RECONFIGURATION, REPLACEMENT OR REMOVAL?
EVALUATING THE FLEMISH POST-WAR DETACHED DWELLING AND ITS PART IN CONTEMPORARY SPATIAL PLANNING AND ARCHITECTURE

VOLUME II: IMAGES

Marijn van de Weijer

Supervisors:
Prof. dr. ir. Hilde Heynen
Prof. dr. Koenraad Van Cleempoel
Prof. dr. ir. Michael Ryckewaert

Members of the Examination Committee:
Prof. dr. ir. Dirk Vandermeulen, chairman
Prof. dr. ir. Oswald Devisch
Prof. dr. Dominique Vanneste
Prof. ir. Guido Geenen
Dr. Anique Hommels (Associate professor)
Prof. dr. ir. Griet Verbeeck

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Preface:
about the figures
and the text
Preface

This volume gathers all images to which is referred throughout the dissertation. This presentation was chosen because some images are referred to repeatedly throughout the entire dissertation. Also, the pace in which the images are referred to varies; sometimes, images follow each other rapidly, and sometimes, a text fragment has very little references to images.

Many of the referred figures are actually more than one single image: rather, they should be read as miniature architectural presentation panels, consisting of complementary drawings, diagrams and photographs, completed with captions. The number of each figure is placed in the upper left or right corner of a page. Some images take in a full spread of two pages. The sources of the images are mentioned in the lower corners. If the image is produced by another designer or researcher, the caption is placed in a grey box. All photographs and drawings produced by the author were edited by Mariana Cruz Díaz.
1

Introduction
1 Reconfiguration, Replacement or Removal?

**track I: mapping**

- Division of Geography
  - KU Leuven
- Analysis of census 2001
- Mapping of under usage and large dwellings
- Selection of case studies

**track II: inhabitation research and discursive analysis**

- Dept. of Architecture
  - KU Leuven
- Interviews with inhabitants of detached dwellings
  - Housing career, future perspectives, appreciation of the house
  - Discursive qualitative analysis

**track III: typological and designerly research**

- FAK, Hasselt University
- Dept. of Architecture
  - KU Leuven
- Documentation of dwellings
  - Inhabitation patterns
  - Morpho-typology materialisation
  - Home-oriented qualitative analysis
  - Projective typological analysis

Source: by the author.

Organisation of the project in three research tracks.
Chapter 2: positioning practice-based research as an interaction between scientific methods and design - allowing for iterative and consecutive investigations

Chapter 3: documenting responses of inhabitants to transformative strategies

Chapter 4: enquiring into the feasibility of dwelling transformations

reconsideration of strategies, adding design analysis

considering the role of the designer in transformative processes

Chapter 5: documenting responses of professionals to transformative strategies

reconsideration of strategies, find conditions for implementation

Chapter 6: documenting design proposals and design arguments

adding specific narratives to the generic arguments

Chapter 7: synthesis of diverging results and conclusion

Organisation of the designerly & typological research track: Source: by the author.
Allotment plans for the Kortrijkstraat in Wortegem Petegem (1976, architect P. Vossaert).

Source: archive spatial planning department, Wortegem-Petegem

Source: personal archive, inhabitants of dwelling H_33.
Map of Belgium, showing the municipalities selected as case studies.

Source: by the author.
Introduction
Aartselaar. The municipality lies in the dense urban fringe around Antwerp, where diverse spatial claims come closely together. Both the allotment in the north and the ribbon development in the south are closely connected to the town centre. The southern ribbon is knitted into the urbanised landscape to the south.
Reconfiguration, Replacement or Removal?

Aartselaar. **Above**: impression of the ribbon development in the agricultural landscape in the south of the municipality. **Lower left**: Figure-ground (built form) of the Solhof area. **Lower right**: Figure-ground of the Lindenbos allotment, and Pierstraat, and Oever ribbons.
Lubbeek. The selected allotments are closely connected to the city of Leuven, and are under influence of its urbanisation pressure. The forest area was subdivided by the noble inhabitant of the nearby castle.
Reconfiguration, Replacement or Removal?

