areas where there was partial strict control (closed off buildings, redesigned infrastructures) as well as partial non-control (accessible, though not redesigned, dilapidated buildings) provided for public appropriation beyond designed intentions. (fig. 42)

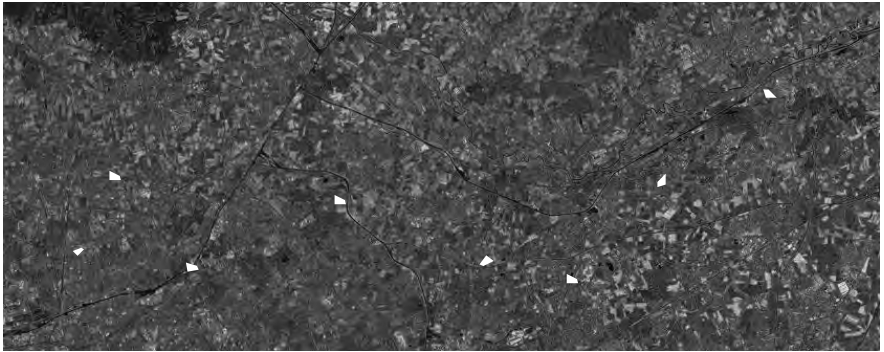


fig. 37 A Network of Disused Mining Sites in the Northern Ruhr Area
Resulting from an investigation into possible industrial sites in transition, 9 disused mines were located and visited. These sites are all in the Northern periphery of the Ruhr, in a non-urban, non-rural context.

On the one hand controlling space can be regarded as opposed to the an open work that allows for different interpretations. A very strictly controlled space, as seen in the researched sites, could, however trigger a 'counteract'. In this way the counteract to control also results in ones own interpretation of the space or object.

An example of the theory posed above can be found in a closer reading of the modern idea of living through two example projects. It has been thought that people could be taught how to be a good person, through a well designed environment. The Dutch foundation 'Goed Wonen' (Good Living) for example, attempted to influence civilians through advisors, exhibitions and a magazine. In the magazine, interiors that were 'wrong' as well as products that where 'good' were displayed. (fig. 43-44)

In England a guidebook was provided to architects by the government, displaying room lay-outs. (fig. 45) As Jeremy Till argues, 'Space in the Home' provided such strict measurement rules, that as a consequence this was the only possible lay out in the homes. (Till, 2009, p. 120-121)

However, looking back today at projects that where designed in the same spirit shows that these generic living environments, did not remain as such during their lifetime. The interiors of the German Plattenbau system, built with identical elements, show a great variety in home environments. Through the placement of furniture, decoration and wall and floor surfaces, different worlds emerge in a generic space. (fig. 46)

I would argue that the very generic and attemptive control allows for user appropriation. This can happen either by pushing people into a void where there is absolute freedom (places that are off the official radar, like squats) or by making a generic canvas that can be adopted. The Plattenbau dwellings are an example of the latter. In either way of control, people are finding the possible flexibility or openings within the control, to dominate, appropriate, and make their own.

Reflecting on the above, the re-appropriation of the post-industrial site by both dweller and architect can be cosidered as a habitus. Blanca Sala Llopart

