Practices In Research

practice-based research journal for architecture

Demolitions and Deconstructions

issue #05 - December 2024

Practices in Research #05 - Demolitions and Deconstructions - December 2024

Online Open Access Double-Blind Peer-Reviewed Journal for Practice-Based Research in Architecture

Double-blind peer review process : www.architectureinpractice.eu/pirjournal

Front and back cover images : © ARCH+, Summacumfemmer, büero Juliane Greb

Thanks to Orfée Grandhomme & Ismaël Bennani

ISSN: 2736-3996

Practices in Research Journal
Rue des Palais 153 - 1030 Brussels
T. +32 (0)2 244 44 35
info@architectureinpractice.eu
www.architectureinpractice.eu/pirjournal

In Practice
interuniversity research group
of practising architects

CONTENT

Demolitions and Deconstructions

The *Practices in Research* journal is an initiative of *Architecture In Practice*, an interuniversity research group of practising architects engaging their practice(s) at the heart of their research. In Practice explores the multiple ways in which architects can engage their professional architecture practice in academic research and reciprocally. “Practices in Research” (PiR) is an online journal for practice-based research in architecture and related disciplines, based on a selection of contributions to a conference. PiR explores the ways in which these practices engage or relate to research.

For PiR, the practice is not reduced to an illustration of theory. Inversely, the research is not reduced to the observation of practice. It aims at contributions in which research and practice mean mutual enrichment. PiR aims at research in which the practice is essential as a subject, a modality, a perspective and combinations thereof. The contributions are expected to stay in close contact with the practice, but they are not limited to the presentation or documentation of a practice. The contributions take a step beyond the reality of the practice in the way they present, explore, reveal a reflection in the field of architecture.

PiR also searches for creative forms of communication, questioning the usual hierarchy between text and image.

For PiR, visual and written narrations relate to each other in multiple ways. Images are more than illustrations, and text is more than an explanation.

This issue, *Demolitions and Deconstructions*, is based on a call for contributions that was published in January 2024. The call was composed with the essential support of Juliane Greb (UAntwerpen and büro Juliane Greb) and Benoît Burquel (ULB and AgwA). The following paragraphs were part of the initial open call.

"Moving towards a more ecological and sustainable building culture, many architects commit themselves to caring and maintaining our existing building stock. To reduce the consumption of resources, the production of waste and emissions, the aim is to first look at what is already there, before adding any new constructions.

At the same time, our built environment is a manifestation of social ideas, hierarchies, norms, and standards which often do not match the values, priorities, and expectations of today's society. Lifestyles have diversified, family structures have evolved, modes of transportation have changed. Our buildings are based on anachronistic spatial patterns.

How do architects deal with this ambiguity? How do they decide on what can stay and what must go? When does demolition become unavoidable as a part of critical repair? How do architects negotiate between existing qualities and contemporary norms and expectations?

Partial demolitions often involve a series of artefacts: supporting structures, technical adaptations, material juxtapositions. They create a language as much as they question the nature of the project itself. Indeed, they cannot be reduced to operations based on patrimonial or technical considerations. Demolitions and deconstructions are deliberate choices, they are decisive in the design process, in its economy. They influence both the materiality and the spatiality of the project. Beyond a pragmatic approach to what is already there, how do partial demolition and supporting elements change the nature, the ambitions, the process, and the authorship of the project? And how does it then radically change the use of space afterwards?

What methods and processes do architects use when approaching an existing structure? How do they carefully and critically examine an existing building and how do they reveal its potential? What knowledge do they gain in the process of assessing what can stay and what must go? And finally, how can they afford to do so, given that architects' fees are still generally tied to construction costs, i.e., material and energy consumption?

Does the status of a caring architectural practice diverge from its ecological and social importance, as it does for many other caring professions?"

The Editorial Board was skillfully supported by Bie Plevoets (UHasselt, founder of the As Found network) and Urszula Kozminska (Arkitektskolen Aarhus), who acted as Editorial

Advisors. They were instrumental in filtering proposals, seeking contributions that thoughtfully addressed questions of careful yet experimental transformations. Submissions were expected to report on critical practices examining these questions while remaining grounded in their documentation and outcomes.

A preliminary selection of authors was invited to present at the Practice in Research conference at C.I.II.III.IV.A on May 27, 2024. Extended abstracts from the conference were published online in unreviewed proceedings. Following the event, a refined selection of contributors underwent a rigorous double-blind peer-review process for inclusion in this issue.

All contributions in this issue were thoroughly reviewed by two anonymous reviewers, adhering to the journal's established review policy. This issue also introduces a new format designed to challenge the conventional dominance of text over visual content. The format—a visual essay—limits submissions to 10 pages, including a brief introductory text (max. 150 words) and extended captions (max. 50 words per page), alongside a title page. These visual essays successfully underwent the same rigorous peer-review process, offering a balanced alternative to traditional articles.

Given the substantial increase in submissions, this issue is organized into thematic chapters that loosely mirror the conference structure. *Policies and Attitudes* explores methods for structuring and quantifying circular design

approaches from designers' perspectives. *Details of Demolitions* examines diverse architectural languages rooted in circularity and the role of deconstruction within projects. *Tactics of Demolitions* highlights how circularity influences architectural processes, often blurring lines between observation, design, and realization. *Structures and Constructions* reflects on the role of significant structural and constructive elements in transformation contexts. Finally, *Re-Presentations* offers experimental approaches to visual tools in circular design processes, diverging from traditional drawings, models, or renders for new constructions. This last chapter opens the door to potential future investigations, possibly forming the focal point of an upcoming issue.

To conclude this issue, the Editorial Board invited Bie Plevoets and Urszula Kozminska to co-author an overarching article reflecting on the initiative's setup and contributions. Their article provides a thoughtful synthesis of the coherence and diversity of *Demolitions and Deconstructions*. While not peer-reviewed, it complements the intentions of the Editorial Board and the institutions represented.

This issue also marked a milestone for the journal's organizational structure. Following the impulsion of the historical editors Benoît Burquel (ULB, AgwA), Harold Fallon (KU Leuven, AgwA) and Benoît Vandenbulcke (ULiège, AgwA), *Practices in Research* now operates with a wide and balanced Editorial Board, comprising representatives from the five universities supporting the *Architecture In Practice* research platform. Together with the Editor-in-Chief and

Associate Editor, the Editorial Board provides a dynamic yet stable framework, ensuring continuity and coherence. The Scientific Committee has also been restructured to strengthen connections across a broader academic and practice-based network.

Heartfelt thanks are extended to all contributors, advisors, reviewers, and members of the Editorial Board and Scientific Committee. Their collaboration has significantly expanded and deepened the journal's reflective scope, fostering meaningful discourse on ongoing architectural practices.

Harold Fallon, Benoit Burquel, Benoit Vandenbulcke
Editor in Chief and Associate Editors.

PRACTICES IN RESEARCH #5

DEMOLITIONS AND DECONSTRUCTIONS

CHAPTER 1

POLICIES AND ATTITUDES

IMPACT FACTORY

Reconciling demolition and deconstruction practices with circular building

Brecht Verstraete, Miet Vanheeswyck, Samuel Klein, Bob Geldermans

WIT architecten

2024 N°5

‘WIT Architecten’ often operates at the overlap between urban planning and architecture, feeling at home in layered and mixed urban areas and undeterred by complex sites or an almost impossible set of preconditions. A thorough reading of the existing situation is always an essential part of the design process. What exists is systematically screened for latent qualities that can be magnified, supplemented, and complemented. For WIT, the context is the generator of a thorough search for self-evident and feasible solutions. The contribution to the (urban) landscape is crucial, and averse to wastefulness, boasting or ostentation.

INTRODUCTION

In 2022, WIT was selected as the designer for the ‘Impact Factory’ project in Mechelen. A private project company and the City of Mechelen are joining forces here with the aim of developing a hub around circular and impact entrepreneurship. The Impact Factory positions itself as the home base for a new type of entrepreneurship that demonstrates that doing good business and doing business for good can be perfectly complementary (Stadsmakersfonds and City of Mechelen, 2023).

Located centrally between the train station and the city center of Mechelen, the site includes a former industrial dry cleaning facility (De Potterij), an office building to be repurposed, a connecting coach house, and a limited building plot. This space will be designated for research, experimentation, co-creation, demonstration, and local production.

De Potterij will accommodate laboratory and studio spaces, as well as an event/workshop space. The office building will be transformed into an incubator for start-ups and scale-ups focused on the circular economy and impact entrepreneurship, with active support provided for the development of sustainable business models. The space will feature both individual and shared workspaces, laboratories, and event spaces.

The office building (1) , Coach house (2), De Potterij (3) and a limited building plot (4) situated in a building block in the city center of Mechelen.

Exterior and interior impressions of the existing buildings. Photographed by Michiel de Cleene.

The desired net area of approximately 3.000 m2 is to a large extent already available in the existing buildings. It tempts us to make a bold statement:

"*The Impact Factory does not need to be built; it is already there!*"

DESIGN STRATEGY

Several issues need to be resolved or clarified. To ensure maximum retention, a strategic approach is essential. Every intervention must initially improve what already exists and focus on it. A four-stepped plan was applied to accieve this:

A: Improving circulation

The existing structure of the office building already provides the required small, secluded workspaces and large studios that can be used collectively. However, the current layout features a long, dark, and confusing circulation route along the common walls, which feels cramped. From an urban planning reflex, the architects feel the need for a new 'main street' on the south façade, extending through the courtyard. The new circulation is more compact, but also more interesting and clearer.

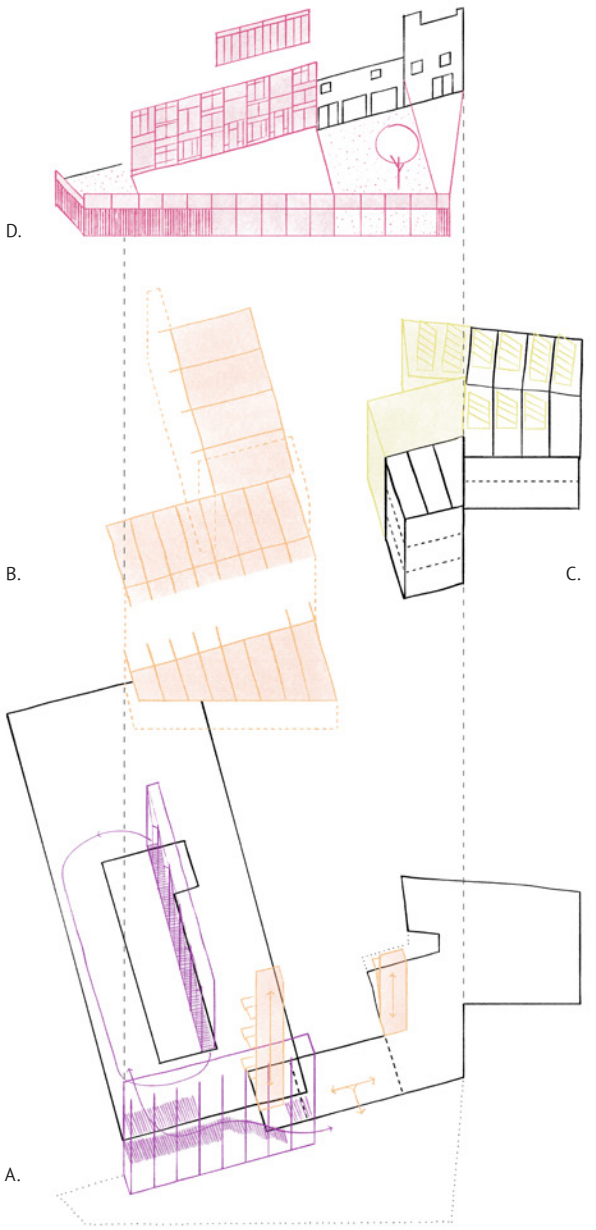
The office building has been turned around: the former rear façade now becomes the new front. A wide extention along this façade is open and oriented outward. It strengthens the orientation and immediately improves the energy performance of the shell. This space is visible to everyone and connects the different levels in an alternative way.

B: A roof landscape and reserve for the future

The office building lacks a ground level. To provide the Impact Factory with an inspiring and usable outdoor space, the potential of the roofs is utilized: a raised ground level on the roof of the new front building and accessible areas on the roof of the existing office building are introduced.

The process begins with structurally reinforcing the most important roofs of the office building. A new beam grid is supported directly by the existing columns. This provides an optimal base layer for greenery, with sufficient topsoil, while relieving the burden on the underlying supporting structure. Additionally, it forms a potential reserve for future roof extensions. The new roof structure simultaniously serves as a load-bearing cantilever for the new 'main street' over the courtyard.

To create a fully-fledged outdoor area replacing the ground level, very good accessibility is essential. The roof must become a natural space to stay. Therefore, the new elevator is extended directly to the roof landscape, opening into a garden room at the top. This vantage point looks just over the immediate neighbors at the domes and towers of Mechelen. Conversely, as a 'lantern' it also serves to prominently position the Impact Factory on the urban map, visible from nearby buildings or from the public space.

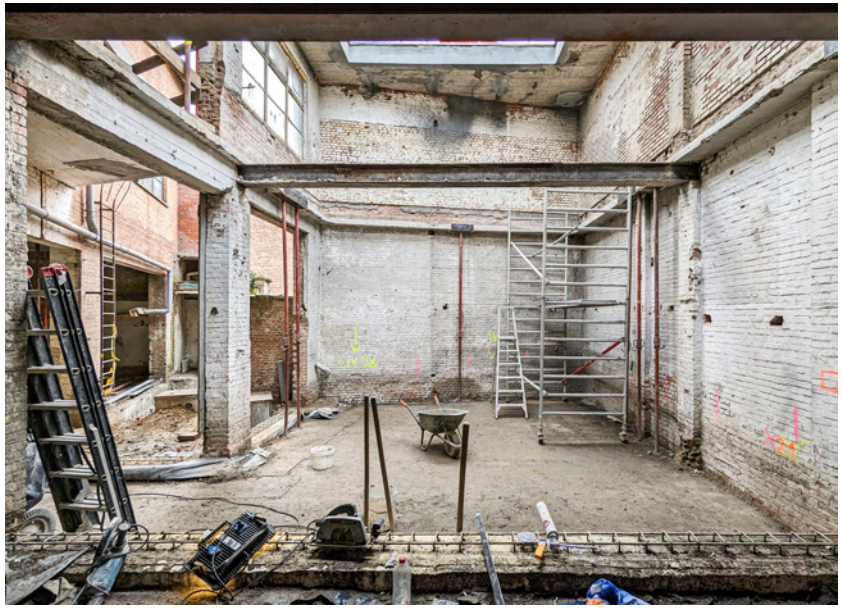


A: Improving circulation, B: A roof landscape and reserve for the future, C: Clarifying the distinct structure of the Potterij, D: A shared entrance, the front porch.

C: Clarifying the distinct structure of the Potterij

This building is only a small part of a former industrial complex. The rampant building conglomeration that overran the inside of the building block has illegibly split the urban tissue into several properties. The space is overwhelming and unclear at the same time.

A careful reading of the plan led the desigers to make an intervention that is just as strategic as in the office building: by removing a section of the floor on the south side, the experience changes completely. What remains is a very special (twisted) square section spanning two floors, supported by a central column, and a compact, column-free building volume of three floors on the east side.



Removing the floor on the south side of the Potterij. Photographed by WIT architecten.

The 'armpit' in the southwest then becomes an interplay of interior and exterior spaces, of walled and sunlit double-height spaces cascading from the ground floor to the roof. A new staircase and elevator naturally find their place here. The new 'patio' is a bright, inviting place along the ground floor routing, which halves the passage length and encourages exploration.

D: A shared entrance, the front porch

There is some open terrain on ground level, which is the only place where a decent tree can grow. It would be a shame to build on that plot. This raised the question: is a simple, common 'front porch' sufficient as a shared entrance space and front garden? The front porch is at the same time garden, gate, hall, garage, terrace, courtyard. It seems crucial to find a good balance between enclosing and opening, between sheltering and making accessible.

The entrance to the Impact Factory faces what will become a square in the future. The rhythm of the columns guides the promenade on the square, leading along closed, semi-open and open parts that mark the main entrance. One enters the vestibule through a portico that embraces the site. Three façades surround this courtyard and provide access to the various building parts. The structure defines the Impact Factory, provides a face and forms the parapet for the terrace on the first floor.

These various interventions speak the same architectural language. While they offer clarity, accessibility, and address functional needs, they simultaneously foster a sense of unity and continuity across the collection of buildings. However, the leading role remains reserved for the existing buildings, whose distinct characteristics shape the fundamental spatial expressions.

METHODS

The Impact Factory is ideally an open-ended project. Each temporary intervention is tested for necessity, flexibility, and adaptability. For this reason, interventions are designed to be as demountable as possible. The goal is not to maximize implementation prematurely but to focus on interventions that support optimal future operability.

S-layers and R-strategies

This work adopts the principles of Frank Duffy and Stewart Brand, the so-called 'shearing layers of change' (Duffy, 1992; Brand, 1994), These shearing layers (S-layers) help to read and dissect buildings into components with different usage patterns and turnover rates. This is essential to anticipate the most optimal circular strategies and reuse routes. The latter strategies and routes are widely referred to as the 'R-strategies', and nowadays fairly established at Belgian and European level (Watkins and Meysner, 2022; Bocken et al., 2016; Potting et al., 2017). When linked, these two – S and R – tools form a powerful matrix of possible and probable material and product flows (Geldermans, 2016).

The matrix indicates a methodology on three levels:

Refuse and Rethink
As discussed in the previous sections, this method involved refusing large-scale demolition and rethinking the existing conditions and spatial layout. The approach prioritized highly targeted demolition and the integration of subtle additions to adapt and optimize the design.

Redesign and Reuse
The existing buildings were once designed and considered finished. In the current approach, the buildings are being reused and redesigned with a deliberate open end, a spatial framework for the program that is currently required, but allowing future adaptability. This design perspective views the existing buildings as a bank of space and materials.

Reapplying and Repurposing
A third level of the methodology focuses on reapplying and repurposing materials sourced from external locations. During the design process, opportunities came our way from unexpected and unknown angles. In some cases, research was conducted into materials from projects that came on our radar and that were going to be demolished in the near future. In other instances, specific materials were sought proactively; materials that were likely to become available and align seamlessly with the design requirements.

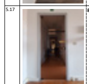
TOOLS

The culmination of these three methodological levels resulted in a set of tools that have proven to be useful:

Reuse inventory

The existing buildings were investigated in more detail and approached as material banks; an idea introduced in the early 2000s within the Cradle to Cradle concept and further developed since then (Braungart and McDonough, 2002; Rau, 2016; Gept et al., 2019).

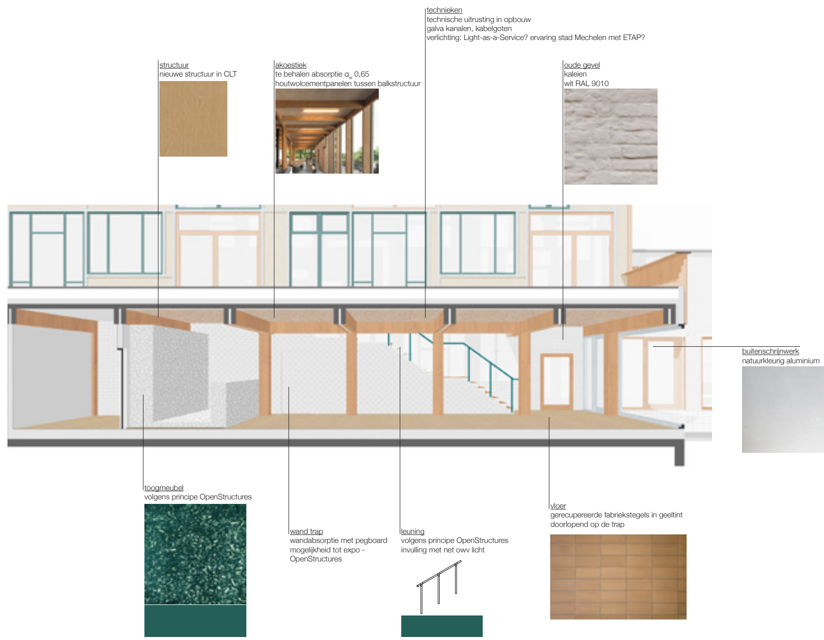
A reuse inventory was created to identify all materials with the potential for a new life cycle. Technical information and quantities were documented, along with estimates of the materials' reuse potential. Where possible, the inventory also included methods of disassembly. This process aimed to produce the most comprehensive summary possible, providing various partners within the construction team with the necessary information for further work.

nr.	foto	item	locatie	hoeveelheid	afmetingen	detailinfo	conditie	potentieel voor hergebruik	demontage	hergebruik	selectieve demontage	overige opmerkingen
[uniek nr.]		[opschrift van het lot / element(en)]	[plaats in het gebouw]	[m, m2, m3, st, treden,... raming aangeven met ±]	[indicatie van de afmetingen van het element]	[type, merk, materiaal, kleur, technische info, productdata, ...]	[conditie, ...]	laag * gemiddeld ** hoog ***	[montagewijze, haalbaarheid, bijzondere voorzorgsmaatregelen]	[potentieel voor behoud, mogelijke hergebruikkanalen, voorstel van toepassing, ...]	X (selectieve demontage) / behoud	[bijzonderheden, risico's, opmerkingen, ...]
5.13		**brandwerende deuren, Rf30, enkel**	Studio	6,00 st	93x201cm d: 4cm		goede staat recent geplaatst	***		mogelijkheden hergebruik : in situ / gespecialiseerde handelaar	X	
5.16		**brandwerende deuren, Rf30, dubbel**	Studio	2,00 st			goede staat	***		mogelijkheden hergebruik : in situ / gespecialiseerde handelaar	X	
5.17		**glazen binnendeur**	Studio	1 st	b: 73cm h: 201,5cm d: 1cm	in houten deurkader, donker glas	goede staat	***	mechanisch bevestigd (geschroefd)	mogelijkheden hergebruik : in situ / gespecialiseerde handelaar / donatie	X	
5.18		**binnendeurgeheel, hout**	Studio	2 st	- totaal : 202 x ... - kader : 5,5cm breed, 7,5cm diep - glaslat : 5,5cm breed, 3cm diep - glas : ca. 46,5 x ... - deurblad : 87 x ...	gelakt, grijs	goede staat	***	in gyproc wanden	mogelijkheden hergebruik : in situ / gespecialiseerde handelaar / donatie	X	

Fragment of the Impact Factory reuse inventory.

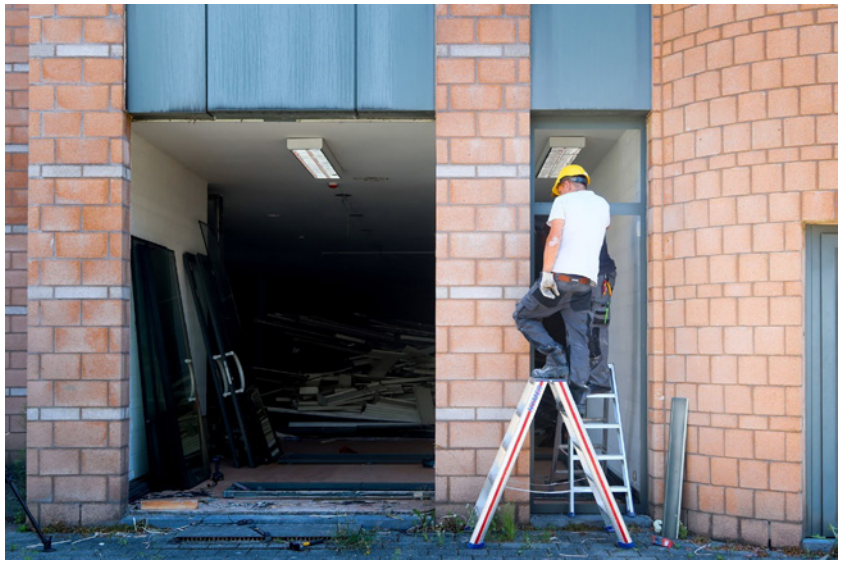
Spacebook

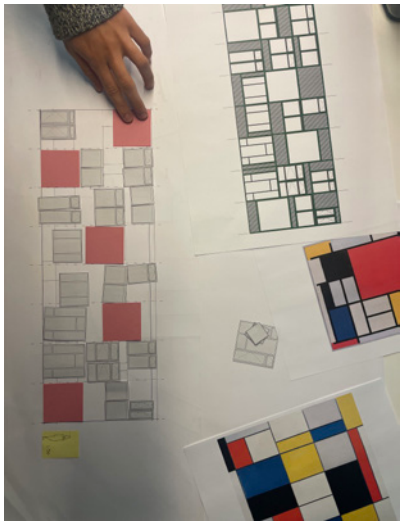
To visualize design choices and options and maintain an overview, a spacebook was developed. It is a collection of standardized images of each prominent or typical room in the interior. These images gradually mature throughout the design process, are continualy shaped by internal discussions within the design team and dialogues with the client; and, if possible, with the users. Furterhmore, they serve as a communication tool with the contractor during the implementation phase.



Page from the Impact Factory spacebook.

DESIGN AND MATERIALIZATION OUTCOMES





The steel window frames being reclaimed from a nearby demolition site in Mechelen. Storage of the window frames and design excercise for positioning of the reclaimed frames in the front façade.

Reuse on-site

An initial screening of the reuse inventory was conducted by the design team. Several materials will be given a second life, on site, in the new project. For instance, the herringbone parquet will be freshened up again, radiators will be recovered, and many interior doors will be retained. For other materials with reuse potential, selective disassembly was planned for the demolition and deconstruction phase. These materials can be temporarily stored in a warehouse provided by the client for this purpose. During the construction stage, efforts will focus on finding new applications for these materials, as well as developing a methodology for their transport, storage, pricing, and market setting.

Resources from other project sites

A notable example is the integration of the steel exterior window frames from the old library in Mechelen into the new façade. To apply these reclaimed window frames accurately, specific information and documentation were required, which only the original manufacturer could provide. Fortunately, the original manufacturer was willing and able to proactively engage with the project. Solutions were found through collaboration between the manufacturer and the project team (designers, developers, the client, and material experts). Subsequently, the design was adjusted accordingly. These adjustments included recoating the frames, replacing the glazing and outer cover strips, but also making decisions related to construction and composition, such as measures to control the propagation of fire.

Following the cleanup of the cemetery in the city of Mechelen, we were asked if we could do something with old gravestones in bluestone. A bit surprised at first by the lugubrious offer, inspiration was drawn from Pikionis who in 1951 constructed the pathway to the Acropolis in Athens using natural stone from Athenian architectural heritage that was demolished in the 1950s. Disgusted by the atrocity of the Greek authorities, he made the destroyed historical heritage part of the new landscape of the Acropolis (Malawski, 2017). Similarly, with minimal effort and processing, the old gravestones can be repurposed as paving in the garden of the Impact Factory.

On the slopes of the acropolis by Mayte Piera.

For a long time, a suitable recuperated or biobased material was sought for the renovation of the façade in the courtyard that matched the aesthetic requirements. A project in Leuven scheduled for demolished has the ideal reflecting aluminum corrugated sheets that fit within the design of the courtyard. An additional advantage is that the corrugated sheets cover a closed façade surface and can therefore be transferred to the Impact Factory as complete sheets without openings and cuttings. The client is talking with the developer of the demolition project to reach an agreement for the careful dismantling of the façade panels. Together with the contractor and producers, it remains to be explored how these panels can be repurposed for a new life in our courtyard.

Finally, reclaimed materials with clear reuse potential are often found in finishing layers. Tiles and wooden flooring for instance are now widely available. A specification outlining the required standards and appearance was drawn up. In collaboration with the contractor, the most suitable options will be identified and integrated into the design during the subsequent stages of the construction process.

DISCUSSION AND REFLECTION

The design of the Impact Factory embodies the concept of ‘collage architecture,’ a renovation approach that integrates both new and old materials, drawing directly from the context and in turn giving context to a subsequent use.

Working with used materials requires a different approach from the design team. It requires expertise in assessing usability, employing specific disassembly techniques to carefully extract materials from their original locations, and ensuring their workability to meet functional or aesthetic requirements associated with their new use. Challenges related to the pricing, transport, and storage logistics of reclaimed materials remain significant. The warehouse that was made available by the client for the temporary storage of reclaimed materials during the design process has significantly made matters easier.

For the implementation of the reclaimed materials, the architect must become a master builder again and be advised and assisted by contractors and reuse dealers at an early stage - when selecting the materials. This implies the return to a qualitative and close collaboration between client, contractor, manufacturer and architect with an artisanal dynamic.

Study model of the new façades.

The architect takes on the role of an artisan,
The contractor acts a bit like an architect,
And the client embraces the flexibility of the final result.

A form of collaboration in a design-and-build framework appears to be the most suitable. There are many opportunities for the reuse of materials that may currently escape our attention. Combining forces, knowledge and connections to create an optimal link between demand, supply and application of reuse materials is indispensable for reconciling demolition and deconstruction practices with circular building. By involving the contractor at an early stage in the design choices and options, specific opportunities and technical feasibility can be sought in a faster way, whilst increasing the level of viability of innovative solutions.

Simultaneously, flexibility is expected from the architect throughout the entire design and construction process. Every time new opportunities pop up, details must be rethought, without losing the original key flavors of the design. Being open to the unexpected and letting go of the strict control over the design requires a different attitude than the traditional role of the architect.

REFERENCES

1. Stadsmakersfonds and City of Mechelen (2023). Impact Factory information dossier market exploration. Available from https://www.impactfactory.be/home/ (accessed 22 August 2024).

2. Duffy, F. and Hannay, P. (1992) The changing workplace. New York: Phaidon Press.

3. Brand, S. (1994) How buildings learn - What happens after they are built. New York: Viking Press.

4. Watkins, E. and Meysner, A. (2022) 'European Circular Economy policy landscape overview', Re-port, Institute for European Environmental Policy , Brussels; Belgium.

5. Bocken, N.M., De Pauw, I., Bakker, C. and Van Der Grinten, B. (2016) 'Product design and business model strategies for a circular economy,' Journal of Industrial and Production Engineering, 33(5), pp.308–320. doi:10.1080/21681015.2016.1172124.

6. Potting, J., Hekkert, M.P., Worrell, E. and Hanemaaijer, A. (2017) Circular Economy: Measuring innovation in the product chain. Available from: https://dspace.library.uu.nl/handle/1874/358310 (accessed 21 August 2024).

7. Geldermans, R.J. (2016) Design for Change and Circularity – Accommodating Circular Material & Product Flows in Construction, Energy Procedia, 96, pp. 301-311. Doi: 10.1016/j.egypro.2016.09.153.

8. Braungart, M. and McDonough, W. (2002) Cradle to Cradle: Remaking the way we make things. Berkeley: North Point Press.

9. Rau, T., and Oberhuber, S. (2022). Material Matters: Developing Business for a Circular Economy (1st ed.). Routledge. Doi: 10.4324/9781003258674.

10. Gept, B., Meex, E., Nuyts, E., Knapen, E., Verbeeck, G. (2019) 'Existing databases as means to explore the potential of the building stock as material bank', IOP Conf. SER.: Earth Environ. Sci. 225 012002. Doi: 10.1088/1755-1315/225/1/01200.

11. Malawski, K. (2017) ''Pikionis' Pathway: Paving the Acropolis', The Architecural League of New York. Available from: https://archleague.org/article/pikionis-pathway-paving-acropolis/ (accessed 21 August 2024).

TO RESIDUE

Tactics for Not-Building and Activating Wanderspace

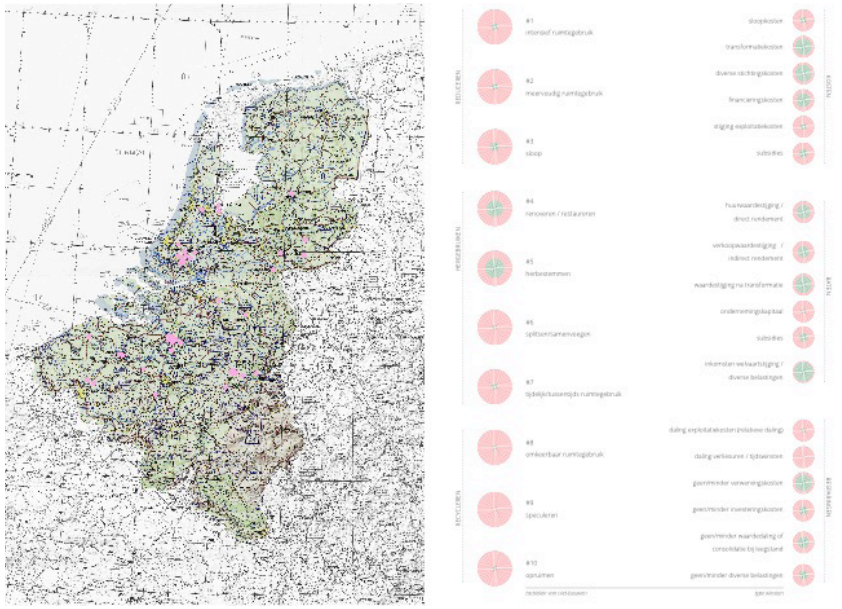
Dimitri Minten, Tim Vekemans

RE-ST
UHasselt

Our plea for not-building is based on the observation that not every spatial need necessarily has to lead to a new building. To architects, it is an invitation to make better use of the existing building stock, so that we must extract fewer materials and not take up unnecessary additional space. It is a healthy resistance to the mainstream building culture that we have encapsulated in our architectural practice.

We list ten tactics that can lead to space-neutral construction: intensive use of space, multiple use of space, demolition, restoration/renovation, repurposing, splitting/merging, temporary and interim use of space, reversible use of space, conscious non-use and finally tidying up. These tactics are not new in themselves, but by naming them together in an integrated strategy they can be used better and more consciously. We filter each design assignment through these ten tactics, which usually leads to alternative spatial solutions.

The 'residual bag' (Dutch: '*restzak*') is metaphorical for our design practice: we consider thinking about what we keep and what we discard as an important design task of the architect. We have translated this design methodology into a new verb: 'to residue'. The concept of residue addresses the question of how to deal with our existing heritage in an honourable manner at different scales. This entails dealing with existing places and buildings, as well as reducing, reusing and recycling materials, and preserving valuable mental aspects. In this context, the existing heritage can be regarded as residue.



10 tactics to build space-neutral, *profits of not building* - RE-ST, 2015

Residual bag ('*restzak*') - RE-ST, 2018

Our resistance to adding unnecessarily makes us question spatial needs in every design task. British architect Cedric Price once advised a couple who sought his design expertise on a new residence that they would be better off opting for a divorce. (Wright Steenson, 2010, p. 14) Every design starts by questioning the needs. Geert Bekaert, too, argued in his essay '*Waarom nog architecten?*' (Why Do We Still Have Architects?) that we must first gain insight into our spatial needs before translating them into built architecture.

Empirical research and concrete design issues have demonstrated that many needs can be met within the existing built space. By initially applying one or more of the ten tactics of not-building, we have successfully implemented alternative solutions on numerous occasions.

De Laatste Steen van België (Belgium's Last Stone) - Luc Deleu, 1979

Our 'not-building' practice was initiated in 2010 with the dual objectives of formulating a response to the financial crisis and addressing the ongoing spatial and ecological crisis. Today, we are seeing a growing awareness of the need to focus on our existing built environment in the number of invitations to lectures and debates. The challenges of the climate crisis are accelerating the focus within the architectural community on new construction methods, the need to recycle and reuse materials, and adaptive reuse.

In terms of policymaking, we are also witnessing a shift. However, we believe that the focus on the crisis at hand is often too narrow, resulting in suboptimal solutions. In terms of collective improvement of the energy performance of our building stock, combined with the EU objective of 'No Net Land Take by 2050', we are seeing a growing focus on reducing urban sprawl and improving the quality of our living environment. Nevertheless, we have observed instances where the replacement of existing buildings that could still serve for decades has been proposed as a means of reducing emissions. We are therefor encouraged to see initiatives such as 'HouseEurope!' and the extensive contemporary debate surrounding the topic of not-building with practitioners and theorists actively resisting demolition.

Bekaert, G. (1986). Waarom nog architecten? *Verzamelde opstellen. deel 2: Los in de ruimte 1966-1970*. www.dbnl.org
Brandlhuber, A.; Grawert, O. (2024). HouseEurope!, European Citizens' Initiative. www.houseeurope.eu
RE-ST (2015). *Pleidooi voor het niet-bouwen.* www.re-st.be/en/research/de-winst-van-het-niet-bouwen
Wright Steenson, M. (2010) Cedric Price's Generator. *Crit Journal of the American Institute of Architecture Students,* 69, 14-15.

Klein Seminarie Hoogstraten

The Klein Seminarie project commenced with an open call organised by the Flemish Government Architect in 2013. In advance of selecting a designer, the school board deemed it optimal to integrate its spatial requirements with its existing historical heritage, rather than embarking on a new construction project. However, a new entrance volume and supplementary classrooms were expressly identified as necessary.

One of the key reasons the Board selected our team was our proposal to act as a steward, a metaphor for an attitude that could facilitate the progression of this process. The steward is a historical figure, analogous to a director, who is responsible for overseeing and managing existing resources. He acts in accordance with the instructions provided by his superior with the appropriate level of care. He is someone who repairs, renovates, rearranges, replaces, renews, and so on. Effective stewardship can facilitate sustainable spatial development across the entire campus. We believed that the school could potentially shrink, rather than grow, through the strategic management of available space and the relocation of certain functions. We suggested the addition of classrooms in existing, underused spaces and opposed the construction of a new entrance volume, proposing a limited intervention at the existing entrance level instead.

Intervention at entrance area - RE-ST, picture by Stijn Bollaert, 2019

Five new classrooms were added in the historical wing - RE-ST, 2021

Due to the decline in religious observance within the school community, the protected school chapel had been largely unused in recent years. The 'mental' decay had set in, leading to faster physical decay as well. While awaiting a comprehensive restoration, we conducted one-to-one design research with the client and users to test the plural use of the chapel. Our approach was primarily practical, focusing on discovery rather than conceptualisation. Our initial proposal of using the chapel as a quiet study area evolved through collaboration with teachers and students.

Over the course of a week, the benches were temporarily removed to make way for new school activities. In the vacated chapel, various initiatives were set up and operated. These included a capoeira session, a lie-down concert, a floorboard game, and a fashion show on traffic-safe clothing. By experiencing and creating together, we demonstrated how architecture and appropriation can be put into practice. We used this instant use as a tool within the design research.

It is evident that the chapel was not a suitable candidate for adaptations or renovations. However, the space is ideal for use as a strategic asset. Its location and size make the chapel suitable for a variety of purposes and user groups. The school could utilise it as part of their study rooms, playground, classrooms and logistics. The neighbourhood could use it as a centrally located open indoor space for performances, cultural events, lectures, auditorium use and more. There are numerous potential applications, they just need to be identified.

During a participation process with students and teachers, the chapel was used in various ways while conducting research - RE-ST, 2014

Movable altar - RE-ST, 2016

The transformation of Klein Seminarie should not be understood as an architectural task, but as an urban planning process, aiming to create a long-term urban design with architectural interventions that will meet future needs. The impact of the intensive and multiple use of the chapel over a short period of time is still being felt. Following this period, discussions were held regarding its potential use as a municipal cultural centre and a teacher was assigned the task of creating a calendar of activities. The rediscovery of the space has resulted in the creation of a versatile venue for poetry, film, media, dance, music and visual art. The original concrete altar has been replaced with a new movable altar, optimising the use of the choir area so the school could once again be opened to residents and visitors of Hoogstraten.

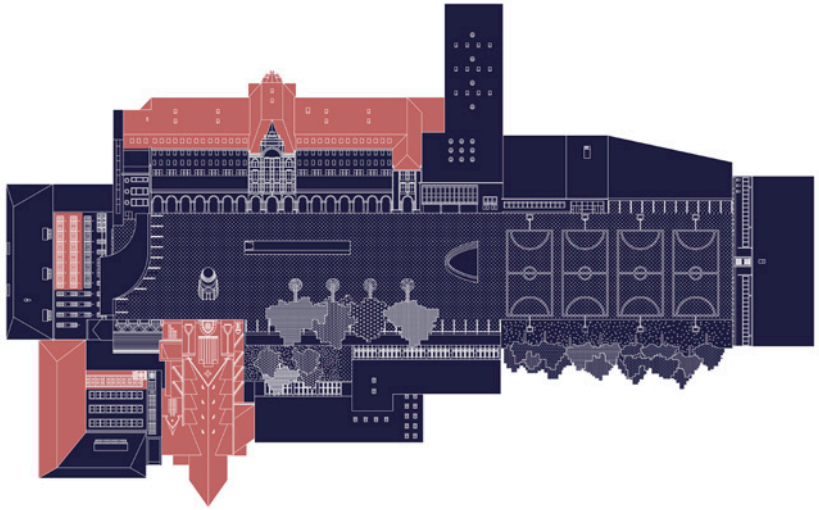


Diagram indicating the underused spaces of the school - RE-ST, in collaboration with baukuh, 2014

Cloister Vorselaar

The *Zusters der Christelijke Scholen van Vorselaar* (Sisters of the Christian Schools of Vorselaar) are located in the centre of Vorselaar. The Sisters founded several schools on this site, including the Cardinal Van Roey Institute (a secondary school with boarding facilities), Windekind (a primary school) and the Duizendpoot (a nursery school). The site is also home to the teacher training campus of University College Thomas More. We conducted an exploration of the spatial potential of the building block around the cloister.

Aerial view - municipality of Vorselaar, 2010

The exploration yielded a series of recommendations addressing key themes such as optimal space utilisation, reinforcement of green structures and enhanced mobility. These recommendations collectively form a strategic framework that enables the sustainable integration of future transformations within the Vorselaar context. In line with these recommendations, we were commissioned to develop a master plan for the Cardinal Van Roey Institute and a redevelopment study for the cloister buildings of the Sisters of Vorselaar.

As part of this latter study, two interventions were implemented at the cloister. The first involved furnishing a new day room for the sisters by optimising underused space within the cloister. This allowed us to persuade them to shelve their original plans for a new building in the English garden. This intervention ultimately required less than half the investment and the entire process, from initial concept to completion, took less than half a year. The second intervention related to the planned new location of the library.

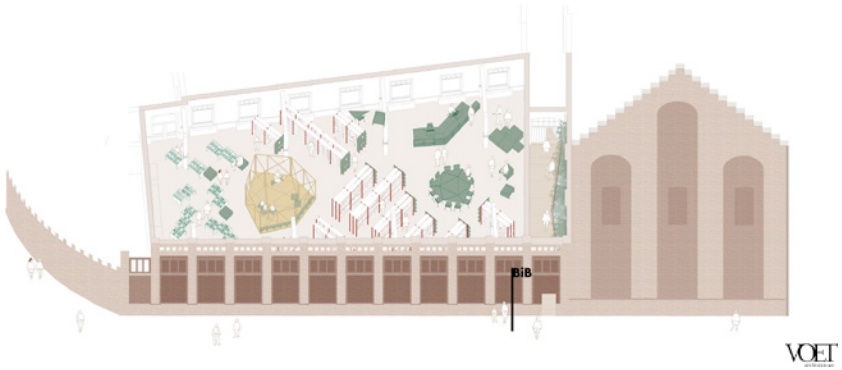
During the study period, a meeting with the mayor of Vorselaar revealed that, in addition to our study, a process was underway to relocate the municipal library to a new location. We were informed that a new volume next to the monastery was being designed, with construction plans ready to be implemented. We saw an opportunity to utilise the monastery's substantial underused spatial potential. By presenting a sketch developed during the meeting, we were able to persuade the mayor to consider an alternative site.