Lubeek. **Above:** An impression of the streetscape in Hoog Linden. **Lower left:** Figure-ground (built form) of Hoog Linden. **Lower right:** Figure-ground of Steenveld.
Introduction
Retie. The selected sector has a subdivision of a forest, formerly a royal domain and property of the abbey of Postel.
Introduction

Mol

Postel Abbey

Retie

Dessel

Hodonk

Zilvermeer

0       5 km
Retie. **Left:** Figure-ground (built form) of the Hodonk allotments. Three separate neighbourhoods can be distinguished, and a caravan park in the upper left of the map. **Right:** the streetscape of the allotments; houses are partially concealed by fences and greenery.
Overijse. The Marnix neighbourhood is a subdivided noble domain, formerly belonging to the nearby castle. Several large allotments are grouped along the road to Brussels. The Kroendaalplein lies close to the town centre.
Overijse. **Above**: An impression of the streetscape in the Marnixbuurt. **Lower left**: Figure-ground of the Marnixbuurt. In the upper right are the castle buildings, in what is left of the noble domain. **Lower right**: Figure-ground of the area around the Kroendaalplein.
Introduction
Aalter. The selected subdivision is a former holiday domain, and before was part of the nearby castle domain. A ribbon development (Kestelstraat) connects it to the village.
Introduction
Reconfiguration, Replacement or Removal?

Aalter. Historical development of the Loveld residential park and the Kestelstraat. **Left:** Figure-ground, situation 1969. The map still shows small holiday houses. **Right:** Figure-ground, situation 2009. Small dwellings have been replaced by bigger units.
Introduction
Keerbergen. the selected sector is part of a ‘super-ribbon’ of subdivided forests, stretching between Mechelen and Tremelo. Keerbergen lies in between connector roads, and lacks proper connection to main motorways or railway infrastructure.
Keerbergen, the residential forest both has small, aged housing units (streetscape Above) and more recent, larger villas (streetscape Lower right). Lower left: Figure ground of the Golf and Meer area (named after the golf course and the lake).
Introduction
Sint Martens-Latem, the high-end villa park developed out of an allotment of country houses for the Ghent elite.
Introduction
Sint Martens-Latem. **Left:** Figure-ground (built form) of the Deurle residential park **Right:** Impression of the streetscape. The neighbourhood lies next to a busy connector road with amenities. In the residential park, many streets are unpaved.
Introduction
Wortegem-Petegem. The municipality consists of small village cores and ribbon developments. The selected sectors are better connected to neighbouring towns than the municipal centres.

Source: by the author, based on the Belgian Cadastral Maps (edition 2009) and Google Maps (August 2013).
Wortegem-Petegem. **Above:** impression of the rolling landscape, specked with solitary dwellings and some ribbons. **Lower left:** Figure-ground (built form) of the Tjammels hamlet. **Lower right:** Figure-ground of the Moregem hamlet, and a part of the ribbon connecting it to Oudenaarde.
Introduction
Lommen. the selected sectors are characterised by ribbon developments, which run parallel to creek valleys. Urbanisation connects the centres of towns beyond the municipal boundaries.

Source: by the author, based on the Belgian Cadastral Maps (edition 2009) and Google Maps (August 2013).
Introduction

> Beringen
> Antwerp
Eversel
Genenbosch
Groenlaren
Laren
Lummen
Thiewinkel
Schulen

> Aachen
> Hasselt, Liège
> Hasselt

Albert Canal

0       5 km
Lumen. **Above:** impression of the interwoven patterns of housing and agriculture in Laren, Lumen. **Lower left:** Figure-ground (built form) of the Laren and Groenlaren hamlets, and the ribbons in between. **Lower right:** Figure-ground of the Genenbos allotment.
Introduction
Reconfiguration, Replacement or Removal?

Alken. The studied ribbons connect Alken and Wimmertingen.

Source: by the author, based on the Belgian Cadastral Maps (edition 2009) and Google Maps (August 2013).
Introduction

St - Lambrechts - Herk

Alken

Wellen

Wimmertingen

Hasselt

Antwerp

Liège

0       5 km
Alken, historical development of the Grootstraat and Bulstraat neighbourhood. Courtyard farms were replaced by detached dwellings. **Left**: Figure-ground (built form), situation of 1964. **Right**: Figure-ground, situation of 2009.
Introduction
Kortrijkstraat, Wortegem-Petegem. Technical, legal, and natural systems are interrelated. **Above:** plan. **Below:** plan and section of the profile of this street.

Analysis by the author, based on the Belgian Cadastral Maps (edition 2009) and archive spatial planning department, Wortegem-Petegem.
Strategies projected on a neighbourhood fragment. 1: current situation. 2: reconfiguration of the existing housing stock. 3: replacement of a part of the housing stock with more dense typologies and additional amenities. 4: removal of building and landscape restructuring.