Zeche Heinrich Robert
Hamm, North Rhine-Westphalia
Coal mine
In use 1901 - 2011

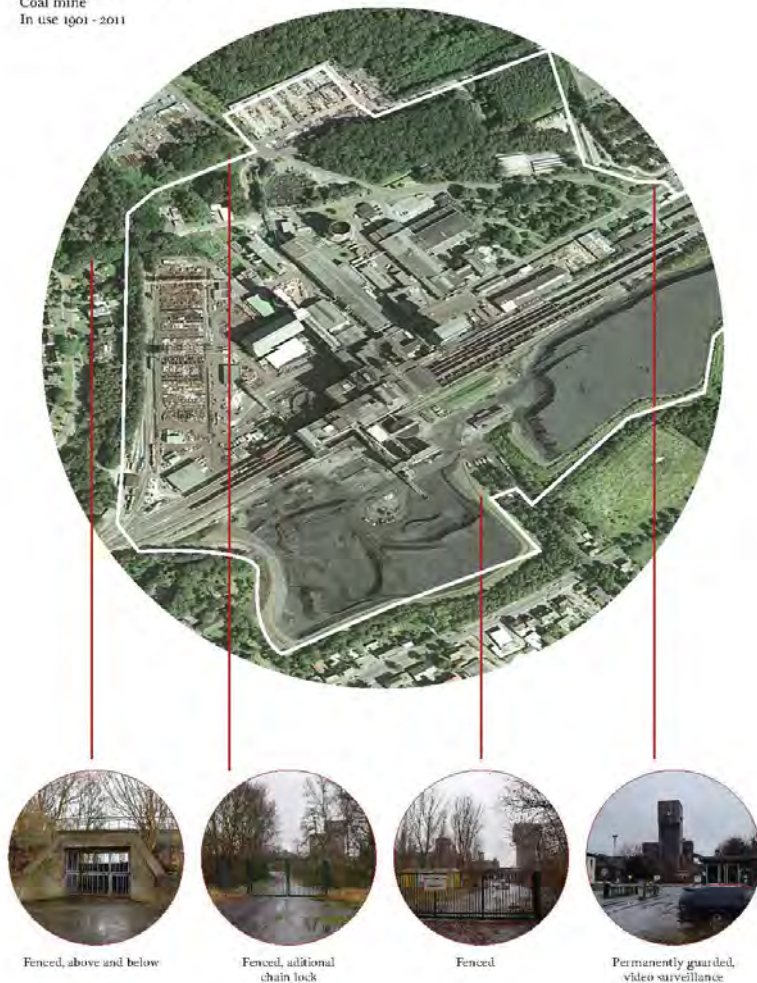


fig. 38 Typical Site 'Closed'

Zeche Westfalen
Ahlen, North Rhine-Westphalia
Coal mine
In use 1911 - 2000

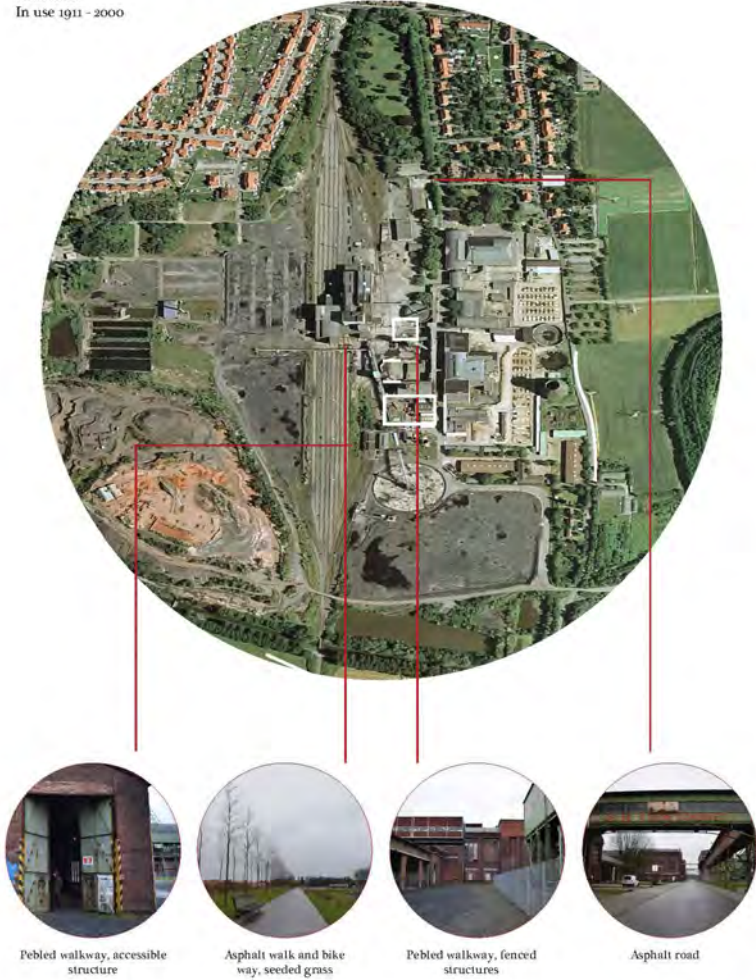


fig. 39 Typical Site 'Supported'