Repurposing study - RE-ST, 2022
Furnishing library - VOET architectuur, 2023-2024

Following the completion of our utilisation scan, we convened several meetings with the relevant parties, namely the sisters and the foundation responsible for the management of their patrimony. The objective of these meetings was to persuade them to include the municipal library in the cloister. In this instance, our role was that of mediator between the various parties, with the objective of ensuring that all parties were aligned. We reconciled the needs of the municipality and the foundation by addressing the financial aspects of the situation. From the perspective of the municipality, the investment cost in the existing, underused former reception room represented a significant saving in comparison to the construction of a new building. From the perspective of the foundation, a leasehold arrangement offered the dual benefit of additional revenue and a reduction in the number of square metres that they were required to maintain.

While the foundation and the municipality were primarily concerned with financial matters, the sisters required assurance regarding the spatial impact on their operations. Using drawings, we illustrated how we could guarantee their privacy while ensuring they had direct access to the space. This also means that the library is used by the Sisters of Vorselaar during the day, which brings the residents of Vorselaar closer to them. Following the initial planning stages, Voet Architectuur was engaged in early 2023 to develop the designs. Using a co-creation process, a new layout as a third space was devised for the library. In 2024, significantly earlier than would have been possible in a new building, the library opened its doors to the public.

In a series of workshops, the designers and the library team considered the library as a place that provides proximity. The concept of proximity was considered in two distinct ways: firstly, in terms of the library's physical accessibility as a convenient and easily accessible space, and secondly, in terms of its mental proximity as a prominent and well-known landmark within the local community. The library thus became a space that was accessible to all, offering inspiration, learning opportunities and a place to meet. A designated area for reading, a quiet study space, a coffee corner and a playful reading landscape for children all serve to promote this. The reception room has been restored to its original state. The design enhances the authentic neo-Gothic space with a glass dome and a colourful tiled floor by combining existing bookcases and new elements in green-blue and yellow. The new furnishings, including the bar and the reading tables, were created in collaboration with the technical department of Vorselaar and the students of the third-grade woodworking class at KOSH Herentals.



Furnishing library - VOET architectuur - 2023-2024

Designmuseum DING! Ghent

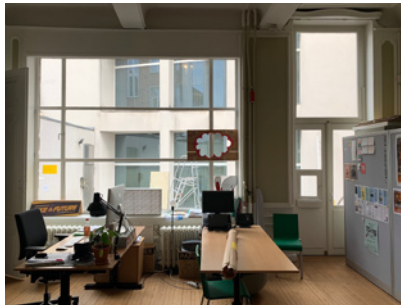
In collaboration with ATAMA (Ghent) and Carmody Groarke (London), our team was awarded the commission for the extension of the Design Museum in Ghent. The museum comprised the listed main building, Hotel de Coninck, constructed in the 18th century, the adjacent historic building, Huis Leten, and a new modern wing constructed in 1992. Since the early 1970s, the adjacent site has offered the opportunity to expand the museum with a new entrance, shop, museum café, workshop space, additional museum space and extra space for storage. A preliminary feasibility study indicated the necessity for a two-storey subterranean extension and a minimum of six to seven storeys above ground. From the outset, our design team sought to limit this new volume. Due to the water-sensitive subsoil, we opted for a single subterranean layer, and given the sensitivity of the morphology of Ghent city centre, we envisioned a maximum of five layers above ground, foregoing a tower volume.

The proposal to construct a smaller volume inevitably entailed a necessity to identify additional square meters within the preexisting museum infrastructure. This was achieved through strategic spatial optimisation, including the incorporation of the museum cafe within Huis Leten, enhanced utilisation of the existing '92 wing, and a more effective allocation of the attics.

The new volume is located at the *Drabstraat* - Carmody Groarke, RE-ST, ATAMA, 2019
Courtyard - Carmody Groarke, RE-ST, ATAMA, 2019

Although the most recent wing was not originally included in the competition brief, this space presented a number of challenges in relation to insulation, acoustics and moisture. Furthermore, the space was unsuitable for hosting larger exhibitions. Consequently, our proposal entailed the removal of the existing voids and stairs, thereby addressing the aforementioned issues and creating an additional 600 m² of space. Between the existing wing and the new wing of DING!, we installed a new staircase, replacing the old one.

The design of the additional DING! volume was developed in a circular fashion, employing techniques such as cross-laminated timber (CLT) construction and the utilisation of a circular facade brick crafted from locally sourced construction waste, in partnership with BC Architects. However, it is the circular reuse of the existing spaces that offers the most substantial benefits.



Museum Café in *Huis Leten* - Carmody Groarke, RE-ST, ATAMA, 2019

View from *Korenmarkt* - Carmody Groarke, RE-ST, ATAMA, 2019
Fabrication of circular brick in collaboration with BC architects - Design Museum Ghent, 2022

GO! Ensor Institute Ostend

The commission for this research was directly attributable to our BWMSTR-Label. Following a visit to our exhibition on 'Wanderspace', during which we presented examples of our utilisation scan, a design research tool that we have developed, the GO! Ensor Institute in Ostend requested that we investigate the underutilised spaces of a large-scale campus that is home to three schools.

The school board was of the opinion that there was an excess of space available and wished to ascertain whether it would be feasible to accommodate an additional school within the existing campus, with the existing facilities being adapted to meet the school's contemporary need for a more diverse range of both larger and smaller classrooms. It was necessary to ascertain whether their supposition was accurate and to identify the areas of surplus space. To this end, we commenced by examining the physical norm, defined as the global maximum gross surface area a school is entitled to in accordance with the subsidisation criteria set out by AGIOn. This revealed that the campus in question had an area surplus of 40%.

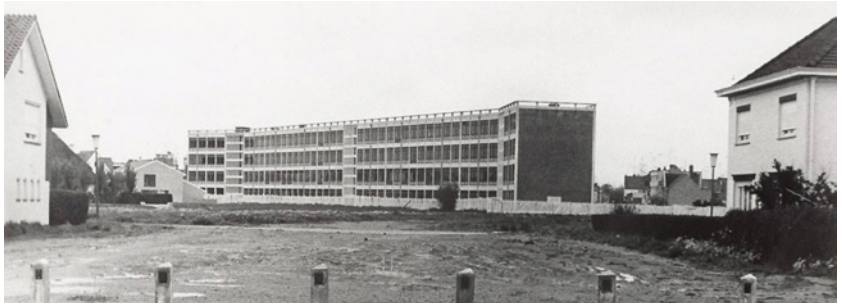
Aware that there was a surplus of available space, we initiated the utilisation scan. A variety of charts were employed to facilitate the analysis and visualisation of the existing utilisation, alongside the depiction of the

This diagram represents the underutilisation of a school and is translated into a utilisation scan. Based on this, further design research can be conducted to reduce this underutilisation.

Scan, unsollicited advice, first Master practicals, supervised by Tim Vekemans - UHasselt, 2017

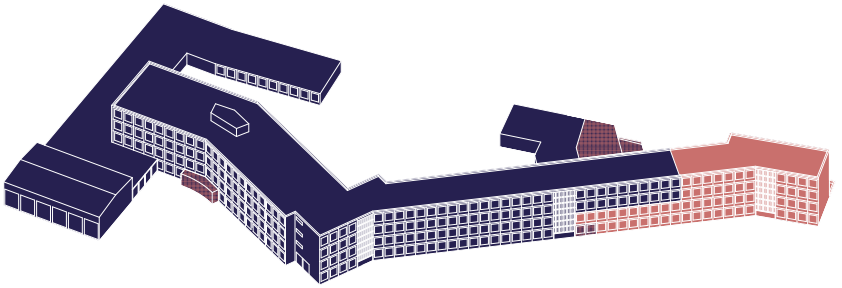
underutilisation in both spatial and temporal terms. The analysis yielded insights into two areas where improvements could be made. On the one hand, a third of the classrooms were not in use at any given time of day, indicating underutilisation in terms of time. On the other hand, classrooms were often occupied by a class group of a size that was smaller than optimal, indicating underutilisation of space. Through the splitting and merging of different spaces, we demonstrated the potential for a new range of classrooms with a more efficient and intensive use of the existing space. This optimisation resulted in sufficient space being freed up to avoid the necessity for a new building for the additional school on the campus.

The process of not building typically progresses relatively rapidly. By renovating the Ensor Institute and integrating the new school, GO! was able to save a significant amount of time and generate substantial financial benefits by avoiding the costs associated with constructing a new building. It demonstrates how stakeholders can be convinced of the merits of not-building by presenting the potential financial and temporal savings that could be realised through this approach. The activation of wander space and the practice of not-building frequently result in benefits for multiple stakeholders. It is often possible to address spatial needs efficiently in the short term, and repurposing existing space is usually quickly accepted and embraced. The Go! Ensor Institute exemplifies the vast amount of underutilised space, a problem that is not only occurring within the education sector.



Historical picture first wing - Beeldbank Oostende

The site in its wider context - RE-ST, 2021

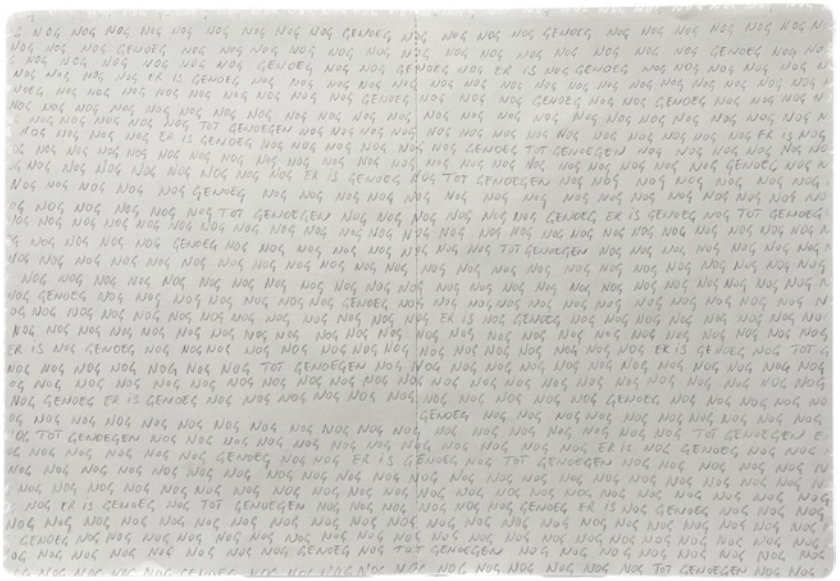


Optimisation study - RE-ST, 2019

TO RESIDUE

These seven questions serve as a framework for our design process, informing decision-making at all stages. In addition to defining the spatial requirements, the decision of whether to retain the “residue” is also a crucial consideration. Our design research methodology encompasses utilisation scans, co-creation sessions, and experimental test phases, enabling us to gain a comprehensive grasp on present and prospective utilisation patterns. This enables us to propose optimal solutions that align with the identified needs, minimising the necessity for new construction and maximising the potential of the existing “residue.”

The potential for the detection and activation of underutilised space is considerable. There is a significant opportunity to re-examine the potential of the existing built environment. However, our experience of undertaking projects and carrying out case studies has led us to conclude that it is not simply a matter of identifying potential opportunities; rather, it is of greater importance to persuade clients to engage with these possibilities. A common thread runs through our projects: a successful one will have a client who is receptive to a dialogue about use and reuse. In this respect, the client determines the form that a narrative should take. The intended result is often similar, but the conversation can be approached from a spatial, financial, or ecological angle. The role of the mediator is to sense which approach would be most efficacious at any given time and to construct a narrative together via sketches and tables.



Can we design with what has already been used?
Can we avoid discarding things that are still valuable?
Can we restore what has physically or mentally decayed?
Can we determine the opposite of waste?
Can we be satisfied with enough?
Can we assume that everything is finite?
Can we see further ahead by looking back longer?

‘Can we be satisfied with enough?’
Sketch by Kristof Ribus commissioned by RE-ST for the leaflet ‘*residu-eren*’.
Published in 2023 following the AUDITORIUM lecture series curated by RE-ST.

RE-ST is an architecture and research studio that searches for answers to urgent and complex spatial issues. Through projects and research processes, RE-ST searches for critical insights and visions on the built and open space that remains to us. Their position is that not every spatial need necessarily has to lead to a new building.

RE-ST is active in building and not-building, ranging from the design, repurposing and restoration of buildings, study and master planning, optimisation of the construction program, multiple programming, to the design of public spaces. The research into the benefits of not-building in 2014 was an initial search for a conscious resistance to building, and also inspiration for several design processes of current architectural projects.
In 2020, Wanderspace / Zwerfruimte (©2020, NAi publisher) was published, in which the methodology for detecting and dealing with underutilisation of space was described in detail.

DECONSTRUCTING BINARIES

Demolition and the limits of reuse

Colm mac Aoidh

UHasselt

Contemporary architectural practice – in Western Europe at least – is by necessity moving away from previously dominant, *tabula rasa* models of demolition and reconstruction, towards approaches based on the care, repair and transformation of existing buildings. At present, the renovation and adaptation of existing buildings represents approximately 50% of all construction activity in the EU,[1] and renovation rates are expected to at least double by 2030.[2] In this transition, it is important not to fall into the trap of viewing practices of adaptive reuse through the reductive lens of a preservation/demolition binary. If anything, reuse projects call precisely such 'either/or' binary oppositions into question, deconstructing absolute dualities like past/future, old/new, and finished/open-ended to create spaces characterised by hybridity and ambiguity.

Drawing on research currently being undertaken as part of the PhD project *Adapt, Reuse*,[3] this paper argues that the preservation/demolition binary represents a false dichotomy that hinders creative reuse by unnecessarily limiting the options available to practitioners. Combining first-hand experience, conversations with practitioners, and critical analysis of selected built projects, it investigates the work of a number of practices whose creative demolitions trace and identify the limits of reuse in order to test how they might be pushed further.

1 The Architects' Council of Europe, "The Architectural Profession in Europe 2022 Sector Study," (Brussels, 2023): 28.

2 European Commission, "Renovation Wave: doubling the renovation rate to cut emissions, boost recovery and reduce energy poverty," EC Press Release (14 October 2020).

3 For more information see www.adaptreuse.org.

The *Adapt, Reuse* project aims to promote, encourage and support adaptive reuse as a transdisciplinary cultural practice through the development of a conceptual framework and theoretical foundation. Transdisciplinarity is distinct from interdisciplinarity in that it doesn't just position itself between different disciplines, but is concerned with intellectual frameworks that go *beyond* disciplinary perspectives. My research therefore doesn't limit itself to architecture but looks to a range of other disciplines for inspiration and guidance, in keeping with Sally Stone's definition of adaptive reuse as a practice which "draws upon a collage of different sources, many beyond pure architecture, including installation art, fine art, curation, interior design, and urban design."[4]

Transdisciplinary research brings together different systems of knowledge in an integrative approach that aims to impact society beyond academia.[5] In this respect, my research aims to challenge what philosopher Dieter Lesage refers to as traditionally-accepted "heteronomic academic standards" by embracing a more pluralist concept of research, one in which strict conformity to generic scientific criteria is not deemed necessary for the research to be considered valid.[6] One of the main goals in developing *Adapt, Reuse* as an open-access web platform was to bypass the gatekeeping tendency of academic publication by making the research findings available to a wider audience. In an effort to remain accessible to non-academic

4 Sally Stone, "Notes towards a definition of Adaptive Reuse," *Architecture*, Vol. 3 (2023): 477.

5 My M. Sellberg et al, "Towards a Caring Transdisciplinary Research Practice: Navigating Science, Society and Self," *Ecosystems and People* 17, 1 (2021): 292.

6 Dieter Lesage, "Who's Afraid of Artistic Research? On measuring artistic research output," *Art & Research*, Vol. 2, No. 2 (2009): 1.

audiences (which includes most practitioners of adaptive reuse, a key target group), an overly academic style of writing has been avoided. Deliberately positioning itself between practice and research, my PhD aims to engage not only with practical, technical and material concerns – the actual physics and tectonics of reusing existing buildings – but also the intangible aspects encompassing the cultural, social and related contexts that influence and shape every architectural act.

With a view to questioning and expanding accepted definitions of heritage, *Adapt, Reuse* places particular focus on the reuse of unspectacular, everyday buildings ordinarily not deemed to possess any architectural or cultural value. None of the buildings presented in this paper are listed or protected monuments, but have been chosen to represent a wide range of typologies and periods spanning from the late nineteenth to the late twentieth century. Each project introduces a lemma in the form of an action – stripping back; opening up; removing and replacing; breaking through. These lemmas represent design decisions at the scale of the architectural intervention rather than at the scale of the entire project, embodying approaches, attitudes or gestures that foreground the role of demolition and deconstruction in adaptive reuse.

STRIPPING BACK

TO INVESTIGATE AND EXPOSE

Southover House, Lewes, UK, by Material Cultures

This project involved the transformation of council offices

dating from the 1930s into a gallery and cultural space for arts charity the Charleston Trust (Fig. 1). Originally planned to be a wholesale refurbishment of the entire building, due to uncertainties connected to the budget and the fact that the charity were initially given only a 5 year lease from Lewes District Council, the client and architect together agreed on a smaller scale renovation. Project architect Summer Islam from Material Cultures explains that "essentially, we had to go back to our original proposal and rethink it, in terms of how it is possible to achieve the same spatial outcomes without doing all of the previously planned building fabric work, and that meant thinking, 'Okay, we're not going to line out all the galleries. We're just going to strip them back'."[7]

The building had undergone a previous refurbishment in two stages between 2011 and 2013. The first of these was geared towards improving the thermal and energy performance of the existing building fabric, replacing single paned windows with double glazed units, installing new insulation and roof-mounted solar panels as a source of renewable energy. The second stage involved a very corporate fit out of the public reception and office spaces, in the form of acoustic baffles, suspended ceilings, glass partitions, and other office furniture, all in a cacophony of lime green, hot pink and bright orange plastics (Fig. 2). Unfortunately, this meant that the spaces were completely unsuitable – not just spatially, but also aesthetically – for the new client's use as a gallery and exhibition space.

7 This and all subsequent quotes relating to the Southover House project are taken from a conversation between the author and Summer Islam, director at Material Cultures, on March 28 2024

Fig. 1: Ground floor entrance hall at Southover House, now Charleston in Lewes. Photograph by Henry Woide. Courtesy of Material Cultures.

Fig. 2: The same ground floor entrance hall as it looked in 2022 before the most recent renovation. Photograph by Material Cultures

Fig. 3: 1939 archive view of entrance hall. Source: East Sussex and Brighton and Hove Record Office at The Keep, reference C/A/5/40.

Fig. 4: Same view of the entrance hall after the recent renovation. Photograph by Henry Woide. Courtesy of Material Cultures.

In addition, the architects had no original plans or measured survey to work from, so until they removed these layers of finishings, they could have no idea of the condition (and sometimes even form or size) of the building underneath. Islam recalls that this lack of certainty made the process quite stressful. "We would only be able to find out what the walls would be like, and make a final decision on the floor finishes, once we had stripped out. There was a very low suspended ceiling, and because we couldn't see the actual ceiling, we didn't know what the real height was. We also didn't know where the services ran, or what

technical equipment there was in each space." As it turns out, through this stripping back, they found many surprises, some of which were fortuitous. For example, exposing the original ceiling in the stairwells unearthed a series of glass block floors aligned vertically on every storey all the way up through the building. This lightwell had originally brought daylight into the centre of the building from roof lights above, but had at some point been covered over. It can be seen in an archive photograph dating to when the building was first constructed (Fig. 3), which also shows the original chequered black and white linoleum floor rediscovered under layers of carpet (Fig. 4).

Stripping back not only revealed the original structure of the building, it also brought to light the various ad hoc interventions that had been made during the building's lifetime by various inhabitants. "We found a bunch of different unexpected openings," recounts Islam, "the smashing through of some of the brickwork arches which had been done historically, I think possibly even in that refurbishment a decade ago, because it was a pre-existing cable tray that we then re-appropriated (Fig. 5). It's my favourite bit, and we didn't design it. But I fought very hard to keep that moment."

Rather than try to restore the building to some imagined ideal state or cover up these often messy interim solutions, the architects left visible the traces of each phase of the building's history without prioritising any over the others. "It was just a kind of balancing act," says Islam. "In the end, sometimes our advocacy for a certain thing being retained was supported by the fact that it was definitely the

Fig. 5: Cable tray running straight through an existing brick arch, uncovered during the stripping back of Southover House. Photograph by Henry Woide. Courtesy of Material Cultures.

cheapest thing to do." According to her, the clients "were generally really open to a kind of raw aesthetic", partly because they knew it would not necessarily always remain like that. "It gave the project a certain freedom… we were enabled to kind of move through things, to be like, 'This isn't final, don't worry about it. In the long term, it might not look like this, but let's just do it for now'." This quality of unfinishedness was even leveraged as a strategy to raise funds and support for a possible next phase, by highlighting the potential of the building while simultaneously emphasising that it is very much still a work in progress.

OPENING UP
TO CONNECT TO DAYLIGHT & THE SURROUNDINGS
House in Laveu, Liège, by Simon Pirlot Architecte in collaboration with Luc Nelles Architectes

The most remarkable feature of this 3-storey terraced house, built in 1890 in the Laveu neighbourhood of Liège, is that behind the very modest street façade, the narrow 4.5m wide plot extends back 80 metres to the former slag-heap behind, with a height difference of 9 metres between the highest point of the garden and the street (Fig. 6). When the architect (who was also the client and for the most part, the builder) bought the property, a series of poorly built lean-to constructions – dark, damp, dismal – had been built in a haphazard manner to extend the house, but the pre-existing outbuildings, originally a gunsmith's workshop and a stable "for one horse and one donkey", were completely abandoned and overgrown, making the majority of the rear garden inaccessible. The main house had been divided into two apartments: a one-bedroom apartment occupied the ground floor and the adjoining annex, with a second one-bedroom duplex on the two upper floors (Fig. 7). None of the dwellings complied with hygiene, insulation or fire standards. "Looking back at the state of the place, I don't know how I managed to see the potential," Pirlot recalls, "but somehow I did!"[8]

"The main idea of the project," he explains, "was to extend the house into the plot at the rear, contextualising it by connecting it to the garden and surroundings, at the same

8 This and all subsequent quotes relating to the Laveu project are taken from a conversation between the author and architect Simon Pirlot on May 5 2024

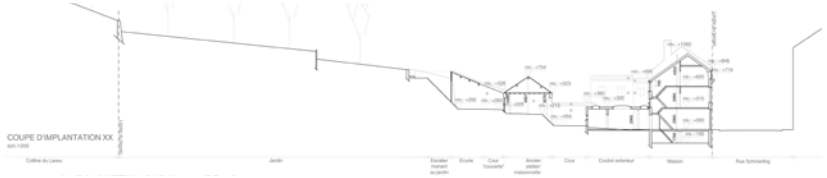


Fig. 6: Section of the existing house and garden as found. Courtesy of Simon Pirlot Architecte.

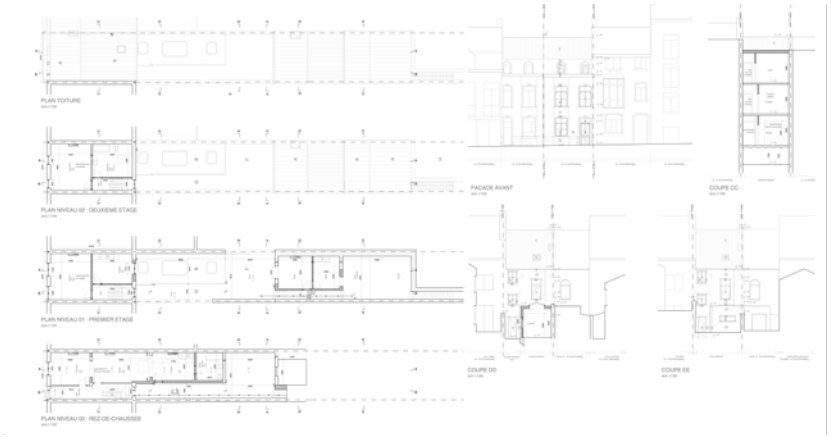


Fig. 7: Plans, cross sections and elevations of the existing house before the transformation. Courtesy of Simon Pirlot Architecte.

Fig. 8: Comparative plans of the house after transformation. Courtesy of Simon Pirlot Architecte.

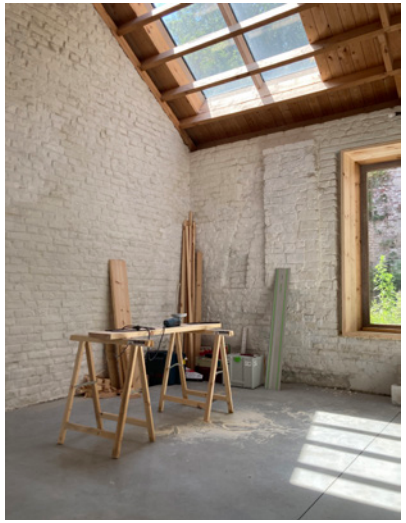


Fig. 9: Interior of the former gunsmith's atelier during renovation into a maisonette. Photograph by the author.

Fig. 10: New exterior courtyard created by removing the dilapidated roof of the former stable. Photograph by the author.

time opening it up to bring in light and air." This involved demolishing the ad hoc extensions that had been added over time, extending the original annex, renovating the existing outer buildings and connecting this sequence of spaces via a series of patios, courtyards and passages (Fig. 8). Care was taken to ensure that the existing built fabric was brought up to and above current standards for energy, insulation and acoustics. The high-ceilinged former gunsmith's atelier is now a maisonette, studio or workspace (Fig. 9), connected to the ground floor of the main house by a glazed gallery. The roof of the dilapidated stable at the rear of the atelier was removed to create a bright, ventilated courtyard space (Fig. 10), forming an additional outdoor room from which a repaired staircase leads up to the now accessible garden and the forest beyond. All of the bricks from the demolished elements were cleaned by

Fig. 11: Bricks reclaimed and hand-cleaned on site, then used to repair damaged sections of the existing outbuildings. Courtesy of Simon Pirlot Architecte.

Fig. 12: View of the new exterior patio created in the space bounded by the extended annexe, the new glazed gallery, and the former atelier, now a maisonette. Photograph by the author.

hand on site and used to repair the walls of the outbuilding (Fig.11), part of which collapsed due to damage caused to the mortar joints by the ivy that had enveloped it for decades. "Not a single brick was discarded," says Pirlot, "every one of them found a new use elsewhere on the site."

In order to maximise daylight without compromising the neighbouring properties' access to light, restricting their views or causing problems of overlooking, the roof of the existing annex and its extension span between the existing party walls without raising them (Figs. 13, 14). By simply spanning from wall to wall without intermediate supports, an open and flexible living space is created on the ground floor, lit from above by generous skylights. A small south/southwest facing patio is created in the

Fig. 13: View of the annexe during construction, showing the excavation of the future living space between the two party walls. Photo courtesy of Simon Pirlot Architecte.

Fig. 14: The same view of the newly reconstructed and extended annexe, showing the roof spanning from party wall to party wall. Photograph by Jeremy Piret. Courtesy of Simon Pirlot Architecte.

outdoor space framed by the annex, the glazed gallery and the maisonette, further increasing access to light and fresh air (Fig. 12).

One of the architect's main aims was to create a house "able to adapt to the different stages of life, stages in which spatial needs change. From two apartments, it can easily be transformed into a 3 or 4 bedroom single-family home. And vice versa, from a single-family home, it can easily be transformed back into two apartments. Also, if the mobility of the occupants requires, the ground floor spaces can be adapted to accommodate the less able-bodied, allowing the occupants to remain in their home for as long as possible." This strategy has already proven successful in practice – after the project's completion in 2014, it func-

tioned as a single-family home for 2 adults and 3 children. In 2019, it was adapted into its current configuration of two 2 bedroom apartments.

REMOVING & REPLACING
TO GAIN SPACE AND LIGHT
Arlon-Trier/EQ, Brussels, Belgium, by ATAMA (formerly TRANS), Bureau Bouwtechniek, Captif, CES, Daidalos Peutz and Util

Referred to colloquially as the SECO building after its previous occupant and displaying a distinctive S-shape in plan, this building forms the centrepiece of a brutalist architectural ensemble located between Rue d'Arlon/Aarlenstraat and Trierstraat/Rue de Trèves in Brussels' European Quarter. Designed by Jean Verschuere and completed in 1970, the three office buildings were connected physically at underground level and visually through their material uniformity and rhythmic façades composed of repetitive, prefabricated concrete elements (Fig. 15).

In 2020, the new owners of the building, developers BPI and AG Real Estate, invited the team of the Brussels Bouwmeester Maitre Architecte (BMA) along with representatives of other regional administrations to a site visit, where an analysis of the building's challenges was presented. Issues included restricted floor to ceiling heights; a building depth of 18m resulting in limited penetration of natural light; an oversized central supporting structure that seriously encroached on the available interior space (Fig. 16); high energy consumption; lack of a thermal

Fig. 15: Current exterior view of the former SECO building, part of an ensemble situated between Rue d'Arlon/Aarlenstraat and Trierstraat/Rue de Trèves in the European Quarter of Brussels. Photograph by the author.

Fig. 16: Current interior view of a typical floor level, showing how much space is taken up by the central core and awkwardly-placed structural columns, reducing the useable floor area. Photograph by the author.

break between the uninsulated load bearing façade and the floorplates, which had themselves begun to sag. Several potential scenarios for redevelopment were presented, ranging from total demolition and reconstruction, to conversion into housing, to retaining the building's current function but adapting it to modern-day requirements. While the developers were clearly leaning towards the first option, a consensus could not be reached on whether to keep or demolish the building, with the heritage authorities insisting it should be retained.[9]

After being commissioned to conduct an in-depth study, engineering consultancy Bureau Bouwtechniek determined that with some intelligent interventions it would be technically feasible to convert the building into offices compliant with contemporary standards. Together with BMA, the clients launched a competition brief to renovate and adapt the building, "paying particular attention to the wellbeing of the users and to the characteristics of the

9 Ben Dirickx, "SECO: Gaining by Maintaining," in *The Architecture of Reuse in Brussels* (BMA, 2024), 30.

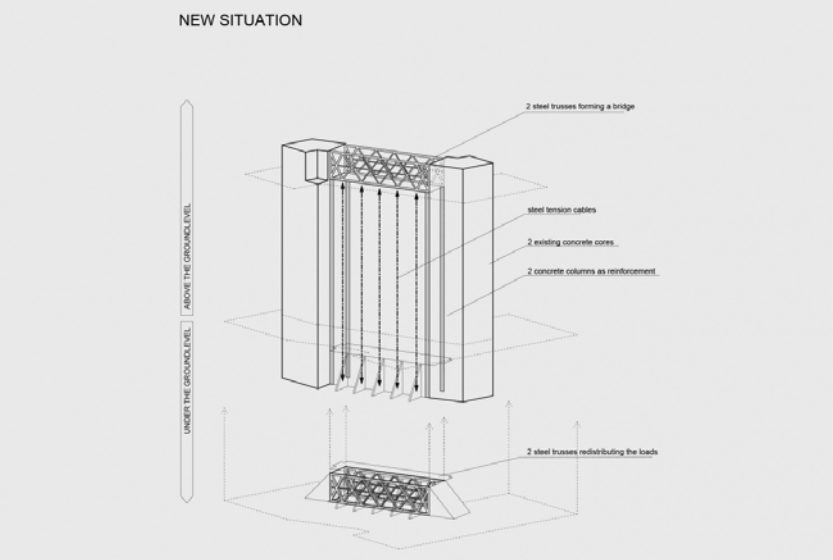


Fig. 17: Technical drawing showing the proposed new structural system of floor plates suspended from two steel trusses in the new roof. Image: UTIL structural engineering.

existing architecture."[10]

The winning team, composed of ATAMA, Captif, CES, Daidalos Peutz and Util, proposed a daring act of deconstruction that removes the entire internal structure of the building but keeps the existing floorplates and the exterior shell of the building intact. In their ingenious solution, the existing oversized and irregularly placed columns in the central area are replaced by a structural system in which the existing floors are suspended by cables from two truss girders located in a new crown added to the roof of the building (Fig. 17). According to the project team, "This results in improved spatiality, more light, and greater flexibility in the office floors."[11]

10 BMA, [CALL FOR PROJECT DESIGNERS] RE-USE FOR A SEVENTIES BUILDING, published November 27 2020

11 http://util.be/en/selection/trans-architectuur-stedenbouw/renovation-of-the-arlon-trier-office-building-brussels?origin=architects

Daylight is brought into the newly column-free space of the basement by two light wells that connect to the building's ventilation, allowing for the technical equipment to be moved underground and enabling the roof to become an accessible outdoor space. The interior of the block is opened up to form a new public connection between Rue d'Arlon/Aarlenstraat and Trierstraat/Rue de Trèves.

BREAKING THROUGH

TO EXCAVATE AND GAIN HEIGHT

Atelier Théâtre Jean Vilar, Louvain-La-Neuve, Belgium, by Ouest architecture

The Atelier Théâtre Jean Vilar (ATJV) has occupied its current site in Louvain-la-Neuve since 1979, in a building that was originally designed to house a university restaurant but was transformed by architect Jean Potvin to accommodate the theatre. Since the stage had to be fitted into the available space, it took on an atypical diamond shape, meaning the backstage area was extremely limited with no clearance on either side to accommodate wings. Restricted overhead clearance also meant that there was no space for a fly or theatrical rigging system and very little room to manoeuvre in terms of scenery and stage sets: these ideally require 12m free height, while at ATJV only 9m was available (Fig. 18). Many of the seats did not directly face the stage but were positioned at an angle, with columns blocking the line of sight. Spectators in the balconies were seated behind glass screens, further impeding the view and widening the gap between the stage and the audience.

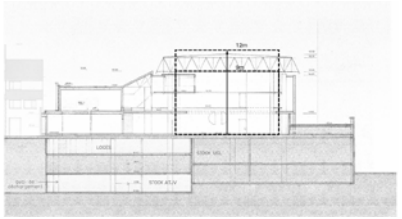


Fig. 18: Section drawing highlighting the existing 9m clearance above the stage at ATJV compared to the required 12m clearance which would extend beyond the current *gabarit*. Courtesy of Ouest architecture.

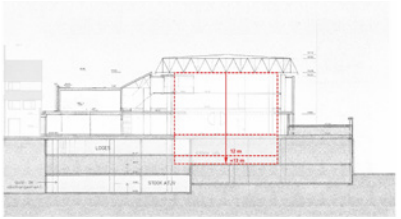


Fig. 19: Section drawing highlighting the 13m clearance achieved above the new lowered stage at ATJV compared to the required 12m clearance, staying below the current *gabarit*. Courtesy of Ouest architecture.

Fig. 20: Archive photo showing the construction of Louvain-la-Neuve on the concrete slab or *dalle*.
Source: Archives de l'Université catholique de Louvain.

Fig. 21: Cutting through the *dalle* below Louvain-la-Neuve to excavate the new space for Atelier Théâtre Jean Vilar. Photograph by Corentin Haubruge. Courtesy of Ouest architecture.

These problems were compounded by the poor condition of the building fabric, which had gradually deteriorated over the years since construction. By the 2010s, the roof was in such a bad state that rainwater entered the foyer and theatre during heavy rain, and had to be collected in buckets.[12] Following a campaign led by the theatre directors and local politicians, in 2016 the *cellule.archi* of the Fédération Wallonie-Bruxelles launched a competition for the renovation of the theatre. The brief called for the

12 Jean-Philippe de Vogelaere, "Louvain-la-Neuve: le «Jean Vilar» dans de sales draps," Le Soir, March 17, 2016, https://www.lesoir.be/art/1153524/article/actualite/regions/brabant-wallon/2016-03-17/louvain-neuve-jean-vilar-dans-sales-draps

complete renovation of the premises to improve conditions on a technical and scenographic level and offer better comfort to the spectators.[13]

Louvain-la-Neuve is a post-1968, postmodernist utopian city built on a huge concrete plinth known as the *dalle* (Fig. 20), designed to keep cars and technical installations out of sight underground while freeing up the streets above for pedestrians and cyclists. This *dalle* is two storeys in height, constructed on thick concrete columns following an 8 metre grid that supports slabs of 45cm thickness. Ouest architecture's winning proposal takes advantage of the specificity of the location to respond to the demands of the programme, at the same time seizing the possibility "to tell the story of the city, showing visitors and passers-by that under the cobblestones beneath your feet, there are not only cars and technical installations, but also bustling life."[14] According to practice partner Stéphane Damsin, "this was an opportunity to try to push the envelope and see not only how we can renovate, how we can transform this building, this city, this architecture that is a little dated, but also what qualitative things we can do that respect the existing architectural language, in an approach of palimpsest rather than of tabula rasa."

Rather than building upwards to gain the required extra height, the architects had the simple yet brilliant idea to break through the concrete *dalle* upon which the theatre

13 "Louvain-la- Neuve, Restructuration et extension de l'atelier Théâtre Jean Vilar," last modified February 15, 2017, https://cellule.archi/marches/restructuration-et-extension-de-latelier-theatre-jean-vilar

14 ENSAP Lille, "Conférence de Ouest - Architectes, Bruxelles - 16/03/2023," March 16, 2023, 1:14:29, https://vimeo.com/813206833

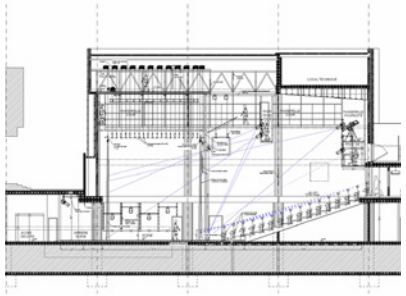


Fig. 22: Section drawing showing the new stage set up including tiered seating, technical and projection spaces, backstage area and clearance for rigging and scenery. Courtesy of Ouest architecture.

Fig. 23: Interior of the new theatre hall, showing the tiered seating and steps extending below the cut-through and polished edge of the former ground floor plate and concrete *dalle* structure. Photo by the author.

was constructed and instead excavate *downwards* (Fig. 19). Not only did this allow them to achieve a free height of 13m, one metre more than was asked for, it also meant that the *gabarit* or roofline of the existing building was respected (Figs. 18, 19). The stage moves down one level, becoming a more typical rectangular shape, while the extra height also provides ample room for sets and backstage areas, as well as new tiered seating which directly faces the stage and strengthens contact between the performers and the audience (Figs. 22, 23). A carefully placed window opens onto the street, revealing the underground level and giving passers-by a glimpse of this otherwise hidden part of the city beneath the *dalle*.

CONCLUSION

The four projects presented reveal how targeted approaches of partial demolition and deconstruction offer a way to transgress both physical and nonmaterial limits by permitting the investigation, unlocking, resetting and reusing of spaces without resorting to wholesale demo-

lition. Determining how these cases might contribute to the development of a theoretical framework for adaptive reuse requires some further reflection not just on the successes of each, but also the questions, paradoxes, and contradictions they give rise to.

In the case of Southover House, valid questions could asked about the decision to strip out interior fittings and furnishings that had only been installed less than a decade earlier. The architects are aware of this – as Summer Islam stated earlier, this was part of the reason they tried to retain as much of the existing fabric as the client's requirements and expectations would permit. In fact, the decision to leave the interiors in a raw, stripped back state was a conscious reaction against exactly the type of overly prescriptive fit-outs they found in the office spaces at Southover House, which through their specificity did not easily lend themselves to alternative uses. According to Islam, "usually on refurbishment projects, you might strip back, but then cover up again… each time it sort of gets smoothed over and polished, and there's a kind of finality to that."[15] This finality is exactly what Material Cultures intended to avoid, instead seeing their work as "part of a process."

While Southover House represented something of a light touch in that it involved no structural interventions, with the building itself left more or less intact, the project for Atelier Théâtre Jean Vilar was much more drastic in terms of demolition – in fact, both the client and architect have

15 Quote taken from a conversation between the author and Summer Islam, director at Material Cultures, on March 28 2024

referred to it as a "rebuilding" rather than reuse, although in reality it could arguably be seen as both. Since above ground, the only original elements left standing were the roof structure and two walls, the project does raise legitimate questions regarding how much original fabric can be demolished and removed before a building ceases to be a project of reuse but in essence represents a new construction.

Others have been critical of the fact that the project dared to pierce the *dalle* of Louvain-la-Neuve, suggesting that this represented an "iconoclastic act" and that "The 'reappropriation' of the building is sometimes done to the detriment of material integrity, in a subtle play between permanence and disappearance."[16] While this latter statement is no doubt true, focusing on material integrity above all else can be equally problematic, since it potentially precludes taking action that might otherwise allow the building to evolve and remain relevant while keeping its core integrity and character intact. Recognising this conundrum, the Brussels heritage authority urban.brussels has recently begun to embrace "evolving preservation practices: the preservation efforts aimed at maintaining the aesthetics of the appearance rather than the historical integrity of the materials."[17]

Reflecting on the case of ATJV, it is quite clear that through their intervention in the *dalle*, Ouest's aim is to engage with and celebrate the architectonic specificity of Louvain-la-Neuve's most distinctive urban feature, rather

16 "L'insoutenable légèreté de la matière," in *Kaléidoscope*, (UCLouvain, 2023), 5.

17 Harry Lelièvre, "Current Policy on Young Heritage. Strategies and Instruments to safeguard Young Heritage (1975-2000) in Brussels," in *International Symposium on Young Heritage (1975-2000). Book of Abstracts*, eds. M. Parein and S. Van de Voorde (VUB, 2024), 57.

than disregard or turn their back on it in the way other recent cultural projects have done (sorry, Tintin). Retaining the function of the theatre on the same site means it remains physically, socially and culturally anchored to the original core of the town, and also avoids the development of an entirely new theatre building previously earmarked for a nearby car park site, along with all the negative material, emissions and environmental consequences that would have involved.

In light of the deepening and cross-cutting climate, biodiversity, and resource crises faced by contemporary society, such localised acts of demolition can play a positive role in maintaining, transforming and extending the life of existing buildings. For this reason, despite the title of their oft-cited manifesto, *Ne jamais démolir,*[18] architects Lacaton & Vassal do not rule out targeted operations of demolition, insisting on the contrary that nothing should prevent the architect from "'doing just what is needed'. In other words, what is essential for the project."[19]

Determining exactly what is needed most often relies not on one single, overarching strategy, but on a whole series of decisions linked to specific architectural interventions or gestures that combine to realise the project. Like all architecture, projects of adaptive reuse are dictated and shaped by an array of limiting factors. Some – such as financial or legislative constraints – fluctuate over time and can therefore be more easily navigated. Others are

18 Lacaton & Vassal, *Etudes urbaines* (Lacaton & Vassal, 2018), 4. [https:/www.lacatonvassal.com/data/documents/20181212-165645LV_BookFchA4_EtudesUrbaines.pdf]

19 Enrique Walker, "Anne Lacaton and Jean-Philippe Vassal in conversation with Enrique Walker," in *Lacaton & Vassal: free space, transformation, habiter*, eds. Fundación ICO / Puentes editores (Fundación ICO, 2021), 31.

more structural: for example, the buildings currently most threatened with destruction are those built during the last 50 years, since neoliberal maximisation of profit at any cost has seen floor areas and ceiling heights become much less generous and therefore less easily adaptable.

In this respect, Brussels Bouwmeester Maitre Architecte Kristiaan Borret is correct when he refers to the Arlon-Trier/EQ project as "a game-changer in the real-estate market."[20] Up until recently, it was taken for granted that there was no other future for 'banal' office buildings of this type, viewed as lacking any sort of heritage, urbanistic or ecological value, other than complete demolition and reconstruction. The refusal of the design team to accept this state of affairs is what makes their proposal so radical and exciting. While the project has already won a Renolab.b award, recognising exemplary projects for the sustainable and circular renovation of Brussels' built heritage, it is hard at this stage to judge how successful this adaptation will prove to be, since works are only due to commence in September 2024.