Source: by the author.
Strategies on the scale a small number of lots. 1: basic situation. 2: construction of an annexe. 3: subdivision of deep lots. 4: new dwellings in between detached dwellings. 5: collective usage of property. 6: replacing dwellings with low-energy semi-detached houses. 7: replacing dwellings with urban villas.

Source: by the author.
Strategies on the scale of the dwelling. 1: current situation. 2: informal sharing a dwelling between three households in small units. 3: adding an annexe. 4: subdivision into two semi-detached units.

Source: by the author.
Reconfiguration, Replacement or Removal?

At Two Scales. Graduation project, TU Eindhoven, 2005. **Above:** bird’s eye perspective, **Below:** cross-section.

Source: by the author.
Detached dwelling (H_02), architect Van Hoof, 1976.

Source: by the author, based on the personal archive of the inhabitants.
Detached dwelling (H_41), architect Verbeurgt, 1970.

Source: by the author, based on personal archive inhabitants and own sketches, measurements and photography.
On the exchange between design and research: a foundation for a methodology involving architectural instruments
Positioning research through design (A) as a mode of communication between practice and the academy; (B) as a disciplinary form of knowledge production, which distinguishes architecture from other disciplines and allows interdisciplinary exchange; (C) as an inquisitive mode of production in response to complex spatial demands from society.

Source: van de Weijer, Van Cleempoel, and Heynen, “Positioning Research and Design in Academia and Practice”.
Mode of production and finality divide a continuum into 4 spheres. Modes of cooperation, crossing the boundaries between the spheres, are depicted with the grey arrows.

Source: van de Weijer, Van Cleempoel, and Heynen, “Positioning Research and Design in Academia and Practice”. 
The discussed approaches of research through design are placed in their proper sphere: (I) Exploring possibilities by means of design; (II) Design as a partial methodology.
3

Projecting transformative concepts on the residential environment: how inhabitants in four municipalities evaluate three strategies for conversion
Reconfiguration, Replacement or Removal?

A typical Flemish ribbon development in Lummen (province of Limburg).

Source: photography by Wouter Bervoets
A sample of dwelling types and lots taken from the case study municipalities.

Source: by the author, based on personal archives inhabitants.
Reconfiguration, Replacement or Removal?

Share of overcrowded, adapted and underused single family dwellings according the type and the degree of urbanisation (in % of the total housing stock).

Above: Share of detached dwellings (per municipality). Below: Share of underused dwellings (per municipality). The 10 numbered municipalities are the case studies of the overarching research project.

A: Morphology of the built tissue of the municipalities Aartselaar and Sint-Martens-Latem. B: sample of neighbourhood tissue in these municipalities.

Source: by the author, based on Belgian Cadastral Maps (edition 2009).
Reconfiguration, Replacement or Removal?

A: Morphology of the built tissue of the municipalities Lummen and Wortegem-Petegem. B: sample of neighbourhood tissue in these municipalities.

Source: by the author, based on Belgian Cadastral Maps (edition 2009).
4
Reinterpreting detached dwellings: constructing a new conception of flexibility applicable to the Flemish house
Reconfiguration, Replacement or Removal?
Dwelling H_11 (1976, architect A. Croonenberghs). An example of how the owners have improved their living experience by adding a sun lounge in the back of the house, to have a living space connected to the garden; the living room faces the street, and the kitchen connects both living spaces.

Source: by the author, based on personal archive inhabitants.
Options for subdivision for a single main floor dwelling type (on the left) and a stacked floors dwelling type (on the right). The options for both include a complete subdivision and the insertion of a temporary annexe housing unit for care-requiring family members.

Source: by the author.
Reinterpreting detached dwellings
Reconfiguration, Replacement or Removal?

Method of the abstractions, for the two floors of dwelling H_50 (1969, architect unknown). From left to right: isometric view of facade and structure; abstractions of served spaces, servant spaces, and circulation spaces, in plan and isometric view.

Source: by the author, based on own measurements, sketches and photographs.
A comparison of three fermette type dwellings, ground floor plans (on the left) and corresponding facades (on the right). Above: dwelling H_03. Middle: dwelling H_42. Below: dwelling H_04.

Source: by the author, based on personal archive inhabitants.
Reinterpreting detached dwellings
Dwelling H_51 (1973, architect unknown) has living quarters on the upper floor, which share the same orientation to the south with the living room, and are not limited in height by the roof structure.

