Demologies
Laboratory Atlas of Demolition Typologies for Parkstad

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Focus and restrictions – What is the Parkstad contextual relevance for demolition building typologies? What is the latent potential of demolition typologies if freed from traditions of urbanism? What is the reach of this potential in remembering the forgotten industry of Coal Mining with Urban Mining as a pioneering regional identity of Parkstad?

Abstract

Current attempts to reevaluate the regional urban urgencies are limited to geography, sociology or ecology. Despite this general tendency, it is crucial more than ever to investigate the technical instrumentality and methods of urban grammar. The architecture, the infrastructure together with its materiality and configurations requires to be sieved through the logic of process driven spatial tendencies, contributing to the contemporary migration / shrinkage and its spatial consequences. Such transformation is affecting the region of Parkstad in Southern Netherlands. Main streams of architectural education tend towards the exaggeration of architectural artefact together with its self-centeredness; or towards the nostalgic and arguably influential process of most diverse architectural incorporation. In order to oppose those practices, Laboratory Atlas of Demolition Typologies is positioned towards projective methodology of laboratory-like systematicity. It is a tool for examining the relation between The Type and its regional context of demolition practices in Parkstad region.

Key words – Demolition, typology, laboratory, Urban Mining, Parkstad, Recycled concrete, Recycling, AR0531

1 Introduction

The region of Parkstad has an enormous potential of becoming the pioneering ground of radical spatial strategies; a new urbanism for shrinking populations. Its history is rapidly changing, facing yet another transformation. Parkstad becomes a synonym for revolution. It represents the dynamic that is unique in the context of Netherlands. Its industrial heritage buildings faced total demolition, after the main driver of regional development - Mining Industry became irrelevant. Nowadays it opposes wide-spread vacancy due to continuous population shrinkage. It relentlessly opens up to Urban Mining as a new regional identity to pay an essential tribute to long gone Coal Mining. Shrinkage of population opens up new vision of vacant architecture as a temporary material storage, that can be further reused for the purposes of Harvest.

It raises a platform for the methodology of tools for architectural making in today's globalized reality to be continuously and fearlessly revalidated. We should be aware of the models we possess and the power of overlapping them together. Architecture has a chance to reassemble the collectiveness of memory; of effort; of scales; of streams. Its relation to the city is eye-opening. The city remains one of the greatest human inventions. It requires enormous effort to make, it is extremely time consuming. It can also be seen as something very coherent, various, flexible. The City may appear as a fruitful source of recycled materials for the future construction, that can replace the need for depleted raw materials. In order to take an advantage of repurposing, deconstruction or demolition of the city, it is vital to investigate the guiding methodological principles of urban spatiality and coherency. In order to work with obsolete in reverse, with demolition and deconstruction, it is crucial to trace the tools of composition and construction, that had happened in the first place. Heuristic methods of research may contribute to locate those architectural and urban axioms

precisely, to assess, to compare and to set rules between them. It naturally leads the research into the investigation of typology as an intellectual and practical heuristic drive that forms the city. It suggests particular laboratory conditions of examination as well.

In the laboratory, the first step is to completely isolate the body under study and analyze its laws of proliferation. As Bruno Latour describes it, a laboratory is not a place disconnected from the reality, where people are imbued with supernatural powers, but a place with precise and specific work mechanics. Displacing the laboratory from the world, from the "out there" – allows the scientist to isolate the phenomenon from its customary context and examine it with a new setting. It is a necessary preface and a metaphor of Urban Mining itself. A Laboratory Atlas aims to isolate and examine the principles of programmatic typology as a main force forming the modern urbanity. Treated as a new material, free of external competences, the typologies of demolition show their vital laws and crucial forces or weakness. Laboratory conditions open up the field for new experimentation. The scale of analysis constantly varies from micro to macro.

Latour also highlights the point at which the experiment does not end inside the ascetic rooms of the laboratory but rather continues outside, requiring other work to be done. Rethinking the type in the contextual framework of demolition, arriving from the historical definitions and sieving it through the laboratory methodology is the approach of Demology Atlas. It is a room for contextual preface for further design challenge.

2 Methodology

My hypothesis is that the phenomenon of typology possesses a certain reversibility. It also holds a key of a new approximation for a contemporary process of Urban Mining. The methodology is dual, based on translating mathematical formalism to the aspect of time. It originates from the idea that mathematical systems are sets of rules and symbols that get joined to each other by logical chains that can be manipulated to configure new logical chains by means of protocols of iterations and proliferation. The exploration of typologies, tracing their origins and relationships provides a model for spatial tendencies. The logic of time frame divides methodology into subchapters.