That being said, it cannot be overlooked that the redevelopment of the former SECO building necessitated the eviction of a collective of non-profit organisations, NGOs, civic associations and other small agencies and businesses who had temporarily occupied the building during the competition, design and building permit stages. This is unfortunately typical of the rather cynical exploitation

20 BPI Real Estate and AG Real Estate press release, "The Arlon-Trier building in Brussels European district given a sustainable future," last modified June 11 2021, https://bpi-realestate.com/en/press/the-arlon-trier-building-in-brussels-european-district-given-a-sustainable-future/

of precarious actors in contracts of temporary occupation and meanwhile use that often accompany projects of renovation and adaptive reuse. The building owners have their property looked after and are even paid rent by those taking care of it, all while spending little or no money on the refurbishment or maintenance of the building. When the building is finally renovated, the meanwhile tenants are usually unable to return due to vastly increased rental charges, a reminder of the uncomfortable truth that, whether intentionally or otherwise, projects of adaptive reuse can often act as vectors of gentrification.

It also begs the question, given these associations were able to function perfectly well in the existing spaces 'as found' without the need for additional works, if such expensive and resource-intensive renovations of current office spaces are justifiable or even necessary. This would also seem to implicate evolving standards, such as the new EU taxonomy, as one of the drivers of endless cycles of renovation and refurbishment, drawing attention once again to the more problematic side of norms and regulations. At the same time, the new-found prestige with which developers now associate renovations of 'iconic' and 'distinctive' late 20th century architecture points to a creeping financialisation of adaptive reuse.

In examining how the practitioners in each of these examples address a number of seemingly contradictory challenges, this paper has attempted to trace a path towards a new perspective for adaptive reuse theories and practices. While my PhD originally set out to establish a conceptual

framework for adaptive reuse, as the research has progressed, it has gradually become apparent that the best way to achieve this might *not* be through the development of some grand, overarching theory. As Dinah Casson points out in her foreword to Graeme Brooker and Sally Stone's *Rereadings 2*, in reuse projects "no circumstances are ever the same, particularly at this level of complexity involving time, place, context, use, history," meaning "the strategies to approach them – the tactics – are understandably similar, but nonetheless site and culture specific, and cannot be universal."[21]

With this in mind, the project takes inspiration from what queer theorist Eve Kosofsky Sedgwick and anthropologist Kathleen Stewart term *weak theory*.[22] As opposed to 'strong' theory, which aims to be broadly or even universally applicable through reducing and ordering complex phenomena and contexts to clear and simple principles, 'weak' theory refers to theories whose applicability is *local* rather than universal. Weak theories are site-specific: they do not set out to explain everything, which enables them to be more effective by engaging directly with a particular situation to which they are more sensitively focused, mirroring how "adaptive reuse responds to the situation to which it is directly connected."[23]

21 Dinah Casson, "Foreword," in *Re-readings 2: Interior Architecture and the Design Principles of Remodelling Existing Buildings*, ed. Graeme Brooker and Sally Stone (RIBA Publishing, 2018), iv/v.

22 Eve Kosofsky Sedgwick, "Paranoid Reading and Reparative Reading, or, You're So Paranoid, You Probably Think This Essay Is About You," in *Touching Feeling* (Duke University Press, 2003): 123-151.
Kathleen Stewart, "Weak Theory in an Unfinished World," *Journal of Folklore Research*, 45(1) (2008): 71-82.

23 Sally Stone, "Notes towards a definition of Adaptive Reuse," *Architecture*, Vol. 3 (2023): 479.

Taken out of context, each of the lemmas explored in this paper might seem to represent rather generic strategies for dealing with existing buildings. Their transformative power is only realised once they are enacted by the architects involved as a response to the particular challenges at hand. Through careful observation, these practitioners have created meaningful interventions of a certain architectural quality in buildings that weren't previously seen to possess any established interest or value. By engaging with the specificities of each site, they expose the demolition/preservation binary as a construct, combining operations of subtraction and addition to open up previously unforeseen possibilities: carving out a void to create a brighter, airier living space; releasing an overly prescriptive interior from its straitjacket to invite multiple forms of inhabitation; cutting a hole to activate an underutilised subterranean space; substituting a cumbersome structural system to drastically free up a cluttered interior.

Viewed through the lens of weak theory, the most instructive takeaway that can be learned from these lemmas is the way in which they *nuance* in each particular space and time. Rather than representing a set of ready-made, replicable actions to be blindly copied, their generative, creative potential relies in each case on a thorough reading and understanding of the site and context. Nuancing differently across different space-times, the consequences and potentiality of these actions are dependent not only on where, when, why, and how they are brought into play, but also on the skill and expertise of the reuse practitioners who employ them.

REINTERPRETING THE EXISTING

A Critical Review of Hardware and Software in Architecture Design Principles as a Strategy for Adapting Existing Built Stock to Evolving Needs

Artem Kitaev

KOSMOS architects
TU Wien

Process

Transformation and change are essential qualities of architecture. “The true nature of buildings – that they can’t hold still” (Brand, 1994, p. 3). The adaptation of the built environment to meet new requirements is an ongoing process, one that cannot be complete as long as life within and around buildings evolves. “Buildings outlast civilizations, they evolve and they are changed, but their reuse emphasizes continuity” (Brooker & Stone, 2004, p. 9).

The challenge of designing for change has preoccupied architects for generations. A widely adopted strategy to address this is conceptualizing architecture as a composition of permanent and temporary components. Auguste Perret, for example, “believed in the longevity of buildings, where the structural frame would outlast all manner of short and medium-term furniture and fittings and drew his projects as if they were in a state of construction” (Adler, 2007, p. 3). Similarly, John Habraken’s Open Building concept proposed that “Supports”—the permanent elements—should endure, while the “Infill” could adapt to users’ evolving needs (Habraken, 1972). Herman Hertzberger described architecture as a combination of “more permanent, enduring—structural—layer on the one hand, and the openness to multiple interpretations” (Hertzberger, 2013, p. 22). These approaches underscore the importance of a building’s permanent elements in enabling ongoing transformation. “Architecture is what makes beautiful ruins.” summarized Auguste Perret.

Paradoxically, concepts of adaptable architecture are not often discussed within the context of existing buildings. In this regard, adaptation must be understood as an ongoing, iterative process rather than a single act. Current interventions should be strategic, creating opportunities for future modifications. As Habraken (2000, p. 18) states, “Ultimately, it is not forms but their transformations that reveal whether a configuration is alive or not.”

However, the configuration of many existing buildings often hinders the process of change, limiting their potential for functional reorganization. Regardless of their architectural, cultural, or historical qualities—or even the lack thereof—existing building stock represents a valuable material resource and requires efficient strategies for reuse and transformation. These strategies often involve partial demolition, with precise and strategic interventions helping to avoid large-scale deconstruction and enabling the efficient use of available material resources. Much like a sculptor who envisions a complete sculpture within a block of marble, an architect can identify an open structure within a building’s existing configuration, removing only the superfluous material.

To work with existing buildings, Kosmos Architects have proposed their own design strategy: Hardware and Software in Architecture. This approach facilitates continuous transformation with minimal material input, combining the robust load-bearing components of a building (Hardware) with easily modifiable interventions (Software). This article explores these principles, further delving into the temporal and spatial misalignment of building layers as a distinctive design opportunity.

The Building

Three identical prefabricated 15-story buildings were erected in 1971 in the South-West of Zürich as part of the Triemli City Hospital development designed by Architektengemeinschaft ASTZ – E. Schindler, R. Hässig, E. Müller, R. Joss, H. Rauber, R. Rohn, intended to provide accommodation for the hospital staff (Fig. 1). Most of the buildings in the hospital campus were constructed in the same decade. Together with the adjacent residential high-rise buildings of exposed concrete and the green hilly landscape they form an expressive modernist ensemble in the area. The surroundings, primarily characterized by residential buildings, are now undergoing active transformation. Namely, outdated houses are being replaced by new residential buildings organized according to contemporary housing standards. Location of the site in a High-rise area zone III (Hochhausgebietszone III), making it particularly attractive for new large-scale residential developments.

The three buildings, each measuring 16.6 by 30.1 meters in plan, rest atop a shared stylobate and house 750 private rooms, ranging from 13 m^2 to 17 m^2, for hospital employees. Each tower includes a ground-floor foyer and dining hall, while the upper floors are dedicated to living units, divided by load-bearing masonry walls. The minimally equipped rooms share centrally located toilet and shower facilities. A corridor surrounding the central utility core links all units to the wet zones and vertical circulation but lacks spaces for communication or socialization (Fig. 2)

The primary reasons for demolition included the high cost of renovation—estimated at about 80% of the cost of new construction—and the lack of a vision for how these structures could offer a competitive product in the housing market. However, 96% of the building is structurally strong and in good condition. (Devènes, Bastien-Masse, Küpfer, Fivet 2022). Given the environmental urgency, the architectural significance of prefabricated concrete structures an alternative to demolition was sought. This led to the organization of a competition to envision strategies for transformation of the building. The competition brief invited participants to propose solutions for "A place for people in a wide variety of living situations, for short or long periods of time."

For the team at KOSMOS Architects, this project offered an exciting opportunity to explore the potential of transforming prefabricated concrete buildings, which were not originally designed for adaptation, into structures capable of accommodating ongoing changes to meet diverse and evolving requirements over time.

Fig. 1. Ensemble of the three identical Triemli City Hospital employee housing buildings, 1981. Swiss Air Photo AG, Source: E-Pics.

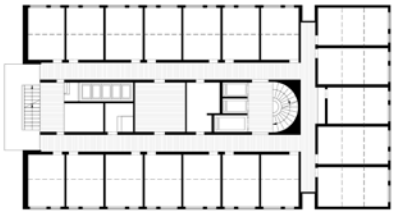


Fig. 2. Plan of a typical floor in the Triemli City Hospital employees' housing building, with private rooms divided by structural walls.

Challenge

When considering structures that can accommodate a variety of living situations for different durations, the discussion inevitably turns to the spatial adaptability of buildings over time. “Architects must mature from artist of space to artists of time.” (Brand 1994). This challenge prompts the exploration of architecture as a system that allows modification of its organization while preserving its main characteristics.

A building, by its nature, is an assembly of various material elements, each with different lifespans and varying frequencies of required adjustment. “A building is no longer a single object, but a combination of systems, each system with its own design process, production process and lifetime.” (Leupen, 2005 quoted in Schmidt, Austin 2016). This essential characteristic of a building was outlined by the concept of “Shearing Layers” introduced by Francis Duffy, and elaborated by Stewart Brand, who described a building as a combination of six layers: Site, Structure, Skin, Services, Space Plan, and Stuff. Later, this concept was expanded by Schmidt and Austin, who added three more layers—Surrounding, Space, and Social—aiming to define buildings at the intersection of urban, architectural, and social levels as they evolve over time.

Acknowledging the independence of the various elements that form architecture offers an opportunity to rethink some fundamental principles of architectural design. The attempt to align diverse building layers into a single, rigid configuration, which becomes challenging to maintain due

to the temporal changes of these layers, can evolve into the development of a framework that supports a continuous process of change. “Frame withing change operates” (Moneo, 1978, 27). In this context, architecture is defined not by the walls themselves, but by the processes that occur between them. “The structure then becomes the rigid body within which architecture happens.” (Rinke 2023, 147).

The ability to adapt architecture is not merely a response to changing requirements but a means of empowering dwellers. It encourages them to actively assess their needs and reconfigure spatial and material resources, moving beyond the passive consumption of pre-designed combinations.

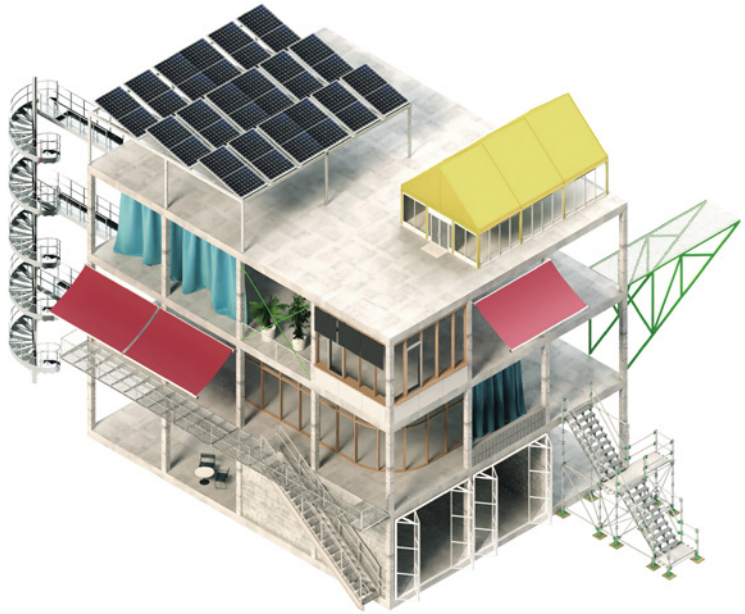


Fig. 3. Conceptual representation of Hardware and Software in architectural design principles, illustrating the distinction between a load-bearing structure (Hardware) and flexible architectural solutions (Software) that enable required functions and create necessary environmental conditions.

Hardware and Software in Architecture

Building on N.J. Habraken's Open Building concept of supports and infill, and inspired by the Structuralist division of building elements by their structural significance—what Hertzberger describes as "ephemeral and enduring" (2013, p. 20)—Kosmos Architects apply these principles in their work with existing structures. They view each act of transformation not only as a means to satisfy current needs but also as an opportunity to prepare the structure for future adaptations. Drawing inspiration from the digitalization of our living environment—where functionality can be transformed simply by installing a new app without altering the object itself—Kosmos Architects have coined their approach as Hardware and Software in Architecture. This strategy reimagines the building as a system in which enduring structural elements (Hardware) support fluid, easily adaptable layers (Software), enabling responsive and sustainable design (Fig. 3).

Hardware refers to the load-bearing system of an existing building, transformed into an open structure—a framework that defines a system of interconnected spaces. This framework facilitates functional changes, allowing for the division or merging of spaces and the introduction of varying climatic zones. It establishes the building's fundamental characteristics without rigidly prescribing internal processes, enabling flexible functional interpretation.

As Rinke (2023, p. 145) observes, "It can render structure a space of possibilities for various specific architectures, each offering qualities but always outlasting these architectural constellations." The building's Hardware remains open to accommodate diverse processes, while elements designed for specific uses are categorized as Software.

Software refers to a system of temporary and movable solutions that adapt the Hardware to meet specific functional requirements. These elements are designed to be easily modified or disassembled without compromising the load-bearing qualities of the Hardware. The independence of these two principal building components ensures that Software solutions remain flexible and responsive to the needs of particular uses and users. As Schmidt and Austin (2016, p. 31) note, "By making the user an active participant, this standard fundamentally readdresses the relationship and role between designer and user."

Not every load-bearing structure qualifies as architectural Hardware. Identifying and revealing the open structure of Hardware within an existing building is the first and most resource-intensive intervention, requiring what Wong (2017, p. 34) describes as "designing within pre-existing architectural principles." This process often entails selective demolition to unlock the structure's potential and open it to new interpretations. As Habraken (2000, p. 135) observes, "Each act of settlement relies on articulated form to stimulate further interpretation."
Elements of Software are designed for change and often have a temporary or movable nature. The deliberate decoupling

of a building's layers similarly enables natural adjustments to its function, spatial arrangement, and environmental conditions. This "delayering" allows for a broader range of configurations, adapting to varying functional demands, seasonal changes, or usage regimes on a weekly or even daily basis.

The disjunction of building layers simplifies adaptation, as adjustments to one parameter do not affect the others. This independence enables the reinterpretation of structural configurations for uses for which they were not originally designed, creating environments that preserve the fundamental parameters of the structural framework. As Habraken (2000) states, "Successful environments offer equilibrium… they are structured to ensure stability while allowing for continuous transformation" (p. 26). The diverse overlay of building systems—furniture, environmental envelope, and structure—generates a gradient of architectural conditions, expanding opportunities for various uses. This approach transcends the traditional dichotomies of indoor and outdoor, private and public, offering a spectrum of semi-conditions that blur the boundaries between heated and cold, covered and open, accessible and enclosed. This gradient facilitates a smooth transition from urban open spaces to private enclosures, activating social life and negotiating environmental conditions.

The continuous movement of these layers creates gaps between them, introducing exceptional spatial and climatic conditions. While these spontaneous misalignments may seem problematic, this porosity can also be explored as potential for organizing the built environment.

The Gap

Oxford dictionary defines Gap as a space where something is missing, indicating as well temporal gaps but also social gaps as a difference that separates people. Demolition introduces a gap in the existing spatial configuration, creating the potential for openness and emptiness that can be appropriated or preserved. Viewing the gap not as a separator but as a connector of architectural elements allows for the interpretation of its exceptional meanings on different architectural scales: a gap in the urban fabric can become a public space, a gap in the building structure can connect different rooms and functions, and a gap between building elements can be celebrated as an architectural detail.

The gap is an exception within the existing organization of the built structure, preserving potential for exceptional solutions. In industrially produced constructions based on standardized elements, the gap between these elements becomes a resource for individualization and contextualization of architecture, shaping the identity of the entire structure. An articulated system of gaps transforms a generic building into an open yet expressive structure, one that is open to diverse interventions while already possessing its own architectural qualities.

The gap between existing spatial configurations and required conditions prompts a reevaluation of functional demands and experimentation with available spatial, material, and technological resources. This discrepancy and contradiction between the old and the new define a vast field for architectural reflection. The limitations of the

context necessitate flexibility in new programs and unconventional interpretations of the required functions, which result in the development of new architectural typologies.

The gap in architecture reveals itself not only as a spatial configuration but also as a temporal condition, where each use and user are limited in time. “Use marks the beginning and end of each act of transformation” (Habraken 2000, 8). The transition from one regime of use to another presents an opportunity to re-envision a building’s organization and the resources required for it. In Switzerland, a practice known as Zwischennutzung—or “interim use”—encourages such experimentation. Due to the temporary nature of this occupation, which often occurs in the months leading up to a building’s demolition, significant material or financial investments in adapting the building are generally avoided. However, this often leads to innovative uses of both construction and non-construction materials. “A less precious material thus encourages occupants to use/change the space as needed, permitting the space plan to evolve” (Schmidt, Austin 2016, 93). For instance, storage boxes might be assembled to partition the space, and curtains can organize different climatic zones. Occupants often compromise on privacy, acoustic comfort, and climatic conditions to embrace and celebrate the unique spatial and functional opportunities presented by temporary use.

The duration of such events varies, ranging from several months to several years. Zwischennutzung can be seen as a prototype of Hardware and Software design principles, where the existing permanent structure is adapted to new uses through temporary interventions.

Fig. 4. Visualization of Hardware and Software design principles applied to three identical buildings, reconfigured for varying user rotation rates—Years, Months, and Days—using three architectural instruments: furniture, lightweight construction, and load-bearing structure.

Implementation

The three staff buildings of Triemli City Hospital share an identical structural organization, featuring a combination of in-situ concrete, precast concrete elements, and prefabricated load-bearing masonry walls. At the core of each building are the vertical circulation and wet zones, defined by in-situ concrete walls and surrounded by the central portion of the floor plate, which is also poured on-site. This combination of vertical and horizontal in-situ concrete structures forms the rigid structural spine of the building.

The exterior perimeter of the slabs, which vary in width from 4.6 to 5.7 meters from the façade to the in-situ portion of the slab, is assembled from prefabricated concrete elements. This part of the floor slab can be more easily reconfigured if needed. The precast floor panels rest on prefabricated masonry load-bearing walls, oriented perpendicular to the façade. These load-bearing walls, placed every 3.2 meters, define the enclosure of private living units along the façade. The combination of this dense load-bearing structure with a low ceiling height of 2.49 meters from floor to ceiling presents the biggest challenge for spatial alterations to the building.

The first step in adapting the building to meet new functional requirements involved transforming the existing structure into an Open Structure, which the architects refer to as architectural Hardware. Instead of viewing the rigid and repetitive spatial organization of the original plan as a constraint, it was embraced as an inherent potential of the building. The existing system of small compartments was reinterpreted as a modular system of spatial organization.

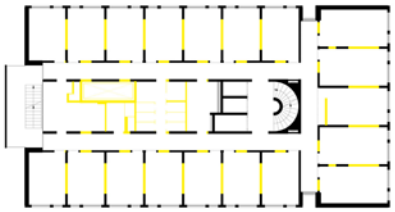


Fig. 5. Typical floor plan with yellow highlights marking the demolished building elements.

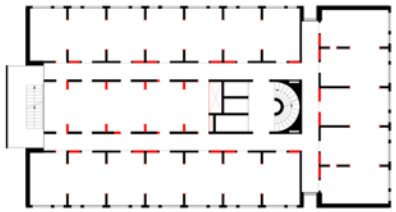
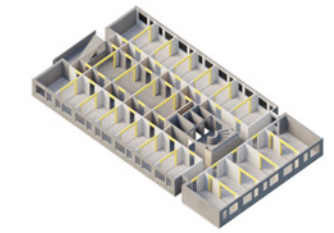
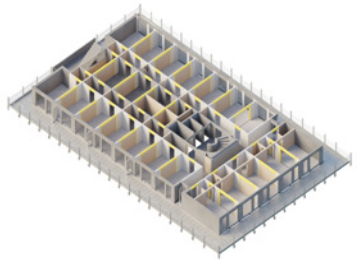


Fig. 6. Typical floor plan with red highlights indicating newly introduced elements of the structure.





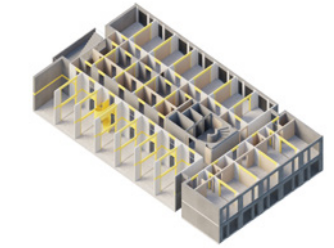


Fig. 7. Axonometric views of identical Hardware, adapted through Software.

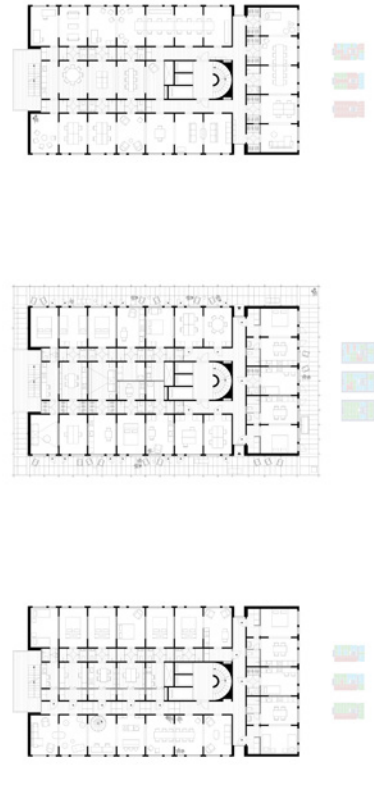


Fig. 8. Organization of space through furniture, light construction, and structural elements.

Partial demolition of the prefabricated masonry walls transformed isolated cells into a system of enfilades—an open spatial system (Fig. 5-6). This Open Structure, characterized by prominent arches, allowed for the organization of spatial clusters of diverse configurations and sizes by connecting and isolating different modules. The flexibility and responsiveness of the building to various uses over time were enabled by Software that allowed the opening and closing of gaps between the modules. (Fig. 7-8).

To maintain the rigidity of the building's load-bearing structure, all openings in the masonry walls have been reinforced with new beams and columns. The new bracing, featuring contrasting materials and colors, becomes an important architectural detail of the building. Systematically introduced throughout the structure, this bracing acts like a thread, tying together different spatial and functional areas. It reframes the existing architecture, "overlays this with new meaning" (Stone, 2023, 478) highlighting the qualities of the original generic structure transformed into the new open configuration, available for inhabitation by ephemeral means of architectural Software.

The new spatial configuration of the building encourages experimentation with functional typologies and various strategies of inhabitation, as well as reflection on the potential frequency of change. In this prototypical project, it was important to illustrate how different durations of use can influence the type of material means involved in facilitating functional needs and organizing these spaces. Three scenarios of occupation—Days, Months, and Years—using three identical buildings, initially transformed into identical Open Structures, illustrate the relationship between spatial organization, functionality, and the instruments for spatial adaptation.

The frequency of user change corresponds to specific functions: co-working spaces, student or seasonal housing, and rented apartments, where users rotate on a daily, monthly, or yearly basis. For each of these types, different material means have been provided to enable the adjustment and

personalization of the space: furniture, temporary structures, and the modification of precast building elements. (Fig. 9). This approach resulted in an open-plan system for the co-working space, organized by furniture; a divided plan of individual units for seasonal housing, with exterior amenities and circulation facilitated by temporary structures; and a shared system of rented apartments with double-height shared spaces and individual rooms, achieved through the modification of precast concrete elements.

The facades of the buildings reflect their internal organization and the material means involved in their spatial modifications. Pertaining to the Days scenario, the façade remains largely untouched, featuring only temporary elements, such as umbrellas, canopies, or curtains, indicate the building's new use from the outside. In the Months scenario temporary structures used to facilitate spatial organization envelope the entire building providing external amenities like terraces and circulation areas, creating a distinct architecture of the facade. Shared double-height

Fig. 9. Architectural elements—load-bearing structure, light-weight construction, and furniture—used to define spatial configurations, organize the environment, and enable functionality.

spaces exude on the façade of the Years scenario articulating a disassembly of the inner structure and contribute to the architectural expression of the building (Fig. 10).

The three temporal scenarios—Days, Months, and Years—applied to the three identical towers involve three types of material resources: furniture, temporary structures, and load-bearing structures. These scenarios illustrate a matrix of potential for adapting existing quotidian structures, transformed into architectural Hardware and reinterpreted for various types and durations of use through architectural Software. This project aims to establish principles for working with existing buildings that are oriented towards future changes, rather than treating the proposed design as the final configuration.

Fig. 10. Spatial organization for different user durations—Days, Months, and Years—utilizing various material means: furniture repositioning, modifications to light-weight construction, and transformations of precast concrete elements. The facade illustrates these three modes.

Simplification

"Achieving adaptation measures in buildings is challenging due to the nonstatic nature of buildings in the future" (Askar, Bragança, Gervásio 2021, p. 19). Predetermining possibilities for change limits design to specific transformation scenarios, potentially becoming an obstacle. As Schmidt and Austin (2016) note, "They'd be more adaptable if they weren't so designed" (p. 51), further emphasizing that "reinforcing simplicity is a good policy for adaptability" (p. 101). This highlights the need to keep the long-lasting components of a building simple and basic, enabling broad interpretations without predefining them.

When modifying existing structures for new uses, it is crucial to avoid overcomplicating them with additional structural interventions, ensuring future transformations can be achieved with simple adjustments and minimal material resources, aligning with sustainable principles. Designing the infill of load-bearing frameworks as temporary and movable elements allows for easy reconfiguration and reuse within the same or different structural frameworks. This approach keeps material resources of both the Hardware (structural framework) and Software (infill) accessible for future adaptations and reuse.

Efforts to capture the full complexity of architecture by adding more building layers often complicates both the design process and the understanding of interrelationships between layers. However, treating building layers as a design

instrument benefits from a simplified approach to defining a building's structure and composition. For instance, Rinke (2023) reduces the number of adjustable layers to three: the load-bearing structure, the circulation, and the usable areas, arguing that these layers define the functional capacity for change. Within the context of this text, the author proposes understanding architecture as a synthesis of function within a specific climatic and spatial context—an architectural environment—framed by the load-bearing structure. This conceptualization highlights the performance of three essential building layers: use, environment, and structure. These categories can be represented by a single element, such as thick masonry walls with functional niches, or delayered into a system of layers that includes supports, elements defining spatial configurations and climatic characteristics, and functionality facilitated by fixed and loose furniture.

As Christopher Alexander suggested in his semilattice system for defining the complexity of urban environments through the intersection of various parameters: "As you can see at once, the different units do not coincide. Yet neither are they disjoint. They overlap" (Alexander, 1965, p. 18). Similarly, the categorization of a building can be conceptualized as an overlay of temporal and performative characteristics, discussed disjunctively, offering a nuanced framework for architectural analysis and design. These simple categories enable us to define complex systems while keeping their elements simple and easy to work with.

Conclusion

The concept of layered organization of the built environment effectively describes the diverse roles of building components in a building's configuration and reflects their varying rates of change. To enhance its efficiency as a design tool, the author suggests simplifying it by separating performative (use, environment, structure) and temporal (permanent, temporary, movable) characteristics, defining architecture as an overlay of two three-domain systems. This framework conceptualizes architecture as a composition of use, environment, and structure, realized through construction solutions categorized as permanent, temporary, or movable. This approach provides a and versatile tool for effective architectural design.

The gaps and discrepancies in the configuration of different building layers, caused by their varying rates of change, should not be viewed as problematic misalignments but as productive conditions that inspire unique spatial and material combinations. The contrast between the originally intended use of a structure and its new, often unpredictable future uses creates singular conditions—gaps, misalignments, and unexpected juxtapositions—that cannot be achieved through conventional, one-off design. These conditions offer opportunities for alternative ways of inhabiting and using space. The unconventional spatial configurations that emerge from these layered discrepancies—configurations that would never be intentionally designed—awaken users, encouraging them to reflect on and adapt to these unconventional architectural conditions.

Bibliography

Alexander, C. (1965). A City is Not a Tree. Architectural Forum, 122(1), 58-62, 122(2), 58-62.

Adler, G. (2007). The quality of ruins. In 'Quality' Conference, July 2007, University of Cardiff.

Brand, S. (1994). How Buildings Learn: What Happens After They're Built. Viking Press.

Broker, D., & Stone, S. (2023). Rereadings: Interior Architecture and the Design Principles of Remodelling Existing Buildings. Routledge.

Habraken, J. (1972). Supports: An Alternative to Mass Housing. Architectural Press, London.M

Habraken, J., & Teicher, J. (2001). The Structure of the Ordinary: Form and Control in the Built Environment. MIT Press.

Hertzberger, H. (2013). Social Space and Structuralism. What is Good Architecture?, OASE, (90), 19–23. Retrieved from https://www.oasejournal.nl/en/Issues/90/ (Accessed December 7, 2024).

Kinney, D. (1997). Spolia. Damnatio and Renovatio Memoriae. University of Michigan Press for the American Academy in Rome.

Moneo, R. (1978). On Typology. A Journal for Ideas and Criticism in Architecture. MIT Press.

Rinke, M. (2023). Towards Layered Permanence in the Sustainable Design of Buildings. Technology|Architecture + Design, 7(2), 145-149. DOI: 10.1080/24751448.2023.2245704.

Schmidt, R., & Austin, S. (2016). Adaptable Architecture: Theory and Practice. Routledge.

Stone, S. (2023). Notes towards a Definition of Adaptive Reuse. Architecture, 3(3), 477–489. DOI: 10.3390/architecture3030026.

Wong, L. (2017). Adaptive Reuse: Extending the Lives of Buildings. Birkhäuser.

Figure References

Figure 1

Swiss Air Photo AG. (1981). Ensemble of the three identical Triemli City Hospital employee housing buildings. E-Pics.

Figure 2

ZAS*. (n.d.). Plan of a typical floor of the Triemli City Hospital employees' housing building. In Stadthotel Triemli: Spekulativer Ideenwettbewerb. Competition brief.

Figures 3–10

Kosmos Architects. (n.d.). Hardware and Software in Architecture. Stadthotel Triemli. Kosmos Architects.

PRACTICES IN RESEARCH #5

DEMOLITIONS AND DECONSTRUCTIONS

CHAPTER 2

DETAILS OF DEMOLITIONS

REVEALING THE ACT OF BUILDING

Architecture as a process

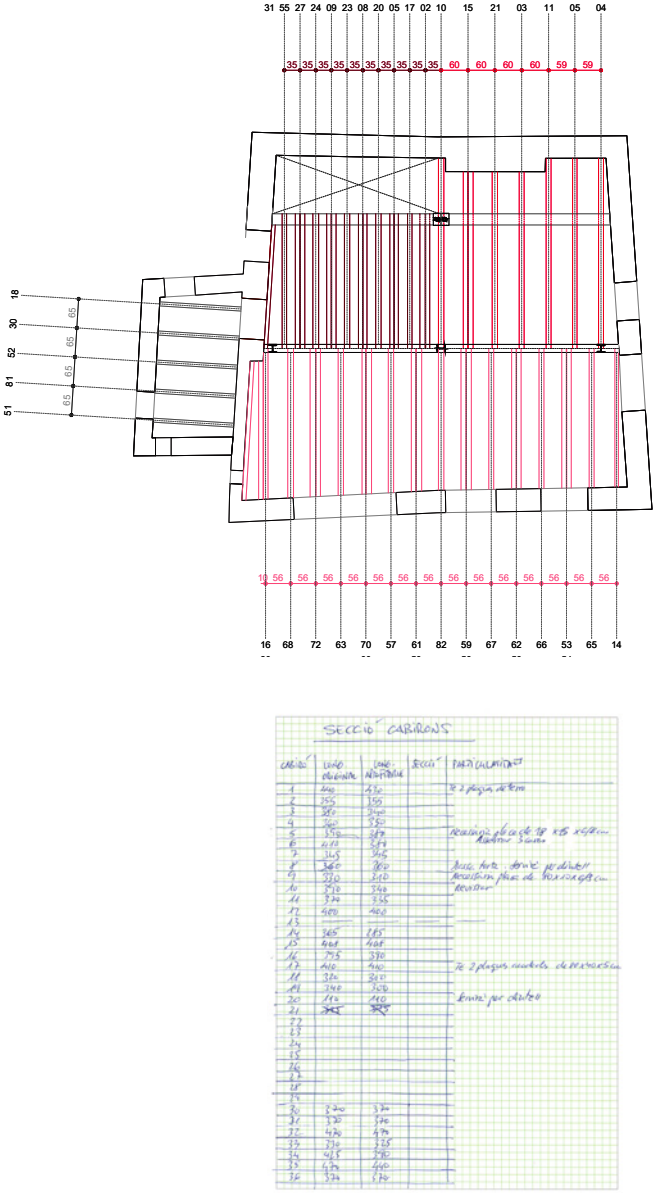
Eduard Fernàndez, Laura Solsona

self-office

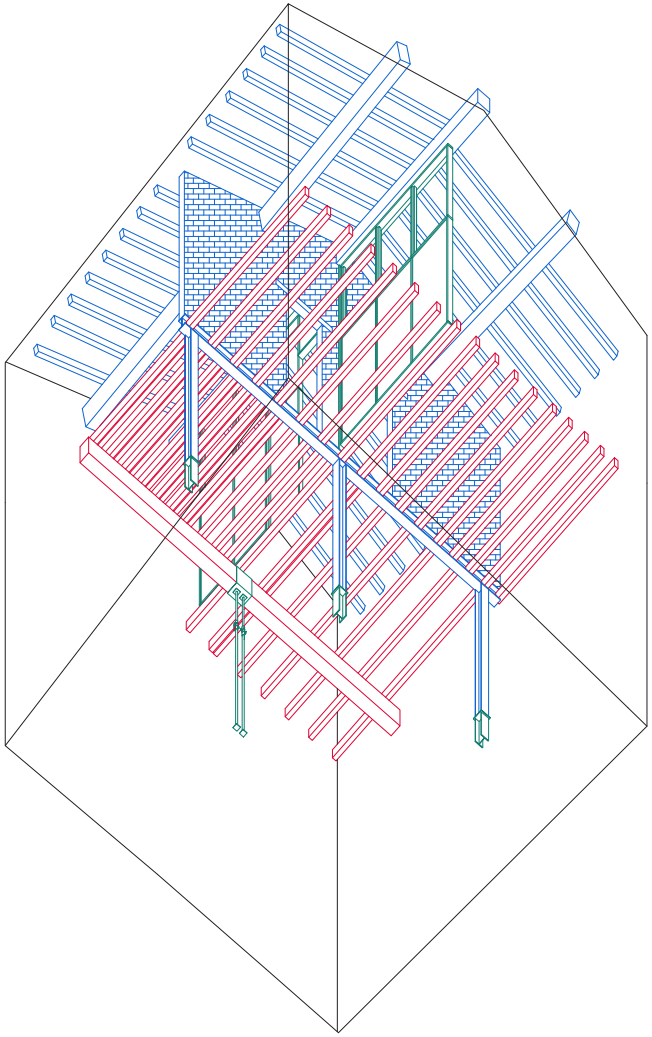
Architecture is a process. A very long one in fact. This process is never straightforward and it continuously moves back and forth, involving a rich yet complex net of stakeholders: from clients, investors, lawyers, to public workers, engineers, architects, and end-users.
But not only — it also involves changes in the program, awkwardly placed structures, materials on-site, and construction codes that do not accommodate the existing conditions. As architects, we aim to anticipate construction, but eventually it is somehow uncertain. It is precisely through this condition of uncertainty where architecture has the opportunity to explore new formal languages and question pre-established notions of good design.

In 2022, we were commissioned to refurbish an old watermill in Catalonia's rural northwest. Upon accepting the project, we found a house with its interior fully demolished and partially reconstructed. Due to the global financial crisis, the property remained in disrepair for years. This visual essay presents a series of toughts and documents from this renovation project. They combine the pragmatism of economic and material means with our obsession for revealing the construction history of the house. This includes chronicling its alterations, unsuccessful endeavors, readaptations, new additions and juxtapositions – a series of actions which reflect the complexity of architecture as a dynamic process as it fluctuates over time and undergoes constant reassessment.

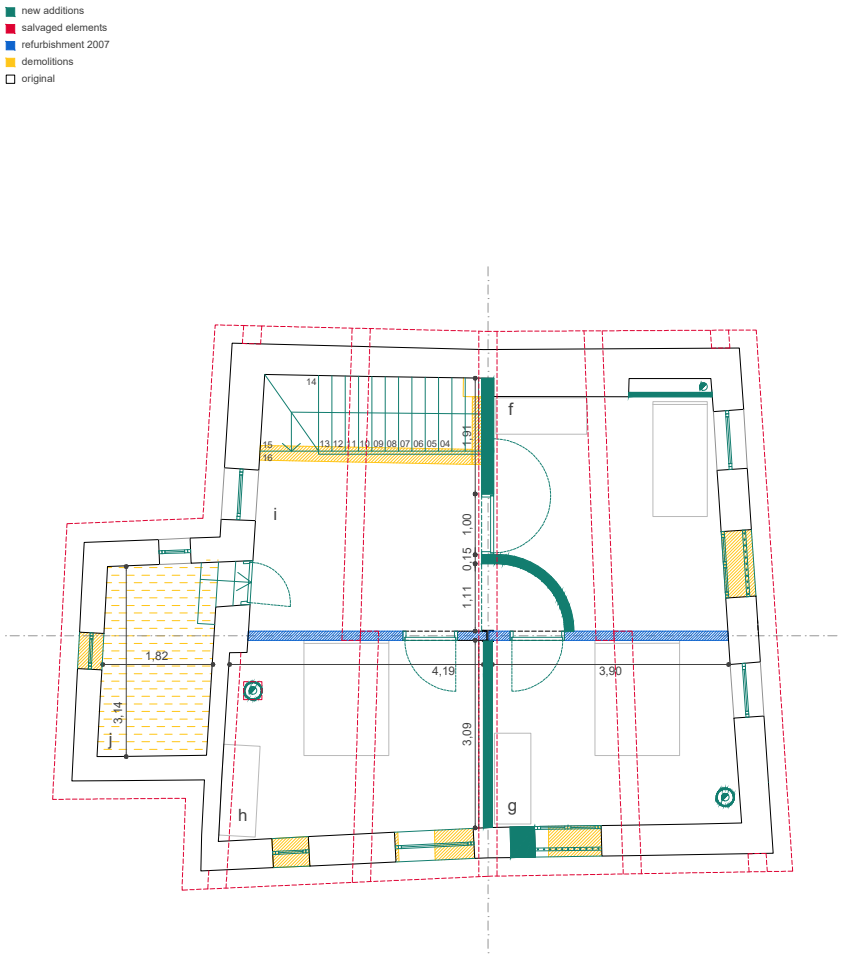
Is it relevant to differentiate between the original and the new if the house has been drastically modified? The understanding of the house ‘as found’ might become a new language worth to explore, a strategy which continues a process already started.



List of salvaged beams, organised by section, length and construction anomalies (e.g. steel joints, screws, deformations) and disposition of the structural elements in quadrants in the ceiling plan.



A new vernacular language emerges by revealing the construction systems of the house which that are interconnected to each other. Like surgical procedures that dissect the existing structures and carefully complement and extend them.



This results in a sense of coherence and differentiation, making it nearly impossible to distinguish between the several interventions and the original construction. Thus, details don't need to be perfect or extraordinary. Many materials have edges that are not meant to be visible, yet these often are the most emotional edges to look at.

IS THIS BRUTALISM?

Or: How We Learned to Stop Worrying and Love the Rough

João Paupério, Maria Rebelo

atelier local
FAU Porto

Introduction.

"Is brutalism an architectural term for ugly? Speaking out of ignorance here, I'm an engineer." This seemingly naïve remark caught our attention when it was made in response to an article about one of our early projects: the transformation of a stone ruin into a house in Ancede. At the conference Practices in Research #05 - Demolitions and Deconstructions, we found an opportunity to clarify our position on an enduring disciplinary debate — the 'ethical or aesthetic?' (R. Banham) nature of New Brutalism. As we see it, New Brutalism was clearly concerned with an attitude towards the process of thinking and making rather than with any specific material outcome. This also allowed us to explain why we believe its lessons on the 'as found' and 'minimal intervention' remain just as relevant today.

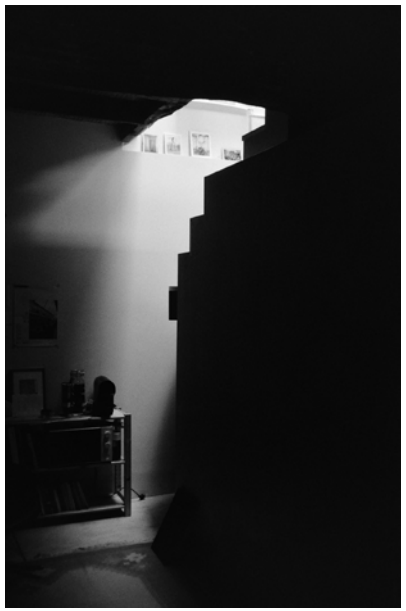
Contrary to what its association with béton brut might suggest, Brutalism is not synonymous with concrete. Instead, it embodies an attitude towards ordinariness and a particular sensitivity to the tangible material conditions of each project, whether constructed from wood, concrete masonry, or reclaimed stone. At the invitation of the editors, we now present a visual essay featuring images of two of our projects — firstly, the Studio-House in Valongo, and secondly, the House in Ancede — accompanied by captions that evoke and elaborate on some of the ideas behind them. Except for those specified, all images were made by Francisco Ascensão.

Alison & Peter Smithson theorized about "The 'as-found', where the art is in the picking up, turning over and putting-with... And the "found", where the art in in the process and the watchful eye."
Photos: Studio-House, *atelier local*, 2018-2022.

Creating a new mezzanine in dialogue with an existing improvised structure places 'the new' and 'the old' on equal footing. The stone textures were preserved 'as found' to enhance the space's character, while plasterboard introduces smoother, more refined surfaces.

The use of standard, everyday materials — some of which are not originally intended to remain exposed — enables a reduction in costs without sacrificing the creation of generous spaces with a strong expressive character. ©Francisco Ascensão + Luca Bosco

Brutalism embodies directness in relation to the existing. Existing wooden frames were neither replaced with new ones mimicking their design nor substituted with others deemed 'modern'. Just adding new frames on the interior allow the nearly 200-year-old sash frames to remain in place.