Source: by the author, based on personal archive inhabitants.
Dwelling H_02 (1976, architect Van Hoof, also see figure 28) has two strictly defined zones: one opening up to the garden, the other more closed. The bedrooms are articulated in the volume.

Source: by the author, based on personal archive inhabitants.
Dwelling H_62 (1974, architect J. De Schrijver) has additional served spaces on the ground floor (currently used as storage space and office), and also additional spaces on the first floor (currently used as a bar and as a sauna), next to five bedrooms. Its structural system allows to project similar configurations for the first ground floor and the first floor (dashed line).
Impact of the structural system on the layout of spaces as a determinant for flexibility.

Source: by the author, based on personal archive inhabitants.
Reconfiguration, Replacement or Removal?

Abstraction 1, served spaces. Dwellings classified under subcategory A. The internal configuration allows for functional changes. >>>

Source: by the author, based on personal archive inhabitants.
This is because of the presence of additional served spaces in the proximity of living room and kitchen, or because of neutral orientation and lighting conditions.
Abstraction 1, served spaces. Dwellings classified under subcategory B. These dwellings demonstrate a symmetrical structural system, which does not limit the height of served spaces. This symmetry allows to inscribe equally dimensioned, neutral spaces.
Abstraction 1, served spaces. Dwellings classified under subcategory A (neutral orientation and organisation as explained in figure 59) as well as B (structural hierarchy organising neutral spaces as explained in figure 60).

Source: by the author, based on personal archive inhabitants.
Reconfiguration, Replacement or Removal?
Dwelling H_07 (architect unknown). Secondary spaces, including storage spaces and a garage, are within the heated volume, on accessible floor levels, and lit with daylight.

Source: by the author, based on personal archive inhabitants.
Dwelling H_01 (architect unknown). Secondary spaces are concentrated in the basement, outside of the heated volume, and do not receive daylight. Also under the roof structure, gross surface is lost because of limited height and accessibility.
Dwelling H_28 (architect R. A. Van Driesche, 1976). Secondary spaces are in a central core servicing the main residential volume. A single floor volume houses the garage and a psychiatric practice. Source: by the author, based on personal archive inhabitants.
Dwelling H_26 (1969, architect unknown). Two identically organised floor levels in a symmetrical structural system. Each floor has its own bathroom and toilet.
Dwelling H_17 (1983, architect F. Martens). This building has two bathrooms which are both on the first floor, but are each in a different structural bay.

Source: by the author, based on personal archive inhabitants.
Dwelling H_06 (architect unknown, 1992). The dwelling has only one bathroom upstairs; the scullery downstairs also serves as a circulation space, between kitchen, garage, and the backyard.

Source: by the author, based on personal archive inhabitants.
Dwelling H_24 (architect M. Reymen, 1965). The volume is serviced by one bathroom, which lies next to a washing place.

Source: by the author, based on personal archive inhabitants.
Abstraction 2, servant spaces. Dwellings classified under subcategory A. This subcategory selects dwellings with a significant servant spaces on accessible locations within the building shell. This mainly shows large garage spaces.
Reinterpreting detached dwellings
Abstraction 2, servant spaces. Dwellings classified under subcategory B. These dwellings demonstrate how essential servant spaces, such as bathrooms and washing rooms, support division between structural bays or floors. Continued in figure 63.
Reconfiguration, Replacement or Removal?

Abstraction 2, servant spaces. Dwellings classified under subcategory B (Continued from figure 62).

Source: by the author, based on personal archive inhabitants.
Reinterpreting detached dwellings
Abstraction 2, servant spaces. Dwellings classified under subcategory A (dimensions and functionality of servant spaces) as well as B (distribution of functions in the dwelling).
Reinterpreting detached dwellings
Dwelling H_05 (1977, architect J. Troch) is organised by means of a central circulation system on both floors.
Dwelling H_27 (1979, architect D. Martens) is organised by means of a linear circulation system on the ground floor, and a central circulation system on the first floor.

Source: by the author, based on personal archive inhabitants.
Dwelling H_09 (1979, architect D. Depoorter) is organised by means of a combination of a circular circulation system and a linear circulation system on the ground floor.