3. Typology – Past (Theory)
4. Demology – Past / Present (Diagrams)
5. Demology – Future Potential (Maps)
6. Demology – Aftermath: Urban Void (Art)

The Demology Atlas starts with the attempt to define the phenomenon of type throughout the past centuries. It revalidates the theory of typology and deliberates on its instrumentality for architectural deconstruction. Chosen literature from XVIII, XIX and XX century refers to the pioneers of typology theories. My particular interest goes to Giulio Carlo Argan, Aldo Rossi and Jean Nicolas Louis Durand, whose work I either oppose or adopt. Then, the theoretical framework of typology transforms into practical set of diagrams and rules concerning the typologies of demolition – Demologies. They imply logical chains: of functions, construction period and methodology or the materiality. I find it crucial to make reference to existing policies and ongoing recycling situation. That's why those Chapters were developed based on collaboration with Heerlen – based recycling company REUSE Materials. It is a result of multiple conversations and exchanging visions, also sieved through their existing contextual knowledge. Next Chapter of Future Potential is tracing those artifices within the spatial context of Parkstad. The heuristic value of type raises a question of what is typical, what is common. It touches upon not only the buildings as the primary focal points, but relates to the regional scale and urban tendencies. The last timeframe is the Aftermath: Urban Void. It is the sight of merging the discipline of Architecture and the act of demolition with other fields of practice; here Art in particular. It may serve as the powerful tool of creating new visions for the urban parcels that are faced with demolition. It is also a hint – one out of many others – that may indicate the power of variety and not being bounded to traditional construct of the city growth. I reference the work of two artists: Lara Almarcegui and Cyprien Gaillard.

3. Typology – Past

The etymology of type dates back to XV-century and comes from Latin *typus*: figure, image, kind and Greek *typos*: impression, mark, figure in relief, general form. Defining the type is parallel to defining what is the typical - most common to all. This heuristic tool of tracing commonalities has been present in the history of architecture. Its role and outlook changed within the years. First theories about the type in the discipline of architecture can be associated with Antoine-Chrysostome Quatremère de Quincy and his *Dictionnaire historique d'architecture* from 1825. Rather than referring to the literal image of copy or imitation, he sees type as the incorporated idea or abstract, symbolic meaning. According to his theory, this abstract construct should be the ambition of design process. Gottfried Semper with his *Four elements of Architecture* from 1851 brings the idealist approach towards four distinct elements: hearth – metallurgy, ceramics, roof – carpentry, enclosure – textile and weaving mound – earthwork. He attempts to formulate universal theory about what assemblies and systems are universal in all indigenous primitive structures. Another pioneering theoretician defining the type was Giulio Carlo Argan. His outlook is very simple, but can be useful in the context of Parkstad. His theories may be adopted for the new ground of research. He specified the method of comparing, superimposing, overlapping of forms, that grows into a process of reduction. It aims on identifying a single "root form". His vision of the form becoming the "type" is a time-consuming historical process of formal verbalization. His classification for architectural typologies offers three grades: a complete configuration of buildings, structural elements and decorative elements. He states that the typological and the inventive aspects of the creative process are continuous and interlaced. <u>There is no way to isolate typology from the act of creation.</u> This assumption gains new relevance in the context of demolition. When certain type is no longer adequate or needed to perform a specific task, it is modified or eliminated as required. In the context of shrinking cities, the statement from Argan can take a new direction: <u>there is no way to isolate typology from the act of destruction</u>. Argans ''type'' represents formal and functional analogy between series of buildings. His theories were an inspiration for Italian architect and theoretician, Aldo Rossi. In 1966 he published his L'architettura della città - *The Architecture of the City*, which quickly established him as a leading

figure in the field of Architecture. For Rossi, 'type' is understood less as a building, more as a principle located within the city. Rossi states that the urban artefact is a fragment of the city. It must be seen as fatto urbano or faite urbaine. It consists from all of its history, topography, construction and the link with general life of the city. Besides his concern about the context, Rossi advocated the use of a limited range of building types. This postmodern way of thinking, named neonationalism, since it renews the ideas of the Italian rationalist architects of the 1920s and '30s, who also favoured a limited range of building types. In L'architettura della città he stated that, as history progressed, architecture has established certain repeated forms and concepts. These distinctive types of collectiveness exceed beyond the extent of styles. Rossi envisions the modern city as an "artefact" of these architectural continuum of types to which the architect should adhere to, rather than disturb with radical, selfish proposals.

