Anthology

MSc Thesis in Architecture Built Environment Interiors
Politecnico di Milano a.y. 2024-2025
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Construction Engineering
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THEORY

DEVALUATION

Buildings convey information about status, social rank and superiority.

Traditionally, this is a achieved through a 1:1 relationship between mass and permenance.

Natalism: design creation is seen as a birth, we are rarely concerned with the death, the deterioration of the organism.

Architecture deals with terminal conditions in two ways: through matter and mattering. The former refers to architecture's physical matter and its inevitable decay and deformation. The latter refers to the change in value of a built form. This can depend on matters of taste, attachment, how well the building is embedded in the economic cycle, etc.

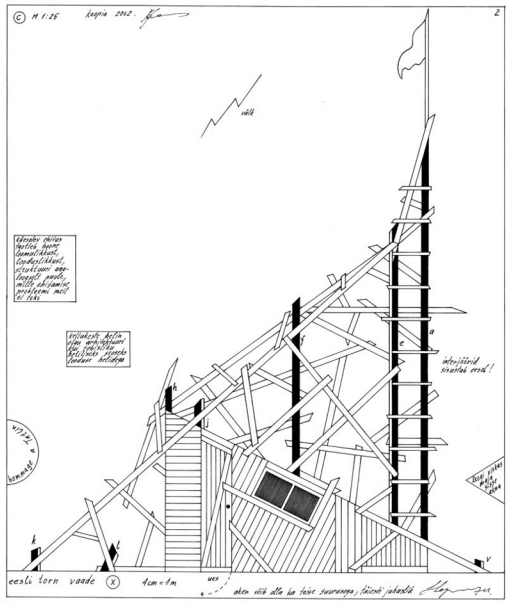
If buildings are left to die how can they still be seen as valuable. Can this status and value be conveyed by something other than mass?

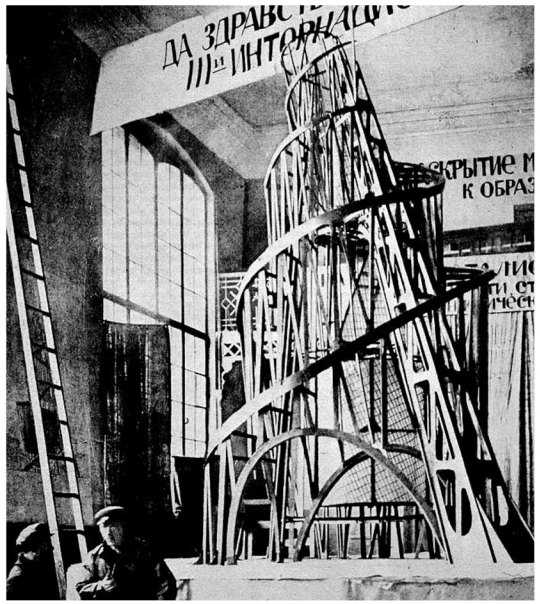
Buildings convey information about status, social rank and superiority. Traditionally this is a achieved through a 1:1 relationship between mass and permenance. Another way of looking into this is through energy. The more energy you put into something, the longer it will last. Can we preserve information but reduce the amount of energy and resources used?

WEAK THOUGHT

Admitting a secondary position through
“only” opening a temporary window on
a more intense reality in an event like
experience.

“The Donkey Stable parodies Tatlin’s Monument to the Third International and thus pairs the contradictory terms ‘weak’ and ‘monument’.”





The Donkey Stable has a daring and ambitious form, but is knocked together of boards, a building of modest size with randomly placed windows. Its interior, as it says in the project, is ‘furnished by a donkey’.

“It is not always necessary that what is true embody itself; it is already enough if spiritually it hovers about and evokes harmony, if it floats through the air like the solemn and friendly sound of a bell.”

- GOETHE

WEAK THOUGHT instead of a complete and closed universe of the permanent, offers a rediscovering of the fragmented, incomplete, the momentary. In “weak thinking,” architecture can be legitimate when “adopting a posture” that is not aggressive nor dominating, but rather “weak” by admitting a secondary position through “only” opening a temporary window on a more intense reality in an event like experience.

“The essence of architecture is its disappearance”

Maurice Blanchot

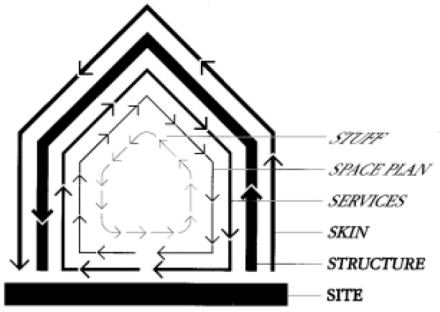
“Instead of being uniform, continuous, and linear, an event-like-time of weak architecture that assumes its fragility, inability to last, offering instead the illusion of permanence through its intensity.”