Zechen Ewald Fortsetzung
Ost, North Rhine-Westphalia
Coal mine and coking plant
In use 1904 - 1997

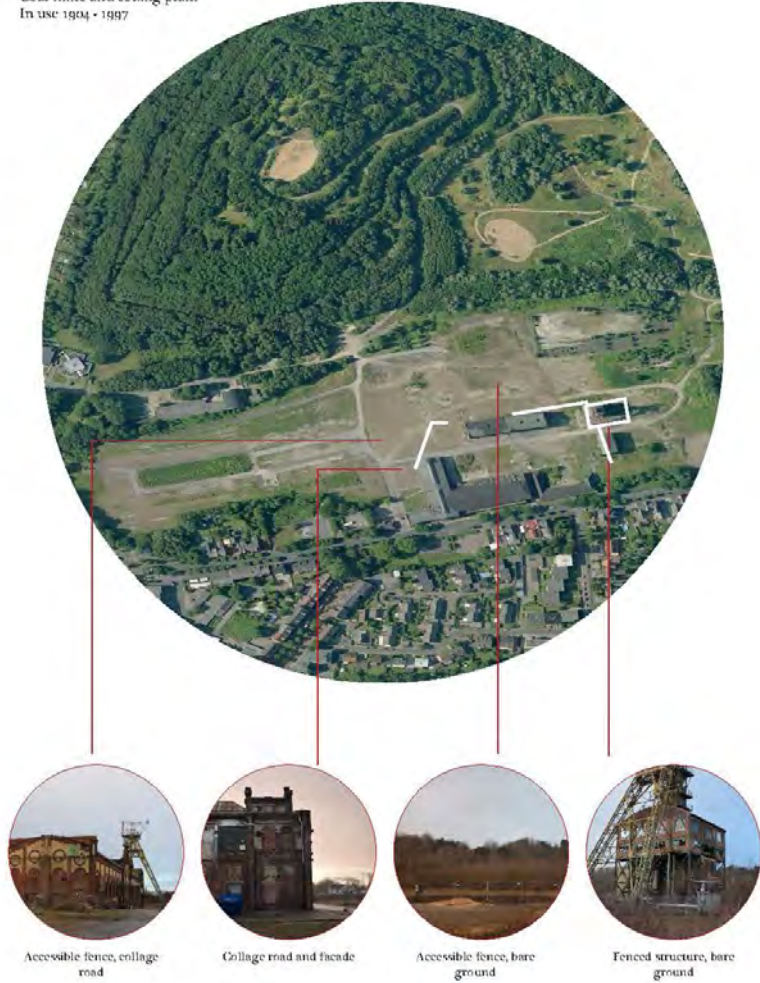


fig. 40 Typical Site 'Left'