Perfection is not our aim, whether in the finishes or the overall appearance of materials. The marks left by the hands of those who built it are embraced as expressions of individuality that can neither be anticipated nor previously designed.

For our project in Ancede, the original plan was to reconstruct an existing stone hut using a wooden structure and exposed cork insulation. However, a series of unforeseen events — including devastating wildfires, a global pandemic, and multiple wars leading to historic inflation rates — rendered this approach economically unfeasible. Our final proposal was to build the house anew, reusing every stone from the old ruin to create essential infrastructures such as retaining walls, a water tank, and exterior staircases. House in Ancede, *atelier local*, 2018-2023.

The decision to rebuild the house using concrete — including pillars, beams, floors, masonry walls, and ceilings — was not driven by ideological or aesthetic principles. Instead, it was as pragmatic as the original idea of rebuilding it in stone. The aim was to preserve the spatial intentions of our initial design while ensuring feasibility by leveraging the technical expertise of a local contractor.
©Luca Bosco (images below)

Brutalism is about directness, which also entails embracing simpler ways of existing within the landscape by imbuing architecture with the energy inherent to its surroundings. Therefore, we see no particular reason why the bathroom cannot become the best place to read a book.

The ETICS insulation system was applied in a way that emphasises a certain imperfection, as well as a direct connection to the colour of the terrain. This colour does not come from an additional layer of paint but from the pigment within the mortar itself. The horizontal string courses lack a trim profile. The colour blends with the landscape, and the marks from its execution suggest its texture. The form of the house is a ready-made, replicating the volume of the old stone ruin.

Alison & Peter Smithson believed that for brutalist architecture “the contractor should aim at a high standard of basic construction as in a small warehouse.” Filled horizontal joints contrast with dry vertical ones, to establish a distinct rhythm within the space. The composition of the exposed electrical circuits from catalogue pieces addresses the need for autonomous circuits, while giving purpose to their visibility. A vibrant colour elevates the status of inexpensive windows. Their positioning, aligned with the interior face of the wall, enhances the perception of a frame that captures the landscape. Their form invites different ways of appreciating it. It’s all about organising the construction language itself. We refer to these gestures as ‘functional ornaments’.

With and Within

The Collaborative Practice of Kura Workshop

Niklas Fanelsa

Technical University of Munich

Introduction

KURA is a process-oriented project to retrofit a monument protected barn in the village of Gerswalde into our architectureworkshop,applyingtheDesignScienceResearch methodology. The aim is the holistic transformation of the building, by exclusively using ecological building materials and reclaimed building elements sourced from the local region, facilitated through a collaborative process with local craftspeople to strengthen community ties and promote regional craftsmanship.

By directly relating the design on the real artefact—the building itself—rather than using meta-artefacts like models and plans, the project fosters a practical, hands-on approach to architectural design and construction. The design system combines bio-based and geo-based materials with a holistic social practice, enabling regenerative architectural practices, enhanced regional architectural culture, and the revitalisation of rural communities, that can guide similar projects in different cultural and regional contexts.

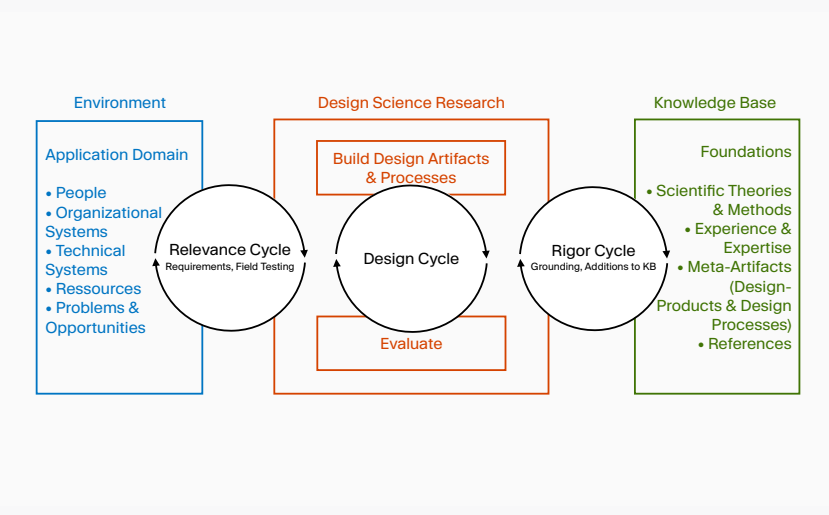
#Regenerative Architecture #Bioregionalism #DesignScienceResearch #Adaptive Reuse
#Sustainable Building Materials #Community-Engaged Design #Hands-On Construction

Exterior view showing the monumented protected ensemble in the village center with the workshop building on the left side. Image: Zara Pfeifer, 2023

Interior showing the ground floor of the workshop with a floor sunflower-oil pigmented lime screed on an insulation made from recycled glas.
Image: Zara Pfeifer, 2023

Methodology

In the field of architecture, it is crucial to differentiate between meta-artefacts and real artefacts. Architects often communicate through abstractions like models and plans, which serve as meta-artefacts. These meta-artefacts are not the actual building, but represent and refer to them. An architectural drawing can be considered a real artefact if it is viewed as an independent work on its own. The KURA project emphasizes direct engagement with the building itself as the primary 'real artefact,' minimizing reliance on conventional meta-artefacts. This approach enabled adaptive, hands-on problem-solving that responded dynamically to the building's structural and material needs, fostering a more grounded and immediate design practice. The Design Science Research (DSR) methodology (Hevner, 2007) originated from business informatics, but is highly applicable to architectural design. It is structured around three cycles. The design cycle, facilitated on-site material testing and real-time adjustments of artefacts. This iterative cycle is familiar to most architects as it involves continuous evaluation and improvement. The relevance cycle, emphasises the connection to an local environment including social and technological requirements. This cycle ensures that the designs are practical and applicable in real-world contexts. The rigor cycle connects the artefacts with the broader architectural knowledge base. By integrating all cycles, the DSR methodology enhances both the relevance and rigour, since constant evaluation is present throughout the design process of architectural artefacts.



DSR Method and its application to the architecture domain.
Diagram based on Three Cycles Design Approach
Design Science Research, Hevner, et al. 2007

Diagram showing the important distinction in-between artefact and meta-artefact in the field of architecture.
Image: Zara Pfeifer, 2023, Maquette: Atelier Fanelsa, 2022

With and Within

On-site rural library cataloguing available material resources. Image: Author, 2022

Upon our initial visit to the building, it was evident that the structure was about to collapse. The locals believed that demolition was the best course of action. However, we aimed to demonstrate an alternative approach: 'With and Within,' following Garutti (2021). We collected an on-site catalogue (Gasperoni, 2024) assembling a material palette from the existing building and surrounding bioregion (Sale, 1985) to identify available materials and local resources that could be used in the renovation process. To present the future ambition of the project, our studio organised an exhibition, encouraging support for renovation over demolition among the neighbours. We started the deconstruction and repair of the building, working on site every other week. Occasionally we stayed overnight experiencing the different atmosphere of the building and its surrounding garden.

Collaboration on Eye-Level

For larger works, we teamed up with local craftspeople. By being involved in the process, they gained an understanding of our approach. Working side-by-side, we established a trustful relationship and appreciation for their individual approaches and skills. The collaboration impacted the interest in the local community to learn new skills, encouraging more regenerative building practices. This helped us later, on other larger architectural projects. Nevertheless it was sometimes difficult to get skilled craftspeople for particular tasks, we had to execute specialised work ourselves—and thus ended up learning a lot. This experience enhanced the practice-based knowledge of our studio overall and we continued to working on site.

Bioregional Craft Resources. On-site collaboration and design. Image: Pfeifer, 2023

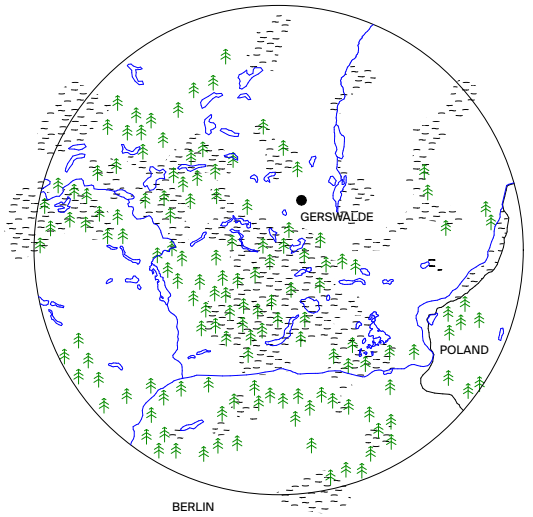
Geo-based Sourcing and Prototyping

The available bioregional resources are analyzed and mapped (Material Cultures ,2021). For ‚Material Resources' wood, sand, and gravel are still available in the north of Brandenburg. Production for bricks and clay have stoped the 19th century. Instead, new materials such as hemp have been introduced by local producers. In the case of fieldstone, an important material from which most foundations of older buildings were built, the craftsmanship and knowledge of processing has been almost completely lost.

To give an example in the process of developing lime plaster for the walls, we worked closely with lime experts who analysed samples from six local sand pits to produce various mixtures. Each mixture was prototyped on site, taking into account the specific composition and grain size of the sand from each pit. After numerous trial runs, where the strength and water resistance was also tested, we successfully developed the "Gerswalder Mix," a blend that captures the authentic color and style of the region.

This mix contrasts to industrial lime plasters, which are mostly pre-mixed and homogenized, with additional cement to achieve a neutral appearance. This makes them universally applicable but lacking in character. Such industrial mixes typically require the addition of artificial colouring agents or need to be painted over to achieve a desired aesthetic. The 'Gerswalder Mix' maintains the natural beauty and unique qualities of local facades.

Local Sand Pit. Image: Pfeifer, 2023



Natural Resources of the bioregion. Figure: Atelier Fanelsa, 2024
The Uckermark to the north of Berlin was shaped by glacial activity during the last Ice Age, resulting in a varied terrain of moraines, drumlins, and glacial valleys. Large forested areas cover significant portions of the Uckermark, including mixed deciduous and coniferous forests. The Uckermark is dotted with numerous lakes, ponds, and rivers. The region still contains several wetland areas, including marshes, bogs, and floodplain wetlands. Much of the Uckermark is characterised by agricultural landscapes, including fields, meadows, and pastures.

Workshops as Learning Environments

Lime Workshop Repair of the existing half-timbered structure, new interior plaster, and lime-based paint. Image: Author, 2022

The plastering of the half-timbered walls of the building was carried out within a workshop (Fanelsa, 2024). The combination of knowledge transfer about lime plaster as a material, and the applied experience, communicated through direct instructions on mixing and plastering, generated interest among a wide range of people. Homeowners, craftspeople, students, and architects learned about the history, sourcing, and uses of regional lime. Together, we had an exchange on craftsmanship, building materials, and self-build techniques. In Gerswalde we continued consultations and engage in village development to share our expertise in bioregionalism, sustainability, and architectural building culture.

Zara Pfeifer, 2022

Bioregional Architecture Practice

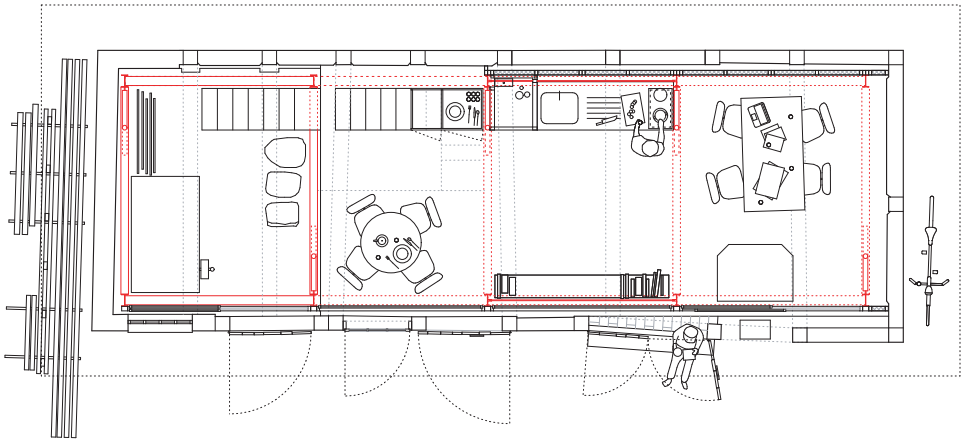
Construction site images showing the new metal structure next to the existing one.
Image: Author, 2022

The existing, structurally compromised building was stabilised using an internal steel structure (Mommert, 2023), as the preservation of the original timber-framed facade and wooden structure was a priority. To plan the new structure in space, we used simple, hands-on tools like white strings to outline the possible new space, and later to determine the structural layout. The new steel framework then allowed for an internal glass facade. Additionally, the missing facade adjacent to the neighbouring property, which collapsed during the intervening years of neglect, was closed using either wood-cement panels for fire resistance or partly with clay bricks to maintain structural integrity and aesthetic continuity.

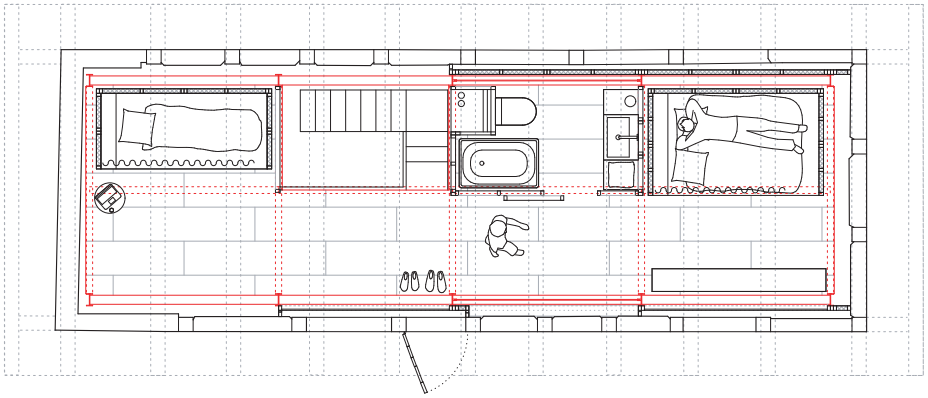
Zara Pfeifer, 2022

Inside the building, the ground floor, poured with a robust lime screed, serves as an open workshop for our architecture studio. The floor is insulated with cellular glass and sealed with pigmented sunflower oil. All interior walls are newly plastered with lime and finished with lime paint. A staircase furniture piece made of recycled wood panels done by visiting cabinet makers from Japan leads to the second floor. It houses a bathroom and two niches as sleeping alcoves. The wood for the alcoves was taken from the village forest after a storm tore down trees, and were prepared for further processing with a mobile sawmill. The deteriorated roof rafters are insulated with regional hemp fiber and hemp lime panels for effective thermal insulation.

By using salvaged and climate-positive building materials, the KURA project thus aims for a holistic regenerative practice (Mang, 2012) in the built environment. The close collaboration with local craftspeople strengthens the local economy and promotes social cohesion. Our goal is to make a positive contribution in our activities in rural areas, including through the conversion of KURA, and to promote bioregional architectural practices developments more broadly.

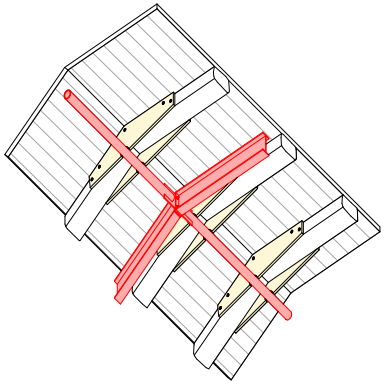


Ground Floor Plan, Scale 1.200, Atelier Fanelsa, 2022



Upper Floor Plan, Scale 1.200, Atelier Fanelsa, 2022

Discussion & Conclusion

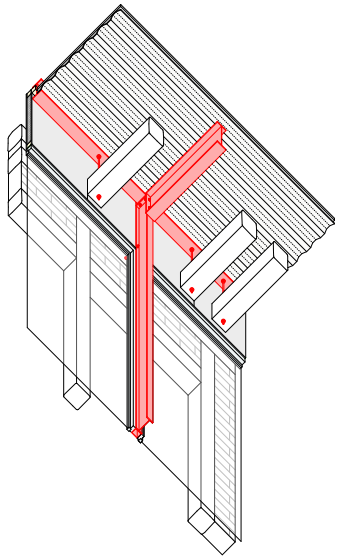


Axonometric Drawing, Atelier Fanelsa 2022

The DSR methodology emphasises iterative cycles of design and evaluation above all. Our reoccurring presence in the village and on the construction site provided the essential framework while allowing for iterative, on-site adjustments. This adaptable approach enabled precise responses to the building's condition and experiments. Engaging local craftspeople led to a mutually-beneficial learning process, enhancing our understanding of traditional techniques while introducing regenerative building materials such as clay, or wood.
This collaborative approach integrated both traditional craftsmanship and contemporary construction techniques, resulting in a hybrid design ethos that is both innovative and rooted in local tradition. (Fanelsa, 2024) The project contributes to a growing body of knowledge on sustainable, region-specific architecture and shows the potential of bioregional practices to inform broader

Zara Pfeifer, 2023

architectural discourse and application. The use of geo-based and bio-based materials, such as hemp and lime, aligns with contemporary building practices in Europe (BC, 2024). The project shows a scalable model of bioregional architecture, by integrating locally sourced materials and engaging with the community directly in the construction process effectively preserving



Axonometric Drawing, Atelier Fanelsa 2022

and retrofitting existing architectural structures. By developing regional materials like the ‚Gerswalde Mix', this project provides replicable examples of material innovation grounded in specific regional context, offering an approach for practitioners to apply regenerative theories across architectural scales. This project calls for a new value system in the built environment by integrating regenerative principles into architectural practice and education, enabling human and natural systems to coexist.

Zara Pfeifer, 2023

References

Atelier LUMA. (2023) *Bioregional Design Practices / Practiques de design bioregional.* Arles: Luma.

BC architects & studies (2024). A Manual for Bioregional Design, in: Issue No°1 Biogregioning, *Future Observatory Journal,* London. Website: https://fojournal.org/essay/a-manual-for-bioregional-design/

Fanelsa, N. (2024). „Places of Rural Practice.“ In: *Dimensions. Journal of Architectural Knowledge,* Bielefeld: Transcript Verlag.

Mang, P. & Reed, B. (2012). Regenerative Development and Design. Encyclopedia Sustainability Science & Technology. I. 8855. 10.1007/978-1-4614-5828-9_303.

Garutti, F. (2021) From Within an Ecology of Practice, in: CCA, Montreal. Website: https://www.cca.qc.ca/en/articles/issues/28/with-and-within/73634/from-within-an-ecology-of-practice

Gasperoni, L. (2024) On-site Catalogues Reassembling Situated Materials, in: Candide 24/25, Aachen.

Hevner, A. et al (2007). A Three Cycle View of Design Science Research. Scandinavian Journal of Information Systems, 19.

Material Cultures (2021). Circular Biobased Construction in the North East and Yorkshire. London.

Mommert, J. and Fanelsa, N. (2022). “Revitalisierung und Umbau einer denkmalgeschützten Scheune in Gerswalde, Uckermark.” *Stahlbau*, 91(6): 409-413. https://doi.org/10.1002/stab.202200031

Sale, K. (1985) Dwellers in the Land: *The Bioregional Vision*. San Francisco, CA: Sierra Club Books.

The site as an open space for continuous experimentation and intervention.
Image: Author, 2023

De-architecturing Architecture

Architecture as an ongoing process between decay and renovation.

Lars Fischer

common room

In 1972 the American artist Robert Smithson gave a slide lecture at the architecture faculty of the University of Utah. In this lecture Smithson describes the Hotel Palenque in Mexico, on the surface a dilapidated and unremarkable building. Smithson's meandering narration of the slides however relates the building as the intriguing process of continued decay and renovation, situating the hotel as a found object in a continuum of larger timescales exposed to the forces of what he calls entropy.

Entropy, generally understood as degradation into disorder, is a topic that had fascinated Smithson. He related the state of entropy to multiple fields, from geology or economy to systems theory, however he never clearly explicated the theory. For Smithson the notion of continuous change was significant, a change towards increased disorder, with time always moving forwards. Yet this movement towards decay and dissolution was for him also generative and emancipative. Smithson sought to communicate these entropic processes that define our environment in an attempt at displaying the potentials, at making entropy visible.[1]

Smithson's art, especially in his land art projects, is directed at viewing and expressing processes, both natural and industrial, that alter and shape our environment. The sites he engaged with were often overlooked, abandoned or remote, sites of geological formations, postindustrial detritus, or suburban sprawl. Smithson's

1 Robert Smithson, "Entropy Made Visible (1973). Interview with Alison Sky," in Robert Smithson. The Collected Writings, ed. Jack Flam (Berkeley: University of California Press, 1996), 301–9.

work, his interventions in these sites are a translation of his observations, making the processes of change, of erosion and destruction, legible, revealing the aspect of time and expressing a potentiality, which these processes and sites offer. In relating these conditions Smithson goes beyond

Robert Smithson, *Hotel Palenque 1969-72*, thirty-one chromogenic-development slides and audio recording, collection Solomon R. Guggenheim Museum, New York. © Estate of Robert Smithson.

typical images of landscape or architecture, of finished and finite scenes, escaping the conventional aesthetic perceptions of our environment. Smithson describes an aesthetic not based on completion, but on transformation

and dissolution, not on beauty, but on decay and demolition. He applies a different understanding of destruction that sees a certain anticipation in the degraded, in natural and geological processes as well as the deconstructed detritus of modernism. These scenes for him are imbued with possibility, embedded in time, linked to a history remembered but more importantly to a future imagined.

Smithson's fascination with the scenes of entropic process is reflected both in the way he perceives his surroundings and the manner in which he conveys these observations and perceptions. His texts, rather than merely accompanying the physical components, are an integral part of the work itself. They take the form not of descriptive texts but rather of narration, in an often convoluted manner, center-less with various tangents and manifold interpretations, but always moving forward, relating entropic change in form and content. Text and narration allow Smithson to reveal processes that aren't communicable through pictorial means. He makes associations to distant sites and events as well as projects and speculates on future unknown potentials not yet manifested, describing a site embedded in time.

Here is an excerpt from Smithson's slide lecture on Hotel Palenque (describing the image on page 5):
"This is interesting, back in the garden again. Here we have some bricks piled up with sticks sort of horizontally resting on these bricks. And they signify something. I never figured it out while I was there but it seemed to suggest some kind of impermanence. Something was about to take place. We were just kind of grabbed by it. You just really felt that any

minute something was going to happen. It was like a sign, a sign from something ageless actually."[2]

Hotel Palenque stands out as a project that is only the

Robert Smithson, *Hotel Palenque 1969-72*, thirty-one chromogenic-development slides and audio recording, collection Solomon R. Guggenheim Museum, New York. © Estate of Robert Smithson.

account of a site through text and image without any physical residuum. In his narration Smithson disassembles

2 Smithson, Robert and Neville Wakefield, "Insert Robert Smithson Hotel Palenque 1969–1972," Parkett, Vol.43, 1995.

and reassembles the building in his weaving narrative account of Hotel Palenque. He describes the building in fragments rendering the structure incompressible as a whole. Smithson's account outlines a programmatic ambivalence and a spatial confusion. He calls attention to certain details describing materiality and tectonics, emphasizing the state of decay or the process of repair, illustrating the elements as a stratum of time, the temporal experience. The occupation, or often imagined occupation, of the different spaces of the hotel becomes part of the narration, provoking various associations, connections of spaces, of times, of cultures, describing a potential future. The various occupants which are engaged in the processes Smithson describes are not always human, the more-than-human plays an equally important role in revealing the potentiality of the construction, architect or user, plant or animal, even inorganic piles of rubble animate Smithson to ponder possible meanings. The occupants are inseparable from the perceptions of the processes of the ongoing transformations.

Smithson's lecture and the photos he took of Hotel Palenque became an important artwork in themselves, which have been presented in various forms and media.[3] His lecture is counter to the conventional reading of architecture and site. The work is emblematic as a challenge for architecture in Smithson's intentional (mis)reading or over-interpretation of a building where organic growth and inorganic structure merge as an ever-unfinished entropic

3 Loe, Hikmet Sidney, "The Hotel Palenque: Robert Smithson's 1972 Utah Lecture," Western Humanities Review 68, no. 1 (Winter 2014): 68.

process. It is an undefined and uncertain process, but in this unpredictability lies for Smithson a certain emancipation. Specifically Smithson's notion of de-architecturing, which he also refers to in other projects and texts, is relevant in approaching demolition and de-construction of existing structures. De-architecturing can be understood as the process of dismantling architecture, a deconstruction to an unfinished, undetermined state, physically as well as conceptually. It is a merging of architecture with its site and environment. De-architecturization de-emphasizies architecture as static or finite object, instead it comprehends architecture as embracing change, and uncertainty and entangled with its environment. It transfers the aspect of space and assimilates the element of time.

Smithson's particular reading and retelling of the site and the building of Hotel Palenque offer a productive means of approaching an existing construction in architecture. Viewing the processes of deterioration and decay as generative proffers a more sensitive approach to embrace the existing with a dynamic view of the design process. As an illustration, what follows is my descriptive narration of the renovation project Schmitz, done in collaboration with Sander Rutgers and Olivier Goethals, relating the project and the process in the manner of Robert Smithson's lecture on Hotel Palenque.

Schmitz, 2017 (image credit: Bertrand Cavalier)

This is a photo of the found condition of the building before the renovation. Schmitz is a typical townhouse built in Brussels in the early twentieth century. A rear shed was quickly demolished and a storage building was added. Later the entire ground floor was cleared and converted to a car repair shop, with over the years additional adaptions, removals, and expansions.

Intermittent openings let light enter the dark and cavernous interior of the ground floor garage—one long space extending from the street with various interruptions—the space seems to expand and contract.

Schmitz, 2017 (image credit: Bertrand Cavalier)

The structure became a self-built bricolage of different material assemblies layered over the years: concrete, bricks, steel, wood, seemingly random, depending on availability. The building was empty for over twenty years and left in a state of abandonment. A broken roof allows new life to emerge in places and new spatial qualities reveal themselves. The inside becomes an outside, a kind of enclosed garden.

Schmitz, 2017 (image credit: Bertrand Cavalier)

Here is a good view of the storage space, above the garage. It was probably used for keeping various auto parts. It's a very functional space. Slender columns support the ceiling, defining an aisle along the center. A fractured path shows the way, but leads nowhere. Spectral light filters in and moss is starting to pervade the space. There is an ambiguous quality, neither entirely deterioration, nor regeneration. An incidental landscape of transformation emerges.

Schmitz, 2020 (image credit: Bertrand Cavalier)

Now here is an interesting photo from the construction process. The new project takes its inspiration from the conditions of the site. It follows a logic of continuous transformation and reconstruction. Entropic change is the agent that defines the process. Windows are cut haphazardly into the existing walls to fit the new use. New bricks are added to finish the openings, layered on top and over older bricks. Construction scaffolding appears where floors are demolished, creating temporary platforms of connection between the buildings in the newly opened courtyards.

Schmitz, 2021 (image credit: Bertrand Cavalier)

Here is the new top floor. It's pushed backward to create a roof terrace. Open and free of the neighboring buildings, exposed. Yet, the architecture doesn't manifest itself. It participates in its own denudation. As if still under construction new scaffolding climbs the walls from the courtyard. Old and new merge under a stratum of paint. The aggregation of past and present is legible in the cracks of textures and patterns. Climbing plants will one day add another layer and envelope the building.

Schmitz, 2023 (image credit: Bertrand Cavalier)

The renovation is essentially complete. Here a new roofless interior is made. Quoting Smithson referring to Hotel Palenque: “It’s a ‘de-architecturization’ you might say. It’s a breaking away of unnecessary floors.”[4] And a rebuilding of platforms and stairs that lead to the open sky. The deconstruction and reconstruction process continues. Scaffolding partially fills spaces once occupied by floors and walls. New brick volumes replace the former garage space with its various alterations. A fragmented pathway leads through the now outdoor space of the ground floor, soon to be overgrown. The entropic ruinations of the past are continued. The project refers to a continuum of time.

4 Robert Smithson and Neville Wakefield, “Insert Robert Smithson Hotel Palenque 1969–1972”, Parkett, Vol.43, 1995.

Schmitz, 2023 (image credit: Bertrand Cavalier)

The remnants of a massive bridge from the car repair shop hang above the rear courtyard. Held in place by a new beam balancing on a single concrete column, simultaneously connected to and severed from the site and the past. The building becomes the site becomes the process. Its present and the past merge and define continuity between past and present into the future. Here time becomes legible.

Schmitz, 2024 (image credit: Lars Fischer)

This is a recent photo of the project. The garden is starting to grow, a combination of planted and ruderal plants. The architecture becomes both a scaffolding and a backdrop. Plants move up, along and out. The decay of "the past folds into the present in indeterminate ways."[5] The distinction between building and site begins to erode.

To quote Smithson again: "I think things just change from one situation to the next, there's really no return."[6]

5 Caitlin DeSilvey, Curated Decay: Heritage beyond Saving (Minneaplois: University of Minnesota Press, 2017), 183.

6 Robert Smithson, "Entropy Made Visible (1973). Interview with Alison Sky," in Robert Smithson. The Collected Writings, ed. Jack Flam (Berkeley: University of California Press, 1996), 309.

Reading an existing context as Smithson does, paying attention to the detritus and the damaged, the influence of time, as well as the sometimes haphazard attempts at renewal, broadens the perception, and acceptance, of the existing construction and admits the entropic processes of deterioration into the vocabulary of architecture as a revealing and useful evolution. Decay is not only meaningful as a discursive device to analyze and theorize the built environment, highlighting the processes of change and adaption. Smithson's notion of de-architecturing, of understanding architecture not as a static object but part of a dynamic ongoing (destructive) process, is also relevant as a design approach when dealing with existing structures. It allows the design process to embrace the fragmentary and the unfinished, to elaborate this and accept further fragments to be added as well as removed, without formalizing it.

The narrative description of a context, in the case of Schmitz of a building site, is integral to the design process, the retelling itself is part of the entropic process. The meandering account destabilizes a fixed and finite understanding of the site, assimilating the processes of the site, towards a sharing of the "entropic experience".[7] A de-architecturing then occurs both on the site and through the narration.

De-architecturing architecture doesn't look for a final outcome, it is neither total destruction nor complete

7 Jacques Leenhardt, "Sur l'entropie et le paysage : à propos de Robert Smithson ," *Images re-vues* Hors-série 5 | 2016, Après le tournant iconique.

renewal. It seeks the space and the time in-between, and accepts the intrusion of the elements, organic and non-organic, human and non-human, towards an ongoing process of irreversible change.

Bibliography

DeSilvey, Caitlin. *Curated Decay: Heritage beyond Saving*. Minneapolis: University of Minnesota Press, 2017.

Flam, Jack, ed. *Robert Smithson. The Collected Writings*. Berkeley: University of California Press, 1996.

Habeck, Joachim Otto and Frank Schmitz, eds. *Ruinen und vergessene Orte. Materialität im Verfall – Nachnutzungen – Umdeutungen*. Bielefeld: Transcript, 2023.

Jacques Leenhardt, "Sur l'entropie et le paysage : à propos de Robert Smithson ," *Images re-vues* Hors-série 5 | 2016, Après le tournant iconique.

Loe, Hikmet Sidney. "The Hotel Palenque: Robert Smithson's 1972 Utah Lecture." *Western Humanities Review* 68, no. 1 (Winter 2014): 68-69.

Owens, Craig. "Earthwords." *October* 10 (1979): 121–30.

Shapiro, Gary, ed. *Earthwards: Robert Smithson and Art after Babel*. Berkeley: University of California Press, 1996.

Smithson, Robert and Neville Wakefield, "Insert Robert Smithson Hotel Palenque 1969–1972", *Parkett*, Vol.43, 1995.

PRACTICES IN RESEARCH #5

DEMOLITIONS AND DECONSTRUCTIONS

CHAPTER 3

TACTICS OF DEMOLITIONS

RELATIVE DENSITY,

Building Dialogues

Anna Cooke, Damien Hannigan

Hannigan Cooke Architects
University College Dublin

2024 N°5

Building Value

The value of a home is often calculated by a straightforward ratio of construction cost per square metre to the sale value of the completed dwelling per square metre. This is the metric used by the mortgage market in Ireland and for homeowners, this calculation can influence their decision to build, extend, alter, or upgrade their homes. Within architectural discourse, by contrast, there is a constant evolution in the understanding of value with the question of material value dominating current conversations. The trickling down of this discourse into the reality of small practice takes time. Pragmatic considerations will, of course, outweigh ideological ones when it comes to modest homes and budgets. This is exacerbated in the context of rural Ireland where the influence of an architect is rare. In recent projects, our focus and that of our clients has shifted. As material, labour and energy costs have increased and running costs have become a priority, there is a new emphasis on thermal performance, energy efficiency and spatial quality over quantity.

This paper reflects on three rural domestic projects undertaken between 2019 and 2024. The three projects are connected by their rural setting; by a desire to return to closer living conditions, intergenerational and communal plans for living more densely together; by a re-evaluation of the materials and structures already existing on a site; and by an openness to sharing resources and infrastructure.

All of these techniques are not new, in fact, they are a return more than a departure.

We assist our clients in understanding, illustrating and eventually building what they need. This process happens iteratively in each project and drawing as a tool is central to this process. We use overlays, we make notes, we demonstrate inhabitation, we try to show how people might live by drawing over plans and sections, bringing architectural drawings to life so that someone unused to reading a demolition plan, for example, can imagine themselves into the space. We use the live line over the hard line. In client meetings, we draw strategy and detail in different corners of the same page; dimensions to legal boundaries and the best spot for evening sun, a suggested view or a new spatial adjacency within the plan.

For each project, we have used an isometric viewpoint that shows the project and its immediate surroundings as a base layer. This overview, or birdseye view, gives a sense of the whole and, to an extent, can suggest the passing of time. In each project, other narratives, traditions and possibilities emerge through conversation, visits, drawings and the sharing of photographs with our clients. Beyond the practical or economic consideration of value, family ties and an

affinity to place strengthen client motivation. Family stories, patterns of living, experiences and ways of being that are valuable to our clients and that we can give a sense of weight to, come to the surface. The various strands can be edited and combined to create a new narrative for the project. Through these three projects, we present our changing mode of interacting with clients in order to build upon and inform their connection to place. We also present our changing attitude to the value of built fabric and the demands that we place upon it.

Montpelier - Filling in

2019-2021

O'Briensbridge-Montpelier, County Limerick, is a village in the southwest of Ireland. It developed in the typical, rural, Irish pattern, with houses on individual plots dispersed along a busy, secondary road. Situated on the east bank of the River Shannon, the land is generally flat and used for cattle grazing. The climate is one of mild summers and winters, with frequent rain.

At first, our instructions were to design a new house for a single family. Over time, the brief changed and we were asked to rework an existing single dwelling into a multi-generational family home to accommodate both the young family and their grandfather. The change in direction from new-build towards the renovation and reconfiguration of an existing house was influenced by a government

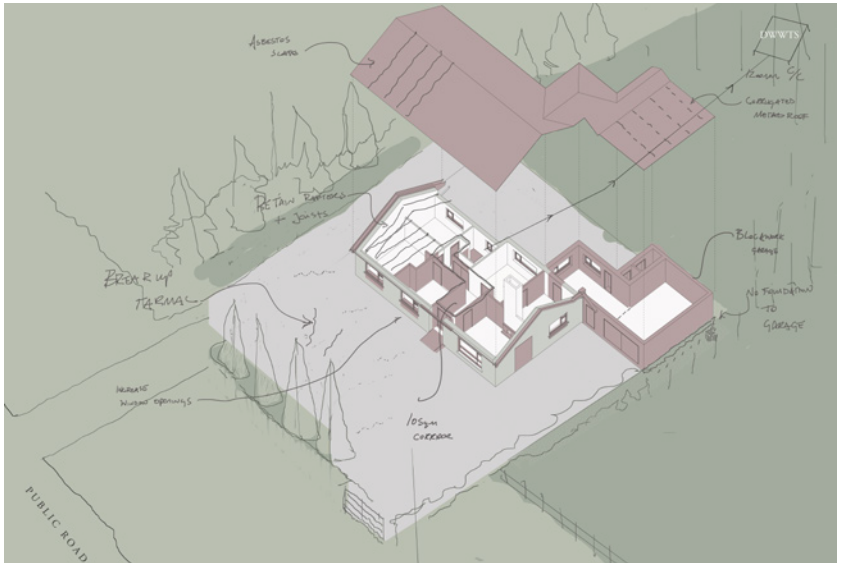


Image 1: Demolition isometric drawing indicating fabric removed from Montpelier project and existing thematic annotations.

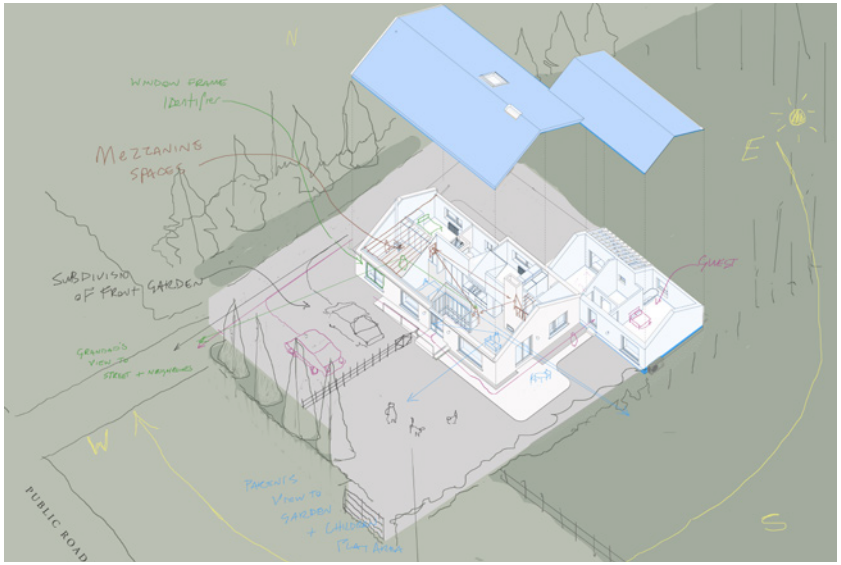


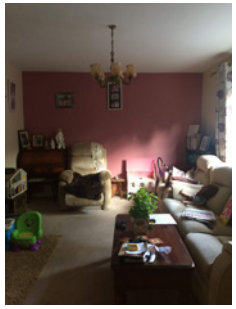
Image 2: Proposed isometric drawing indicating alterations to Montpelier project and thematic annotations.

grant-aided retrofit scheme and an expectation that upgrading an existing property would be faster and cheaper than building a new structure.

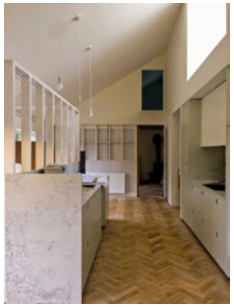
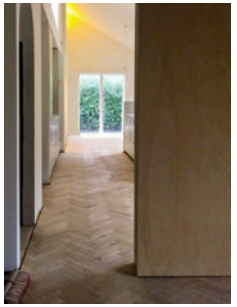
On a slightly elevated site, we found a bungalow that was typical of 1970s Irish pattern-book construction. It comprised a simple gabled roof structure, uninsulated concrete blockwork walls on minimal strip foundations, and an uninsulated concrete floor slab. External finishes included sand and cement render, imitation stone cladding and asbestos slate roof. The main house and garage had been connected by an ad hoc extension. The house and its later additions had been built by the grandfather of the family.

Within a footprint of 125 square metres of habitable accommodation and 25 square metres of garage, we had to allow for privacy and retreat, as well as shared utilities for three generations of the family. As is typical of Irish bungalows of this era, the existing layout was convoluted; a long, dark, turning corridor occupied the centre of the floorplan. Keeping a structural spine under the existing ridge beam, the layout was reconfigured to make shared living spaces from which private quarters could be accessed by grandfather, child and parents. Bedrooms address the east-facing rear garden, with south and west-facing living rooms to the front.

By reinforcing the existing ceiling joists in places, additional mezzanine spaces could be stacked over new living spaces. This was a way of 'using' structure to add space that is not habitable in the regulatory sense but allows for






Images 3,4: Existing living room and exterior elevation of Montpelier, Images 5,6: Demolition stage showing strip out of ceiling boards and removal of internal blockwork partitions. Image 7: Construction stage showing new internal timber frame linings.Image 8: View from family living space towards Grandfather's living space with opening to playspace above Image 9: View from Grandfather's living space towards kitchen and family living space Image 10: Construction stage, exterior elevation.

expansive use by occupants; of building densely in a very constrained situation. These spaces cannot be listed as rooms by estate agents and therefore do not contribute in a definite way to an increase in property value. They were, however, one of the elements of the design that captured the imagination of our clients. By opening up and revealing the existing structure and by demonstrating how it might be inhabited, our clients became invested in building in an interconnected way; where not every function requires complete enclosure; where spatial relationships are informal and overlap; and where relatives can be apart from, but close to, the main activity of the house.

Through the careful rearrangement of the internal rooms, we created a home that responds directly to the sun's path. Doing so within the footprint of the existing house ensured efficiencies during the planning and construction stages but it is notable in the Montpelier isometric drawing that the approach to the wider landscape is confined to the boundary of the site. The alterations begin and end at the driveway entrance. In retrospect, there was scope to consider wider connections, particularly to neighbouring fields and outbuildings in the family's ownership.

The Story of a Structure

In the existing house, there was no heritage value in the conventional sense but during conversations with the family, the grandfather spoke of the physical work involved in pouring the foundations; the wheelbarrows that he filled and pushed; and the blocks he unloaded and lifted. These

tangential anecdotes added to the myth of the house. There was a direct memory of work, of physical exertion. While the decisions to keep parts of the structure were pragmatic, the testimony of its original builder was deployed, on occasion, to negotiate with a reluctant contractor.

Given that the original construction had no formal heritage value, and encouraged by the availability of government retrofit grants, we took what is the standard approach to improving thermal comfort in Ireland: adding layers of insulation, improving U-values and airtightness and installing energy-efficient mechanical systems[1]. Questions of comfort were not specific and the ambition for the Building Energy Rating (BER)[2] was more clearly stated than that of the environmental design. The tangible indicators of performance, such as air tightness testing, were useful as targets that could be understood by the client and clearly met by the contractor. However, the limitations of the BER rating system have become apparent in this project post-completion. While it is unarguably efficient in terms of heat load, the homeowners struggle to achieve a comfortable internal temperature on the hottest days of summer. Having conversations with our clients post-occupancy, the question arises; what is a new vernacular in the Irish bungalow

1 The Sustainable Energy Authority of Ireland (SEAI) is an Irish government body established to promote and aid in the development of sustainable energy in Ireland. The National Retrofit Plan sets out how the Government will deliver on the Climate Action Plan targets of retrofitting the equivalent of 500,000 homes to a BER of B2/cost-optimal and installing 400,000 heat pumps in existing homes to replace older, less efficient heating systems by the end of 2030. The focus of the SEAI and the grants it provides is on achieving high thermal performance and airtightness targets and increasing renewable energy sources.

2 Building Energy Rating (BER) allows prospective buyers or tenants to objectively compare the energy performance of different dwellings on a like-for-like basis. It is an indicator of a home's energy efficiency and can be used to estimate the running costs and carbon emissions associated with heating the home to a comfortable level.

that balances energy efficiency with a responsive and considered approach to the living environment and the fabric that contains it?