Sou Fujimoto

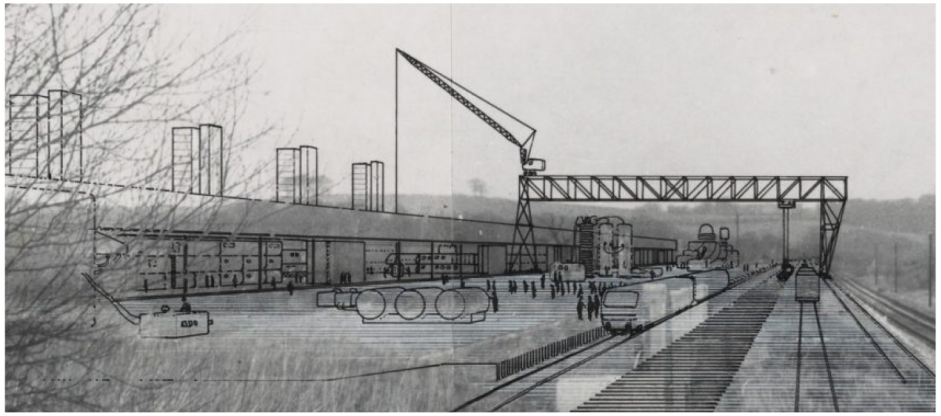
DECAY

Because of the different rates of change of its components, a building is always tearing itself apart.

Shearing layers of change

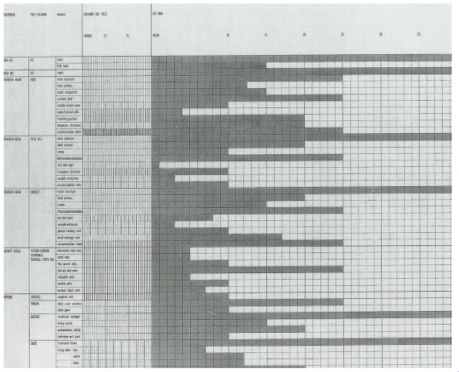


“Because of the different rates of change of its components, a building is always tearing itself apart.”



Think Belt

Think Belt:
A de-industrialized decadent landscape with a large underused train network. Cedric Price accepts the beauty of the existing industrial landscape as a canvas to work without taming it. He designs a series of mobile units that move around the existing train network and shelters the classrooms, laboratories, and other educational programs.



DISASTER

He ironically links destruction to progress, suggesting that controlled ruin is as much a part of architecture as construction.

City Demolition Industry, Inc.:

Isozaki compares city planning to murdering a city. This reflects his skepticism toward utopian urban planning, especially the Metabolists, who envisioned cities as continuously renewing, almost living organisms.

He ironically links destruction to progress, suggesting that controlled ruin is as much a part of architecture as construction.

Fractures Venice Biennale 1996

Rather than embracing a peaceful cycle of decay and rebirth, Isozaki leans into nihilism and existential dread.

Tsukuba Center plaza

The Tsukuba Center was a deliberately "broken" version of a public plaza, an inversion of traditional urban gathering spaces that evokes a post-apocalyptic landscape.

“Future cities are themselves ruins. Our contemporary cities...are destined to live only a fleeting moment. Give up their energy and return to inert material. All of our proposals will be buried. And once again the incubation mechanism is reconstituted.”

ENTROPY

We felt the deteriorating beauty, the end of everything, return, return, return, we speak of truths that deteriorate naturally over time.

Distopias of rigid grid design expanding over nature. This is ironic because of course nature will always be there, it is architecture which will eventually die. Nature is the only thing that lasts.

Fundamental Acts: “relations between architecture (as a conscious formalisation of the planet) and the acts of human life” led to five major themes: Life, Education, Ceremony, Love, Death.

Robert Smithson saw entropy as a natural force of disorder, decay, and transformation, shaping both nature and human-made structures over time. His work often explored how landscapes and materials break down, shift, and return to an unstructured state, resisting permanence.

Broken Circle/ Spiral Hill

Partially Burried Woodshed

"So we came and saw, or rather felt the deteriorating beauty, the end of everything, return, return, return, we speak of truths that deteriorate naturally over time.