Source: by the author, based on personal archive inhabitants.
Reinterpreting detached dwellings
Two options for inserting a new system of circulation for dwelling H_09, to allow for subdivision. **01:** reorganisation of the staircase (temporarily) allows for a separate hallway, leading to the upper floor. **02:** insertion of a double staircase serves a permanent subdivision.

Source: by the author, based on personal archive inhabitants.

Source: by the author, based on personal archive inhabitants.
Dwelling H_50 (1969, architect unknown) is an example of a dwelling with double vertical circulation.

Source: by the author, based on personal archive inhabitants.
Abstraction 3, circulation spaces. Dwellings classified under subcategory A. These dwellings combine three or more circulation systems (circular, linear and central)

Source: by the author, based on personal archive inhabitants.
Reinterpreting detached dwellings
Abstraction 3, circulation spaces. Dwellings classified under subcategory B. These dwellings demonstrate structural aspects of horizontal and vertical circulation, which facilitate subdivision: double height spaces, two staircases, or double circulation spaces.

Source: by the author, based on personal archive inhabitants.
Reinterpreting detached dwellings
Abstraction 3, circulation spaces. Dwellings classified under subcategory A (complexity of the circulation system) as well as B (structural conditions of horizontal and vertical circulation). continued in figure 75.
Reinterpreting detached dwellings

H_19
double height

H_24
double circulation space

H_28
double circulation space

H_31
two staircases
Reconfiguration, Replacement or Removal?

Abstraction 3, circulation spaces. Dwellings classified under subcategory A as well as B (continued from figure 74).
Reinterpreting detached dwellings

H_39

two staircases

H_50

two staircases

H_51

double circulation space
Reconfiguration, Replacement or Removal?

Dwelling H_14, 1965, architect G. L. Poncelet. Section, ground floor plan and first floor plan.

Source: by the author, based on personal archive inhabitants.
**Above:** this dwelling is built on a corner lot, which facilitates a subdivision. **Far right:** The regular structure of dwelling H_14 allows the consideration of various concepts of subdivision, such as horizontal (above right), vertical (middle right) and two intertwined units (bottom right).

Source: by the author, based on personal archive inhabitants and Belgian Cadastral Maps (Edition 2009).
Reconfiguration, Replacement or Removal?

Dwelling H_37, 1969, architect D. Grootaert. Section and ground floor plan.

Source: by the author, based on personal archive inhabitants.
Above: the asymmetrical placement of this house on its lot. Below: Sketch of dwelling H_37. Its organisation allows for a feasible implementation of a subdivision concept.

Source: by the author, based on personal archive inhabitants and Belgian Cadastral Maps (Edition 2009).
Dwelling H_04, 1973, architect unknown. Section, ground floor plan and first floor plan.

Source: by the author, based on personal archive inhabitants.
Above: this building is also built on a corner lot, but the secondary spaces are organised in the corner, while the residential spaces have a view of the garden. Below: The large dimension of servant spaces of dwelling H_04 allows for the insertion of apartment typologies in the garage and/or the attic.

Source: by the author, based on personal archive inhabitants and Belgian Cadastral Maps (Edition 2009).
Dwelling H_10, 1990, architect R. Abels. Section, ground floor plan and first floor plan. The structural complexity, spatial organisation and the insertion in the landscape make it nearly impossible to subdivide this dwelling efficiently.
5

Professional perspectives on housing: the position of the Flemish detached dwelling in design strategies
An ancillary apartment designed by Dirk Gillekens (2013), attached to an existing dwelling, in Overijse. This structure complies with the Flemish housing codex, it designed for a care-requiring inhabitant. Ground floor plan and front facade.

House Lanckmans, De Smet Vermeulen Architecten, 2010. The design was an investigation of style of the rural dwelling, driven by questions such as *what is rural living, how do you recognise the rural in a dwelling?*

Source: personal archive Henk De Smet, De Smet Vermeulen Architecten.
RUP, by the municipality and the IOK, for the core of the municipality (2014). The RUP looks to define zones defined by density, in which specific densification strategies could be allowed.
In the outer residential ‘ring’ (pink), development should lead to a density of 15 dwellings per hectare maximum. The second residential ‘ring’ (light red), the goal is 17.5 - 20 dwellings per hectare. In the village centre (dark red) the plan proposes to strive for a minimum of 25 dwellings per hectare.
Reconfiguration, Replacement or Removal?

Left: explanation of the trend scenario: vacant lots are being filled up in a piecemeal manner. Right: Images explaining the concept alternative to the trend scenario. Larger interventions are proposed, which allow for restructuring of accessible landscape.

