

LSRM FINAL ASSIGNMENT

Self-Assessment on Research Methods

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Studio: Architectural Engineering

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“(propaganda of progress) bears the name of never-ending acceleration”¹

Architectural discipline has to keep up with the current notion of innovation. With the perpetual improvements in the material science, craftsmanship and digital progress, designers are challenged to work with a more multidisciplinary manner than ever before.

With the shifting role of an architect ² and blurring boundaries between the profession, it is important to approach epistemology in a scientific way. The continuous innovation requires from designers to accommodate for change.

Research Methods was a relevant reminder of the importance of controlled analysis. Starting with the studio choice via used methods, the investigation will always be influenced by a biased believe of the researcher.³ Conscious choice of tools and methodologies, the knowledge why one chooses such a technique and what information one wants to obtain is important in order to achieve objective results. However, even such awareness is not enough to conduct an unbiased analysis. To certain extent, prejudice will always determine the research.⁴

In the Architectural Engineering studio I am investigating the region of Limburg in order to tackle the problem of its rapidly shrinking population during the industry shift in the 1960's.

The transition faced by Limburg when its coal mining industry became less profitable than the newly discovered natural gas excavations is still in progress. Years after government's decision to close the mines and erase the infrastructural traces of the industrial past, Heerlen's coal mining identity is still deeply rooted into the society.

After the industrial boom, the mining settlements faced a population shrinkage. Today south Limburg is reinstating villages under the common umbrella of Parkstad.

Silica Sand in Heerlen is facing a similar forecast as the coal mines in Limburg. This only resource of silver sand in the Netherlands became a contentious issue between the residents, private investor and the government. The excavation of 400 000 tons/year of the “golden” powder takes place just on the doorstep of the neighbourhood in Heerlen. Exposed to the noise pollution and truck traffic, the residents witness an environmental havoc. Perpetually extended commission for Sibelco to excavate the sand, challenges the company to compensate the damages to the nature, once the excavation is over.



Figure 1. Sibelco Sand Mine, Image by the author, 2018

“If the technology is the answer then what is the question?” - is the main discussion the the Architectural Engineering Studio.

Parkstad Area is a shirking area in the age of the supremacy of growth⁵. Once instruments of financial accumulation are soon to be left unattended. There is a range of questions which the architect should confront.

“What should architecture accommodate if everyone has already left? Is there such a thing as growth, or is it just a relocation of resources?” - these unknowns are just a starting point in my search.

The proposal seeks a compromise, which gradually will convert the industrial site into an environment for cohabitation of people with nature. It aims to prevent the drastic end to the sand mining industry, in a similar way to what happened with the coal mining industry.

The transformation of the site influenced by the industry change is an example of a case where the architect has to design with the anticipation of innovation. Such consideration has to include the notion of time. Designing for the future appropriation requires the designer to think rather of a tool than a permanent solution. ⁶

Part I

*"Within an industrial framework, time has a completely different dimension than it does in architecture, where structures can last for over a thousand years."*⁷

The intention of my research is to explore the relationship of the appropriation of space with time.

Time - past, time - present and time - future. Time - fast, time - slow, time - stopped.

The condition of the site - the Silica Sand mine, former coal mine - allows me to consider it with a clear articulation of the change of use. Therefore, I will analyse the site as a continuum.

Past

I approached my research firstly through the historical study of the site and analysis of the industrial infrastructure which has been transformed over time. The study of the historical maps informed me on the web relationships between the geology, landscape and the influence of the industry on to the city fabric. It helped me to understand the energy flow and the dependence of labour on the geology. Mapping resources reinforced the importance of the landscape as a provider. Limburg gained a **historical narrative** for the nostalgic minescape.⁸ From the leftover coal mining paraphernalia, abandoned settlements to the sand mining, which is currently in use. On the example of megastructures, I analyse how the industrial site accommodates the changes in time. This technique defined as **"Field operations mode"** by James Corner⁹ intends to apply the knowledge from the analysis to activate the processes in the landscape. Design interventions are seen as instruments.