Type appears to serve as an effective heuristic device in order to detect commonalities. Anthony Vidler in his *Third Typology and Other Essays*, pinpoints three crucial stages in the history and theory of architecture, since the matter of type was first brought up to revive the discourse in architecture. First in the XVIII and early XIX century, the type referred to nature and its idea of mimicry. In the beginning of XX century it was stimulated by mass production. In the 1970s the concept of modern city - as an idea and Rossi's artefact - developed into the new ground for its verification. The present context of cities with shrinking populations offers the fourth stage to rediscover the notion of type and typology. It offers a moment to look back and evaluate which theories may be valid in this new framework.
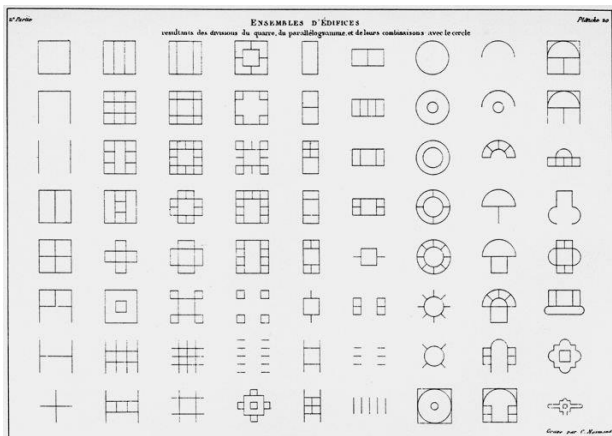

Figure 1: Jean Louis Durand: Precis des leçons d'architecture
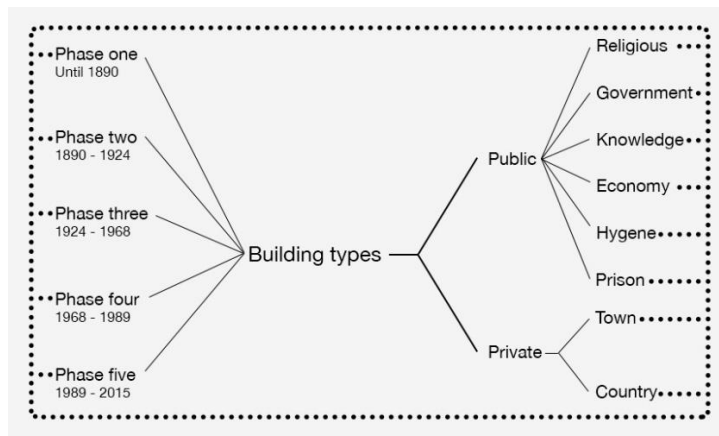

Figure 2: Circularity of typological classification: Time and Functions in Parkstad.

Questioning and redefining architectural investigation tools usually parallels the time of crisis. In Parkstad the situation of current social anxiety finds a reference to those from XVIII and XIX century and again in diminishing moment of modern movement in the 1970s. Back in XVIII century also the work of Jean Nicolas Louis Durand was facing a challenge of sustaining the relevance of architecture within the changing context. It expressed the prevailing concern about the utility: architectural structures must be useful, serving for the evolving communities. The same utility is crucial in the context of depopulating regions. Durand attempted to define general principles of architecture (through procedural composition and comparisons), as the process of composing and decomposing gained importance. Similar to Durand, my ambition is to compare different buildings as a group, in series, to expose general principles, binding them as a type. Durand's *Recueil* from 1799 proposes two main types of classification: historical and functional. It bases on many methods from natural science. Selection of elements for comparison is crucial – it can rely on performance/utility or form. For Durand, comparing is based on buildings as well as their elements. Current practice of demolition industry in Parkstad works with individual cases without many attempts to interrelate them.
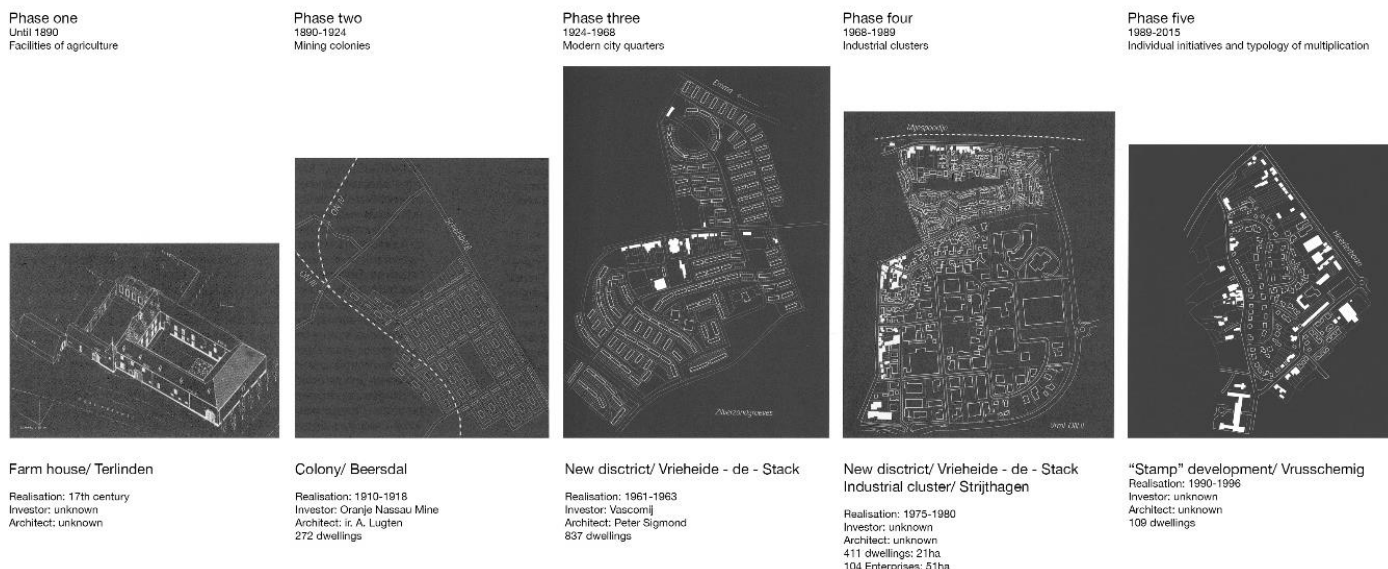
4. Demologies – Past / Present