Zeche Fürst Leopold
Hervest, North Rhine-Westphalia
Coal mine
In use 1910 - 2002

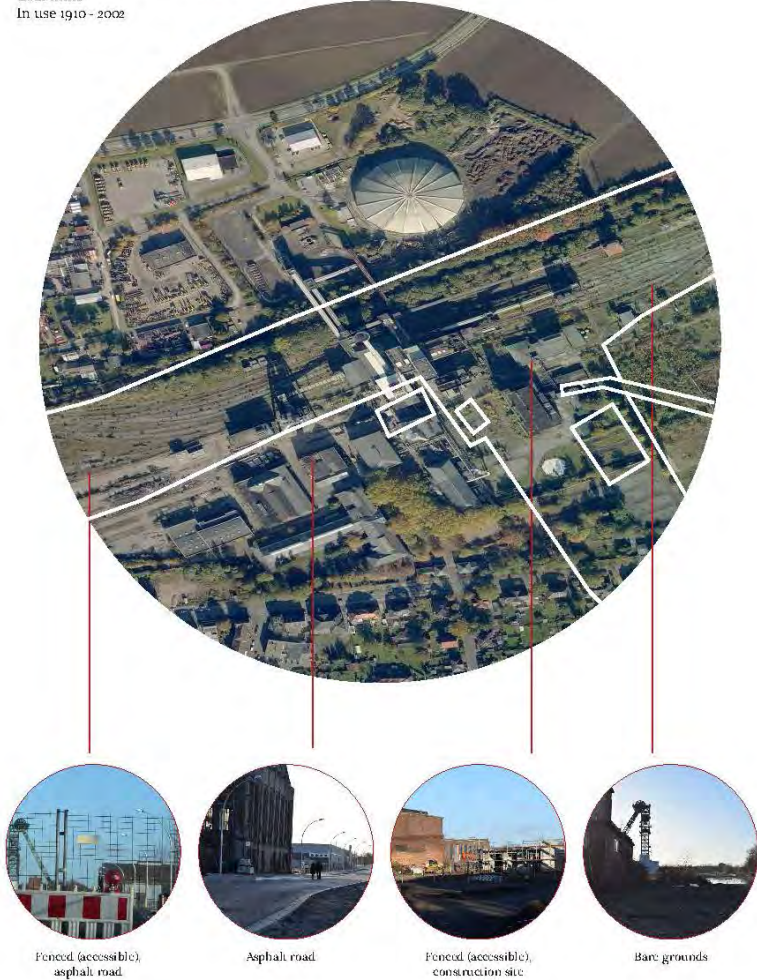


fig. 41 Typical Site 'Planned'



fig. 42 (un)control

The controlled infrastructures reaches until the border of the building. Inside a place for refuged leisure, a campfire, beers, one enters and leaves through a broken window, a wooden box as improvised stairs.

interprets Bourdieu's idea of habitus as follows.

“the habitus, therefore, is not something static, but rather acquires its whole sense in the notion of change and process of transformation. the different spheres of social life are reactivated and brought up to date by means of a constant process of reviewing, selecting, and transforming existing elements and, at the same time, by means of a process incorporating new elements. the balance between permanence and change, between imitation and invention, between heritage and novelty, helps the different spheres to keep their validity and their sense and not obstruct the process of appropriation and re-appropriation of reality. “
(Sala Llopart, 2000)

With regards to Bourdieu, the constant ephemeral re-appropriation could be a situation where designer and user produce space in harmony. In order to balance the disorder of the industrial in ruination, a combination of strict and loose elements is required. Here lies a possibility for an architectural intervention in the as found condition of the described spaces.



Iedereen begrijpt nu wel dat een dergelijk overladen interieur niet is hetgeen Goed Wonen zou willen aanbevelen.



Maar nog niet iedereen begrijpt, dat ook dit interieur niet is wat wij onder goed wonen willen verstaan. Al lijkt het voor de oppervlakkige beschouwer zeer modern te zijn, een indruk die ontstaat door de effen en veel lichte tinten, de spiegel zonder lijst, en de vlakke lege wanden, toch zijn de zware fauteuils met gebloemde bekleding, het kleine tafeltje met dubbel blad, de te grote lamp midden op de tafel nog geheel ontstaan uit de oude gedachte dat overdaad indruk maakt.

fig. 43 Bad Interiors

*Two interiors are discussed as an example of 'bad living' in this page of Dutch magazine 'Goed Wonen'.
Caption to the second image: "Although this interior might seem modern to the superficial viewer, an impression caused by the plain and light colours, the mirror without frame and the flat empty walls, the heavy chairs with flowered upholstery (...) still emerge from the old idea that excess impresses."*

Image taken from 'Goed Wonen' no. 6/7, 1949.

GEWOGEN EN GOED BEVONDEN

Wandelementen



Links:
materiaal: metaal.
afmeting: veen.
importeur: C.R.I.
opmerking: naar eigen inzicht samen te stellen, uitvoerige folder kan aangevraagd worden bij C.R.I., Prof. Lorentzlaan 140, Zeist.

Rechts:
materiaal: vuren, berken, teak of gelooagd eiken.
afmeting: zie catalogus.
fabrikant: String.
importeur: het Zweden Huis n.v.
besteler: String volgens catalogus.
toonzaal: Mathenesserlaan 355b, Rotterdam.
opmerking: catalogus bij toonzaal



Links:
materiaal: metalen wandlijsten, houtsoort teak, ulmosen, berken, afnemaste, essen.
afmeting: zie catalogus.
fabrikant: Tetex.
besteler: tw, zie verder catalogus.
opmerking: catalogus aanvragen bij Tetex, Lonckerbrugstr. 43, Enschede.