The narrative that emerged from this process was one of a family creating a multigenerational home within the house that the grandfather built. A series of constraints were translated into something more idealistic. The 'granny flat' is a typical proposal but it is usually outside the envelope of the original, an annexe. Our clients had a pressing need to live together and because there was an idea of rehabilitation of the family home, the purpose, the narrative of the project was enough to outweigh the sense that we were constrained by the existing dimensions, by the container of the original house.

Annaholty - Stripping Back

2019-present

Annaholty, County Tipperary, is a townland in the south-west of the country. Located on the edge of a flat bogland, it is bisected by a motorway connecting Limerick City to Dublin. Sitka spruce plantations and a patchwork of grazing fields make up the remainder. Like the neighbouring County Limerick, the climate is mild and wet, protected by its inland location.

The old road that connected market towns along the route

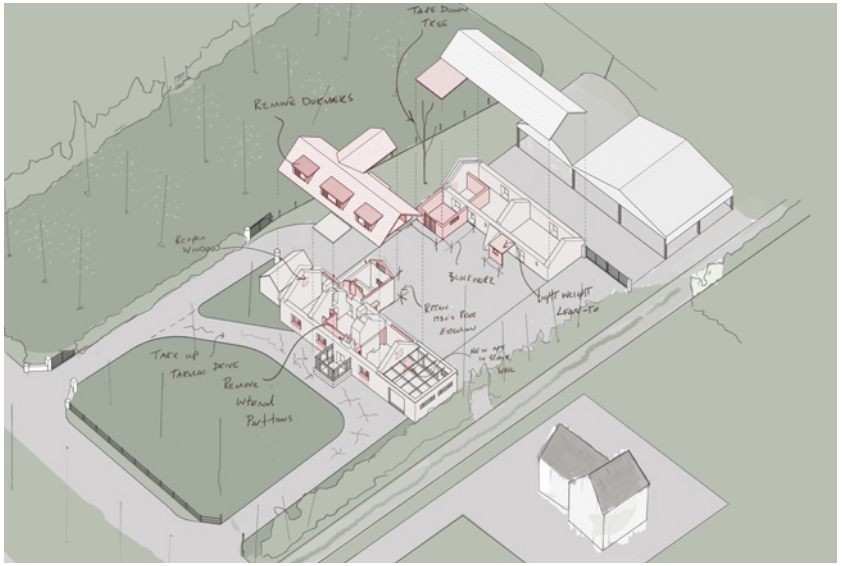


Image 11: Demolition isometric drawing indicating fabric removed from Annaholty project and existing thematic annotations.

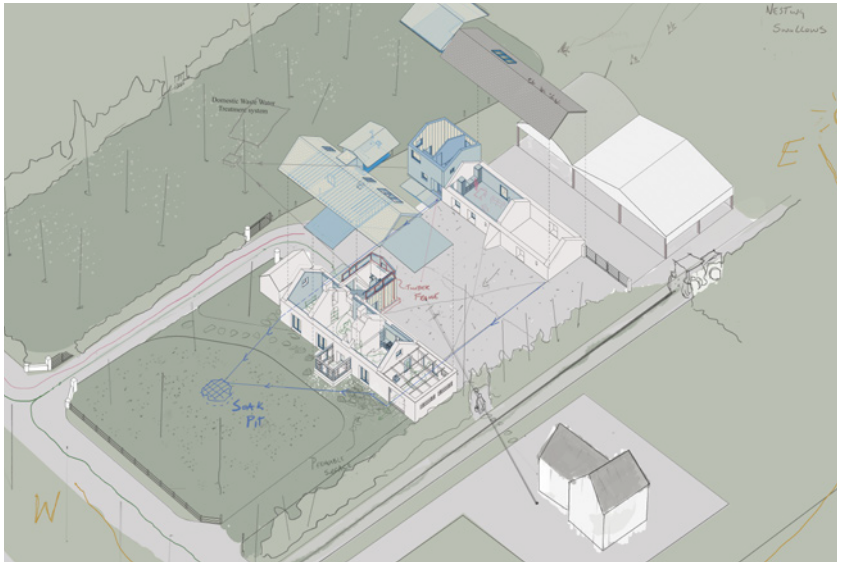


Image 12: Proposed isometric drawing indicating alterations to Annaholty project and thematic annotations.

from Limerick to Dublin also cuts through the townland. Along this historic road, we found a traditional farmyard around which stood a stone byre to the east, a stone farmhouse to the west and a mature orchard to the north. The buildings are approximately 150 years old. Our client, an only son, lived in the house with his parents until 2002 when he built his own home on the adjoining site. His father passed away in 2015, followed by his mother in 2020. Our brief was to intervene in the existing fabric in order to extend the life of the house for another generation. In discussing his decision to renovate the house, our client spoke of his responsibility to ancestors and to descendants. For him, the buildings represented generations of connection to place. With this affinity for the place, the history and the fabric of the buildings already had an established value.

Taking the house and outbuildings as a whole, we proposed to restore the farmyard as the focus of a cluster of buildings with the farmhouse as a main dwelling and further accommodation in the renovated byre. Extending the living accommodation into the byre meant that minimal new fabric was required. A new wastewater treatment system was sized to fit in the orchard and the surface of the farmyard was made permeable to deal with stormwater. A garage was adapted to become a winter garden, taking advantage of its south orientation and a new extension made the existing agricultural buildings habitable. Small additions had been made to the house throughout the 1980s. One of these, a two-storey rear extension, had been built with concrete blocks and minimal foundations; we proposed to raise the







Image 13: Photo of house taken in the 1970s Image 14: Existing view of Byre building and farmyard Image 15: Existing Kitchen interior Image 16: Demolition stage showing strip out of internal wall paneling and cement plaster Image 17: Temporary works showing existing roof timbers Image 18: Construction stage showing new roof structure

Image 19: Timberframe addition to existing 1980's blockwork extension.

roof and use it as entry, circulation and bathroom spaces.

The question of usefulness and intergenerational thinking was extended to the land around the house. We saw our role here as identifying existing pathways and connections so that they could be reinforced and overlaid with new ones. The client and buildings are notable for the timeline they appear to inhabit. There was an unspoken confidence that the buildings' 150-year history could result in at least the same chronology again and that any plans and decisions we made during the project should be conscious of that legacy.

The Story of Fabric

Our approach was to return the house to something close to its vernacular form. The perceived significance or value of the stone buildings allowed us to propose natural materials, breathable and low-carbon, in our treatment of the existing fabric. The 1980s fabric was perceived as being less valuable and, as a result, we assumed that it should be brought up to current standards of thermal performance. However, on discovering the inadequacies of the foundations in the 1980s construction, we were forced to revisit our assumptions about what we were asking of this fabric. Adding 30cm of insulation, for example, placed too great a demand on its construction. It also raised questions about how we define comfort. We did not expect to bring the stone construction up to current regulatory U-values but with the work we were doing we expected an improvement in comfort by addressing the dew point, humidity, draughts

and so on. The reworked 1980s extension was to contain stairs and bathrooms, the question then became; what level of comfort is acceptable here? Should we work towards a 22 degrees Celsius steady temperature and 50% humidity, or can a warm floor and increased light levels result in an environment that is perceived as comfortable?

While a sensitive conservation approach to the original stone house was never in question, the 1980s blockwork addition invited questions and discussions about material value and maintenance. In our original design, we operated on an overly dualistic model and it was only during conversations on-site with our client that we were able to discuss and illustrate a potential spectrum of interventions, standards and environmental conditions. The question became more nuanced; what has an existing structure done during its lifetime and can it continue to do that job adequately?

In the end, the blockwork was retained but with fewer demands placed on it in terms of performance. The roof structure was considered in the same way. The structural engineer was satisfied with its integrity. Our client, however, took a longer view; if this is a one-in-one-hundred-year project, can the existing timber be expected to last another hundred years? The decision was taken to replace the roof rafters but the timber was retained for use as internal partition walls. The material remained on site, now in a supporting role rather than a structural one.

Our client's clear sense of purpose and responsibility to the place was particularly formative for our practice in finding

more varied reasoning when inviting discussion and making decisions. What started as a tongue-in-cheek mythology of building at Montpelier became, at Annaholty, a genuine appreciation of the significance of family ties and of the work of place-making. This was underpinned by a formal sense of value in the built heritage of the farm. During the project we started to record our clients' words, his passing anecdotes and testimonies, as the weight of this oral history in the project became apparent.

Lappanduff - Layering Up

2020-present

Lappanduff is a rural townland in County Cavan, the northwest of Ireland. It is set at an altitude among drumlin hills that are characteristic of this part of the country. The surrounding land is agricultural with a mix of dairy, livestock and forestry. The southwesterly prevailing wind is strong and persistent. The existing buildings adjacent to the site were constructed between 1980 and the present day. They include a cluster of agricultural sheds in concrete and steel frame along with the existing family farmhouse, a 1980s bungalow in cavity wall construction. This 1980s farmhouse had been built close to the main road for convenience and the less accessible historic settlement that had been the focus of the farm since the early 1800s was left for use as storage and eventually abandoned. As at Annaholty, this project was for the next generation in a farming family.

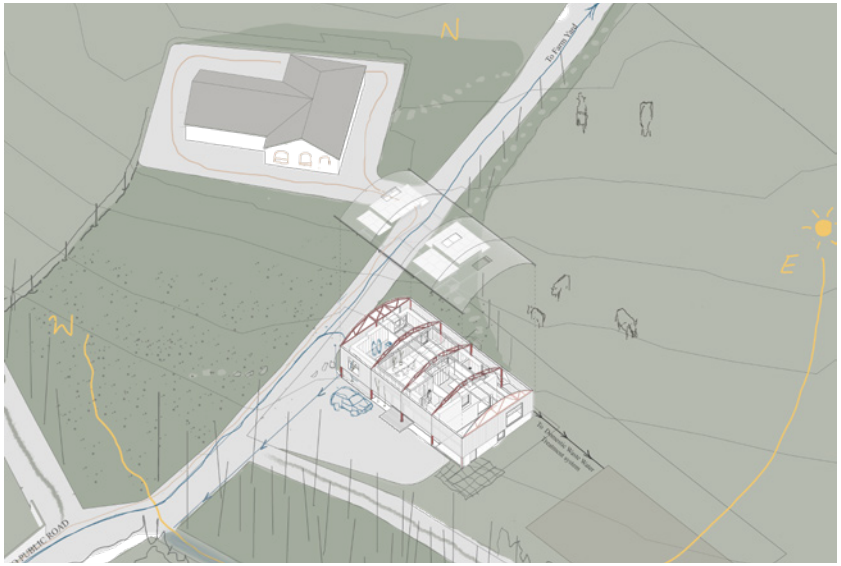


Image 20: Proposed isometric drawing indicating alterations to Lappanduff and thematic annotations.

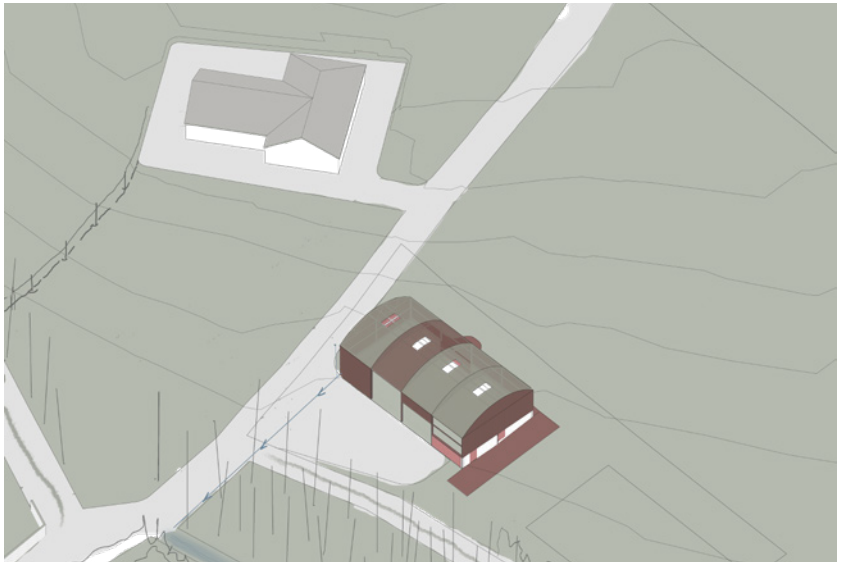


Image 21: Demolition isometric drawing indicating fabric removed from Lappanduff project and existing thematic annotations.

In this case, however, our client was also taking on the operation of the dairy farm.

Our client came to us with a brief to build a new house on an elevated, green-field site. We produced some sketch designs but were conscious of the pattern of leaving older structures behind and making new buildings without a plan for the old. We suggested building inside an underused hayshed near the current farmhouse instead. Our thinking about found structures had also evolved to become more inclusive. In this project, pragmatic considerations were used to justify the re-evaluation of existing materials rather than the other way round; on a farm, when inclement weather prohibits most outdoor jobs the shed facilitates work. In this case, it represents an opportunity to build economically. Its value is not as structure but as skin. At Lappanduff we found an empty shell, waiting to be tempered and occupied.

The form of the shed was typical of mid to late 20th-century agricultural buildings. Its light steel and timber frame was inadequate for re-use as a load-bearing structure. We proposed instead that it could function as a self-supporting rain-screen around a newly built insulated timber frame dwelling. The footprint of the new construction was offset internally from the perimeter of the shed so that its existing foundations could remain intact. A highly insulated raft foundation with a prefabricated timber-frame superstructure was proposed. Snow and wind loads were discounted from the calculations for this structure because the shed provides the outer skin. The insulated raft acts as



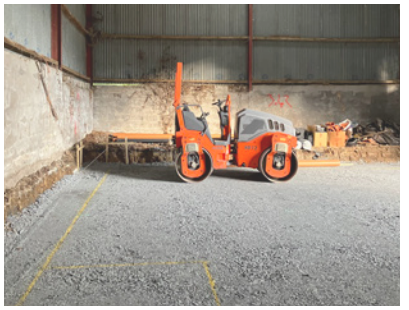




Image 22: Existing shed shown in context Image 23: Existing shed interior Image 24: Excavation of shed floor to required levels Image 25: Preparation of compacted hardcore and sand blinding Image 26: Setting out of raft slab relative to existing shed Image 27: Installation of EPS insulation formwork Image 28: Reinforcement mesh ahead of concrete pour.

the structural slab and internal floor finish. The 40cm thick prefabricated timber frame was pre-insulated with densely compacted straw. Once the new structure is complete, portions of the shed skin will be replaced with translucent and transparent panels. Demolition in this case will be our last step instead of our first.

The current farmhouse, where our client lives with his parents, is twenty metres north of the shed. In the proposed site layout, its existing front garden will be shared by both homes, ensuring that agricultural land remains agricultural. In return, the new house offers spaces that are currently lacking or compromised in the old: a dedicated farm office, spaces for drying clothes and carrying out repairs, greenhouse growing in the sheltered interstitial zones. New planting and pathways formalise the connection between the new and old farmhouses and to the farmyard beyond.

The Story of Shelter

Over the course of the project, momentum has built around what is possible now that the shed has become a workshop for building a home. From the first suggestion of a new house on a hill, a shared excitement has developed in what we might think of as the *future story* of the project. The process, the inversion of the existing structure, our client, the local planners, neighbours and builders all have surrendered to the future storytelling of how a house could be built in a shed. The management of a farm requires many-sided competence including basic construction skills,

so a certain amount of self-build was possible here. The limited budget also suggested an element of self-build. The client's initial resistance softened through a combination of offsite prefabrication, separate subcontracts for more challenging elements of work and simple, straightforward detailing. For our client, the structure of the shed has become familiar; the construction period is the first phase of its inhabitation and time spent there builds confidence in the decision to retain it. An array of curious visitors including neighbours, architects and industry suppliers have further confirmed its value.

Existing structures are generally perceived by building contractors as obstacles to progress. Their off-plumb and uneven surfaces can add time, complexity and cost to a project. New construction, by contrast, is considered fast and straightforward. With Lappanduff our question was simple; can the existing structure have value at each stage of the project, including during construction?

Like a Russian doll, the proposed house is nested within the existing shed's structural frame. They do not touch. By offsetting the insulated fabric from the existing steel frame, we were able to address the question of thermal comfort as though it were an entirely new build house. In the spaces between skin and structure, a new range of environmental conditions are found, allowing a soft transition between house and weather-world. As in Montpelier, there are mezzanine spaces that reconnect to the central living spaces, so that even within a new structure there is a dense layering

of spatial connections. As in Annaholty, the existing structure is assessed on the basis of its past and future function; the demands placed on it remain realistic.

Building Stories

Our aim here has been to review three projects and investigate an emerging need and desire for density of inhabitation, of use and of material. By graphically retracing our decisions and their factors of influence in a single isometric drawing we became aware of an overarching narrative for each project. We realised that we build stories.

We think that our drawings should communicate both the 'what' and the 'why' of design decisions. When our clients do not see themselves as agents of change in how we build now, what can we say, and draw, to galvanise their interest and support in finding new construction methodologies and new ways of measuring value? Taking on our *rough work*, our live line, as a purposeful part of our drawing methodology is one way in which the story of the building and the construction language of the design might merge. Where previously an overlay drawn in haste, in conversation, would have been discarded, this has become a record of the process of client interaction.

Looking back at our shift in thinking over the course of these three projects, the weight of our clients' words and observations has been significant. It is a conversation, then, that allows any project to happen. We build a story with our

clients that gives weight to particular aspects of their brief and leads to an understanding of needs and possibilities.

In previous evaluations of projects, we have reverted to a typical narrative where we, The Architects, want to achieve something and The Client, to a degree, must be convinced; The Builder, cajoled. We have presented projects as having a linear narrative. Our conclusion here, however, is that all of these characters can be overstated and underestimated. We want to move towards an inclusive history of a project where the contribution of all of those involved is captured and understood. We also recognise that the narrative is rarely linear, that there are fragments of ideas, anecdotes and solutions to problems on site that combine to make a building. Setting out on new projects, we are now alert to the potential of these fragments; we collect them, we feed them back into conversation.

In these three project stories, we identified a series of themes that are common to each and that might allow us to focus on this idea of building densely, intensely; that the value of the structure of a building can be extended in unexpected ways, ways that it was not designed for; that the value of the fabric of a building should not be diminished by its limitations; and that, at home, a sense of comfort and shelter outweighs almost all other considerations. These themes, these questions of value and shelter are often intangible. Through drawing and conversations, we will continue trying to resolve them in buildings.

The Architect as Curator of Reclaimed Materials

A visual essay about a methodology

Alberte Hyttel, Julie Lecuelle, Amalie Holm

gruppe-aja
The Royal Danish Academy

Editors note: While not being invited to follow the established visual essay guidelines by the Editorial Board, the authors of this article spontaneously questioned the hierarchy between text and visual content, thus resulting in a slightly different visual essay.

Introduction

gruppe-aja is an architectural studio based in Copenhagen, led by Alberte Hyttel, Julie Lecuelle, and Amalie Holm. The studio explores the aesthetic potentials of relocating reclaimed materials.

Bricks and paving tiles are materials that, due to their generic geometry, durability, and widespread availability, are highly reused in Danish building culture (Bolius, 2023). However, during the production of bricks and the construction phase of concrete tiles, large amounts of residual products are still generated. These residuals come in various specific sizes and irregular shapes, and instead of being reused, they are crushed and recycled into granules for road fill or used as chamotte in the industrial production of new, generic tiles. This visual essay explores a low-tech design methodology that incorporates the specific shapes and limitations of these leftover materials in two projects by *gruppe-aja*. Through photographic material captured during the processes, the essay outlines the steps involved in developing an architectural project and reflects on the limitations and potential of the methodology.

The first project, Case 1, involves the transformation of a small brick barn used for storage into a communal dwelling for four families. This project explores the interplay between reusing salvaged materials and valuing the existing architecture. While some materials, such as wood and windows, are sourced from the project site, the flooring is made from leftover bricks from a nearby factory.

The second project, Case 2, involves the transformation of a garden north of Copenhagen. This project investigates how the landscape can be shaped using materials already found on-site, including leftover concrete cutoffs discovered in containers within the local neighborhood.

Approach

Central to the methodology used in these two cases is a commitment to an open-ended design process, where neither the choice of materials nor the final design is determined until the end of construction. The architectural process, therefore, involves tracing and collecting used or leftover materials from the site, local streets, or surrounding industries. Rather than pursuing predetermined outcomes, the method fosters a continuous dialogue with available resources, constantly adapting the vision to the potential of the salvaged materials.

While the unpredictable material supply may seem to dictate the design, the upcycling process is also guided by the architect's selection of materials, assessing their potential for technical and aesthetic integration into the specific project. This can be seen as an invitation for the architect to pay closer attention to the potential of existing materials, adopting the pragmatic role described by Irénée Scalbert as a bricoleur, who "rebuilds his set of tools and materials by using the debris of previous events, the odds and ends left behind by other ventures" (Scalbert, 2011, p. 73).

The overarching approach to reuse in this methodology is to work with the value of the existing geometry of materi-

als, embracing all their variations. Through this approach, minimal energy and resources are added, and the method offers a way to reduce the complexity of the technology required for the reuse process. It is also driven by an aesthetic motivation to explore the diverse and composite geometries through design.

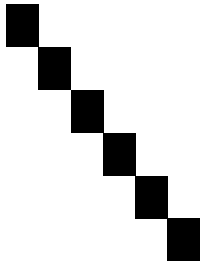
The approach to reuse described above is demonstrated in the following photographic material, which attempts to capture the steps and tools of the methodology:

Project Site: Architectural analysis of the condition and potential of the existing architecture, along with an assessment of the available resources on-site.
Reclaiming: The process of identifying and sourcing local material supplies of leftover or used materials.
Categorizing and Curating: Analyzing and organizing the quality and quantity of the reclaimed materials.
Storage as Lab: Creating a stable supply on-site that functions both as storage and as a design lab for mock-ups.
Construction: The building phase, during which reclaimed materials are integrated into the project.
Fitting: Final adjustments to the often irregular reclaimed materials.

Although the methodology remains the same, the process varies depending on the supply sources. In the transformation of the barn (Case 1), the process was relatively linear: Reclaiming, designing, and constructing. In the garden project (Case 2), these steps were intertwined.

Case 1, Linear process

Project Site
Reclaiming
Catagorising and Curating
Storage as Lab
Construction
Fitting



Case 2, Intertwined process

Project Site
Reclaiming
Catagorising and Curating
Storage as Lab
Construction
Fitting

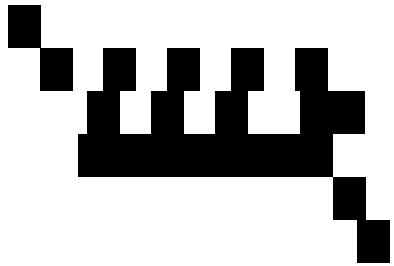
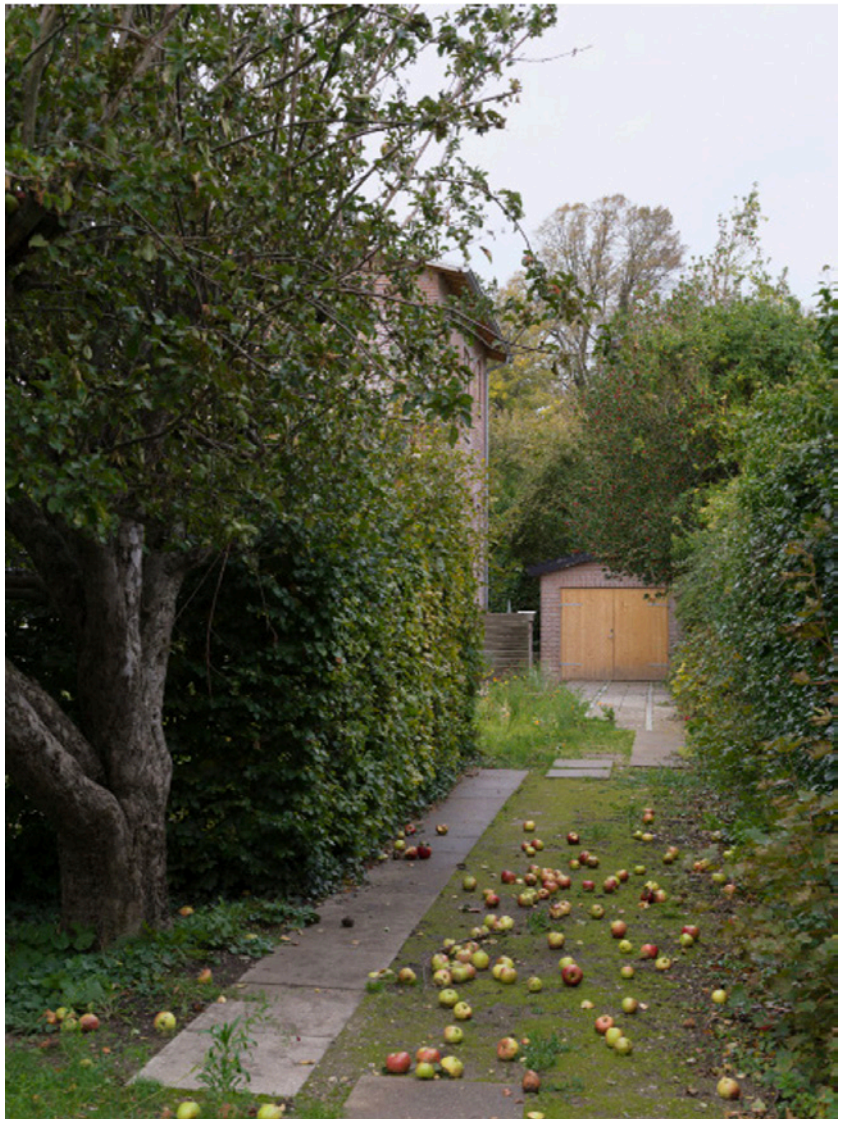


Figure 1: Diagram of process

Case 1 - Project Site In conversation with the owners, we decided to focus on the flooring as the main intervention. To continue the material languague established by the building we looked for suitable flooring materials.

Unless others are mentioned, the pictures are from gruppe-aja's archive



Case 2 - Project Site When searching for materials for the long pathway, we chose to reuse the existing tiles and add salvaged cut-offs from local pavement tiles.

Photo by Hampus Berndtson

Case 1 - Reclaiming Leftover materials from the Petersen Tegl brick factory. During the firing process, some bricks receive uneven heat, leading to variations in format and colors, which results in unsellable bricks at the factory.

Case 2 - Reclaiming The pavement tile is a highly generic material, commonly seen in public landscaping worldwide. When square pavement tiles need to be adapted to corners or irregular areas they are cut to size, creating a significant amount of residual waste.

Case 1 - Categorizing and Curating When salvaging the bricks, we first analyzed the residual pile to identify the availability. In this case, we found mostly red and yellow generic bricks. We then categorized them by color, size, and condition to create an overview.

Case 2 - Categorizing and Curating When the concrete cutoffs are upcycled as found, the concrete tiles transform from generic to unique shapes. We use mock-ups as a design tool to help us visualize the limitations and possibilities.

Case 1 - Storage as Lab By embracing the variety of formats and colors available during salvaging, we curated a selection of bricks to compose a flooring pattern.

Case 2 - Storage as Lab The sidewalk tile cutoffs were assembled over a period of three months, with batches collected every three weeks. During the assembly process, we discovered a container of large, solid stones in the same color as the concrete and integrated them into the pavement, adding new texture.

Case 1 - Construction We always strive to ensure that the materials we use can be disassembled and reused in another context, and that broken pieces can be easily replaced. For the floor, a traditional method of compacting and leveling sand with a wooden board was used.

Case 2 - Construction Even though the concrete tiles have specific geometries when viewed from above, they are all of the same height. The cutoffs can therefore easily be relaid, using the same substrate as standard pavement tiles.

Case 1 - Fitting We created a checkerboard pattern using horizontal and vertical lines. Black bricks were thinner which adds a stitching, blending traditional formats with a new format. The thin pieces also make it possible to adjust for size deviations in the bricks.

Case 2 - Fitting After all the large tiles were laid, the smallest concrete tiles filled the spaces between the big ones like the final pieces of a puzzle. A few tiles needed to be cut to close the remaining gaps.

Case 1 - Result The brick paving forms a self-repeating pattern where the design shifts and twists, reflecting the subtle variations in each brick.

Case 2 - Result The concrete paving varies throughout, with new patterns continuously emerging in response to the surroundings.

Case 1 - Detail Even though the bricks may appear generic, each one has its own unique characteristics and size—much like the house. This requires a curatorial approach that can integrate and manage both the constraints and the given spatial situation.

Case 2 - Detail Since the tiles originally had the same dimensions (80x60 cm) before becoming cutoffs, it was straight forward to establish a rhythm and system that could deal with the wide variety of cutoffs.

The primary challenge of integrating reclaimed materials into architectural projects often lies in the lack of certification, as well as the requirements for scaling and ensuring a stable supply (Rotor 2). To describe both the potential and challenges of this methodology, the following analysis will focus on the characteristics of the two supply sources, the organization of storage, and the usability of design tools.

Supplies

In Case 1, the residual product is produced at the Petersen Tegl Brick Factory in Southern Jutland, where it is geographically centralized within a confined area of the factory before being crushed and recycled into the production chain once or twice a year.

In Case 2, the residual product is generated during the construction of public sidewalks, with the supply source spread across Denmark. The cut-offs are temporarily stored in roadside containers before being transported weekly to the nearest recycling station, where they are crushed and recycled, creating a narrow time gap for securing the materials. This difference is clearly reflected in the process flows of the two projects. In Case 1, the residual materials are upcycled in a single day due to the centralized supply source, whereas in Case 2, the residual material is upcycled over several months and from multiple locations.

Both supply sources are potentially scalable, as the residual product is produced daily and in large quantities. However, they are also unstable because their current commercial material cycles depend on the materials being crushed and

recycled. They must continuously be relocated to a secure spot to serve as a stable supply source.

The architect's expertise is essential in the practical and selective upcycling of materials, with the architect's workspace physically moving along with the materials—whether away from the office, out on the factory site, on the street, in the warehouse, or at the project site. Several architectural firms have warehouse storage connected to their studios (e.g., Rudolf Olgiati, Rotor/Rotor DC, In Situ, etc.), where the warehouse functions both as a space to create stable supply sources and as an integral part of the architect's design process (Pireddu, 2022) (Rotor 1).

gruppe-aja does not operate its own warehouse but uses the project site as a temporary storage facility to secure reclaimed materials. This requires the client to make land available for storage before construction begins, which, in Case 2, lasted several months. Another potential limitation to this organization is that in Case 2, we collected materials "blindly"—not knowing the exact quantity required. This became apparent at the end when excess materials were thrown back to the containers it came from.

Design Tools

Conventional architectural planning tools, such as project drawings and renderings, are not always useful when working with these methods, as the project evolves continuously based on the availability of salvaged materials. In these cases, we worked with mock-ups as a design tool, which offers an opportunity to compose or construct with the va-

riety and diversity of the materials in 1:1 scale. In Case 1, we worked with a repetitive brick pattern as a formula fully described within the mock-up. In Case 2, the concrete tiles had different geometries, so the mock-up served more as an illustration of a concept. Consequently, the final pattern was created and designed during the construction phase, where each square meter had its own unique pattern.

In both cases, no architectural drawings were produced, and the method required our on-site presence throughout the construction. Scaling this approach or working with more complex projects would necessitate incorporating drawings into the methodology, making it possible to capture the diversity of the materials and provide a description that craftsmen could follow more independently.

Reflections

This method challenges the conventional sequence of a project, presenting both opportunities and obstacles in architectural practice. Regarding planning, these projects represent a process where neither the client, collaborators, nor the architect can predefine colors, materials, or building components. It is possible to consistently find suitable materials, as long as one remains open and avoids being overly specific in the search. As such, this approach demands flexibility from both the client and the architect, as both must relinquish some control and be willing to adapt the project as materials occur.

The cost of materials in these projects is close to zero, which challenges the conventional budgeting model based

on a percentage of material costs. For many, it might seem counterintuitive that building with often freely reclaimed materials is not necessarily cheaper in the end. However, this approach to reuse is characterized by the significant time spent curating salvaged materials and relying on simple technologies, which results in a higher labor cost.

In both cases, we encountered the limitations and potential of working with this methodology. At times, we found ourselves working in reverse compared to a traditional process. However, as we developed the methodology, it became clear that it simplifies the process of relocating and integrating reclaimed materials into new contexts and projects, all while maintaining architectural quality.

Traditionally, the bricoleur is practiced by non-professionals who creatively work with whatever materials are available. We aim to apply our professional architectural perspective to this process, serving as a shortcut to connect aesthetic work with resource awareness.

Bibliographical references

- Bolius: “Fra vejfyld til genbrugsguld”, (bolius.dk/fra-vejfyld-til-genbrugsguld-98645, last visited 17/11/2024)
- Scalbert, Irénée, 2011: “The Architect as Bricoleur”, Candide No. 04.
- Pireddu, Alberto, 2022: “Rudolf Olgiati. A few small mountain houses” Firenze Architettura
- Rotor 1: “Rotor and RotorDC @ Leonidas” (rotordb.org/en/stories/rotor-and-rotordc-leonidas, last visited 17/11/2024)
- Rotor 2: “Urban Mine Inc.” (rotordb.org/en/stories/urban-mine-inc, last visited 17/11/24)

PRACTICES IN RESEARCH #5

DEMOLITIONS AND DECONSTRUCTIONS

CHAPTER 4

STRUCTURES AND CONSTRUCTIONS

SUBTRACTIVE STRATEGIES FOR ARCHITECTURAL PERSISTENCE

The Land of Thousand Dances

Tiphaine Abenia
ULB, EPFL

Camille Fauvel
EPFL








Progressive disappearance of the structure built in Evian between 2019 and 2022. © Camille Fauvel








Subtraction of elements used as part of a greenhouse in Evian and reused as panels and sits for a public space on the EPFL site. © Camille Fauvel (2022)

This contribution builds upon a series of pedagogical experiences initiated in 2021, under the name *The Land of Thousand Dances*[1], which have taken the form of annual one-week workshops for students in architecture, civil engineering, and environmental sciences at Ecole Polytechnique Fédérale de Lausanne (CH)[2]. These interdisciplinary workshops focus on care and maintenance of existing structures, they are led by architects, civil engineers, and landscape architects.

1 The course has been taught by Camille Frechou, Camille Fauvel and Julien Gamerro since 2021, then with Tiphaine Abenia since 2023. Over the years, Nicolas Rogeau, Vestartas, Laurent Chassot, Julien Lafontaine-Carboni and Ronan Schubnel have taken part.

2 The Land of Thousand Dances is part of the teaching unit Projeter Ensemble at ENAC, EPFL. It is adressed to second year students under the format of an intensive week. It is organized around two hours per week during five weeks followed by one full week of intensive workshop and welcomes students coming from three different sections : architecture, civil engineering and environmental science and engineering.

If traditional architecture education relies heavily on abstraction -where the site, program, actors are often part of idealized and hypothetical scenarios- these pedagogical experiments diverge by bringing the studio into direct engagement with the outside world. They foster a hands-on relationship with materials, territories, and people, while integrating the minimization of environmental impact and collaborative processes as essential components of the architect's curriculum. In this context, The Land of Thousand Dances can be positioned within a contemporary constellation of architectural education experiments that emphasize holistic, onsite, long-term and interdisciplinary interventions at full scale. Analog initiatives include the Garden project by the Studio Tom Emerson (ETH Campus, Zurich, since 2015), the From Building to Building experiment by NTNU as part of the Crafting Circularity European project (Trondheim, since 2023) or the Koshirakura Landscape Workshop by Shin Egashira (Koshirakura, Japan, 1996-2023).

These courses challenge conventional pedagogies in architecture by prioritizing site maintenance and social connections over the mere creation of objects.

Because these pedagogical experiments transform existing sites, rely on 1:1 interventions, and involve concrete ecosystems of actors, they allow us to highlight a close parallel between learning and designing, as well as between observing and transforming. In this regard, this contribution draws an analogy between these pedagogical transformations and critical architectural practices[3]. The workshops enable an iterative approach, capitalizing on the often-ambiguous conditions inherent in pedagogical contexts, including legal and normative frameworks. Intervention hypotheses are formulated through careful observations of site usage, climate effects, and the impact of time on the existing structures. They also reflect the needs expressed by users, owners and caretakers of project sites.

Once implemented, the project serves as a testing ground, resulting in iterative and critical interventions that hold the potential for jurisprudential projects.

3 For another inspiring teaching format that bridges pedagogy, practice and research and integrates subtractive strategies, see : L. Devlieger (collectif ROTOR), 2017, «Architecture in reverse», Volume No 51 – Augmented Technology, (Supplément Studio Rotor : Deconstruction), Jaap Bakema Study Centre, Het Nieuwe Instituut, Faculty of Architecture and the Built Environment TU Delft.

The long-term nature of this pedagogical experience allows for the observation and documentation of its tangible impacts over time. A key distinction should be noted here in comparison to other hand-on learning workshops and design-built studios that often culminate in the construction of pavilions, which are quickly dismantled at the semester's end. The Land of Thousand Dances workshops challenge this disposability in educational production, instead embracing a long-term approach supported by iterative interventions. In particular, the projects sketched out by the students at scale 1:1 not only generate discussions about the future of the sites, but also tend to be considered and literally integrated into more institutional projects that follow the workshops. By suggesting a reinterpretation of these pedagogical experiences as practice-based research, this contribution emphasizes the significant role of education in shaping the practice of tomorrow.

The Jardin public in Evian, 1st edition - 2021. © Camille Fauvel

Architecture Beyond Addition

Architecture has always been taught as a practice rooted in addition and accumulation[4]. The architect builds, expands, and adds new material layers. The subtractive approach, on the other hand, seems to be outside the scope of teaching and practice. The American architect and researcher Keller Easterling emphasizes this absence: "Still, methods for demolishing, imploding, or otherwise subtracting building material are not among the essential skills imparted to architects in-training. With the belief that building is the primary constructive activity, the discipline has not institutionalized special studies of subtraction"[5]. Yet, building always involves a form of subtraction. Constructing here requires extracting elsewhere[6]. Subtraction is not synonymous with passive absence, but rather speaks of an active engagement in the design process. In this sense, the architect must develop specific skills to consciously integrate subtractive approaches in design and construction. But there is even more to it: in the face of the environmental, climatic, and social emergencies we are encountering, the subtractive approach, which supports not the demolition of existing structures but their maintenance, rearticulation and "assemblage"[7] through targeted deconstruction[8],

4 Space Caviar, 2021, Non Extractive Architecture. On Designing without Depletion, V-A-C Press and Sternberg Press, Moscow and Berlin.

5 K. Easterling, 2014, Subtraction, Critical Spatial Practice 4, Sternberg Press, Berlin, p 7.

6 On the reciprocity of additive and subtractive logics merging "invisible landscapes where materials come [and] highly visible, urban landscapes where those same materials are installed", see : J. Hutton, 2020, Reciprocal Landscapes. Stories of Material Movements, Routledge, London.

7 We borrowed here the notion of "assemblage" to Anna L.Tsing. See : A. L. Tsing, 2019, "When the Things We Study Resond to Each Other. Tools for Unpacking "the Material", in Anthropos and the Material (P. Harvey, C. Krohn-Hansen and K. G. Nustad eds.), Duke UP, pp. 221-243.

8 The projects undertaken by the architect Lucien Kroll in the 1980s on neglected

offers a promising avenue for shaping non-extractive architectural practices.

The workshop *The Land of Thousand Dances* initially followed the evolution of a timber pavilion (derived from balloon framing) constructed by first-year EPFL architecture students in 2019, in Evian (FR), close to the Grange au Lac[9]. This project was initiated and led by the ALICE Laboratory, directed by Dieter Dietz and Daniel Zamarbide, in partnership with Evian Resort, owner of the concert hall. Originally intended to be temporary installations, dialoguing with the environment only for one summer, some of these structures were so carefully assembled and constructed that they became the foundation for a pedagogical experiment in maintenance as an ongoing design project.

In the workshops, maintenance is central -not as a static preservation of the status quo, but as an opportunity for ongoing and critical adaptation.

European housing estates allow us to appreciate the difference between demolition and targeted deconstruction. In several competitions, Kroll opposed the demolition of these structures and proposed instead, in Gennevilliers, Clichy-sous-Bois, and Hellersdorf, selective reductions and localized demolitions to restore a human scale to these large housing complexes. See : « Changer l'image du Luth, ville de Gennevilliers, Hauts-de-Seine » in P. Bouchain, 2013, Simone et Lucien Kroll : une architecture habitée, Actes Sud, Arles, p. 253.

9 The Grange au Lac is a concert hall enterely built in wood by Patrick Bouchain between 1992 and 1993 and owned by Evian Resort.

This approach aligns with an understanding of care as a relational practice, crucial for rethinking architectural transformation. As political science professor Joan Tronto argues, care and maintenance can reconnect architectural design processes with users and the environment: "Because care emphasizes processes and relationships that extend back and forward through time, [...] applying care theory to architecture would involve making a fundamental shift in perspective: care does not view the completed "thing" – building, park, city zone, etc. – as its object. It starts instead with responsibilities to care, not only for this "thing," or its creator, builder, or patron, but for all who are engaged in contact through this thing."[10] By embracing these relationships of social and material care, this approach brings people and their environment closer together, assigning value to time - a key dimension for any adaptive design process.

The pause caused by COVID-19 then provided the opportunity to launch a new course centered around this theme. The proposal was to create a one week workshop, taking place every year in May, to work on the pavilion, to maintain it and to critically examine the notion of authorship.

During the inaugural edition of the course, in 2021, the original pavilion underwent care and redesign, evolving into a public garden structure through supportive operations and local deconstructions, thus extending its temporary status. In the subsequent 2022 edition, due to the need for the site to become a logistic site for renovating the concert hall, the site was entirely dismantled, and its

10 J. C. Tronto, 1993, Moral boundaries: A political argument for an ethic of care, Routledge, London, p. 28.

fragments transported and relocated for reuse on the EPFL campus. A small square and a courtyard, both little used and maintained, became landing places for the deconstructed fragments. There, redesigned and reassembled, the fragments maintained their role as new condensers for public areas. The third edition (2023) saw further reconfigurations and subtractive operations, leading to shifts in the meaning of the remaining parts. The final edition of this four-year cycle of transformations just took place (May 2024). It marked the transition of responsibility for the project's care and maintenance to the institution overseeing the site (EPFL VPT Durabilité[11]) and students' associations using and activating it (PotaGR, Artiphys, Asar, etc). This edition was also about bringing together the disciplines of architecture and landscape architecture. It marked a new stage in the questioning of authorial status. Projects became increasingly modest, almost indistinguishable, and inseparable from the dynamics of the living.

This series of interventions, characterized by a range of additive and subtractive operations, converge in their ability to sustain the project's longevity over time. The present contribution is illustrated through photographs and graphic documents produced by students during the workshops themselves. Observing these visual documents highlights a peculiar aspect of the teaching approach in its relationship to anticipation and drawing practices. Here, drawing is used intensely as a medium for observation, for assessing existing conditions, and for monitoring the passage of time. While it can also serve as a more conventional design

11 VPT : Vice-Presidence for Durability. The head of the Envirenmontal service is François Dupuy. We are closely interacting with his collegue, Vincent Constantin, landscape architect in charge of the campus.

tool, this is not an absolute requirement—some projects are conceived without relying on prescriptive preliminary drawings, instead employing a series of 1:1 tests directly evaluated on site. The drawings shared in this publication are not retrospective synthesis documents crafted for project communication. Rather, they are archived fragments of the process, compiled annually into a collective publication, which is then shared with the next cohort of students. Three subtractive strategies have emerged from these teaching experiments: (1) subtraction as a condition for extended lifespan, (2) subtraction as a way to unveil and articulate new potentialities, (3) subtraction as an exchange rather than an erasure. These insights have developed over the years, shaped by the course's evolution. This evolution reflects not only pedagogical intentions—such as the aim to connect architectural dynamics with landscape methodologies and foster long-term relationships with local associations and stakeholders— but also from external circumstances. For instance, the client's 2022 decision to vacate the land necessitated the relocation of the project, resulting in its swift disassembly and reinstallation on the EPFL campus. Additionally, the gradual diminution of wood resources over the years has steered the course towards more modest and precise interventions. In this context, the three subtractive strategies reflect both the progression of The Land of Thousand Dances educational framework and the lessons learned from navigating real-world intervention scenarios.