Figure 3: Representational types of development for certain phases of time in Parkstad; Urban clusters of repetitions as a result of industrial and political parameters.
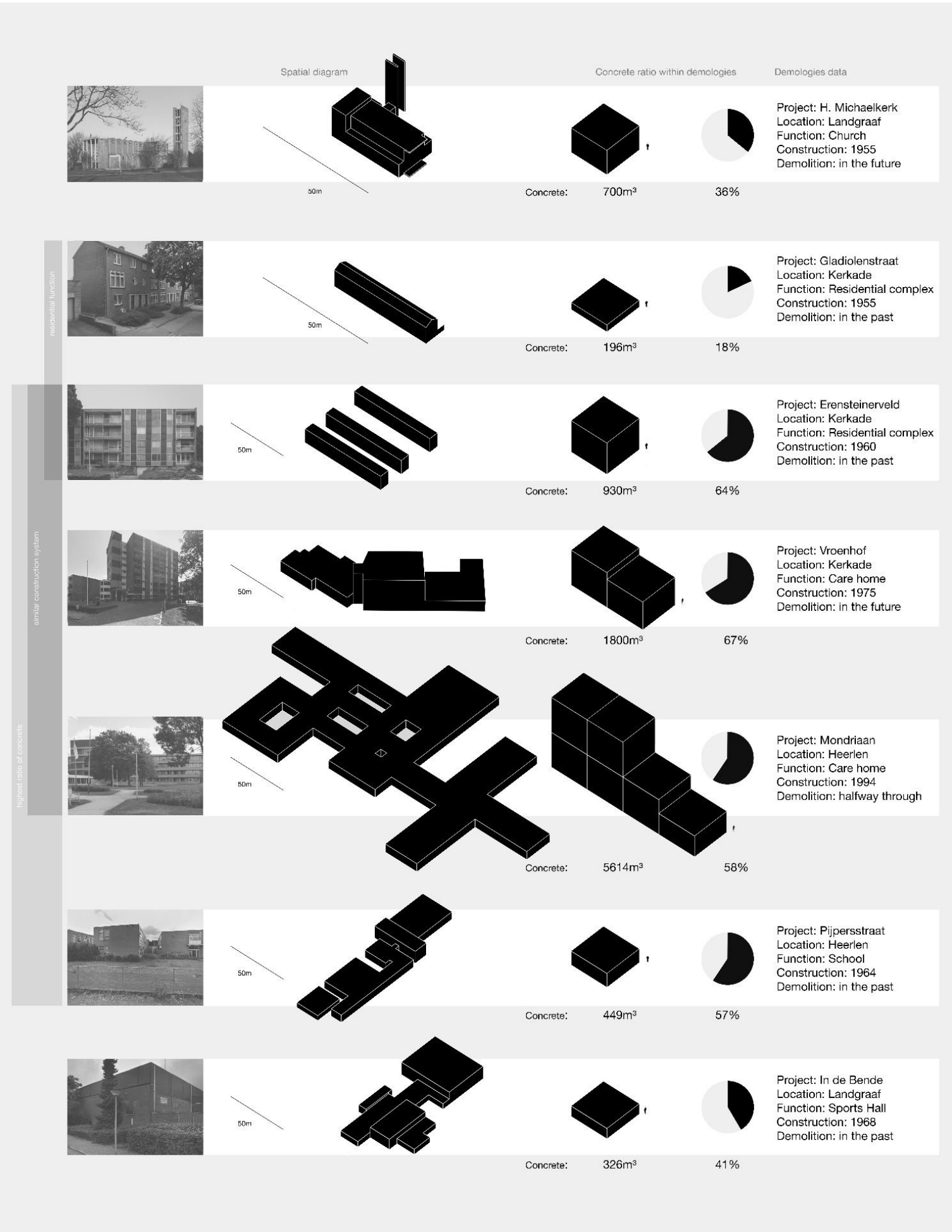
Spatial diagram | Concrete ratio within demologies | Demologies data