Rechts:
materiaal: vuren, berken, teak of gelooagd eiken.
afmeting: zie catalogus.
fabrikant: String.
importeur: het Zweden Huis n.v.
besteler: per onderdeel volgens catalogus.
toonzaal: Mathenesserlaan 355b, Rotterdam.
opmerking: catalogus bij toonzaal

*fig. 44 Checked and Approved
On this page of Dutch Magazine 'Goed Wonen' a selection of shelving systems is presented that are approved for a 'good way of living'.*

Image taken from 'Goed Wonen' no. 7, 1963.

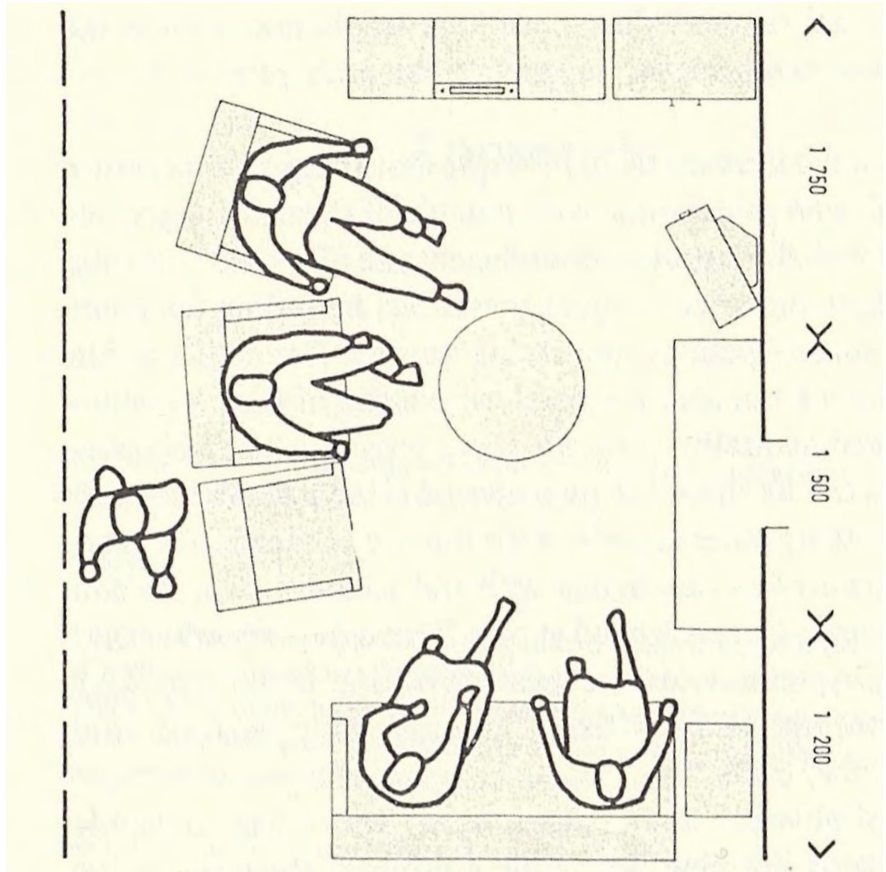


fig. 45 *Space in the Home*

The English government provided architects with a strict measurement guide for dwellings. In this guide people are shown as abstractions and in stereotypical roles; mother washes the dishes while father watches tv.

Image taken from 'Space in the Home' (1963)



fig. 46 Plattenbau Privat

In the book 'Plattenbau Privat' photographers Susanne Hopf and Natalja Meier depict the great variety of possible interiors within a generic structure.

Images taken from 'Plattenbau Privat', Susanne Hopf & Natalja Meier (2011). Images courtesy of the artist.

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www.metropoleruhr.de	- official website of the Ruhr department
www.erih.net	- website for the 'European Route of Industrial Heritage'

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