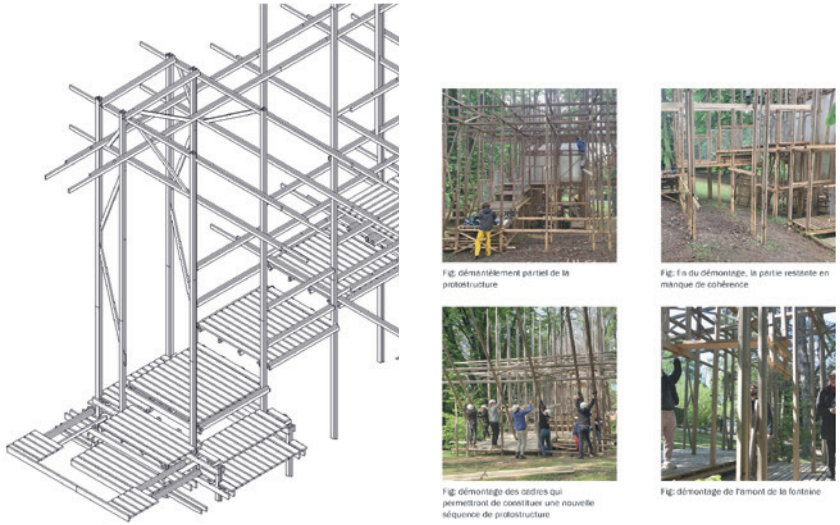
In the following paragraphs, each of these strategies will be illustrated through specific operations drawn from the four editions of the course.

1. Subtraction as a condition for extended lifespan.

This first strategy, which introduces shrinkage as a means to withstand the test of time, addresses a critical tension: to ensure the project's overall longevity, its weakest components may need to be either reinforced or deconstructed. This approach was applied during the Evian period. To extend the temporary lifespan of the original project (initially intended to last only a few months), non-functional or structurally unsound parts had to me removed. For instance, the structure supporting the movie screen was vulnerable to wind, which jeopardized the project's long-term viability. It was deconstructed to improve the chances of extending the lifespan of the other structures. A similar approach was used for another structure on the same site (1st edition), where harsh weather conditions had damaged wooden parts. Removing these damaged elements led to a complete redesign of the access to the structure, ultimately improving the overall project.

A close parallel can be drawn here with certain principles of vernacular architecture. In their book *What about Vernacular?*[12], architects Justine Lajus-Pueyo, Alexia Medec, and Margot Rieublanc explore the constructive and ecological common sense that underpins traditional architecture in the Eastern United States. During their journey to study these constructions in situ, they document the architecture

12 J. Lajus-Pueyo, A. Medec, and M. Rieublanc, 2023, What about Vernacular?, Parenthèses, Paris



Strategy 1. Extension of a temporary status by withdrawing non-functional or structurally unsound parts : restructuring the access of the structure following the deconstruction of elements damaged by weather conditions, 1st edition - 2021. © Camille Fauvel and students documentation

of North American covered bridges and observe that certain parts of these bridges, those most exposed to the elements and prone to premature weathering, are designed to be easily dismantled and replaced. These protective components, intended for periodic removal, follow the technique known as "planching." Here, enabling targeted removal also extends the lifespan of these covered structures "by as much as a hundred additional years", the architects note.

We can expand this tension between transformation and permanence by shifting our focus from localized fragments to entire structures. This is exemplified in certain forms of traditional Japanese architecture, particularly temples that are regularly dismantled and completely reconstructed. A famous example is the Grand Shrine of Ise, which is entirely taken down every 20 years to make way for a new structure that faithfully replicates the same key features, gestures, and constructive techniques. In his book *Japan-ness in Architecture*[13], Arata Isozaki reflects on this cyclical reconstruction, framing it as a cornerstone of traditional Japanese architecture. The rebuilding process (now in its 62nd iteration) is deeply rooted in the Shinto concept of tokowaka, which emphasizes the renewal of objects to preserve their prestige and pursue a sense of eternity. This practice also serves as a means of transmitting building techniques across generations. Here, once again, subtraction does not oppose longevity—it ensures it.

13 A. Isozaki, 2006, Japan-ness in Architecture, The MIT Press, Cambridge & London.

2. Subtraction as a way to unveil and articulate new potentialities.

This second strategy employs subtractive operations as key mechanisms for requalification. Its goal is to enhance structural legibility and expand the potential uses of an existing site. This approach was tested in the first edition of the course. Through precise deconstructions, reopening its facades, a concert place was gradually transformed into a more versatile public space. The deterministic program once attached to the original project was then reconfigured to accommodate a broader range of uses. In the subsequent editions (2nd, 3rd, and 4th) held on the EPFL campus, further interventions based on removal principles were carried out on site. These interventions addressed not only man-made structures but also living ones, such as plant networks. In one courtyard where the workshop took place, a metal framework had been installed during years 1970 to support the growth of a wisteria. Although the plant had thrived, lack of maintenance led to an accumulation of dead wood over time, resulting in a dense canopy and a dark, uninviting space. By clearing the canopy, removing the dead wood, and pruning the remaining branches, the intervention allowed sunlight to filter through, thereby restoring the quality of the space beneath. This connection between livability and subtraction was powerfully demonstrated by social anthropologist Christine Hugh-Jones. In her work

Strategy 2. Enhancing structural legibility / reopening the range of potential uses : cleaning the wisteria canopy to allow sunlight to filter through and restore the quality of the spaces beneath, 2nd, 3rd and 4th editions - 2022-2024. © Camille Fauvel and students documentation

From the Milk River: *Spatial and Temporal Processes in Northwest Amazonia*[14] she offers an anthropological lens on space-making in the Amazon. The clearing of the jungle to create new habitable spaces can be understood as a form of subtraction that reveals latent potential. Hugh-Jones argues that this act of clearing is both practical and symbolic, paving the way for the creation of new, meaningful environments.

Beyond *The Land of Thousand Dances* workshop setting, we also find echoes of this second strategy in contemporary design practices. In architecture, practices like Kosmos or BAST describe the initial step of their interventions on existing constructions as a process of removal designed to reveal and engage with the main structural elements. BAST articulates this subtractive approach as follows: "we consider that the essential elements of a building's structure must be preserved, while the secondary elements are removed. This "purging" process, which we regularly implement at the beginning of a construction project, involves removing all the secondary work, the non-perennial, returning to the building's fundamental essence, namely its load-bearing structure"[15]. Through these subtractive gestures, architects gain access to the underlying structure of the project, which becomes a strong basis for its further evolution.

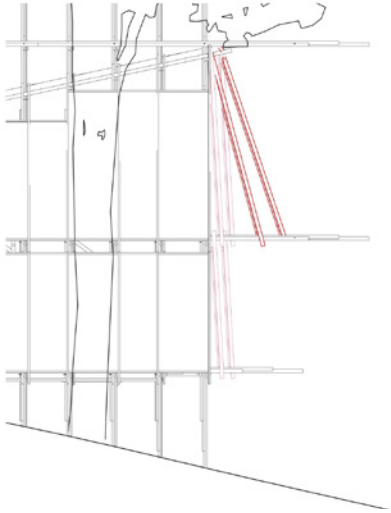
14 C. Hugh-Jones, 1979, From the Milk River: Spatial and Temporal Processes in Northwest Amazonia, Cambridge University Press, Cambridge and New-York.

15 T. Abenia and J. Taillieu in conversation with BAST, 2024, "Dealing with architecture", 2G No. 89, p. 137

3. Subtraction as an exchange rather than an erasure.

This third category is based on the principles of interconnected vessels. Subtraction is seen not as mere disappearance but as an opportunity for relocation, reuse, and transformation. Indeed, once deconstructed, elements can be fragmented, displaced, relocated, and reinterpreted, participating in an ecology of reuse. In this approach, subtraction serves as a means to reorganize resources and incorporates movement as a fundamental dimension of architectural design.

A concrete example of element displacement coupled with a transformation of their original meaning, was evident in the later editions of *The Land of Thousand Dances* workshops (2nd, 3rd, and 4th editions). Polycarbonate panels, initially used as greenhouse enclosures in Evian (Editions 0 and 1) were removed, reused and repurposed as sliding panels to create mobile partitions within the EPFL courtyard (Edition 2). Similarly, a staircase from the original pavilion in Evian was dismounted in one piece, then cut in two and subsequently reinterpreted in various ways: as a plant shelf (Edition 2), a seating area (Edition 3) and scaffolding during the 2024 workshop (Edition 4). During the last edition, the students also lightened overloaded sites and moved subtracted elements to new underused sites, engaging in



Strategy 3. Displacing elements, transforming their original meaning : Reusing the polycarbonate panels used as envelopes for a greenhouse for creating mobile demarcations within a courtyard, 2nd and 3rd editions - 2022-2023. © Camille Fauvel and students documentation

a dissemination of the fragments. They subtracted and repaired broken elements that hindered use, while enhancing existing situations through their parasiting.

This strategy strongly resonates with contemporary discussions on circularity in architecture. In their *Compendium of Circular Architecture*[16], Eva Stricker, Guido Brandi, and Andreas Sonderegger note that "for millennia, disused buildings have been cannibalized for the construction of new ones." However, this practice was largely abandoned following industrialization, only to re-emerge today as a response to the urgent need to conserve increasingly scarce resources and reduce greenhouse gas emissions. On one hand, the concept of *urban mining*—the process of reclaiming and reusing materials from existing buildings rather than sourcing new ones from natural resources—reframes cities as material depositories to be tapped into instead of discarded. On the other hand, the idea of a *donor building*—a structure slated for renovation or demolition whose elements are salvaged and reused—extends the lifecycle of these materials, preserving their value and integrating them into new projects. Viewing subtraction as an exchange rather than mere erasure redefines the built environment as a dynamic, ever-evolving landscape where buildings are not static objects but ongoing events, open to interpretation and continuous transformation.

16 E. Stricker, G. Brandi and A. Sonderegger, 2022, Reuse in Construction: A Compendium of Circular Architecture, Park Books, Zurich

Challenging Authorship

Subtraction impacts not only the physical integrity of the structure but also challenges the perception of a finished, fixed object attributed to a single author. By reopening the project, subtraction disrupts traditional notions of authorship, inviting other actors to continue the design, maintenance and transformation of the structures. In his essay *The Poetics of the Open Work*, Umberto Eco highlights how the notion of "open work", rooted in ideas of incompleteness and openness, allows for "countless different interpretations (...). Every reception is both an interpretation and a performance, because in every reception the work takes in a fresh perspective for itself"[17]. An open work, therefore, is not only open to diverse interpretations but also invites a multiplicity of authors to participate. When applied to the design of open structures in architecture, it highlights the capacity of certain constructions to adapt and evolve over time. The concept of "open building" , as theorized by Dutch Structuralism, refers to constructions that accommodate changing needs and actors throughout the building's life. Such buildings leave room for choice and responsibility, empowering future occupants to actively shape their environments according to their needs and available resources. *The Land of Thousand Dances* extend this attitude, serving as a testing ground to carefully assess the capacity of built structures to adapt and evolve over time.

Openness also encourages a collaborative mindset, inviting a diverse range of stakeholders to engage in the design process. In this context, subtraction becomes a means of transmitting gestures over time. *The Land of Thousand Dances* teaching unit exemplifies this mindset by bringing a new cohort of students each year to care for, maintain, and build upon the work of their predecessors. This iterative approach positions openness as a core principle of architectural design, enabling projects to evolve organically over time. By welcoming students from diverse disciplines—architecture, civil engineering, and environmental sciences—and encouraging close collaboration with local actors, the course leverages collaboration as a powerful tool. It also recognizes that relinquishing some control over the project's final outcome and future use can result in richer, more dynamic possibilities.

This process does not seek to erase the role of the architect but to reinvent it—an evolution that may even renew the architect's sense of joy in the practice:

> "Whatever the pleasures and prodigious efforts associated with erecting architecture, the art of causing it to disappear can be equally compelling or satisfying"[18].

17 U. Eco, 1989, The Poetics of the Open Work, Chapter 1 "The Open Work", Cambridge, p. 2 available online: https://20bienal.fundacionpaiz.org.gt/wp-content/uploads/2016/04/Eco-Umberto_The-Poetics-of-the-open-work.pdf

18 K. Easterling, 2014, Subtraction, Critical Spatial Practice 4, Sternberg Press, Berlin, p. 7.

OM Musical Complex

Aesthetics of technique in the conversion of modern heritage

Émeric Marchal
atelier chora
ULiège

Xavier De Lanève
atelier chora

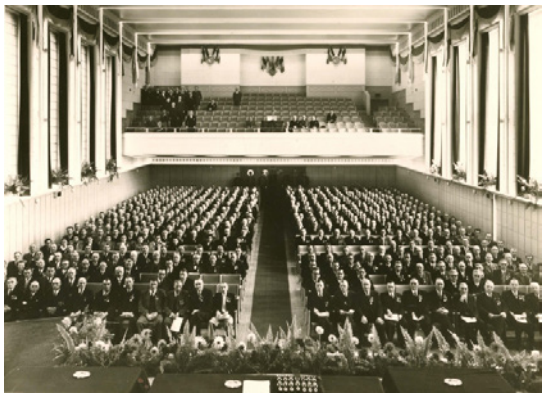
OM's conversion was a long and non-linear process. In this article, after a brief historical contextualisation and the genesis of the project, we will attempt to use examples to develop the means of action and the objectives they are trying to achieve. This will provide a succinct framework for the project's methodology.

The OM building has a rich history, deeply linked to the steel industry of Seraing. Completed in 1952 in Ougrée (Liège) and designed in the inter-war period by Liège architect Georges Dedoyard, it is a testament to 20th-century social architecture, linked to industry, but also a showcase for corporate wealth through its prestige and architecture.

OM takes its name from *Ougrée-Marihaye*, a steel company. It was Belgium's leading metallurgical company in the pre-war period, and its importance was international, with exports to a large part of Europe. (Bussiere, 1984).

In the aftermath of the war, the company decided to equip itself with a highly social place, designed to host company parties, medal ceremonies and employee departures. It was decided to build it on the banks of the Meuse, between the B blast furnace of Ougrée and the coking plant, right next to the workers' homes. The banquet hall was therefore part of an urban complex defined by the way the steel industry operated, right at the heart of the workspaces.

The years went by, and the end of the Liège steel industry grew ever closer. The last demonstrations were organised in 1990 before the building was abandoned.



OM's main hall during the heyday of the Seresian iron and steel industry, it was used for many occasions: medal ceremonies, St. Nicolas celebrations and retirement.

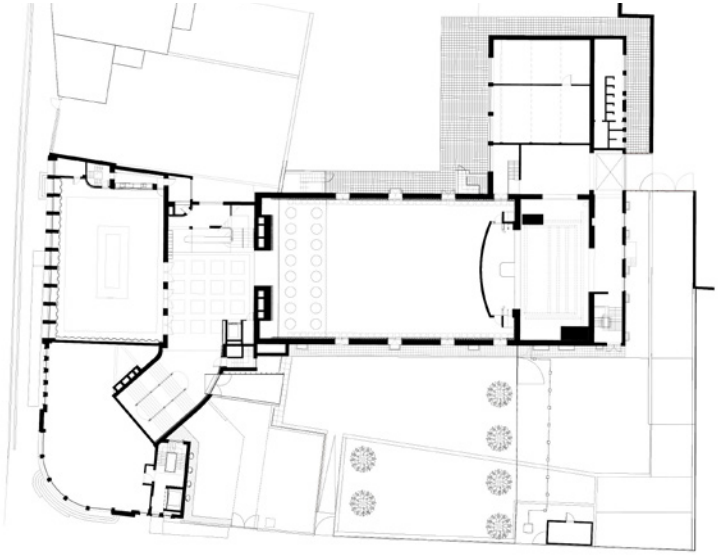
Façade along the Meuse, before work was carried out, Dedoyard's modern formal language, alternating rigour and rhythm, is typical of post-war architecture.

Rear facade, before intervention, the building has been abandoned for years. The façade, the result of the project's plan and cross-section, is built using local and industrial materials.

The building follows in the footsteps of Georges Dedoyard's inter-war modernist designs, with a clear formal link to the General Commissariat Palace at the 1939 International Water Exhibition in Liège, and a use of materials similar to that of the *Sauvenière* baths, built 10 years earlier. However, it expresses a skilful blend of monumental modernism, common in post-war reconstructions, and the streamline moderne style. It also borrows elements of language from the projects of Dedoyard's former teacher, Joseph Moutschen (Van Loo, 2003; Houbart, 2014).

The design of the building takes clearly account of the context, with the different spaces subtly arranged to follow the relief of the land; a diagonal circulation of the floor plan sequences the whole and defines the entrance as well as the main façade, which opens out towards the city. The building appears distinguished, with its curved ashlar façade, fine ironwork details and geometric composition. In the interior of the block, however, it is an architecture based on industrial construction methods and language that takes its place. The main hall is undoubtedly the finest example, with a load-bearing structure of slag bricks supporting a metal framework. The façades are rational, with full-height openings between the load-bearing parts of the framework, and the volumes adapted to the functions. Only a light border of red brick dresses the play of volume resulting from the expression of functions and plan.

OM is part of a much more ambitious overall project to heal and even revitalize the wounds left by the death of the steel industry.



Plan of the first floor. The broken circulation links the public space to the two halls and the main vertical circulation.

In the early 2000s, the town of Seraing introduced an ambitious masterplan based on its industrial past. The city embarked on a wave of acquisitions of derelict buildings, including the OM. In 2014, the call for submissions was launched for the first project in the Ougrée-Meuse section of this masterplan, a new district dedicated to youth and culture. Today, OM is part of a much more ambitious overall project, still under construction, which is attempting to heal and even revitalise the wounds left by the death of the steel industry. It is no longer alone in this new hub, with the new pedestrian-bicycle footbridge (arch: AgwA) at the end of the rue de la gare linking it to the recently reopened 125A railway line and the renovated ateliers centraux (arch: Baumans-Deffet). Student accommodation will soon be built in the neighbouring Trasenster Park (archs: atelierchora & Jasper-Eyers) and EGAU's Ougrée town hall will be renovated (arch: Canevas - architects and engineers). This complex, located on the edge of the new urban boulevard, forms a counterpoint to the historic centre of Seraing, a new urban hub. But OM's operations and future depend on this development, and it cannot survive isolated and disconnected as it did before. Over and above its programming and the cultural ambitions it individually embodies, OM is the cornerstone of strong urban and social visions. In this sense, it expresses the direction that the urban and social revitalisation of the town of Seraing is taking, that of rebuilding on its rich industrial past while adapting it to the *Zeitgeist* and making it sustainable over time.

The call for submissions issued for the refurbishment set out clear objectives for the project: adapting the existing building to current standards (special techniques, accessibility, acoustics, tightness, energy performance, Fire conformity) and enhancing the building (exterior lighting, façade restoration). The demand was mainly technical: the building had to be able to live in our time, so it had to be equipped. At first sight, architecture doesn't have much of a place, except for the sensitivity of what's already there.

Imprint left by the dismantling of a glazed ceramic. The study and dismantling of the building highlighted the unique, local character of the original construction.

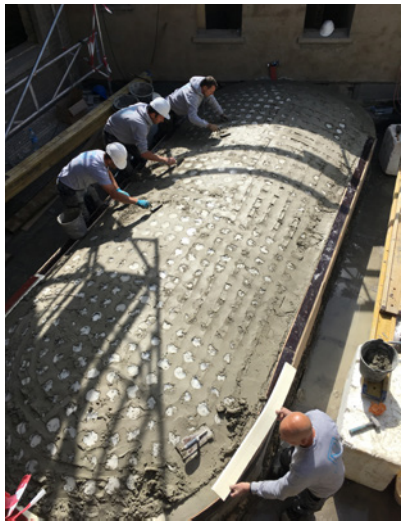
Our work as architects, and not as technicians, therefore starts with these two questions: how can we adapt this building while preserving its intrinsic qualities? Or: How can the building absorb all the demand without losing its way?

Of course, a programme accompanies this general request. However, it remains fairly basic and is, for the most part, a reworking of the original program. The request was for a main concert hall, a secondary hall, a lounge bar area on the ground floor, and a refurbishment of the sanitary facilities. It was subsequently extended to include recording studios, office spaces and dressing rooms for artists. However, despite this seemingly similar program, the request that the music complex be for amplified music is not insignificant.

The glass roof, made up of multiple points of light, was the central element in the transition from the public space to the performance rooms. It also reinforced the liner atmosphere common at mid-century.

As a result, all the wall compositions will have to be reviewed to guarantee the peace and quiet of the neighbourhood.

Starting with the stated objectives and requirements, a technical analysis of the building is conducted. Coupled with our convictions about conserving the building's qualities and features, the means of action then emerge. As a result, some elements cannot be conserved because their technical characteristics do not allow it (stability or too advanced state of deterioration) or because restoring them to a permanent state is financially unviable. So, we opt for a replacement, a reinterpretation, using contemporary techniques. This applies, for example, to the constellation of light points in the entrance area, which has been rebuilt as it was before.



Conservation was impossible for technical and budgetary reasons. Its identical reconstruction was chosen rather than its replacement by another formal expression.

This raises the question of the authenticity of these elements. We would like to point out that OM was not undergoing heritage restoration and, above all, that financial constraints did not allow this. So, we tried to preserve the spatial qualities, the subtleties, and sensitivities of what already existed. It is a form of accepted compromise: as replacement is inevitable, we have chosen to get closer to what was.

For other elements that require intervention but that do not jeopardise the proper implementation of the project, budgetary constraints mean that it must be postponed. In this case, a protective position is taken so that it can be dealt with later.

But it is conservation that is favoured, with the necessary adaptation for normative or technical reasons. Conservation is achieved by restoring elements, repairing, cleaning, or re-colouring. Adaptation is achieved by adding elements with a different formal language, but with continuity.

The complete process is characterised by economy of use. Whenever possible, we favour conservation or dismantling for reuse in situ. What's more, we consider existing manufactured materials to be unique elements, the result of resource extraction and the work of craftsmen, bearing witness to a history, and which we should take care of as much as possible. This project is a perfect example of this; the judicious use of local materials and metalwork makes it even more deeply rooted in its context.

In the second room, the original parquet flooring is carefully dismantled, repaired, treated, and reinstalled to preserve the ambience and history of the place. The same applies to the bar.

Red, a fiery color

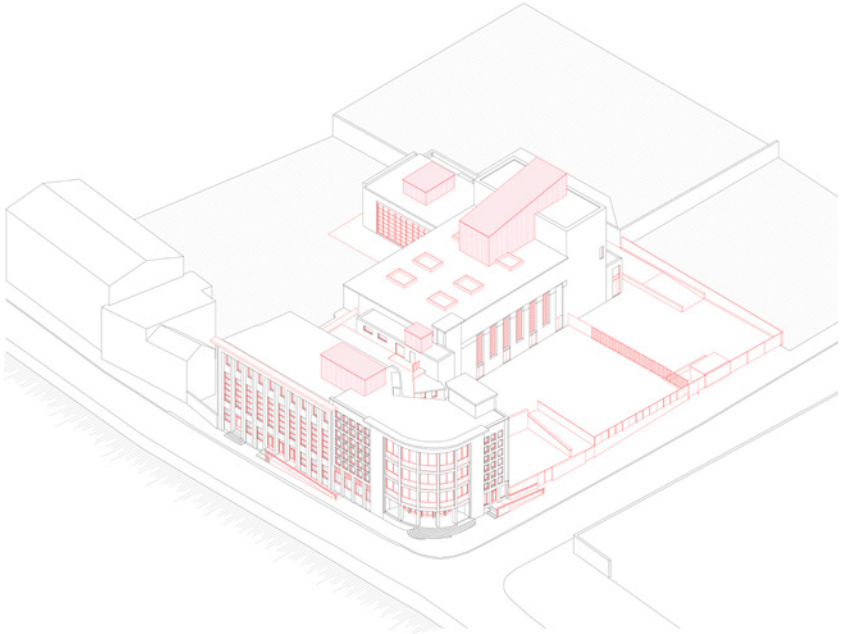
In addition to the work carried out on the existing building, the adaptation of the building also requires the integration of techniques, and the modification or necessary addition of elements to adjust the circulation flows. These elements are varied, but essentially stem from specials techniques (ventilation, lighting, sanitary facilities, acoustics). Very quickly, the possibility of integrating all these techniques and adapting the circulation within the existing building envelope was ruled out. The building's capacity to absorb these inputs is limited by its insufficient surface area, but also by the quality of the existing spaces, which would be greatly impacted. Interventions can then only be carried out by adding elements to the building, visible from the public space.

The integration of all these technical elements was based on *complementary* and *additional* aesthetics. In other words, the choice was made not to hide or imitating the existing building, but to develop an identity of its own. It therefore blends into the original building, emerging here and there, and expressing the renewal of the site.

Complementary, because we are constantly seeking a dialogue with what already exists, and our interventions are integrated into the continuity of the existing plan and space, as an extension of the original project. The aesthetic break occurs in the formal and chromatic expression of the elements, not in their integration. In this way, we also see

it as additional, adding an expression, a language to the building.

In this addition, made up of a multitude of technical elements, we consciously limit the diversity to promote the intelligibility of the intervention. So, we chose a single colour, red, which preserves the heterogeneity of the materials and formal writing of the added elements while creating a coherent intervention. With this ensemble, we are also reinforcing the urban impact and changing the identity of the building. The choice of colour is inspired by the history of the site, the image of the flame burning at the top of the blast furnace, the fiery colour of the region, the one the steel industry.



A coherent set of *additional* and *complementary* interventions

Here we develop examples by type of intervention, both modifying and adding, ranging from finishing details to adding volume. In this way, the work transcends scale, while at the same time attempting to interact with the urban landscape and the finesse of the existing ironwork.

Installation of the upper walkway, linking the office areas to the new roof terrace.

1. Technical installation in capable spaces 2. Work in the cellar 3. Technical integration in main hall 4. Exterior facade of main hall with red brick edging 5. Reinforcement of studio floor 6. Dismantling of second hall floor 7. Assembly of walkways in workshop 8. Installation of walkways on site

Technology serves as a support for the materialization of discourse.

The layout of the roof elements goes beyond what has already been mentioned. In fact, as well as being a technical protection intervention that is part of the whole, their positioning, their shapes and above all their changing perception (red at night, white on sunny days, almost imperceptible on cloudy days) make them a new urban landmark and mark the public but also recreational aspect of the site. Not that the existing building did not already assert these urban and public aspects, but that it was necessary to reaffirm them, to signify its renewal. Its presence is then once again marked on a large scale, proclaiming its function, the relocation of the site, and a form of renaissance. Technology serves as a support for the materialisation of the discourse; it also serves the perception of architecture but also, we must be aware, political and communications ambitions.

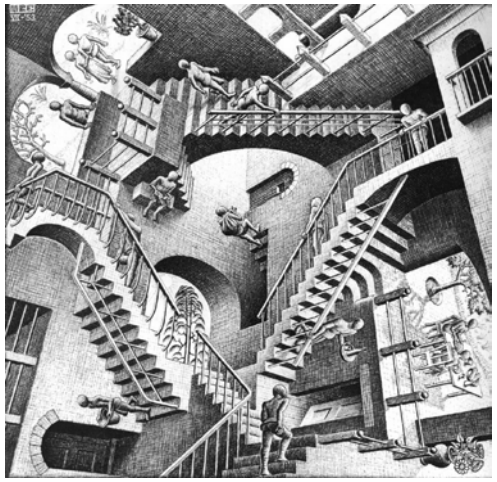
So, like all technical interventions in the building, the ambition is twofold. To respond to a need and to communicate and interact with the users and the existing architecture.

Their positioning, shapes and, above all, their changing perception make the technique a new urban landmark and mark the public and recreational aspects of the site.

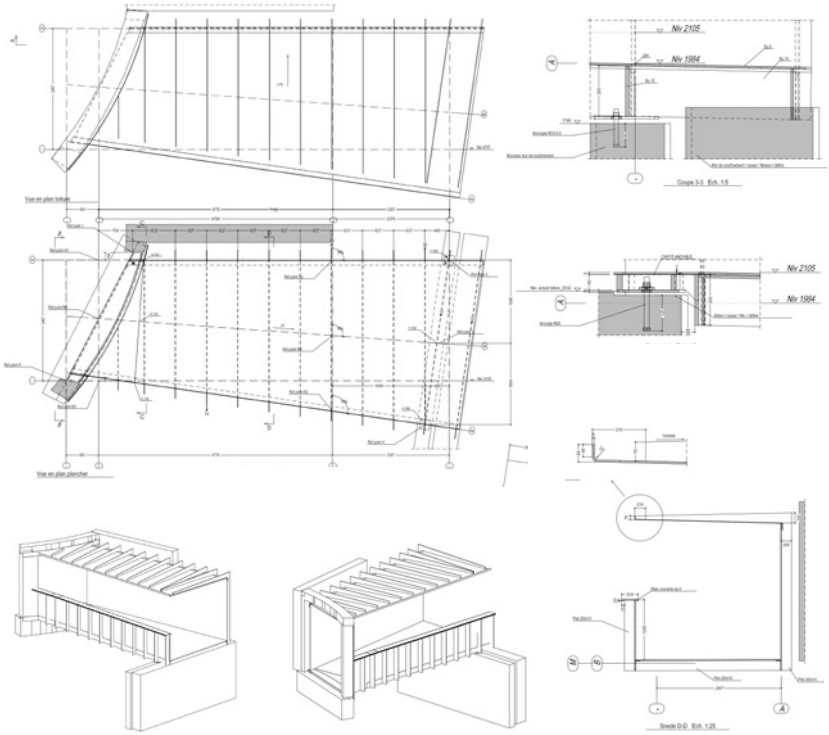
At night, the Meuse River acts as a mirror, reinforcing the building's presence in the public space. The building then fully expresses its urbanity, its role as a landmark in the landscape.

The addition of external circulation elements stems from a number of constraints: the need to connect spaces more directly, make previously inaccessible areas accessible, and provide access to outdoor areas and terraces. We see these constraints as technical: we need to connect point A to point B. The exterior walkway was chosen as the least costly solution, and above all one that allows direct expression of circulation. These do not alter the heated volume, thus also limiting operating costs. They are located on the rear facade, clarifying as much as they blur its operation.

Like the formal expression of the rear façade's technical features, the walkways are limited to their own structure and user protection, with color as the only covering, linking them to the red brick façade bands.



Relativity by Maurits Cornelis Escher - Chaotic traffic organization.



The walkway leading from the entrance to the courtyard designed by Ney&Partners . This walkway expresses itself as a direct link to the outside world, an invitation to enter as much as to go outside. Its design is the result of a succession of open porticoes, a formal expression of internal efforts.

In the manner of Escher's "Relativity", these links seem to hang together chaotically in an equally chaotic space. Yet the choreography they form is a direct result of the broken plan of the whole, and merely adds to or extends the circulations on an already existing node. In this way, they represent the continuity of the rear façade's compositional principles and the way it functions in plan and cross-section, but also a break with a later intervention, expressed as follows.

The balustrade of the lounge bar was raised, preserving the element's original appearance while doubling it, thus creating a double interpretation - that of a whole, but also of an addition.

Less visibly, technical replacements had to be made. These demolitions and reconstructions of parts of the original building are purely technical. The only constraint we impose on ourselves in these circumstances is that they should have as negligible impact as possible on the perception of the building, unlike additions, which modify it.

Floors were replaced to support recording studios that were too heavy for the existing structure; ceilings were replaced to support scenography equipments. These sometimes unexpected technical challenges mean that, as architects, we must not set aside our primary ambitions of preserving and enhancing our heritage.

As mentioned above, we generally went for a position of preservation and addition rather than replacement, in the same vein as overall integrations. We cannot deny that this choice modifies the aesthetics of the element in question, but we do try to induce a double reading of it, making it unique and double at the same time.

Here we explore the case of balustrades, where the introduction of safety standards requires work to be carried out, essentially raising the height of the balustrade. The main uprights are doubled, and the fastening of the new but common upright takes on a purely technical form, contrasting with the invisibility of the welding of the existing upright but playing with the massiveness of the latter's details. From distance, they form a single unit; up close, they are doubled, yet one depends on the other.

As standards and attitudes evolve, it is necessary to make the building accessible to all. The walkways help to achieve this, but are not enough, so two elevators has been added. Unlike the choices made for the integration of rooftop technology or walkways, the elevators are installed within the existing envelope. However, it expresses themself in the same way as the above-mentioned elements. But here, the intervention takes a back seat; unlike the others, which cohabit with the existing without subtracting from it, this one clearly leaves the original facade as the first reading. As for the rest, the existing is preserved, while the new is added, here in the background. This is the only expression on the façade of the building's adaptation, which results from the need for direct access from the pub-

lic space and the most optimal distribution. The building's visibility derives from its operation and needs, but is assumed and expressed like everything else, although with a slight restraint.

In the end, we're trying to develop what we might call an aesthetic with a constant double language, built largely on technical responses. A form of aesthetics of technique (de Beaune & Hilaire-Pérez, 2012). We'll conclude with these few words: the success of the project and its ambitions can only be achieved thanks to the flexibility of all those involved, and the establishment of a sound relationship based on clearly defined, shared objectives.

- Beaune, S. A. de, & Hilaire-Perez, L. (2012). Esthétique de la Technique. Revue de Synthèse, 133(4), 471-476.
- Bussiere, E. (1984). La sidérurgie belge durant l'entre-deux-guerres : le cas d'Ougrée-Marihaye (1919-1939). Belgisch Tijdschrift voor Nieuwste Geschiedenis, 15 (3-4), 303-380.
- Houbart, C.(2014). Centre social de la Société anonyme d'Ougrée-Marihaye. Dans S. Charlier, & T. Moor (Eds.), Guide architecture moderne et contemporaine 1895-2014 LIEGE (p. 355). Mardaga et Cellule architecture de la fédération Wallonie-Bruxelles.
- Van Loo, A. (2003). Dictionnaire de l'architecture en Belgique : de 1830 à nos jours. Fonds Mercator.

A LOOK ON RE-USE THROUGH ART

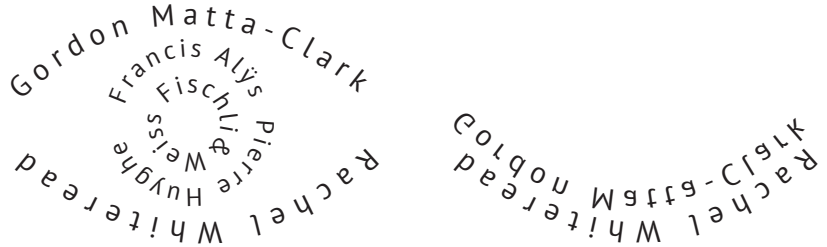
Researching offices M127 and housing De Linde

Gert Somers, Jonas Lindekens, Sara Verleye

ono architectuur

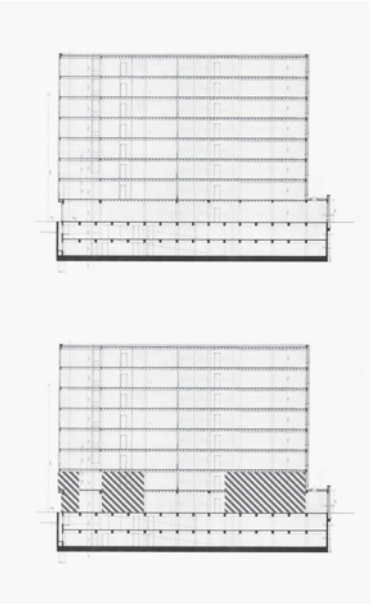
Materials and energy have become increasingly valuable, making the importance of ecology as a theme more apparent. The support for hybrid building solutions combining new and re-use is growing rapidly. This requires adjusted thinking patterns in architectural design that entail the ability to repeatedly shift focus. Clear concepts make way for ever-varying thoughts on working with existing matter.

Various artists have paved the way by experimenting with this subject. Directly or subliminally, their works provide meaningful reasoning that gives rise to a different way of looking at existing heritage and its re-use. The influence can appear during the design process or in retrospection of the construction project. Leaving behind a purely visual comparison, we reference the metaphorical capacity of art, where societal themes are often driving forces that give rise to an unprecedented visual language. In picturing two projects, we rethink their relationship to art.



1.

2.



3.

At M127, a ‘60s office building behaved hermetically towards its surroundings. At three precise locations, low stacked floors are cut away. The street façade is set backwards and floor fields are opened, making a double high city loggia en different sized voids. We take away part of the building and get more building in return.

4.

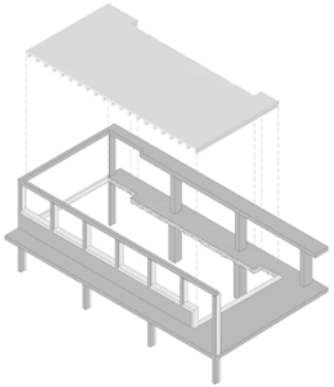
5.

6.

A letter from 1976 by Gordon Matta-Clark to a museum director can also be read as a text on re-use and connects very well with what we aim for. We re-use and punctually re-write the quote.

"~~My~~ Our approach is to make do with whatever is possible while stretching our notions of the possible. ~~I~~ We use the urban fabric in its raw, ~~abandoned~~ state, transforming ~~unused~~ structures or spaces into revitalized areas. The space in its ~~final~~ next stage, is the '~~exhibition~~' architecture and hopefully will have a life of its own within the community."

7.



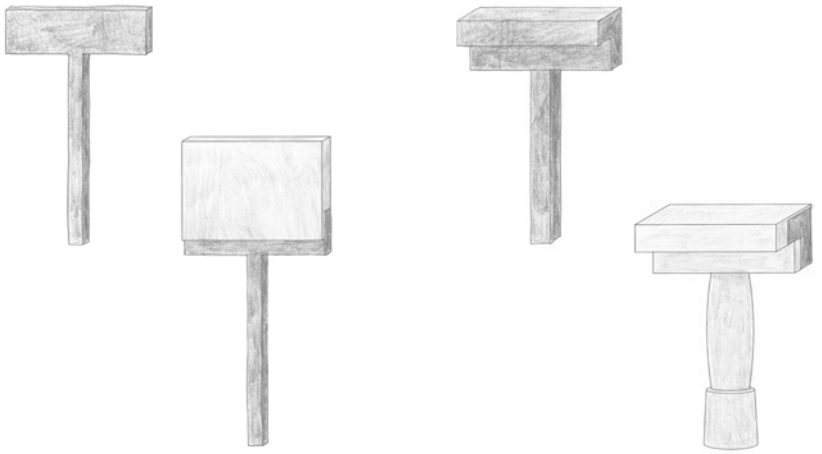
8.

9.

After cutting away, parts of the structure needed healing. The old concrete was locally strengthened with new concrete. Old and new concrete here exist next to each other in a bas-relief as a new time composition, with stronger chances for preserving its grey energy over time.

10.

11.

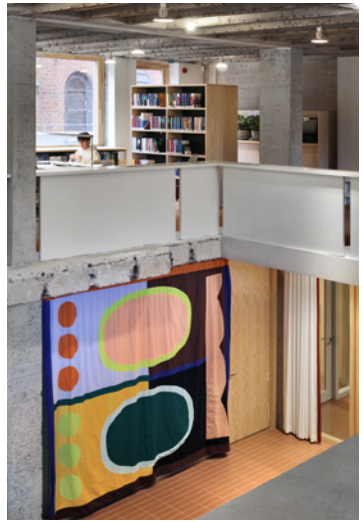


12.

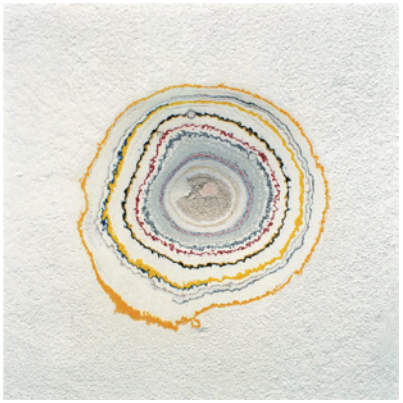
In the facades some concrete columns are suddenly exposed to outside conditions. The conglomerate of old and new concrete is further enriched by an art integration project. The additional reinforcement cover is exaggerated in sculptural columns shaped by artist Philip Aguirre. A new public place is poured into the possibility of permanence.

13.

14.



15.



16.

By adding new layers at M127 and at the same time revealing old ones, a building as a snapshot of different times appears. It is an outcome that leaves the idea of one conceptual path. With unfinished sympathy it doesn't want to close off the design nor define a finished architectural object.

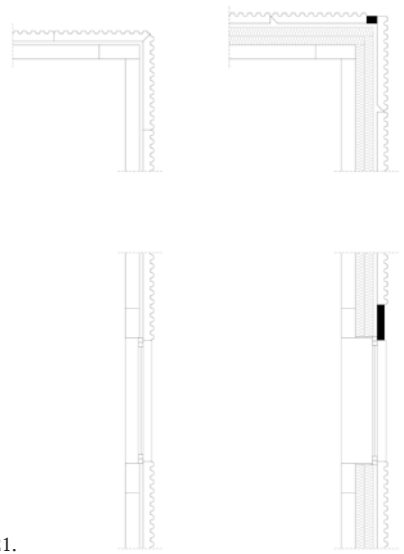
17.

18.

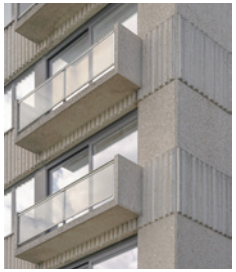
The ‘60s social housing building, De Linde, is defined by a rigid concrete structure and a specific concrete facade. Precast flat and ribbed panels, still in good condition, are stacked, resulting in a horizontal lining from a distance and an expressive assembly of elements and textures from close by.

19.

20.



21.



22.

We propose to dismantle and stock the concrete panels on site, insulate the building and replace the panels. The added insulation makes the building thicken in both directions. We lack sufficient concrete panels to cover the full façade. The gaps thus created become the motive for an alternative padding.

23.

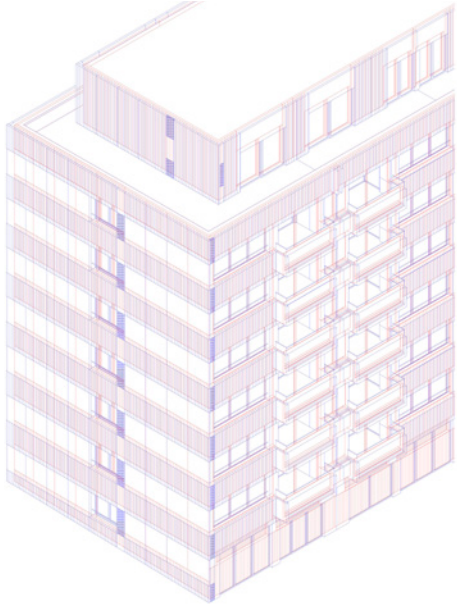
24.

"Sometimes making something leads to nothing, sometimes making nothing leads to something."

(Francis Alÿs)

The action of dismantling and reassembling is required to change the view on the building and to keep it as it is. Finally, the materials move only a little bit. Small changes move mountains in our diligence and awareness of material consumption. The 'not so new' can be just fine.

25.



26.