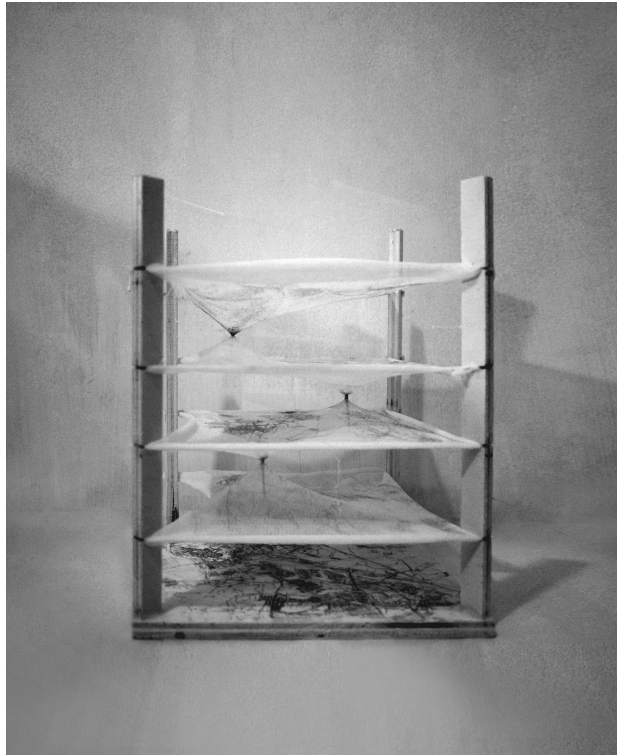


Figure 2. A model of interdependence, Image by the author, 2018

Understanding "*future as being under perpetual construction*"¹⁰ is the key notion of Drosscape - a neologism described by Alan Berger.¹¹ His theoretical manifesto takes the exploited land as a starting point. The environmental obligation to accommodate the undesired infrastructural leftovers leads to realisation that every industry is temporary, every job redundant, and every structure will eventually become abandoned. Drosscape is a designed landscape which accommodates for waste in the man made urban voids.¹² It uses the environmental deficit to shape the future.

Such undesired landscapes are also described in David Gissen's "Subnature". It approaches the side products of transient industrialisation and urbanisation via the products of weathering such as: weeds, dust, smog or debris.¹³ The industrial, political, urban transitions create novelty landscapes and biotas, which could either be left to decay or be incorporated in the modern design.

Present

Following the transformation of the coal mine into the sand mine, the environmental exploitation continues. With the use of video as the medium, I record the environmental devastation. Focusing on different processes of the silica sand assessment, the video abstracts the damage executed on the land. Reporting from the front via video collages, I aim to deconstruct the process of the excavation. Soundscapes, invaded ecology and disturbed biota are just at the back door of Heerlen's neighbourhood.

Such problematic is familiar to Allan Sekula's reports in the book "Fish Story"¹⁴, which exposed the sites of coverups dominated by structures. A set of essays and photography series are a bitter reflection on the exclusiveness of capitalism. The language of industrial work culture is parallel to the problem of environmental exploitation which is happening in Limburg. Just like the frames in the "Fish story", the video is an episteme¹⁵ of a form of knowledge¹⁶.

Owing to the scarcity of resources, professions such as coal mining receive a timeline with an end. Along with the expiration of a certain industry, it is not only the buildings, infrastructure, and local settlements that lose its purpose. It is also a profession which from one day to another becomes redundant. The exploitation of the resource or computational replacement will result in more and more waste from the industries which became outdated. Can this waste be treated as the geological layer of anthropocene? Can the industrial leftovers become the coal of tomorrow?



Figure 3. Video frame from "Soundscape analysis", Video by the author, 2018

I record the "crime" scene and collect the evidence. Preserving the scarce resource in the sand samples is a **material culture method** of recording the loss¹⁷.
Reconstructing the geologies of damage capture this conflict through the matter - the sand¹⁸.
This inventory of contemporary is my starting point for the speculation on the possible future reappropriations.



Figure 4. Sand Library, Image by the author, 2018

Future

Mark Wigely argues that future-proof designs need to be based on the collaborative intelligence.¹⁹ It is the crowd and open-sourcing which will be crucial in the future. He recognizes the fact that architectural academia which teaches solutions is simply outdated.²⁰ Instead, the modern architectural education should provoke relevant questioning. He recognises the new layer of the Earth - a layer determined by the technology. Similarly to Gissen ²¹ and Berger ²² he urges designers to accommodate for the technology in the future.²³ The large scale technology - defined by steel megastructures, and the intimate one - allowing instant communication, shortening the distance between the space and time. He sees crowdsourcing as a tool which is future-proof.²⁴

In order to use the potential of this, the next step in my heuristic method will be producing an open source toolbox for the activation of drosscape. The matrix of the ecological conditions present in the site of industrial exploitation, will allow any user to identify the situation that one would intend to tackle. Based on the analysis of the case studies and specific literature on ecology reconstruction, a range of architectural devices will be identified and matched with the map of potentials.

Such structure will give the neighbourhood an agency ²⁵ to transform the industrial site of exploitation into drosscape. A nuance intervention is not intending to provide an immediate panaceum for the exploited land, but to trigger time based process for the transformation of a biome.

Such tool accessible online would allow to become a **praxeological** study of the engagement with the landscape.