Source: Bovenbouw Architectuur, Labo S and Labo A (Ghent University), in: Declerck, Ryckewaert, and Devoldere, Pilootproject Wonen, 36-37.
ALTERNATIEF, LANDSCHAPPELIJK SCENARIO

Reconfiguration, Replacement or Removal?

Image explaining the concept of (gradual) replacement of a part of the social housing stock with new buildings, achieving higher densities.

The RUP proposed by the municipality of Aartselaar for the Reukens area. An open space along the Wullebeek, a small creek, is safeguarded from further urbanisation. The creek connects to natural reserves to the west, beyond the municipal boundaries, and the area itself are a part of the provincial open land structure.

Source: Iris Consulting, "Gemeentelijk Ruimtelijk Uitvoeringsplan De Reukens Aartselaar, Toelichtingsnota", 7, 41.
Elaboration of the discussed strategies and their correlations, related to diverging professional perspectives.
Professional perspectives on housing

**professional viewpoints on detached dwellings and subdivision**
+ relevant technical concepts

**re-use optimism**

<table>
<thead>
<tr>
<th>professional viewpoints</th>
<th>technical conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Professional responsibility to address technical and typological flaws;</td>
<td>* Central location of a dwelling;</td>
</tr>
<tr>
<td>* A demand for smaller dwelling units;</td>
<td>* Good structural condition;</td>
</tr>
<tr>
<td>* Historical continuity;</td>
<td>* The more compact the dwelling, the better the energetic performance;</td>
</tr>
<tr>
<td>* Quality of rural living and rural architecture;</td>
<td>* Retrofitting uninsulated buildings can be advantageous because limited and affordable interventions deliver significant improvements.</td>
</tr>
<tr>
<td>* Overcapacity of built objects and settlements.</td>
<td></td>
</tr>
</tbody>
</table>

**re-use pessimism**

<table>
<thead>
<tr>
<th>professional viewpoints</th>
<th>technical conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Technical and typological flaws cannot be mended efficiently;</td>
<td>* Remote location of a dwelling;</td>
</tr>
<tr>
<td>* Land price overrules architectural transformation;</td>
<td>* Poor structural condition;</td>
</tr>
<tr>
<td>* Scepticism towards co-housing and sharing a dwelling.</td>
<td>* Uncompact dwellings are more difficult to improve energetically;</td>
</tr>
<tr>
<td></td>
<td>* Improvement of energetic performance of aged dwellings is too costly;</td>
</tr>
<tr>
<td></td>
<td>* Mismatch between housing typology and contemporary demand.</td>
</tr>
</tbody>
</table>
De Smet Vermeulen Architecten, 08 October 2010. Sketch proposing the addition of a service apartment in the back of an existing dwelling. The annexe is built within the contours of a zone for a garage. The proposal found no approval with the municipality.

Source: personal archive Henk De Smet, De Smet Vermeulen Architecten.
6
The design studio and scenario building: A hands-on and site-specific investigation of conditions for adaptive reuse
Reconfiguration, Replacement or Removal?

Above: Matrix for exploration of four dwellings and three project briefs. The project briefs depicted, from top to bottom, are two small separate households, a reconstituted family, and a care-requiring household with a supporting household. Below: Template for recording of design concepts and processes.

Source: by the author.
I. 10 groups of four students each visit a house and document it.

II. Design groups of four students study four houses. Analysis of the houses and project briefs, leading to a selection.

III. One design project is fleshed out. Narratives are formulated, based on inhabitation pattern and design details.

Overview of the three steps which structured the workshop.

Source: by the author.
Dwelling A to F which were studied during the design workshop.
The design studio and scenario building

Dwelling D (1965)

Dwelling E, (1982)

Dwelling F (1974)
Reconfiguration, Replacement or Removal?

Dwelling G to K which were studied during the design workshop.

Source: drawings by the author.
Photos G, J from Google Streetview (2013); H, by the Vandeneede, Mellemans, Cipullo; K, by the author.
The design studio and scenario building

Dwelling J (1969)

Dwelling K (1979)
Design for dwelling C, demonstrating its flexibility during consecutive phases: the yellow walls may be added (ground floor) or removed (first floor) at a later moment in time. In the first phase, the dwelling can be inhabited by a reconstituted family. In a follow-up phase, additional light walls lead to a more strict subdivision.