By not only relying on the work of artists, but also by integrating art in a not demarcated manner, cross-pollination is provoked when working on re-use projects. This leads to a pleasant interaction with the existing where everything pushes and pulls, sometimes congruent, sometimes contradictory, and where we can achieve unprecedented equilibria and scenes.

27.

1. Illustration with names of referenced artists, ono architectuur
2. Mechelsesteenweg 127, Antwerp, before renovation, 2021, photo by David de Bruijn
3. Low stacked floors are cut away at three precise locations at ground floor, M127
4. Dismantling interior claddings at M127, 2021, photo by David de Bruijn
5. The adapted structure can house uses that weren't possible before, 2022, photo by David de Bruijn
6. *Office Baroque*, Gordon Matta-Clark, Antwerp, 1977
7. (Re-written) extract from a 'Letter from Gordon Matta-Clark to Florent Bex', 28.7.76, 1976
8. Isometric drawing of double-high void in M127, showcasing cut-through and new concrete
9. *Day's End*, Gordon Matta-Clark, New York, 1975
10. *House*, Rachel Whiteread, London, 1993
11. The old concrete is locally strengthened with new concrete at M127, 2024, photo by Filip Dujardin
12. The old concrete became the formwork of the new, M127, drawings by ono architectuur
13. Polystyrene moulds, Philip Aguirre, 2022, photo by David de Bruijn
14. Moulds and reinforcement nets around exposed concrete columns, photo by David de Bruijn
15. New cuts through the building are left in their raw state, 2023, photo by Filip Dujardin
16. *Timekeeper*, Pierre Huyghe, 1999
17. Adding new layers and revealing old ones at M127, 2023, photo by Filip Dujardin
18. Precast concrete ribbed and flat panels at De Linde, Tervuren, 2023, photo by Tom Beysen
19. De Linde as seen from the higher part of the village, Tervuren, 2023, photo by Tom Beysen
20. The stacking of ribbed and flat panels results in a horizontal articulation, photo by Tom Beysen
21. By insulating the building, we lack sufficient concrete panels to cover the full façade, digital drawing
22. Striped black and white tiling is inserted as traces of change, photomontage by ono architectuur
23. *Splitting*, Gordon Matta-Clark, New Jersey, 1974
24. *When Faith Moves Mountains*, Francis Alÿs, Lima, 2002
25. Dismantling and stocking the concrete panels on site before re-placing them, digital drawing
26. Finally, the materials move only a little bit (red = before, blue = after), digital drawing
27. *The Time at Our Disposal*, serie Equilibres, Fischli & Weiss, 1986

Retrofitting and Repairing principles of demolition

Bernhard Luthringshausen, Evelyn Temmel

BELT Architektur Buero
TU Wien, TU Graz

One-third of Austria's population lives in single-family and two-family houses [1], which is the most popular form of housing, particularly in rural areas. In fact, 64% of all buildings in Austria are single-family homes, and nearly half of these were built between 1945 and 1991 [2]. These buildings reflect the prevailing economic conditions, social values, and customs of their time, facilitated by affordable building land and low construction costs back then. This type of housing contributes significantly to high land consumption and increased energy demand. Both of which have risen dramatically in Austria, in part due to the extensive infrastructure networks and associated developments, such as retail parks, required to support this housing type. The result is the loss of agricultural land and natural habitats, leading to substantial environmental challenges [3].

In our practice, we explore how the existing building stock can be dealt with to reduce such high land consumption and the under-occupation of housing resulting from demographic change. A central tenet of this discussion is sustainable densification, with minimal increase in building volume. Here, demolition serves as an important tool to unlock the spatial potential of the building structure, reimagine internal workflows, and restore functionality, all with the aim of creating sustainable living spaces. In the two projects presented, we aim to adapt and repair the existing houses through simple, tactical measures based on four defined principles:

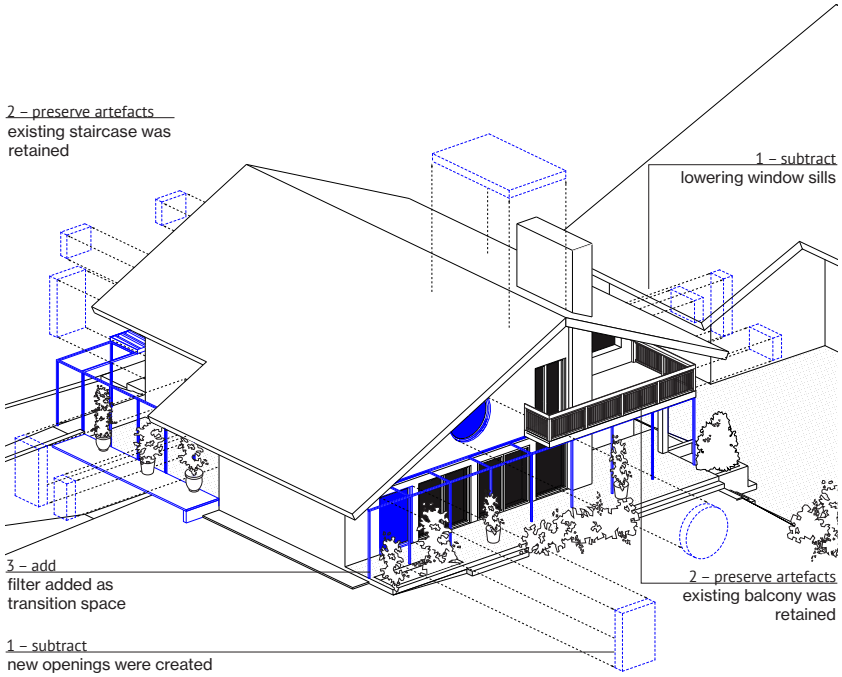
[1] Statistics Austria, ÖIR - Austrian Institute for Spatial Planning, and market research companies such as IMAS and GfK.
[2] Statistics Austria, "Zensus Gebäude- und Wohnungszählung 2021," 2021.
[3] BMK, "Handlungsempfehlungen gegen Bodenfraß," 2024. WWF, "Bodenreport 2024," 2024.

subtract
= demolish to repair
exchange
= demolish to replace obsolete parts
add
=demolish to introduce new spatial configurations
preserve artefacts
= sustain existing performing elements

Satellite view & street view of the former situation of House TAL.
Google Maps. Accessed July 2024.

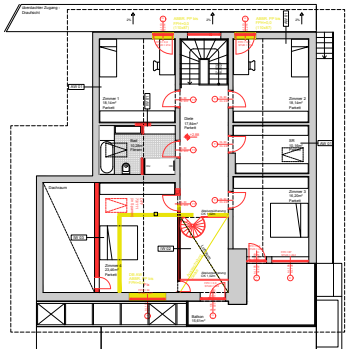
Satellite view & street view of the former situation of House BAB.
Google Maps. Accessed July 2024.

The projects are located in suburban settings, and both were built in the 1980s. The house TAL is situated in a small town in Upper Austria, while the house BAB is located in a town near Vienna.

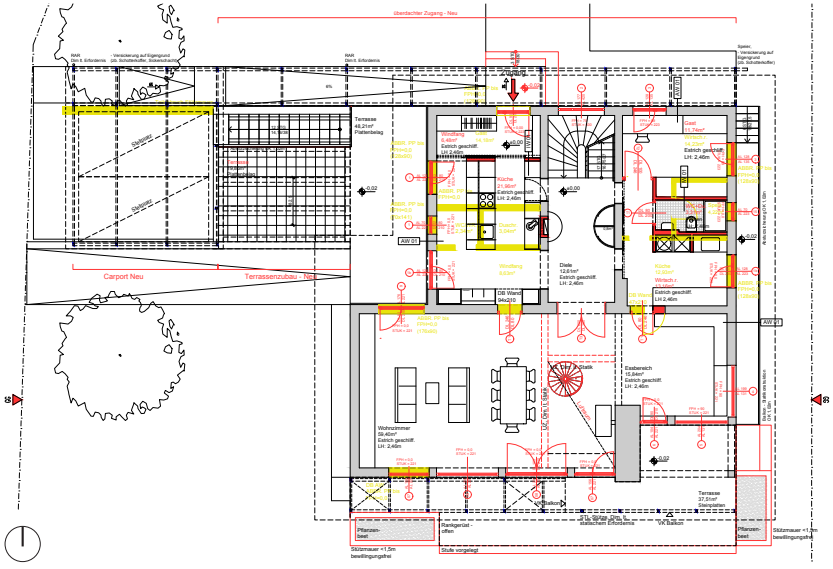


before: 1 person / 1 person | after: 4 persons / 2 persons

The previous owner of House TAL, moved into the house next door to take care of her aging mother and to make room for her daugther and family. The very large and introverted house needed to be modified on a low budget. The ground floor was opened up as much as possible to create connections and common spaces between the houses, activate neglected parts of the garden and create a sequence of public, semi-public and private spaces.



Upper Floor Plan



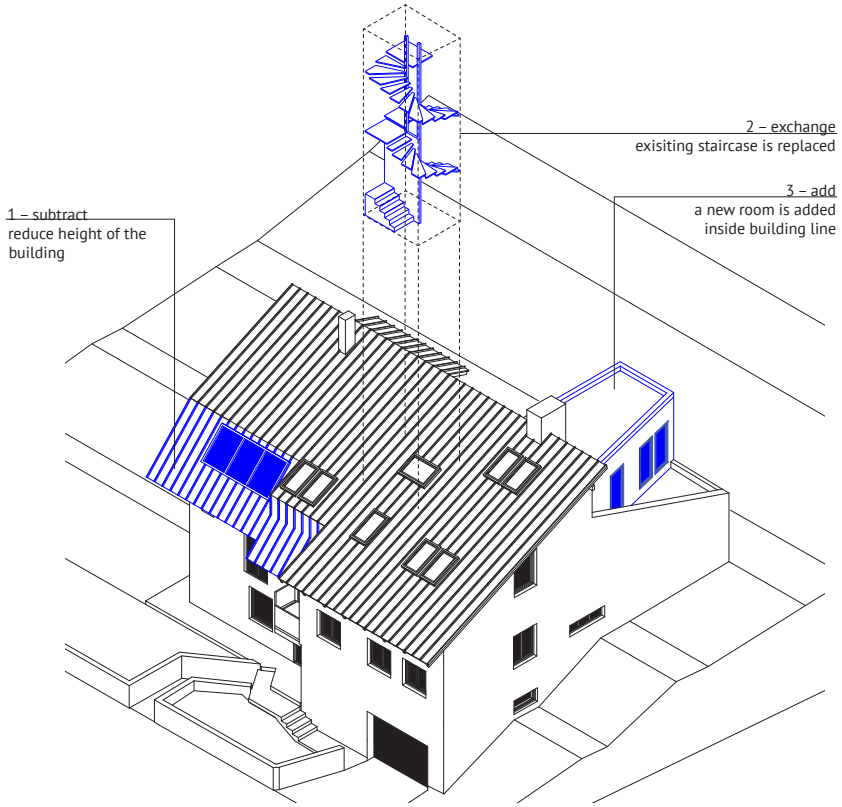
yellow = demolished
red = new
(N.B.: this is the colour coding required in Austria)

Ground Floor Plan

The submission plan shows the reclocation of the main entrance to the northern part of the house and the kitchen to its western part. This intervention fundamentally alters the house's operational flow. 1 - by lowering the window sills to create full-height openings, the flow of the house was opened to the garden. 2 - the staircase and the balcony were still performing well and kept. 3 - a steel scaffold was added to serve as a transition between the indoor and the outdoor spaces.

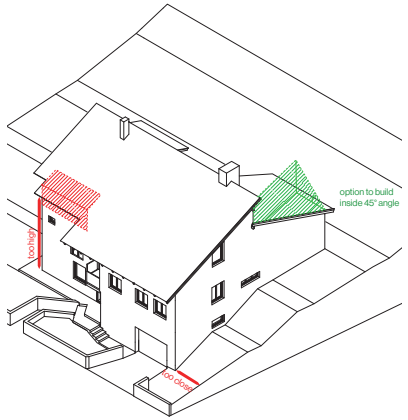
subtract: By removing sections of the ceiling in the living room, the circulation, spatial connections and programmatic relationships were restructured to meet the needs of the new occupants.

preserve artefacts: elements that continue to serve their purpose are preserved, such as the old wooden staircase, the balcony on the south facade and the roof rafters and soffit. Initially retained by the clients due to financial constraints, these features were later appreciated as distinctive characteristics of the house. *add*: a new steel frame structure was implemented to serve as a transition-zone.

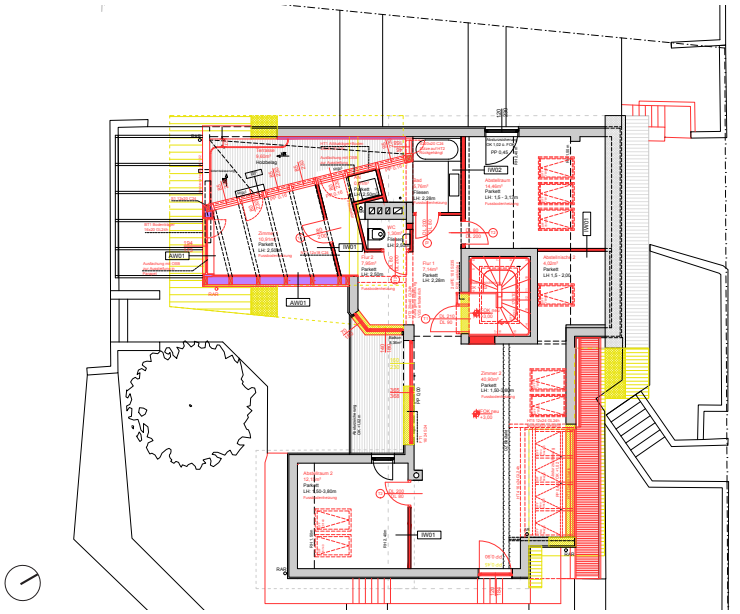


before: 2 persons | after (+13m2): 6 persons

House BAB needed to remain habitable on the ground floor during construction and previously overlooked building regulations had to be readdressed. It was important to create forms of cohabitation that respected the privacy and independence of the individual families while also creating space for joint living.



Constraints due to building regulations.



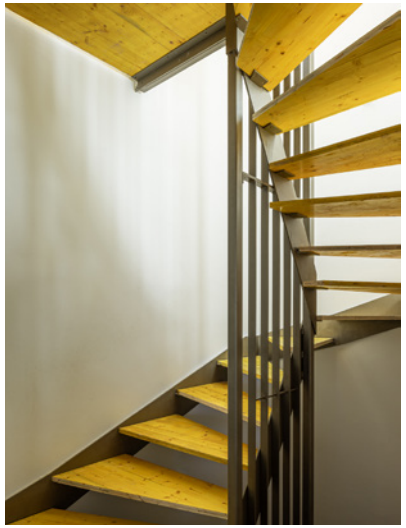
yellow = demolished
red = new
(N.B.: this is the colour coding required in Austria)

Ground Floor Plan

Three major interventions were carried out: 1 - a part of the roof was removed to lower the building's height in this section. 2 - the existing staircase was replaced with a new spiral staircase, allowing separate access to the units. 3 – a new room was added to the south.

[photo: tschinkersten fotografie]

subtract: to address the overlooked building regulations, the building height was reduced. By demolishing and lowering the western part of the roof the current regulations were fulfilled. This also created a view across the city to the landscape beyond. The change in the roof line allowed a better resolution of the house within its streetscape. [photo lower right: tschinkersten fotografie]



add: A new room was added to the garden side. With just 15m2 added, the density increased from 2 to 6 people, accommodating now two families.
exchange: The spiral staircase optimizes space, providing a seperate access to the units.
[photo lower left: tschinkersten fotografie]

PRACTICES IN RESEARCH #5

DEMOLITIONS AND DECONSTRUCTIONS

CHAPTER 5

RE-PRESENTATIONS

STRANGELY FAMILIAR

Dismantling a clustered care complex into separate dwellings for people with mental disabilities in Monnikenheide-Spectrum

Nikolaas Vande Keere, Regis Verplaetse

UR architects

Photography new situation Michiel De Cleene

(a) The original Monnikenbos (completed in 1980)

UR architects was commissioned to redesign the clustered Monnikenbos after winning a limited competition in 2012 to reimagine portions of the residential care centre of Monnikenheide-Spectrum in the municipality of Zoersel. While the architectural project was delivered in 2020, the landscape project is still in progress.

For more information on the different projects in Monnikenheide see: Gideon Boie (ed.), Sofie De Caigny, Kurt Deruyter (photography), Fredie Floré, Vjera Sleutel, Thomas Vanderveken, Heleen Verheyden and Erik Wieërs, *Living in Monnikenheide: Care, Inclusion and Architecture* (Antwerp: Flanders Architecture Institute, 2023).

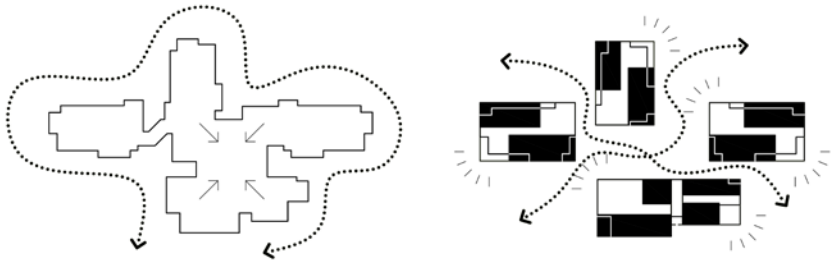
For previous research-by-design on psychiatric care sites by UR see: *The Psychiatric Asylum Dismantled* (The Netherlands, 2009), commissioned by the Dutch Creative Industries Fund and *The Future of the Asylum* (Belgium, 2012), commissioned by the Flanders Architecture Institute.

Remembering or forgetting is doing gardener's work, selecting, pruning. Memories are like plants: there are those that need to be quickly eliminated in order to help the others burgeon, transform, flower.

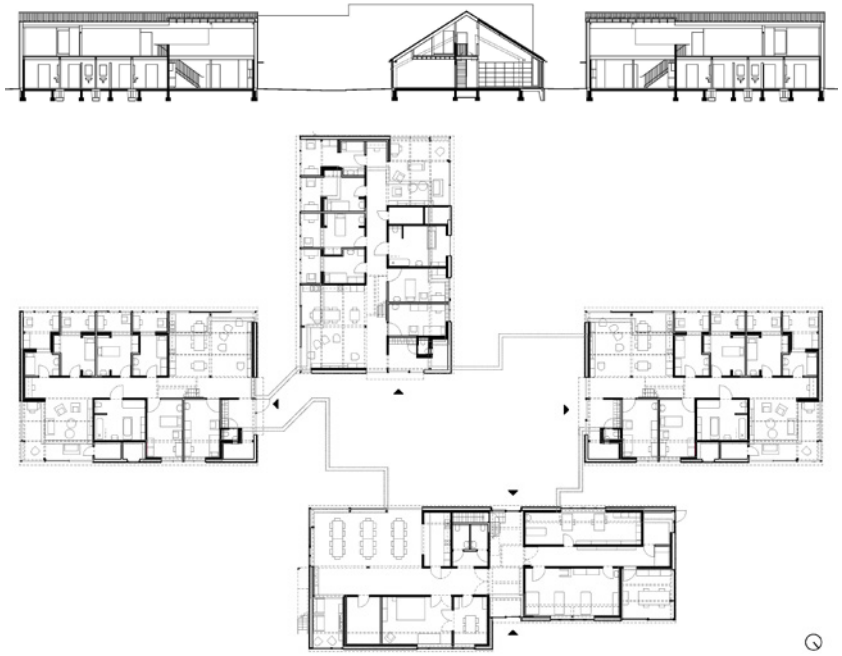
Marc Augé, Oblivion, 2004

The adaptive reuse of Monnikenbos is akin to a game of hide-and-seek with the memories of the settlement. Working with its existing qualities becomes a play with varying degrees of familiarity and estrangement. Rather than fetishising the remaining structure as a recognisable remnant, it continues to build on material fragments or architectural features in dialogue with the original. This visual essay documents the before and after of the project. The interaction between old and new portrays the 'selecting and pruning' of spatial recollections, between resemblance and distortion, but always contextualising places in time. At first glance, the images form a subtle narrative of the architectural transformation of atmospheres from within. On closer inspection, however, they reveal a more patient transformation: after the residents, the landscape has also moved back in. Having originally turned its back on the surrounding forest, the new Monnikenbos finally lives up to its name by activating and cultivating it.

(b) Situation plan and landscape



(a)



(b) Section and floor plan

(a) Before and after schemes show the transformation of the closed cluster into an open settlement with upgraded free-standing dwellings.

(b) The section adds a floor and raises the roof.

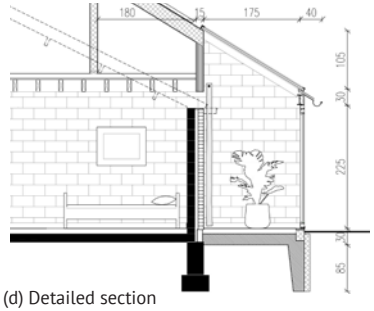
The floor plan maintains a close relationship with the original single-storey layout, mainly enlarging the existing interiors of the residential units.

(c) The project retains the residential units while further transforming the character from institutional to domestic.

The starting point was to rethink the role of the indoor agora, replacing it with an informal courtyard.

The resulting new envelope redefines the exterior and significantly changes the appearance of the project.

(c)



(d) Detailed section

(a)

(b)

(c)

(a, b) The agora is turned inside out, while the position of the front doors is maintained.

They are (re)activated as real entrances facing each other.

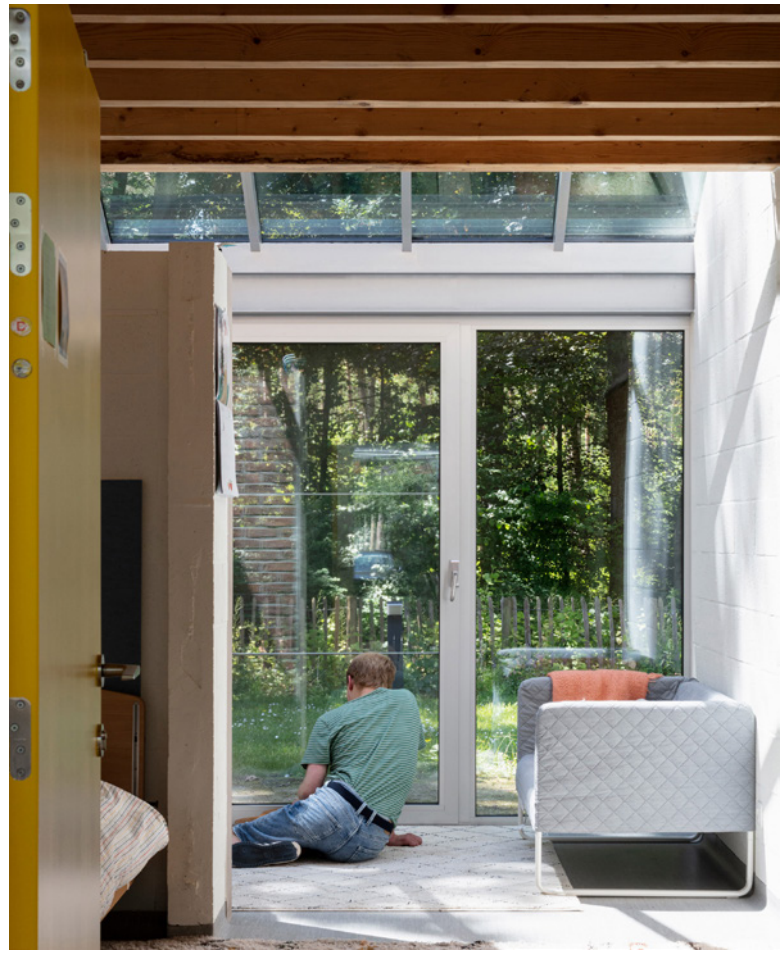
The courtyard becomes informal, permeable and green.

The play of entrances and passages between the houses transforms it into a meeting place.

(c, d) Each bedroom on the ground floor extends outwards with a veranda and direct access to the outside.

Fragments of the old façade have been retained on the inside to preserve and shelter the sleeping area.

The veranda floor becomes part of the garden, creating extra light and space for play.



(d)

(a, b) The corridors are no longer dead-ends but now connect the two living rooms at either end of each dwelling.

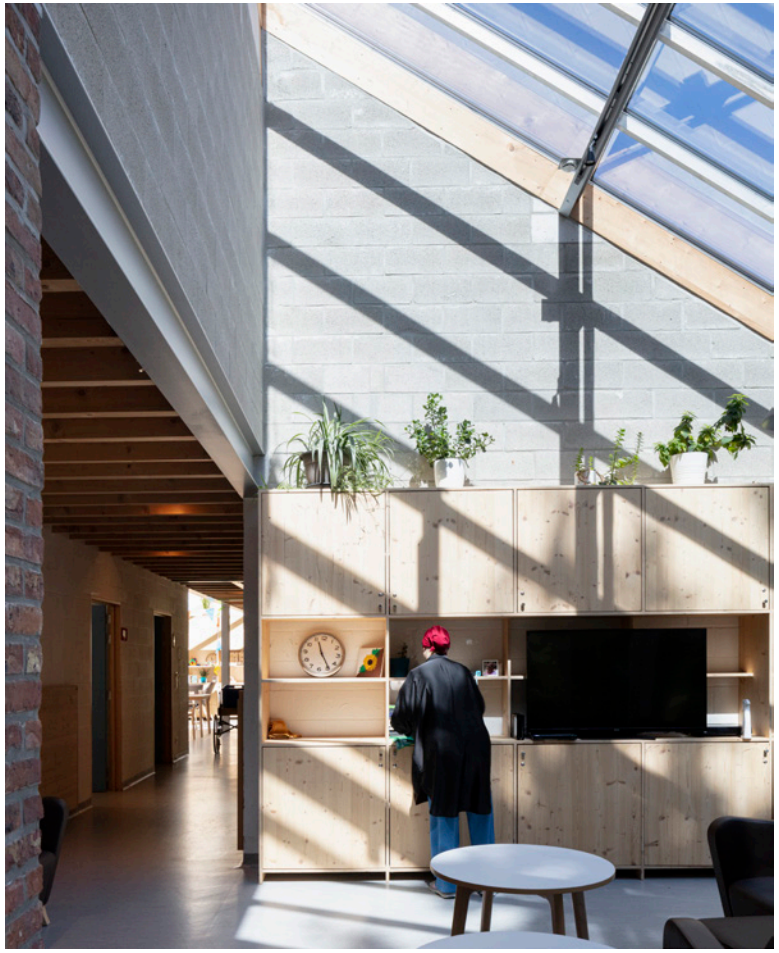
The corridors thus become part of a continuous, meandering communal space that also connects to the outside.

Glazed ceilings provide natural light and visual contact with the mature wooded surroundings.

(a)

(b)

(c)



(d)

(c, d) The shade of the trees extends into the room.

A staircase leads to the new first floor for the more independent members of the group.

Upstairs, an opening in the wall allows views back into the space and beyond.

The open space and the wooden furniture bring the residents together.

(a)

(b)

(c)

(a, b) Although the settlement is different, the relationship with the environment remains the same.

The low vegetation surrounds the houses, defines the gardens and provides a transition to the forest.

Each bedroom has a door to the outside, activating the garden as an extension of the living space.

(c, d) While the dining room near the entrance connects to the courtyard, the second living room looks outwards.

As a break-out room with a more leisurely character, it allows for different configurations and activities.

As it faces the landscape, it offers more relaxation and deeper views of the surroundings.

(d)

NAVIGATING THE LABY-RINTH

by doing almost nothing

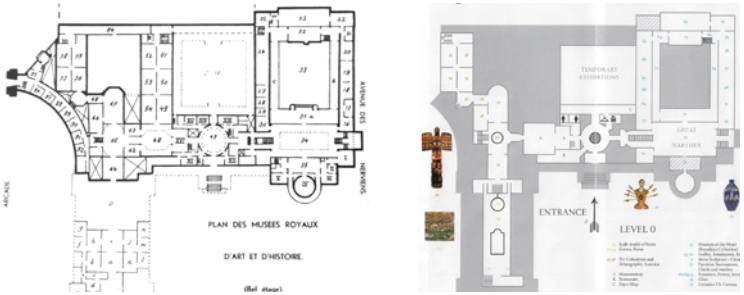
Vinh Linh, Thomas Mertens, Jochen Schamelhout

Elmēs

A surreal palace

Institutional buildings in Western European cities often stand as inherited monuments from a bygone era, and the Cinquantenaire Palace is no exception. This museum, grappling with the weight of its illustrious past, epitomizes the challenges of preserving historical grandeur. As its celebratory name suggests, the Cinquantenaire Palace is deeply tied to the growth and identity of an ambitious young nation. Yet, the result of this celebratory fervor is a structure that, while monumental in stone, resembles a surrealist cadavre exquis. It is an amalgamation of fragmented plans, shaped by shifting needs for urban decorum, grandeur, and spatial pragmatism.
Each corridor, room, and garden tells its own story, bearing the traces of its moment of relevance. Over time, this accumulation of ad-hoc decisions has created a building that no longer speaks with one voice but instead produces a cacophony of competing narratives.

The building's current layout originates from a neoclassical design of exhibition halls arranged around three inner gardens. However, due to numerous interior modifications, only one of these gardens remains visible to visitors. One has been covered to accommodate temporary exhibitions, while the Japanese courtyard garden is hidden behind layers of drywalls, false ceilings, and other obstructions. The disappearance of these gardens has transformed the museum's layout into a disorienting labyrinth, leaving visitors to wander in search of coherence.



A comparison between the original plan (left) and the visitors guide (right) reveals how spaces have gradually been closed off from the exhibition circuit, with the courtyards no longer appearing on the plan.

A questionable brief

Against this backdrop, it was surprising that the competition brief called for yet another layer of scenographic intervention. In the wing dedicated to 18th-century decorative arts, the brief proposed an additional scenographic layer to mask the outdated displays—displays that had already compromised the museum's original grandeur and concealed the Japanese courtyard garden.
In the American wing, the curator proposed highlighting two pieces that appear in *Tintin* comic books, with a comic-inspired scenography designed to set them apart from the rest of the collection. Additionally, a plastic replica of an Easter Island statue was to be added to the exhibition, despite an original example already being on display. These scattered proposals formed the brief, despite the knowledge that a full renovation of the Cinquantenaire Palace is planned for 2030.

Doing almost nothing

Simply responding to these requests seemed reckless, as it risked exacerbating the already chaotic state of the museum. For us, the project demanded a different approach—one grounded in observation and aimed at untangling the mess of timeless ambitions and temporary solutions that defined the building. This observational method is not passive; it requires careful study, dialogue, and, like a military scout, calculated audacity. What we choose to observe and how we engage with it can hold more significance than the ultimate design itself.

While observing and taking the first steps in the competition proposal, we discovered Georges Descombes' design strategy called "doing almost nothing" and felt how our intentions gradually began to resonate with it. Since the 1980s, Descombes has developed this approach as a challenge to the traditional view of landscape architecture as a discipline rooted in control and order. Instead, he proposed a vision of the designer as a caretaker, enhancing the natural and cultural qualities of a

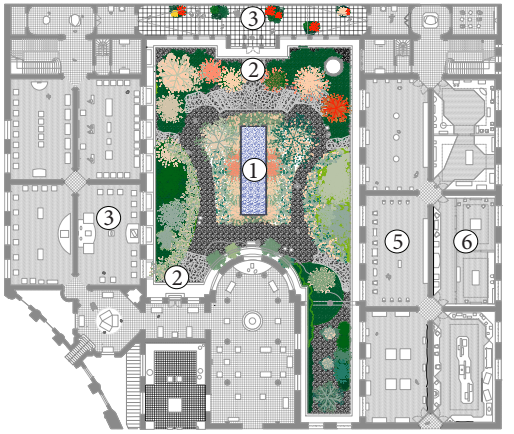
site through the lightest interventions—ones that are *minimal*, *identifiable*, and *open to change and reversibility*.

Reimagining the Museum as Architectural Ecology

The layered interventions and scenographic clutter of the Cinquantenaire Palace were analyzed in light of the planned comprehensive renovation. This understanding informed our strategy, which sought to amplify the building's latent qualities rather than mask them with new layers.

The Japanese courtyard garden, once a key spatial feature, was rediscovered as a central element around which the entire project unfolded. By prioritizing the garden early in the design process, we not only restored circulation but also reestablished its connection to the interior, enhancing orientation throughout the museum. Despite not being part of the initial brief, we allocated 10% of the budget to the garden's restoration and a long-term maintenance plan, recognizing its heritage, aesthetic, and functional significance.

Japanese courtyard garden as a central green figure around which the project unfolds.



1. Japanese courtyard garden
Restoration, replanting, and development of a maintenance plan

2. Access to Japanese garden
Reopen doors, remove panels, and install UV filters

3. American collection
Remove suspended ceiling, remove dry-walls, and rearrange vitrines

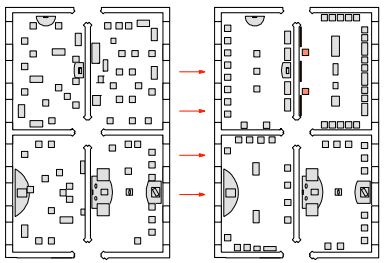
4. Orangerie
Install double ramps, mirrors, and lighting

5. 18th c. decorative arts Exhibition
Remove outdated scenography and restore original grandeur of exhibition spaces with direct link to the garden.

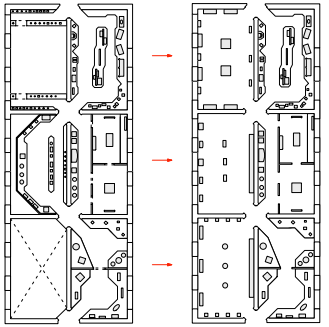
6. 18th century decorative arts Storage
Preserve scenography, install portholes to be used as storage.

In the American wing, we rejected the Tintin-inspired scenography, opting instead for a thoughtful reorganization of the existing displays. By removing obstructive elements such as drywalls and false ceilings, we restored the original spatial clarity and established visual and physical connections with the inner garden.

For the 18th-century decorative arts wing, we resisted adding another layer of scenography. Instead, three rooms were restored to their original grandeur, with the remaining spaces left flexible for future updates as part of the planned renovation. Contemporary materials and techniques were introduced where necessary, but these additions were carefully designed to complement the existing architecture and remain reversible.



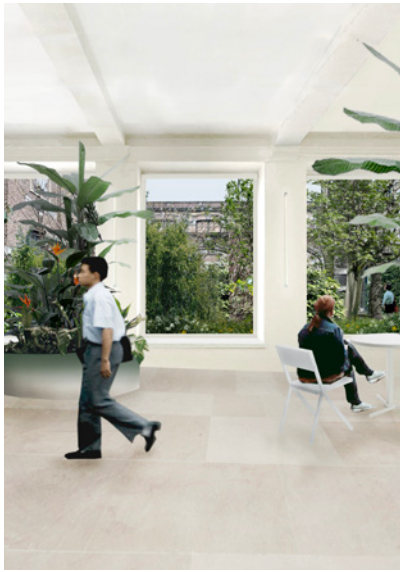
American collection: A reorganization of the vitrines creates space for the collection and highlights the masterpieces in balance with the entire collection.



The wing for 18th-century decorative arts is divided into one section for exhibition and another for storage.

Yet, it is not a mere restauration project. Contemporary materials, techniques and details have been introduced. But these additions complement the whole, rather than claim individual importance, and are designed to be easily removed if deemed redundant. One notable intervention was the introduction of a double ramp in the Mercator wing, connecting two museum wings and providing accessibility to the garden. The ramp's structure, reminiscent of a ship's hull, was designed to avoid interfering with the existing foundations, while mirrored walls corrected spatial irregularities and reflected the garden's natural beauty.

Longitudinal section through the orangerie: double ramp linking two museum wings.



The orangerie: A double ramp completes the circulation and mirrors reflect the Japanese courtyard garden.

In our project we aimed to surpass the mere novelty of design by emphasizing the neglected qualities of the building whole. Verbs unknown and unthinkable in architectural modernism – revalue, reorganise, recycle, repair, restore, repurpose - have become indispensable. We restored accessibility to the garden, completed the exhibition circuit, and helped standardize the museum's signage to create continuity within the different narratives of the collection. These actions required architectural sensitivity, design expertise, construction knowledge, and, crucially, an optimistic belief in already existing qualities. This approach values not only the architect's ability to design and add but also their capacity to critically observe and engage with the existing.

A photographic essay

With this in mind, we invited photographers Philippe Braquenier and Robbrecht Desmet to observe, in their own unique ways, the dismantling of the various layers of the museum. On one hand, this was an experiment to materialize observations through different lenses; on the other hand, we believed that the finished project risked being overlooked by conventional methods of architectural representation. Therefore, the photographs taken are not just mere documentation of an architectural project; they are part of its genesis. They serve as a testament to an architectural ecology that extends beyond the physical object.

p. 10, 11 & 12
Japanese Garden
12th of December 2022
by Philippe Braquenier

p. 13, 14, 15, 16, 17 & 18
Pre-Columbian and etnographic America wing
12th of December 2022
by Philippe Braquenier

p. 19
Mercator gallery
12th of December 2022
by Philippe Braquenier

p. 20
18th century decorative arts
12th of December 2022
by Philippe Braquenier

p. 21
Pre-Columbian and etnographic America wing
16th of January 2023
by Robbrecht Desmet

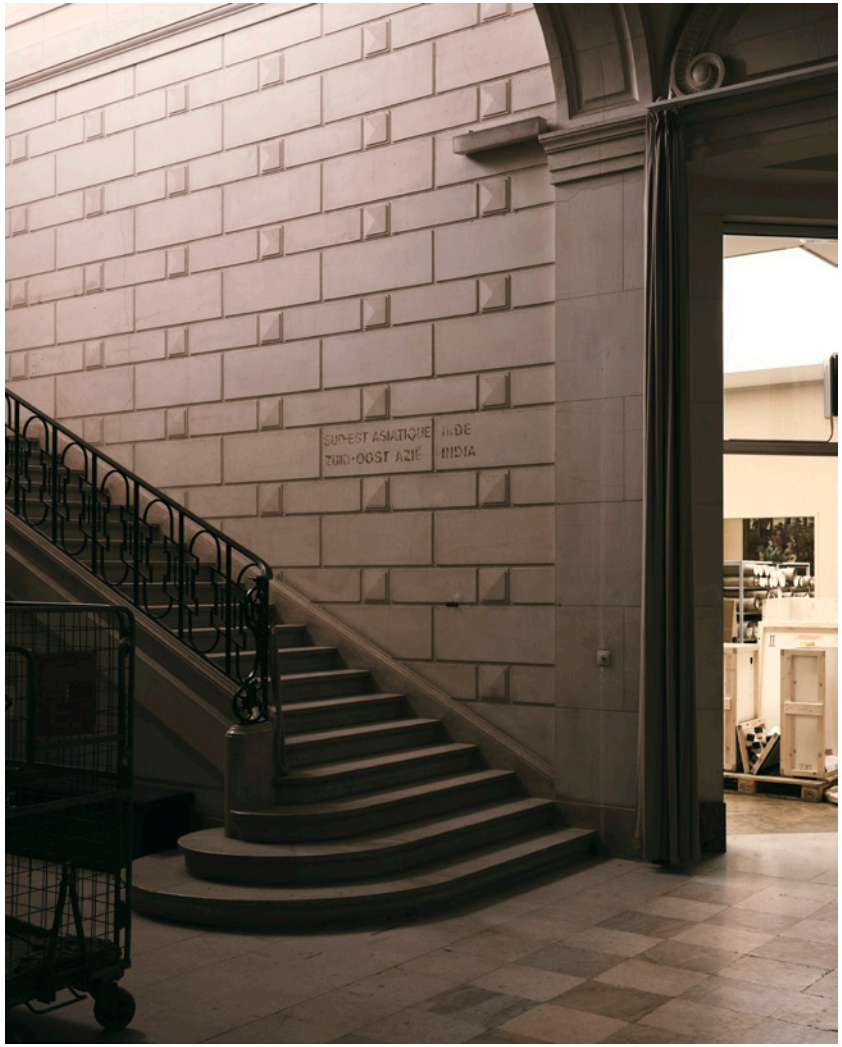
p. 22, 23 & 24
18th century decorative arts
16th of January 2023
by Robbrecht Desmet

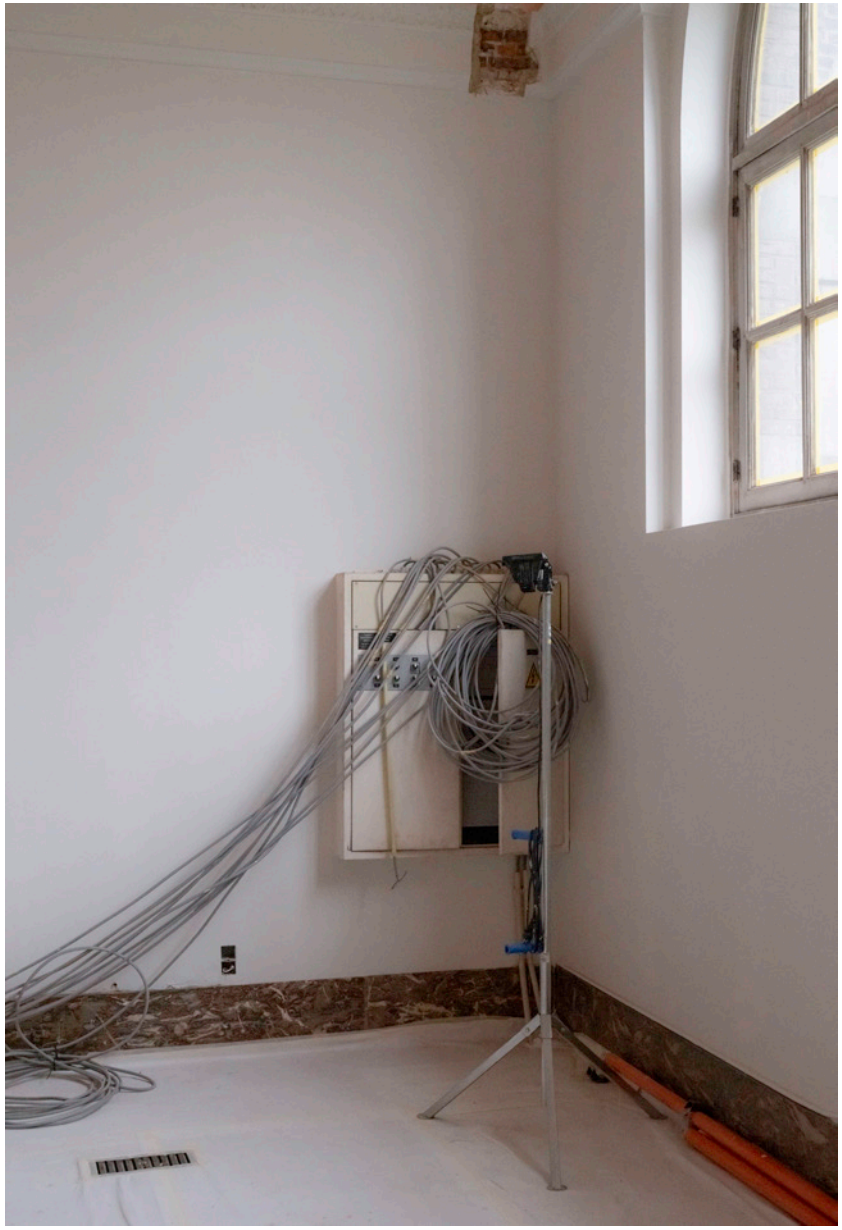
p. 25 & 26
18th century decorative arts
16th of March 2023
by Robbrecht Desmet

p. 27
Pre-Columbian and etnographic America wing
16th of March 2023
by Robbrecht Desmet


América


GALERIE MERCATOR GALERIJ


SUD-EST ASIATIQUE
ZUID-OOST AZIE
INDE
INDIA



Epilogue

Architecture, no longer confined to its own material and spatial logic, is increasingly preoccupied with understanding its broader context. The immediate act of design is currently – and for good reasons - preceded by an attempt to demystify the contemporary global modes of production.[1] Yet, this expanded awareness exposes an unsettling realization: the process of creating a building is not a coherent narrative but a fragmented accumulation of decisions and consequences that rarely align. One should not be surprised, integrating the entire process of creating a building—one that includes sourcing, production, labour, and environmental impact—is no easy feat. Faced with an infinite web of moral and material entanglements, one could easily get lost in the moral calculus which this requires. Without a framework to mediate this complexity, architecture risks stumbling between moral overreach and practical irrelevance.