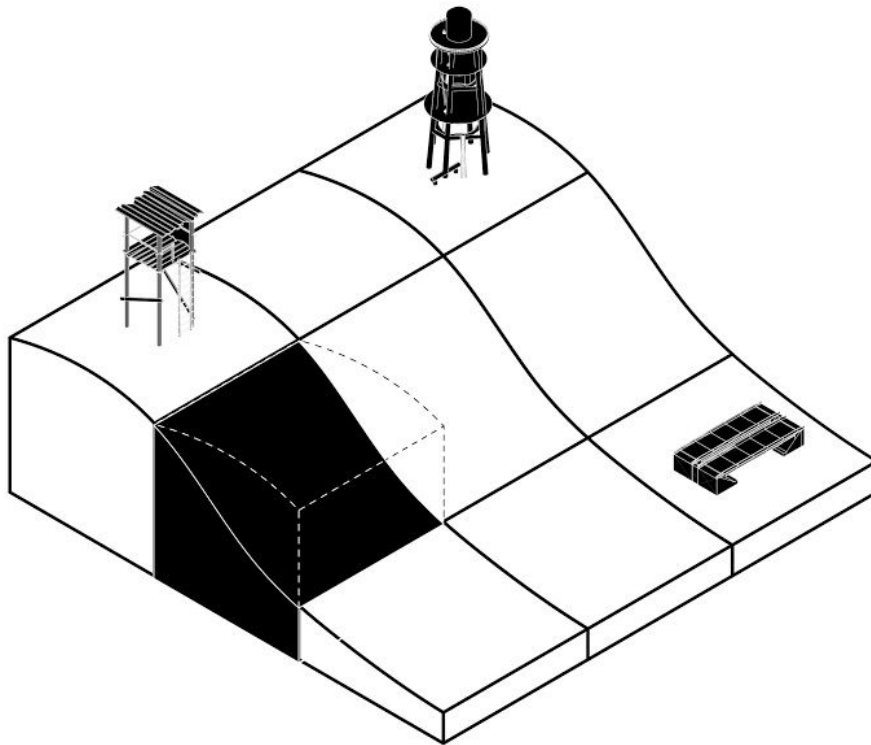


Figure 5. A conceptual diagram for the open source guide for the activation of drosscape , Image by the author, 2018

Part II

This growing disorder which accompanies for example the industry progression, Peter Smithson indicates as a natural result of entropy:

*“outdoor interventions are never complete, radical concept of inviting the surrounding forces to shape the physical state of the site, welcoming changes that can neither be controlled nor anticipated”.*²⁶

Smithson encourages the outside conditions to invade the provided infrastructure and accommodated for the future adjustments. He anticipates not only the user to make the impact on the design, but also nature. Conglomerate ordering introduces the idea of nature interfering with architecture. It is similar to the Gissen's idea in “Subnature”²⁷, though in Smithson's approach the side effects of nature are embraced. Gissen describes the weeds as “undesired landscapes”, however is convinced that designers should accommodate for them.

In order to design for the future re-appropriation, a designer should provide a flexible infrastructure which can change its program. Tools should be provided for the user to interact with the current use. Such self-organisation was accounted for in Cedric Price's practice.²⁸ Instead of imposing designs, he provides a playground and freedom for users to adapt to the current needs. He tested his theoretical model represented in the Fun Palace and in the InterAction Centre in Kentish Town. Cedric Price is mentioned in “The Other Architect” as one of the precursors.²⁹ He represents a designer, who is a mediator between the community and infrastructure. He seeks beyond the discipline of architecture and is curious of self-creation, which can happen within the community.

My methodology can be seen as a practice of **grounded theory**. Triggered with questions, I execute simultaneous methods which help me to reveal the pattern.³⁰ The concept is a natural result of observations, which happens via mapping, analysis of a digital archive (video), material exploration and precedent study.

Part III

The current challenge in architecture is to build on the top of the already existing knowledge. With the perpetually growing amounts of information, a designer can filter and communicate the messages, which are urgent and important. The architectural profession has the power to use the visual, spatial and analytical tools to **influence and order** ³¹ the information noise in the popular culture. Processing and highlighting issues and measures are a step towards an **integrated design** approach and guidance towards a conscious participation with the environment.³²

In my graduation project I am **communicating** the message reinforced in the chapter “**Investigating Territorial Scales**”. Landscape as a provider not only offers opportunities, but also challenges and obliges us to not only maintain, but also improve its condition. Designing the extension to the environment, **closing the natural flows** should be the entry point to the proposal.

The technological tools and modern communication that will be used to bridge the gap between the restoration ecology and popular knowledge. Over decades, the science has produced comprehensive analysis of how to rebuild the man-made damages. Even though, it has failed to fully express it in an approachable manner.

In my project, I am using the medium of a video, mapping analysis, documentary photography and material record in order to **propose simple measures for the activation of the landscapes** bearing industrial waste.

The output of my research “An Open-source Guide for the activation of drosscape”, is a series of passive devices observed in the case studies.

I believe that in order to progress, there is an urgency to either **embrace the cross-disciplinary communication** or provide tools which can accelerate the rate of acquiring information. The twentieth century has revolutionised the exchange of the information with Google allowing to draw references across the disciplines. Certainly, there are measures, which can accelerate this exchange even more. For now, architect has a toolbox of visual, analytical and spatial skills, which can **spread the awareness and nudge behaviours**.

Such power of visual and spatial language puts a significant **responsibility** on a designer. Therefore, a conscious, comprehensive research and variety of epistemological methods should be an **ethical obligation of the profession**. The environmental threats can be fought back with the current knowledge, only if they reach the wider audience.

This brings back the question of the Architectural Engineering studio:

“If technology is the answer, then what is the question?”

The question is how to actively involve the community in the restoration of the environment. Technology has a capability to facilitate the interaction with the environment (participatory techniques), disseminate the passive low-tech solutions, document and expose the devastation. It also allows to close the flow in a landscape of broken ecology. Design is reciprocal to research, and architecture is interdependent to ecology.

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