residential function

Project: H. Michaelkerk
Location: Landgraaf
Function: Church
Construction: 1955
Demolition: in the future

50m

Concrete: 700m³   36%

Project: Gladiolenstraat
Location: Kerkade
Function: Residential complex
Construction: 1955
Demolition: in the past

50m

Concrete: 196m³   18%

similar construction system

Project: Erensteinerveld
Location: Kerkade
Function: Residential complex
Construction: 1960
Demolition: in the past

50m

Concrete: 930m³   64%

Project: Vroenhof
Location: Kerkade
Function: Care home
Construction: 1975
Demolition: in the future

50m

Concrete: 1800m³   67%

highest ratio of concrete

Project: Mondriaan
Location: Heerlen
Function: Care home
Construction: 1994
Demolition: halfway through

50m

Concrete: 5614m³   58%

Project: Pijpersstraat
Location: Heerlen
Function: School
Construction: 1964
Demolition: in the past

50m

Concrete: 449m³   57%

Project: In de Bende
Location: Landgraaf
Function: Sports Hall
Construction: 1968
Demolition: in the past

50m

Concrete: 326m³   41%

Figure 4: Demologies: Demolition typologies in Parkstad and ratio of concrete debris in each case study. Table based on subjective representative buildings (residential and retail) done thanks to cooperation with   Engineering Company Reuse Materials from Heerlen.

Figure 6: Demolition of Mondrian Care Home in Heerlen generates vast amounts of concrete debris.

Demologies: past / present attempts to compare representative cases of demolition. They are isolated from the social and topographical context and taken to laboratory conditions. They are treated as practical specimens, that together form a set of diagrams, material quantities and relations. They are separate, but taken from classificatory circulation, as implied in Figure 2. This circulation highlights not only a function of the Typology/Demology, but also the phase in time, that the building was constructed. As the methodology proves, each moment in time is a result of industrial, political and societal changes and translates directly to the methods, materials, systems and quantities of construction. Extensive overlapping of time and function is a starting point to material approximation for the future purposes of Urban Mining.

It is surprising that in vibrant demolition context of Parkstad there is no developed structure of demolition companies and policy framework. I kept an information exchange with Reuse Materials Engineering Company in Heerlen. Their work is not based on open source model. Major part of their effort seems to be driven by economical profit. After several talks it was possible to determine representative cases of demolition and share remarks on the issue of typology. For the future design purposes I was interested in quantities of concrete debris. Demologies with highest concrete ratio is a good indicator of where the future effort could go to and what urban components may serve best as the suppliers for Urban Mining.
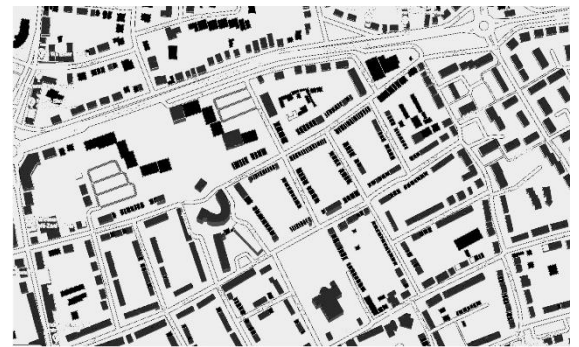