It is in this precarious space that doing almost nothing takes root. It acknowledges that architecture is not a linear process of cause and effect, but a sprawling network of contingencies. Decisions made are often unforeseeable and interwoven into broader systems of labor, production, and ecology. Doing almost nothing reframes the architect's role within this entangled field—not as a detached problem solver, but as an active participant who works through small, deliberate adjustments. Rather than offering reductive solutions or grand interventions, this strategy embraces complexity and seeks to navigate it with precision and humility. Like The Cinquantenaire Palace, the act of doing almost nothing was not just conceptual rhetoric but rather a series of surgical maneuvers. Each move acknowledges its own temporality: a subtle defiance of permanence, leaving the possibility of future change intact. To act, then, is no longer to dominate but to recalibrate: to adapt one's position within this vast web of forces and acknowledge the uncertainty inherent in every intervention. Within this framework, the architect

1 A good summary can be found in Ockman, J. (2022). Toward a political ecology of architecture.

is neither hero nor victim but an embedded participant in a complex system—a negotiator of entanglements.

However, it is crucial to emphasize that 'doing almost nothing' is not synonymous with inaction or passivity. The emphasis on the word "almost" distinguishes it from a stance of "doing nothing" and prevents it from falling into the moral imperative of "stop building." It is not about ceasing to act but about recalibrating how and why we act—an architecture of precision rather than spectacle. Beginning with the premise of "working with what is already there" therefor does not imply a passive acceptance of the status quo. Each move is considered not only for its immediate impact but for its latent potential—to extend the lifespan of the present while leaving room for the contingencies of the future. Architecture becomes less about invention and more about recalibration, less about grand gestures and more about the patient accumulation of meaning.

This approach forces a shift in the role of the architect. No longer the author of a master narrative, the architect can become a collaborator, an editor, a strategist. Like a chameleon, it allows architecture to adjust itself to survive, adapting to its surroundings while retaining its identity. It puts architecture amid everything rather than at the centre of everything. It might even liberate the profession from a mindless pursuit of formal novelty and instant likeability. Mark Fisher's observation, "It's not because it's current that it is new," speaks to this liberation.[2] In a culture obsessed with speed and surface, "doing almost nothing" is a radical act of resistance. And although negotiating what stays and goes, restoring, maintaining, or even doing nothing seems to be less glamorous, it is an essential cultural act: awkwardly balancing architectural histories, construction pragmatics, material flows, economic realities, and spatial qualities. It is not spectacular. It is not easy. But it is essential.

2 Fisher, M. (2009). Capitalist realism: Is there no alternative?

MEMORY (RE)PRODUCED

ykks and darzanà

Deniz Dilan Kara, Ece Ünübol, Dide Dinç

TEGET Architecture

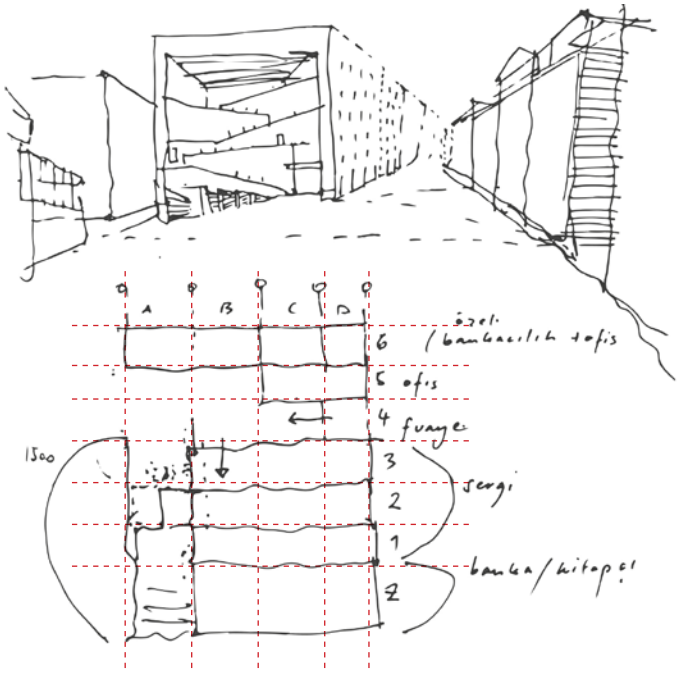
In an atmosphere of urban amnesia in Istanbul, Teğet aims to uncover and (re) produce memory through two projects.

YKKS was re-built within the imaginary, if not physical, boundaries of the precedent in Beyoğlu; and the ghost ship of Darzanà (Baştarda) was re-constructed in the elongated volume of an archetypal space, on the shores of Goldenhorn. YKKS is both a transformation and preservation project with the radical interference towards an existing building. The memory of space was produced with a critical approach as the emergent atrium both separates and connects two worlds: the building and the city, the new and the old, the past and the present.

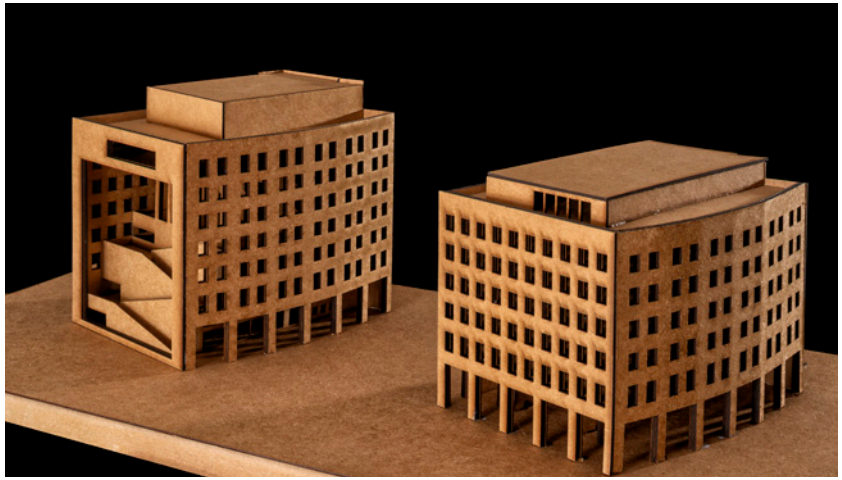
Baştarda is a transcultural and timeless vessel that was built from discarded objects found in an abandoned Tersane in İstanbul, later to be exhibited in an Arsenale in Venice. The memory of space was re-produced in an archetypal womb of a shipshed, in which an iterative confrontation of two cities occurs.

ykks.

The rationalist building of German architect Paul Schmitthenner, Beyoğlu 1960s.



Preliminary sketches of YKKS: Opening the façade towards the urban square through an atrium while preserving the three-dimensional structural grid of the existing building.



Conceptual model of the transformation: New and old building

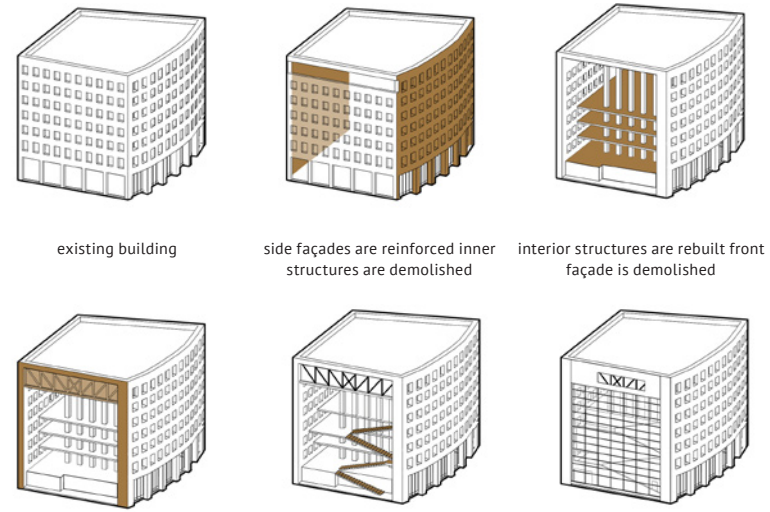
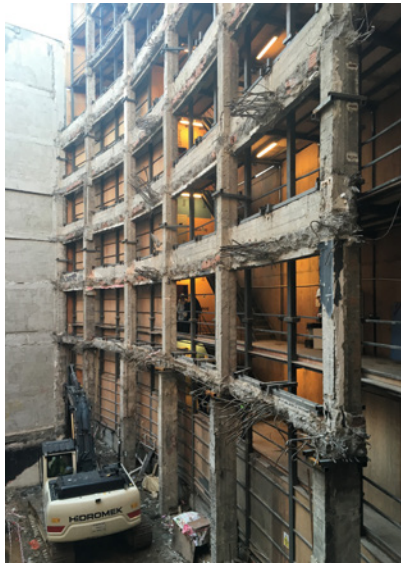
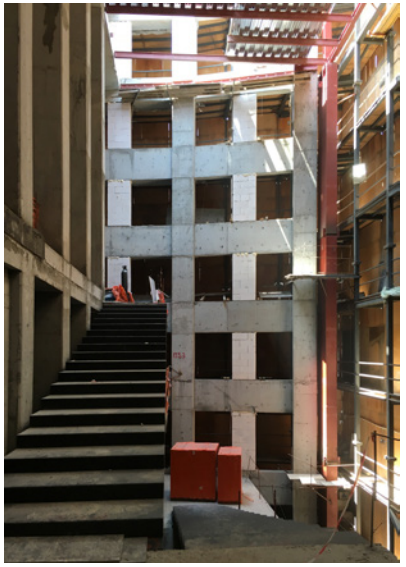


Diagram of the construction phases



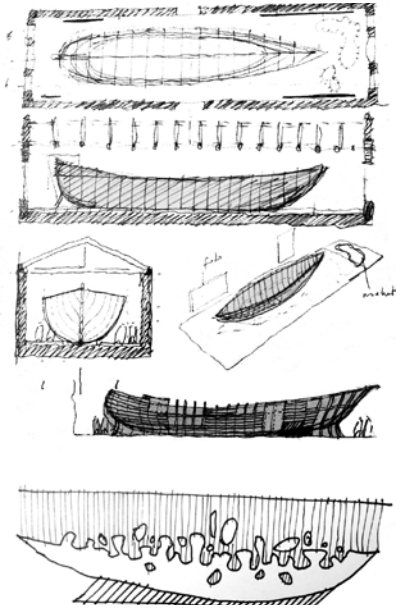


Photographs from the construction: Preservation, demolition and construction, all at once.

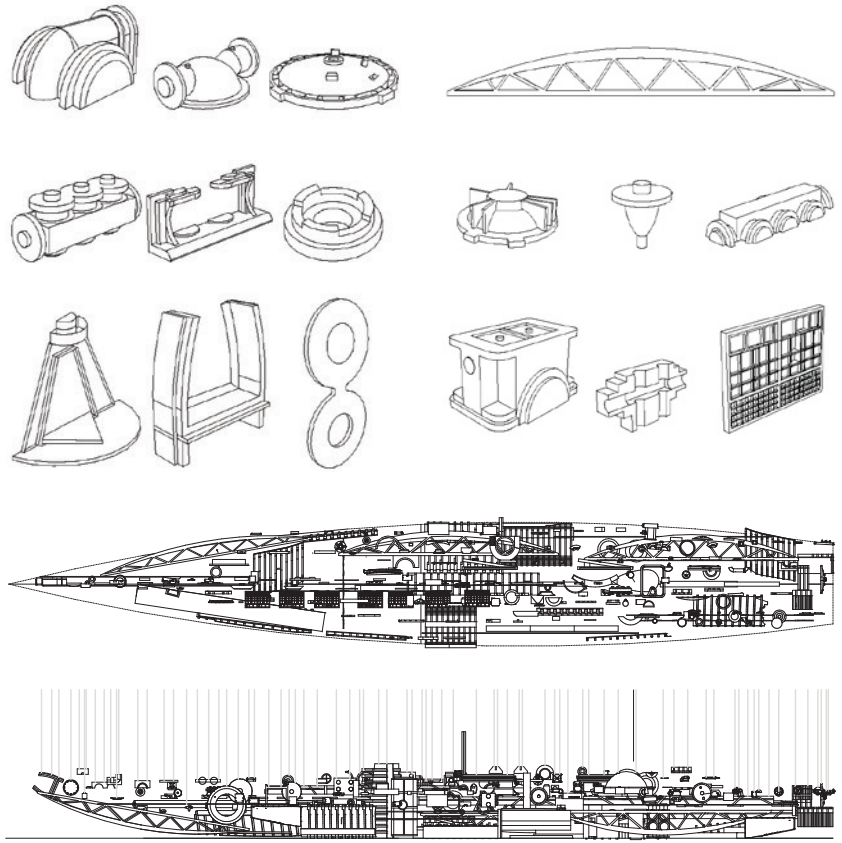
The emergent space (atrium) at the front became the confrontation area of both the old and new building with the city. Photograph: Ekin Özbiçer

darzanà.

Darzanà is a project which confronts two cities –Istanbul and Venice– both different and identical through a shared geography. A vessel, Baştarda, was built with the abandoned and discarded objects found in the Haliç shipyard.



Abandoned Objects in the Haliç Shipyard. More than 500 pieces of wooden moulds, furniture, signboards and boats are examined and collected. Photographs: Cemal Emden



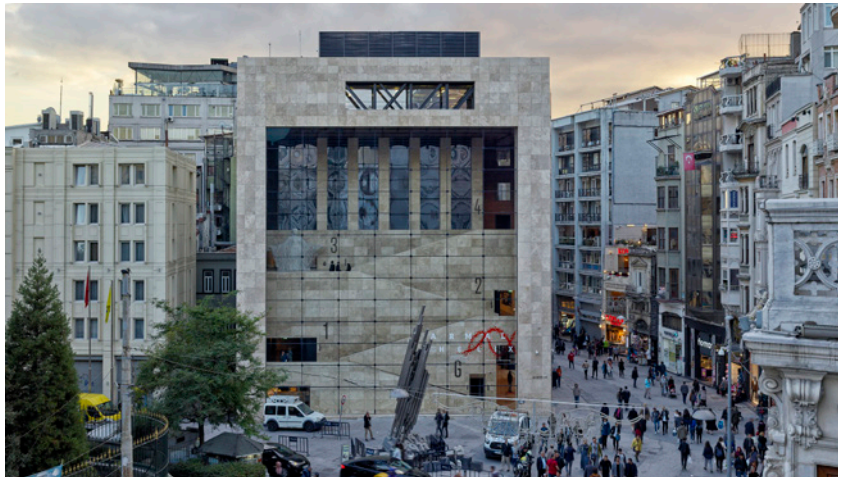
Each piece was measured and modelled; suspended from a steel structure mounted on the ceiling. It was first constructed in Tersane and then re-constructed in Arsenale.

memory (re)produced.

Baştarda in Tersane, İstanbul. Photograph: Cemal Emden

Schmitthenner Building, 2010s Photograph: Cemal Emden

Baştarda in Arsenale, Venice. Photograph: Cemal Emden
The shipsheds of Istanbul and Venice looked at each other through a hybrid ship that comes from the future; carrying the memories and telling stories of two cultures.



YKKS Building, 2017. Photograph: Cemal Emden
Rather than a replica without a past, a new structure encountering with its past self from within, was produced.

PRACTICES IN RESEARCH #5

DEMOLITIONS AND DECONSTRUCTIONS

EPILOGUE

ON UNBUILDING

ON UNBUILDING

Overarching reflexions on Practices in Research #05 Demolitions and Deconstructions

Urszula Kozminska
Arkitektskolen Aarhus

Bie Plevoets
UHasselt, As Found Network

Article by Editorial Assessors of Practices In Research #5 on Demolitions and Deconstructions : Editorial Review only.

Demolition Stop

In modern architectural practice, the demolition of older buildings was regarded as an inevitable precursor to the construction of new, modern structures—a natural progression in the lifecycle of the built environment. However, today, this assumption is no longer universally accepted. Increasing awareness of the ecological and social impacts of large-scale demolition has prompted a reconsideration of its place in the design and construction process. Growing awareness of the ecological consequences of large-scale demolition, as well as the social implications of radically transforming built environments, has prompted a reevaluation of demolition's role within architecture. Today, more nuanced approaches are emerging that prioritize sustainability, material reuse, and cultural continuity. These strategies include partial demolition, selective removal of layers such as facades or interiors, and material recovery processes like mining and stripping.

The halt to new construction in favor of preservation and adaptation of the existing was the subject of OMA's Cronocaos exhibition at the Venice Biennale of 2010. In the aftermath of this exhibition, Rem Koolhaas and Jorge Otero-Pailos published *Preservation is Overtaking Us*, a manifesto in which they declare the dead of 'stararchitecture'- iconic new buildings which form expresses the identity of the architect- and announce

a radical shift in the architectural discipline towards preservation and adaptation of existing fabric. In recent years, the plea for preservation and discussion on demolition has only become more compelling. Diverse activist initiatives postulate a radical shift in architectural practice, redirecting the profession towards more resource-conscious approaches that prioritize adaptive and material reuse. The *House Europe!* initiative targets changes in European legislation and sets up relevant incentives to challenge the current system, favouring profit from demolition and rebuilding over environmental and social needs. A *Global Moratorium on New Construction* instigated a debate on a threshold between the necessity of halting building anew and the realities of prevailing systems and supply chains that heavily rely on finite resources and do not account for environmental impacts. Those queries were demystified by Space Caviar in a publication that unpacked carbon, resource and social costs of building, highlighting architects' responsibility for future unbuilding. Similarly, radical positions were taken upon by the contributors to the 'Byggestop' issue of the Danish journal 'Magasin for Bygningkunst og Kultur'. This publication demonstrated that stopping building and questioning the established modes of practising may lead to more attentive design processes and new typologies, materials and aesthetics.

Even if, in recent years, numerous architectural magazines showcased inspiring examples of more caring architectural approaches and Manon Mollard, Eleanor Beaumont, and Kristin Rapacki wrote in Architectural

Review that: '*(...) today it is clear that all buildings must be saved and readapted, and that the resource scarcity facing us makes hardly any act of demolition justifiable'*, this is still not a common practice. Only in Denmark are two to three million square meters demolished annually, whereas six million are built anew. Moreover, it is expected that two billion square meters of the existing building stock in Europe will be demolished by 2050. Current policies and legislation have slowly started to address this issue. The European Green Deal aims for a zero-emission building mass by 2050, which theoretically could limit demolition as adaptive reuse practices have a lower environmental impact than building new ones. On a local level, in 2023, Denmark introduced obligatory Life Cycle Assessment for all newly constructed buildings bigger than 1000 sqm2, which can potentially transform more of the existing building stock. In the future, requirements concerning environmental impacts are expected to be more demanding if it comes to resource protection. Therefore, the paradigm shift in architectural practice has already started.

The PIR5 conference showed that this shift in approach has led to the emergence of new roles and responsibilities for architects within the design and construction process. Architects are increasingly called upon to act as advocates for working with the existing', convincing clients not to pursue full-scale demolition. Secondly, architects must adopt a new design approach—what might be termed "demolition design"—which involves the careful selection of what to retain and what to remove, not

only at a structural level but also in terms of finishes and materials. Today, in adaptive reuse projects, the first act of architecture is demolition or deconstruction. Other spaces appear, new programmatic opportunities emerge. This nuanced decision-making process requires balancing aesthetics, functionality, and ecological impact. Additionally, architects now play a crucial role as managers of material flows. In this capacity, they oversee the careful dismantling and cataloging of materials, facilitating their reuse either within the same project or for future construction endeavors. This involves not only technical expertise in deconstruction methods but also knowledge of material lifecycles, sourcing channels, and supply chains. By integrating these considerations into their practice, architects are reshaping the industry's approach to demolition, transforming it from an act of destruction into an opportunity for renewal and sustainable innovation.

Reuse Strategies: from accepting ambiguities to rethinking how we build.

During the PiR5 conference, it was visible that those careful approaches resonated with the architectural practice, resulting in the diversity of always respectful, often humble and sometimes playful attitudes that embraced the unexpectedness and unpredictability of adapting,

reusing and adjusting. The presented interventions were developed from a careful reading of encountered spaces and attentive examination of found elements, their registrations, classifications and assessments. Oftentimes, built situations were not clear. Existing structures were built, demolished, extended and appropriated over time. 'As found' elements were imperfect and broken, carrying embedded traces of time, wear and tear. However, most of the showcased projects accepted those conditions, developing standpoints that trespass the conventional differentiation between the old and the new, preservation and demolition, etc. and that account for current needs, environmental impacts and in-built resources. Architects played with ambiguities embedded in over-time building layers, constructive errors and frequent adjustments, embracing hybrid solutions and open-ended and iterative processes. Balancing between multiplicities of internal and external factors led to a more pronounced understanding of claims that ask for 'not building' or 'doing just what is needed'. Designers engaged with entangled histories and utilised available resources but also questioned current norms of 'good design' and typological standardisation.

This renewed view on the practice of demolition gave rise to a series of adaptive reuse strategies in which the act of removal can be an act of creating generous space, open for new uses. Partial demolition can create new connections between spaces, or blur boundaries between public and private spheres. Rethinking boundaries between interior and exterior can have an impact on how spaces are used throughout seasons. For example, having an un-climatised

interior 'buffer' between the climatized interior core and the unclimatized exterior. Removal of layers can also be a means to change the meaning of the building, for example changing its aesthetics and atmosphere. Careful inquiry into projects presented at the PIR conference shows a plethora of adaptive and material reuse strategies with diverse terminologies, hierarchies and centre points. However, they relate to refraining approaches and systematic rigours, developing critical principles and questions guiding transformation processes. Most of them aimed to retain, restore, reverse, repair, reinterpret, redistribute, reapply, and repurpose to rethink transformed structures, spaces and building elements eventually. Some focused more on surgical interventions in the existing buildings to prolong their life cycles, like what happened in the reconversion of the steel company building into a musical complex in Seraing by atelier chora[1]. Others, for example,

Construction site of the musical complex in Seraing, atelier chora.

1 Marchal, Émeric, and Xavier De Lanève. "OM Musical Complex: Aesthetics of Technique in the Conversion of Modern Heritage." *Practices in Research #05: Demolitions and Deconstructions*, 271-293, https://doi.org/10.5281/zenodo.14537026

interventions by RE-ST[2], examine current uses of available spaces, optimising them to question the need to build anew. Sometimes, more future-oriented circular agendas were introduced, for example, in the impact factory Mechelen designed by WIT Architecten[3]. Their proposal of retaining the existing building not only reapplied site-specific elements but also redistributed reused ones from local demolition sites.

Similarly, a more prominent interest in circular approaches promotes resource-oriented design strategies that favour urban mining, material reuse and closed-loop thinking. The recirculation of building components and materials

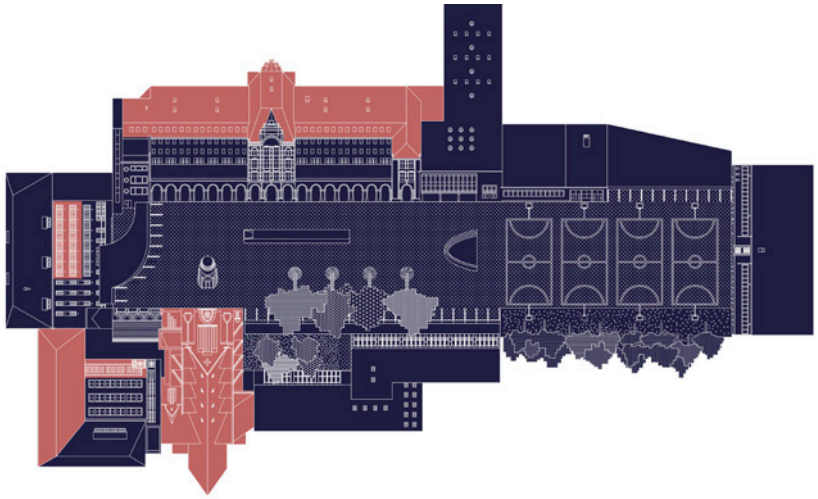


Diagram indicating the underused spaces of the Hoogstraten Klein Seminarie school, RE-ST, in collaboration with baukuh

2 Minten, Dimitri, and Tim Vekemans. "To Residue: Tactics for Not-Building and Activating Wanderspace." *Practices in Research #05: Demolitions and Deconstructions*, 41-65, https://doi.org/10.5281/zenodo.14536760

3 Verstraete, Brecht, Miet Vanheeswyck, Samuel Klein, and Bob Geldermans. "Impact Factory: Reconciling Demolition and Deconstruction Practices with Circular Building." *Practices in Research #05: Demolitions and Deconstructions*, 19-39, . https://doi.org/10.5281/zenodo.14536731

avoids their demolition and prolongs their life cycles within buildings they were sourced from or relocated to new projects. Adaptive practices create opportunities for *direct reuse* of reclaimed elements, which can be used almost 'as found' for the same function, often requiring only cleaning and repairing. Sometimes, salvaged items are assessed as unsuitable for planned use because of structural, functional, aesthetic or fire-safety reasons. However, they can still be *rethought*, adjusted, processed and reused for a new purpose within the same building or in another location. Those acts of reassembly and appropriation define the work of gruppe-

When the concrete cutoffs are upcycled as found, the concrete tiles transform from generic to unique shapes, gruppe-aja

aja[4]. Their projects, developed in open-ended processes that embrace the unpredictability of waste streams, unfold around available resources. Their means-oriented way of working, which relies on hands-on testing, accepts the current state of encountered matter to find suitable strategies of patching and fitting in, carefully curating salvaged components for new functions.

Most of the time, resources found on-site are limited and cannot fully meet the demands of transformation projects. But those new additions are frequently not entirely new. Sometimes, they are constructed with reclaimed materials *locally harvested* from demolition companies, waste collection points, storages of reused building parts and

KURA project, Niklas Fanelsa, © Zara Pfeifer

4 Hyttel, Alberte, Julie Lecuelle, and Amalie Holm. "The Architect as Curator of Reclaimed Materials: A Visual Essay about a Methodology." *Practices in Research #05: Demolitions and Deconstructions*, 219-243, https://doi.org/10.5281/zenodo.14536995

ongoing demolitions to lower the overall environmental impact of new constructions. However, this can also be achieved with the use of new *biogenic materials* that are not only characterized by low embodied carbon but also have a high potential to be reused or biodegraded in the future, as visible in Niklas Fanelsa[5]'s regenerative building practices, that account for future impacts and waste streams, favouring ecological and reusable materials.

This forward-looking perspective is intrinsic to closed-loop approaches that aim to anticipate inevitable construction waste streams generated by the maintenance, repair and deconstruction of designed buildings. Following this line of thought, all buildings become material banks, temporarily storing components that, in the ideal scenario, would be dismantled and reused in new developments. However, for that to happen, it is necessary to consider the end-of-life scenarios for new additions in the conceptual phase of the project development, designing them for future reuse. New constructions should not only be *designed for disassembly* that allows for their time- and cost-efficient systemic dismantling after the initial building life cycle ends. They also need to ensure easy *identification, separability, and salvageability* of their elements to enable maintenance and repair, counteracting overtime value loss due to usage.

These strategies have prompted a shift in aesthetic sensibilities. Demolition has stylistic consequences, influencing adaptive reuse practice in general, even

5 Fanelsa, Niklas. "With and Within: The Collaborative Practice of Kura Workshop." *Practices in Research #05: Demolitions and Deconstructions*, 145-165, https://doi.org/10.5281/zenodo.14536891

new construction. This trend can become problematic when the aesthetic of “roughness” and visible reuse is commodified and detached from its original purpose. In some cases, newly built projects mimic the unfinished, raw look of adaptive reuse, incorporating elements with visible signs of decay or historical materials, not as a true act of sustainability, but rather as a superficial design gesture to evoke nostalgia. This can result in projects that use reused elements merely as aesthetic markers, exploiting the visual language of reuse without engaging in truly responsible practices. By replicating the look of reuse without engaging with its deeper ethical, environmental, or social implications, the architectural profession risks undermining the genuine value of these strategies, turning them into mere stylistic trends rather than a meaningful contribution to the discourse on sustainable design.

Tactics and Methods: noticing, harvesting, adjusting and future-proofing.

In light of the evolving role of the architect in the context of demolition and adaptive reuse, it is imperative that a variety of methods and tactics be integrated into the design process. This was a central theme at

Page from the Impact Factory spacebook, a collection of standardized images of each prominent or typical room in the interior, WIT architecten

the PIR 5 conference, where numerous presentations were devoted to experimenting with, developing, and evaluating new strategies to support these emerging responsibilities. It has become evident that there is a need for a distinct vocabulary to facilitate communication of these innovative approaches. The terms “dismantling,” “deconstruction,” “disassembly,” and “decomposition” have now become part of a broader architectural discourse in which the value of preservation and adaptation is acknowledged alongside the need for renewal.

It is also essential to consider the role of drawing in this context, given its long-standing centrality to architectural practice. However, a new category of drawings is

emerging, particularly those whose purpose is to analyse and map the existing structure in its original state. Such drawings serve as analytical instruments, facilitating a more nuanced understanding of the optimal course of action with regard to retention, removal, or repurposing, thereby informing the decision-making process. Those processes are often driven by and remain in reciprocal relations with self-imposed strategic rigours (Belt[6]), guiding questions (RE-ST[7]) and matrixes of circular goals (WIT[8]), allowing for their progressive verification (vvv+Carton123 [9]). Overlays, revaluing, reinforming and redrawing guide those iterative processes and multi-layered documents that keep track of the demolished,

Evolution of architectural drawings: precision and atmosphere built iteratively, vvv+Carton123

6 Luthringshausen, Bernhard, and Evelyn Temmel. "Retrofitting and Repairing: Principles of Demolition." *Practices in Research #05: Demolitions and Deconstructions*, 309-319, https://doi.org/10.5281/zenodo.14537041

7 Minten and Vekemans, "To Residue", 41-65.

8 Verstraete et al., "Impact Factory", 19-39.

9 Contribution by vvv+Carton123 to the Practices in Research conference at C.I.II.III. IV.A (Brussels) on the 27th of May 2024

retained, relocated and reused matter. Furthermore, they are instrumental in conveying design concepts and inhabitation scenarios to clients and other stakeholders (Hannigan-Cooke[10] and vvv+Carton123[11]). Moreover, 'before and after' images that juxtapose encountered

Monnikenbos project, existing and new situation, UR architects. © Photography new situation Michiel De Cleene

situations with redesigned spaces are often used for the same purpose: to visualize subtle and perhaps unnoticeable alterations (atelier chora[12], UR architects[13]). Nevertheless, there are examples of projects that are moving away from an overreliance on drawings, particularly in the initial stages of design. In contrast, architects are adopting a hands-on approach through the use of mock-ups and on-site coordination, with a particular focus on the social interactions that underpin successful adaptive reuse, such as local networks and real-

10 Cooke, Anna, and Damien Hannigan. "Relative Density: Building Dialogues." *Practices in Research #05: Demolitions and Deconstructions*, 195-217, https://doi.org/10.5281/zenodo.14536939

11 Contribution by vvv+Carton123 to the Practices in Research conference at C.I.II.III. IV.A (Brussels) on the 27th of May 2024.

12 Marchal and De Lanève, "OM Musical Complex", 271-293.

13 Vande Keere, Nikolaas, and Regis Verplaetse. "Strangely Familiar: Dismantling a Clustered Care Complex into Separate Dwellings for People with Mental Disabilities in Monnikenheide-Spectrum." *Practices in Research #05: Demolitions and Deconstructions*, 323-333., https://doi.org/10.5281/zenodo.14537061

time communication. Moreover, prototyping and material testing inform material reuse practices that, learning from ad hocism and bricolage, employ methodologies based on what is at hand. Those exercises in iterative sampling, fitting in and disregarding depend on available resources and most of the time require physical testing instead of speculative drawings to develop viable solutions. In some instances, drawings are only produced at the conclusion of the process for regulatory purposes, which represents a notable shift in how architects approach the design and communication of these projects. Gruppe-aja[14], for example, illustrates how on-site collaboration and direct

The Case 1 project explores the interplay between reusing salvaged materials and valuing the existing architecture. The flooring is made from leftover bricks from a nearby factory, gruppe-aja

14 Hyttel, Lecuelle, and Holm, “The Architect as Curator”, 219-243.

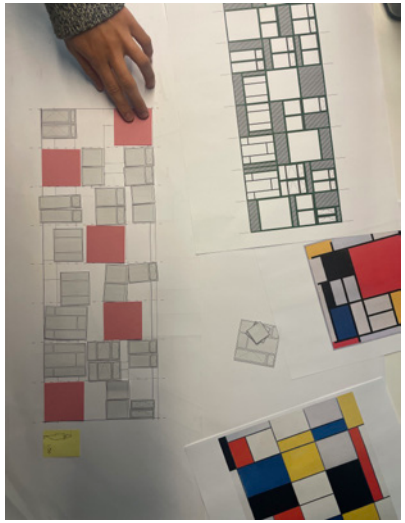
engagement with materials and stakeholders can be just as integral to the process as traditional design tools. Their practice also shows how material sourcing becomes more of the focus in architectural practice.

As opposed to standard practices that rely on standardized catalogues of building materials, there are no such documents for reclaimed elements. Thus, material inventories and lists of salvaged materials are being created to map out available resources on-site or

List of salvaged beams, organised by section, length and construction anomalies, Self-Office

in its vicinity. Those practices build upon well-known concepts of harvest maps (oogskaart.nl, opalis.be) and established practices of urban mining developed by Rotor or Superuse, who salvage discarded matter from demolition sites and companies, waste collection points, production surpluses and usage redundancies. At the PiR5 conference, we could observe similar engagements which reutilized resources found on the site of architectural interventions after previous listing, assessing, adapting

and relocating to find new functionalities, for example, the lists of salvaged beams organized by their dimensions and constructive anomalies in the refurbishment of the old watermill in Catalonia by self-office[15]. There were also cases of external sourcing, like windows salvaged from a nearby demolition site in the Mechelen factory by WIT Architecten[16].



Impact Factory project: Steel window frames being reclaimed from a nearby demolition site in Mechelen. Storage of the window frames and design excercise for positioning of the reclaimed frames in the front façade, WIT architecten

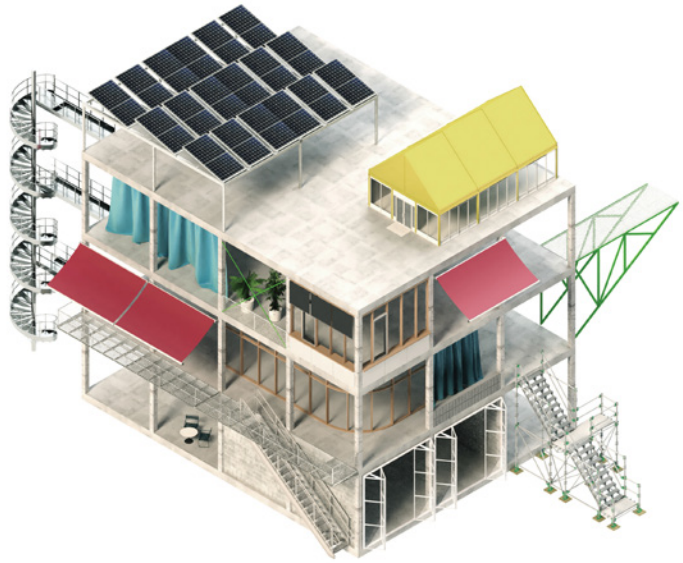
The interest in responsible material sourcing that favours proximal resources resonates with the practice of Niklas Fanelsa[17], who explores the concept of the bioregion, mobilizing locally available biogenic resources, craft

15 Fernàndez, Eduard, and Laura Solsona. "Revealing the Act of Building: Architecture as a Process." *Practices in Research #05: Demolitions and Deconstructions*, 121-131, https://doi.org/10.5281/zenodo.14536836

16 Verstraete et al., "Impact Factory" 19-39.

17 Fanelsa, "With and Within", 145-165.

skills and communities. This closed-loop thinking, which considers the longevity of building elements, informed by the famous concept of Shearing Layers, employs design for disassembly principles and favours reversible construction systems and adequate detailing. Those objectives are often integrated into the design process in the form of circular guidelines and matrixes, setting up directions for the exploration of solutions and the relevant interdisciplinary collaboration, for example, with the window producer in the WIT Architecten[18] project. Most of the time, those guides ask for a clear separation of more permanent elements, such as the building structure



Conceptual representation illustrating the distinction between a load-bearing structure (*Hardware*) and flexible architectural solutions (*Software*) that enable required functions and create necessary environmental conditions, Artem Kitaev

18 Verstraete et al., "Impact Factory", 19-39.

and fluctuating ones, being functionalities – represented in Artem Kitaev[19]'s (KOSMOS) concept of Hardware and Software Architecture.

Future-proofing is represented in the usage scans, a method developed by RE-ST[20] to map out underused spaces and propose temporary, interim, and reversible uses in the long run. The usage also informs the work of architects from vvv+Carton123[21], who utilize theatrical terminology of props and scenes and refrain from premature material and aesthetic choices to visualize the livability of their designs, showcasing diverse inhabitation

"Find and replace", an AI generated image providing an alternative to existing designs, like here in Filip Dujardin's picture of de vylder vinck taillieu's Huik house in Antwerp, Marius Grootveld

19 Kitaev, Artem. "Reinterpreting the Existing: A Critical Review of Hardware and Software in Architecture Design Principles as a Strategy for Adapting Existing Built Stock to Evolving Needs." *Practices in Research #05: Demolitions and Deconstructions*, 95-117, https://doi.org/10.5281/zenodo.14536818

20 Minten and Vekemans, "To Residue", 41-65.

21 Contribution by vvv+Carton123 to the Practices in Research conference, 27.05.24

scenarios. Veldwerk Architecten[22] experiment with new generative models and AI co-designing to expand existing patterns of representation and reuse in an unexpected but existing way.

Circular Agendas in Architectural Education

Following the developments in building practice, adaptive reuse is becoming an increasingly important part of architectural education, particularly in Europe and beyond. Several schools now offer specialized master's programs focused on adaptive reuse, such as those at UHasselt in Belgium, the Rhode Island School of Design in the USA, the Manchester School of Architecture in the UK, and Yasar University in Izmir, Turkey. These programmes focus on balancing new interventions with preservation of the existing, often operating within a heritage context. A critical aspect of this educational shift is the integration of the "as found" survey into the design studio curriculum. Students are encouraged to engage deeply with the existing conditions of structures, yet this often requires a more extended design process, which can be challenging to accommodate within the confines of a semester-based academic calendar.

Furthermore, new educational programmes dedicated

22 Contribution by Marius Grootveld (Veldwerk Architecten) to the Practices in Research conference at C.I.II.III.IV.A (Brussels) on the 27th of May 2024.

to the practice of reuse engage with circular agendas, exploring the theme on the building system, component and material levels. One of them is initiated in the 2018 IKE master course at the ZHAW Institute of Constructive Design in Switzerland. The programme focuses on building regeneration strategies and reclaimed components, engaging with ongoing demolition situations and on-site material sourcing to employ real salvaged elements in 1:1 mock-ups to familiarize the students with demolition processes and the realities of dismantling. Moreover, emphasis is placed on the registration and documentation of the existing resources, developing systemic databases that are usually lacking for those unstandardized entities.

Similar agendas are driving the work of Studio 3 at the Aarhus School of Architecture, which predominantly explores the potential of buildings that are planned for demolition or perceived as not worth keeping. This positioning instigates a discussion on the value systems that are currently ruling the construction industry. Thus, employed methods are expanded to understand complex material ecologies and opportunities for systemic intervention while developing high-quality adaptive reuse projects that balance between inputs from value mapping and forward-looking agendas of planned unbuilding. The employed approaches merge architectural methods of drawing, rendering, model making and 1:1 prototyping with the ones borrowed from other disciplines, e.g. fiction writing, movie making, board gaming, scenario thinking and ethnographic engagements.

The complexities surrounding material reuse in adaptive reuse projects present even greater challenges, requiring students not only to design with salvaged materials but also to understand the logistics, structural integrity, and sustainability implications of these decisions. This requires rethinking traditional educational models to better prepare future architects for the intricate realities of adaptive reuse in practice. Replicating the complexity of on-site decision-making, however, in a classroom setting remains a challenge. In response, many schools have introduced

Workshop held in 2021, Camille Fauvel, Tiphaine Abenia, © Camille Fauvel and students

“Design & Build” studios, where students engage in hands-on construction projects, simulating real-world adaptive reuse scenarios. Yale University has been pioneering this approach since the 1970s. An example of such Design & Build studio presented at the PiR5 by Tiphaine Abenia

and Camille Fauvel[23], was the *Projeter ensemble,* an annual one-week workshop for students in architecture, civil engineering and landscape architecture of the Ecole Polytechnique Fédérale de Lausanne. Each year, students maintain, repair and rebuild the structures that were built by the students of the preceding year(s). Doing so, the project does not only highlight the importance of maintenance and working with the existing, but also taps into the discussion of the amount of waste produced by our educational system in the form of models, prints, mock-ups, etc.

Final reflections on plural positions and collective practices

Demolition, deconstruction, disassembly – the reflection on unbuilding seems to dominate architectural debate at the moment when we can no longer dismiss the consequences of our constructive actions. The postulates to stop building promote reuse, which now becomes not only about heritage preservation but also about the buildings that seem not worth transforming. New practices in adaptive and material reuse care about the spatial qualities of redesigned buildings, layered details, and existing histories, as well as about in-built resources

23 Abenia, Tiphaine, and Camille Fauvel. "Subtractive Strategies for Architectural Persistence: The Land of Thousand Dances." *Practices in Research #05: Demolitions and Deconstructions*, 247-269, https://doi.org/10.5281/zenodo.14537019

and broader ecosystems that they appertain to. This manifests in the plurality of attitudes, strategies, tactics and methods that rethink current modes of architectural production to prolong life cycles of what is already there: always keeping as much as possible, sometimes surgically removing obstructing parts, often adding reversible elements. Architects are not only authors of designed buildings anymore – they build on previous designs, uses and anticipate the ones yet to come. This collective authorship seems extremely distant from the star-architect dispositions of a few decades ago, and it is hopeful for the uncertain future that perhaps can only unfold when we act together.

PiR5 conference presented multiple examples of those responsible engagements. It also showed how the 'as found' and means-oriented approaches affect design processes and the role of the architects. We not only design but also spend time noticing, reading space, registering, cataloguing, accounting impacts, sourcing, testing and developing materials while caring about users' needs and existing communities. This requires agility, new skills and adequate workflows. And a lot of convincing: new questions and ways of working ask for significant adjustment in how we practice, educate, collaborate and motivate our design decisions.

Practices In Research
Issue #05
Demolitions and Deconstructions
December 2024

In Practice - interuniversity research group of practising architects
www.architectureinpractice.eu