Design for dwelling B. Living quarters and bedrooms were designed on both floors, to allow for a regular household and a care-requiring elderly inhabitant to *live apart together*.
Design for Dwelling A. The designers imagined an ancillary unit which functions separately, and leaves the existing dwelling intact, which can be read from the elevation.
Design sketches exploring a complex interlocking of two housing units within the shell of dwelling D (H_14).

Reconfiguration, Replacement or Removal?

Design for two interlocking dwelling units, within the shell of Dwelling D. This complexity allows for equal lighting conditions and innovative dwelling types. Plans and sections.

Design for two interlocking dwelling units. Above: perspective of west and north facade. Below: site plan and concept sketch explaining how the two units interlock.

Reconfiguration, Replacement or Removal?


Above: design sketch exploring the opening up of the large central space of dwelling H. Below: bird’s-eye view of the proposed transformation, removing a part of the volume indicated in red.
**Above:** sketch exploring the transformation of the central space of dwelling H.  **Below:** Also this group chose to open up the central room. final model showing the patio at the heart of the building.

Design sketch exploring the addition of large dormers to the roof of dwelling B, in order to bring more light and space to the first floor.

7

Synthesis
Reconfiguration, Replacement or Removal?
concrete interactions between actors and artefacts

---

**landscape**
- continued demand for (suburban) dwellings, awareness of affordability, loss of open land

**regime**
- traditional mode of housing production adapts in response to contemporary demands and concerns

**niche**
- expressed concern for loss of open space (municipalities, inhabitants)
- municipality outlines vision on relating housing policy to landscape management
- designers propose concepts of collective land-use patterns

---

**Readjusting the persistent housing model**
- decrease obduracy on the typological level: dwelling and the lot
- accept obduracy of pavilion landscape, increase obduracy of landscape structure

---

Representation of vision *realigning the persistent housing model.* Source: by the author.
Reconfiguration, Replacement or Removal?

concrete interactions between actors and artefacts

Developers and municipalities cooperate in proposing alternative housing projects. Innovative design proposals alter neighbourhoods. Follow-up projects result from altered conditions. Decrease obduracy on the neighbourhood level: ownership, scale and functionality.

Strong demand for alternative housing in suburban neighbourhoods.

Significant course change in the mode of housing production, concepts from niche levels determine this course.

Paper architecture/planning initiatives.

Ambition to improve landscape and urbanity (municipalities, provinces, region). Designers and planners define other qualities to base planning on. Diversification and collective open space form an explicit part of commissions. Accept obduracy of well located neighbourhoods, increase obduracy of landscape structure.

concrete interactions between actors and artefacts

Representation of vision initiating transformation with critical projects.

Source: by the author.
Synthesis

Representation of vision *Anticipating macro-scale developments.*

Source: by the author.
Reconfiguration, Replacement or Removal?

Linking interventions for Keerbergen. The obduracy of the housing system in the forest of Keerbergen only allows for careful interventions, of limited impact. This resistance is determined by appreciation of the remaining forest as a residential environment (above, to the right), and the value of building lots in this residential park (above, to the left).

Source: by the author, based on Belgian Cadastral Maps (edition 2009) and field work data.
1 (blue): sharing existing dwellings. 2 (red): replacement of existing dwellings. Both interventions may go hand in hand with landscape restructuring, and improved accessibility of the forest as a contribution to collectivity in the neighbourhood.
Linking interventions in Aartselaar, more specifically the Lindenbos neighbourhood, which consists of a small villa park (1), a rather dense allotment (2), and is connected to the protected landscape of the Reukens (3-4, in green).

Source: by the author, based on Belgian Cadastral Maps (edition 2009) and field work data.
1: Villa park remains an area of solitary pavilions, but sharing becomes an option. 2: compact, collective dwellings replace detached ones and redefine the conditions of the building block by opening it up (section A and sketch). 3: replacement of detached dwellings within the nature zone with more compact ones (section B and sketch). 4: removing aged dwellings from the ribbon.
Reconfiguration, Replacement or Removal?

Linking interventions for Wortegem-Petegem, more specifically for the small village of Moregem, which consists of a small, historical core (1), and ribbon developments (2).

Source: by the author, based on Belgian Cadastral Maps (edition 2009) and field work data.
1: The village becomes a site for careful densification, by means of new construction on central, vacant lots and adaptive reuse of valuable buildings (section C). 2: This can compensate for removal strategies in the ribbon developments (section D and sketch).