Figure 6: Gladiolenstraat demolition in Kerkade before (above) and after (below). Example of urban void (below) as a demolition result.
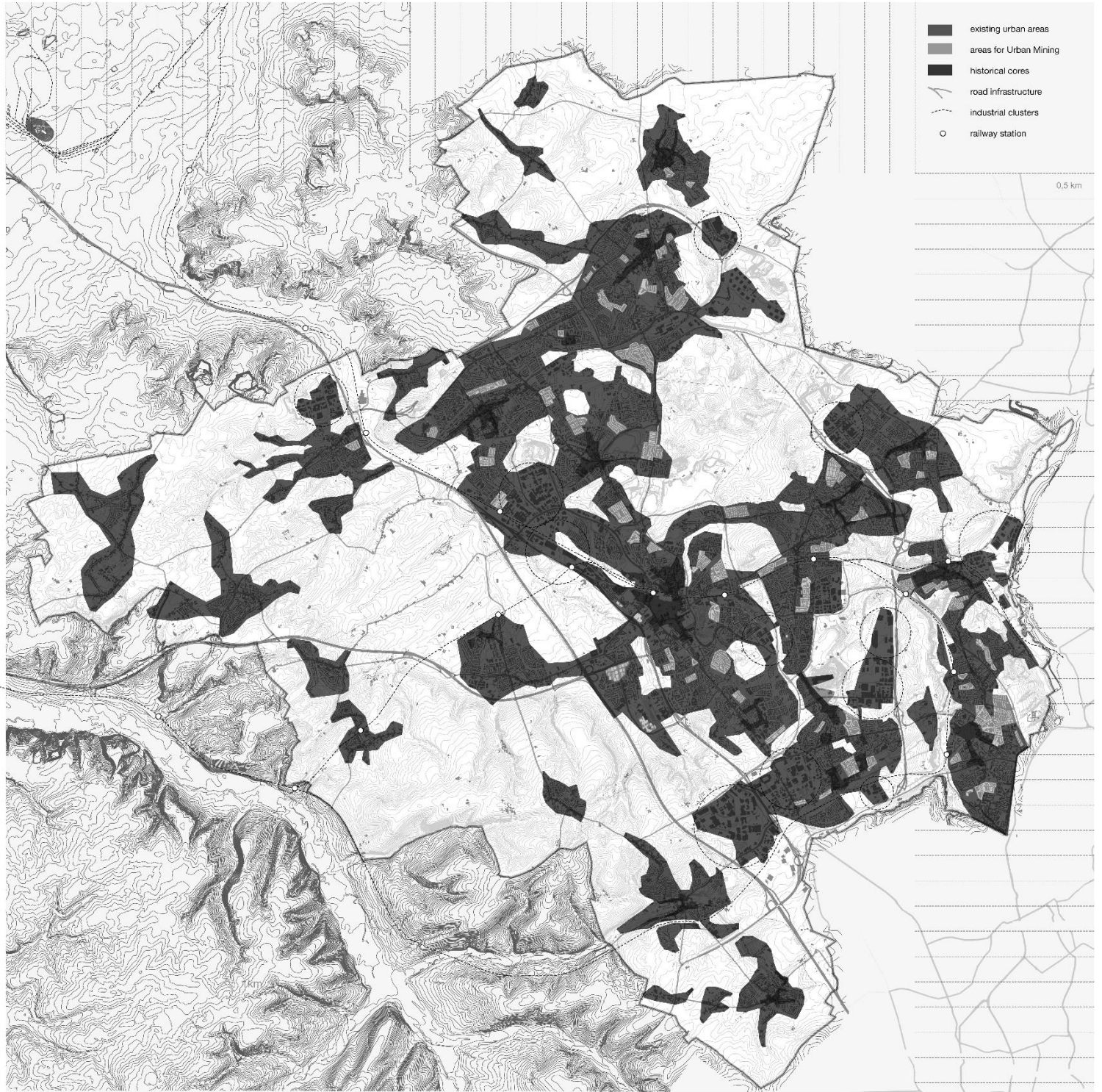
5. Demology – Future Potential

Figure 7: Map of clusters for demolition, following the overlaping logic from Figure 8.
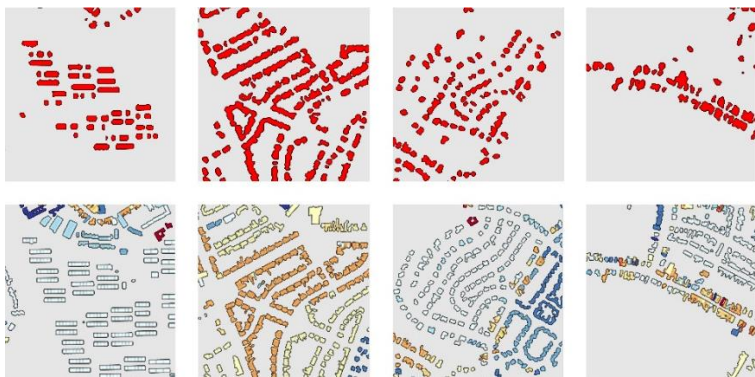

Figure 8: Typology clusters with low energy class (top) and construction period(bottom)
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To make a connection between type and the city is to set up a tie between the artifacts of architecture and the wider system in which the work is formed. It may also validate the relevance of the specimen of architecture outside its disciplinary realm. Addressing the notion of the city through the typology has an established presence, made by authors like Aldo Rossi to Rem Koolhaas. My curiosity goes to spatial aspect of Demology. I argue the city is limited to certain clusters of typologies, that are multiplication of certain prototypes. Those clusters are often a representation of specific urban pattern. Moreover they often represent groups of buildings from the same time period. Once overlapped with low energy class map, they may serve as approximate indication of areas for the future demolition and Urban Mining.
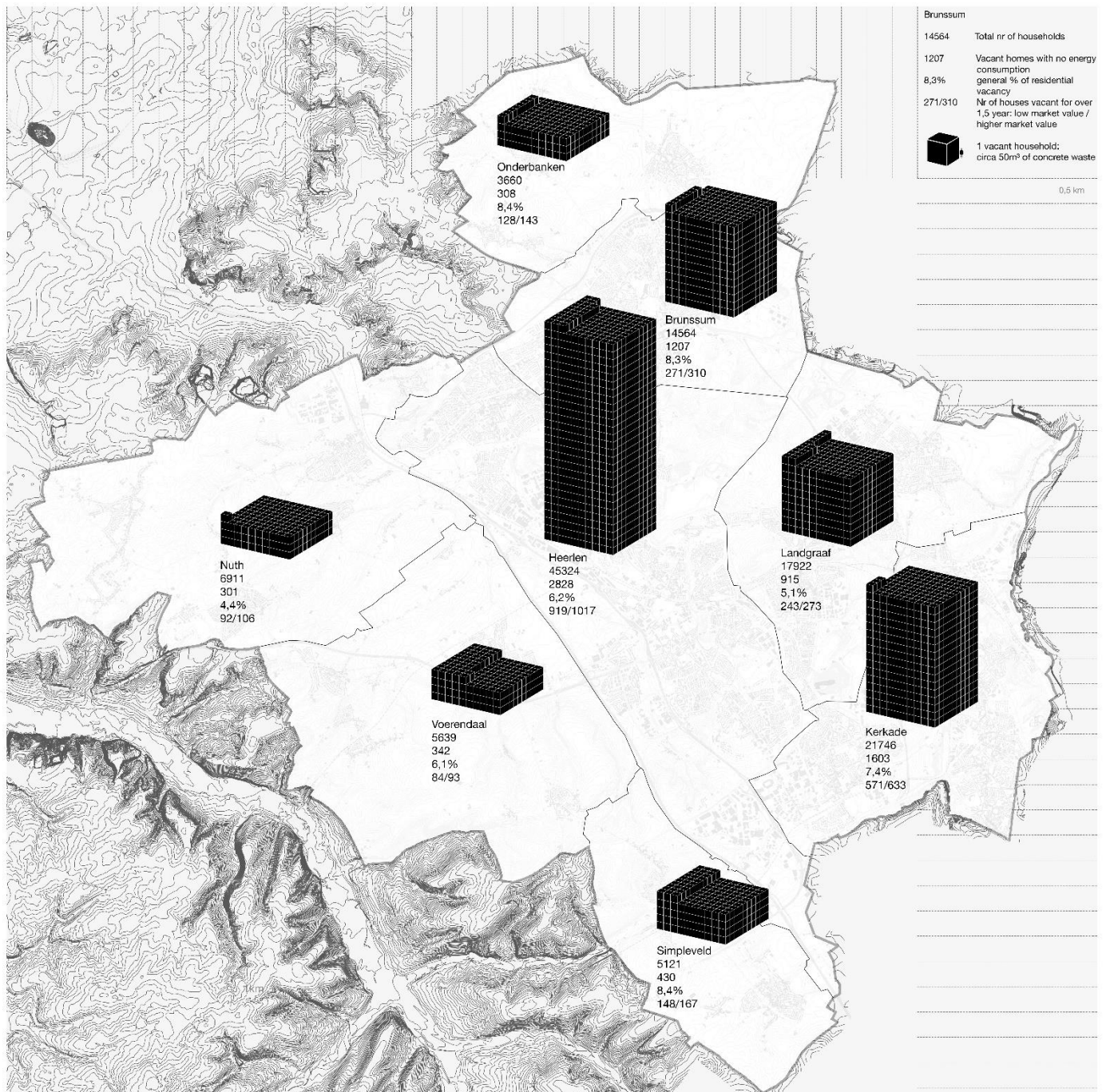
Figure 9: Map of Parkstad ilustrating the quantitive material potential within the vacant housing sector.

6. Demology – Aftermath: Urban void

When the building is torn down, there is a potential of reusing the material from deconstruction. But perhaps equally significant potential opens up for the void of the plot after demolition, similar to the one from Figure 6. Empty ground in the dense urban structure is often immediately filled up with new construction. In Parkstad there is no need for such act, because the functional demand is much lower due to shrinking population. This can contribute to unexpected spatial scenarios and interdisciplinary interventions. Art is one of those disciplines that recently occupies not only the space of the museum or gallery, but it takes over public space as well. For the price of spatial presence (or lack of presence: Urban void) it stimulates our imagination and triggers new open-ended, perceptual experience. It raises multiple questions, that affect the vision of the city. I find the practice of two artists particularly provoking for the discourse of Parkstad demolition. They are Cyprien Gaillard and Lara Almarcegui.

Gaillard is a French mixed-media artist. He is interested in memory, nostalgia, and how we can perceive things around us in relation to the things of the past. He was born in Paris and lives and works between New York and Berlin, practices across media, including photo, film, and sculpture. He is known for his meditations on memory, history, and failure— including work on the legacy and present of modern architecture. He praises the quote from Vladimir Nabokov : "The future is but obsolete in reverse".

Art initiatives of Gaillard, his overlapping of disciplines and interests is enormously stimulating metaphor for current demolition practices. He recalls the moment he discovered poetry in the most unusual places: decaying landscapes, demolished building sites, even cracks in the pavement. These ideas collide in two of his earlier films. "Cities of Gold and Mirrors" juxtaposes images of spring breakers partying at a decaying Mayan-themed resort in Cancun, Mexico, with the nearby ancient ruins. The three-part film titled "Desniansky Raion" is a combination of film and music that looks at the relics of architectural modernism facing demolition. The artist links in it hooligans warring in a Russian parking lot, an abandoned apartment towers in Ukraine and a fireworks display, celebrating the controlled demolition of a building outside Paris.

Gaillard talks about Beautiful Ruins in his own words: "I like what J.G. Ballard says about high-rises in his novels – that the outer landscape is an inner landscape. I relate to that while looking at some crumbling structures. I find peace, not sadness, in these places that have accepted their fate. I find much more sadness in places where the walls are still standing, in malls or Potsdamer Platz for example. There is always a possibility of an architectural hangover, something we regret that we built."

Figure 10: Cities of Gold and Mirrors. Cyprien Gaillard. Demolition of mirror – façade building portrayed through a movie.

Lara Almarcegui was born in 1972 in Zaragoza, Spain. She currently lives and works in Rotterdam, Netherlands. The work that she has been developing for almost twenty years questions the border between the renewal and the decline of cities, seeking to highlight elements of the urban world that often elude the eye. On the one hand, the artist is interested in abandoned spaces, structures in the process of transformation where she questions the current state of construction, development, wear and degradation of peripheral areas. On the other hand, her work attempts to decipher the multiple links that exist between architecture and urbanism, by establishing a discourse on the different elements that constitute the physical reality of a constantly changing urban landscape.

Figure 11: Construction rubbles of the spanish pavilion, 2013. Lara Almarcegui

Figure 12: Urban void after demolition left untouched. Lara Almarcegui

Figure 13: Construction materials displayed near the tower before its demolition.

7. Conclusions

Parkstad contextual relevance for demolition building typologies reveals its complexity. It carries an enormous potential of becoming the pioneering ground of radical spatial strategies; a new urbanism for shrinking populations. It represents the dynamic that is unique in the context of Netherlands. Current reuse and recycling practices make use of classificatory approach towards building components. It is the task of the architects and urban planners to include heuristic techniques, such as technical instrumentality of typology, into the contemporary context of changing cities. The architecture, the infrastructure together with its materiality and configurations requires to be sieved through the logic of process – driven spatial tendencies; later classified, compared and evaluated. The exploration of Demologies, tracing their origins and relationships provides a model for spatial tendencies, at the same time shaping a contemporary definition of the City. It makes its contribution to regional identity. In the case of Parkstad, Urban Mining resembles the forgotten history of Coal Mining. Laboratory Atlas of Demologies illuminates its contextual systematicity.

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