Worn out by the sun and the moon, the tides. Time stands still we know, and yet time is all surrounding, a misty beaming stream in which we grope."

CRITICAL ZONE

Earth is seen as a living organism composed of multiple, reciprocally linked but ungoverned self-advancing processes.

“Nature is a living whole, not a dead aggregate”

1875 Eduard Suess named the space on Earth that contains life, including human life, the biosphere.

This concept was revisited in 1926 by Russian/ Ukrainian biochemist Vladimir Vernadsky when he published his book The Biosphere.

He says: “The biosphere is the only region of the Earth’s crust where life is to be found... Without life, the face of the Earth would become as motionless and inert as the face of the moon.”

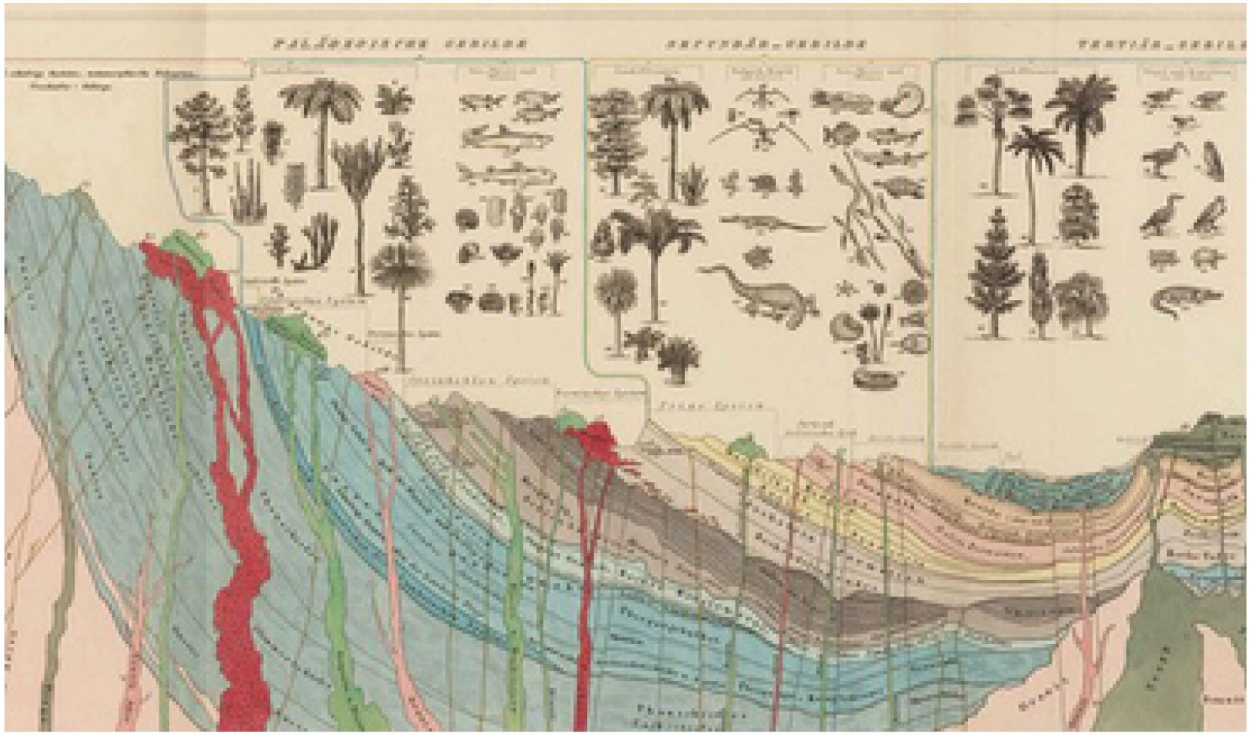
We need bold solutions to an existential problem: Humans have become an immensely powerful planetary force, and after millennia of modest Nature-focused ways of living, humanity has morphed into an urban-industrial giant seeking to unshackle from Nature’s embrace.

The biosphere is a profoundly dynamic place, with a vast variety of living organisms interacting with one another.

Vitality can be used to describe those natural forces. **Vitality, of course, is also closely twinned with mortality, as all living organisms die sooner or later, but crucially death is also the basis of new growth and new life.**

To what extent can life forms modify the environment beyond the local level. This is a biotic process free of human activity and independent from superior order. Gaia is planetary, it is independent from politics, borderless.

"Earth is seen as a living organism composed of multiple, reciprocally linked but ungoverned self-advancing processes."



“Nature is a “household (oikos)” in which living beings mutually influence and support one another.”

CASE STUDIES

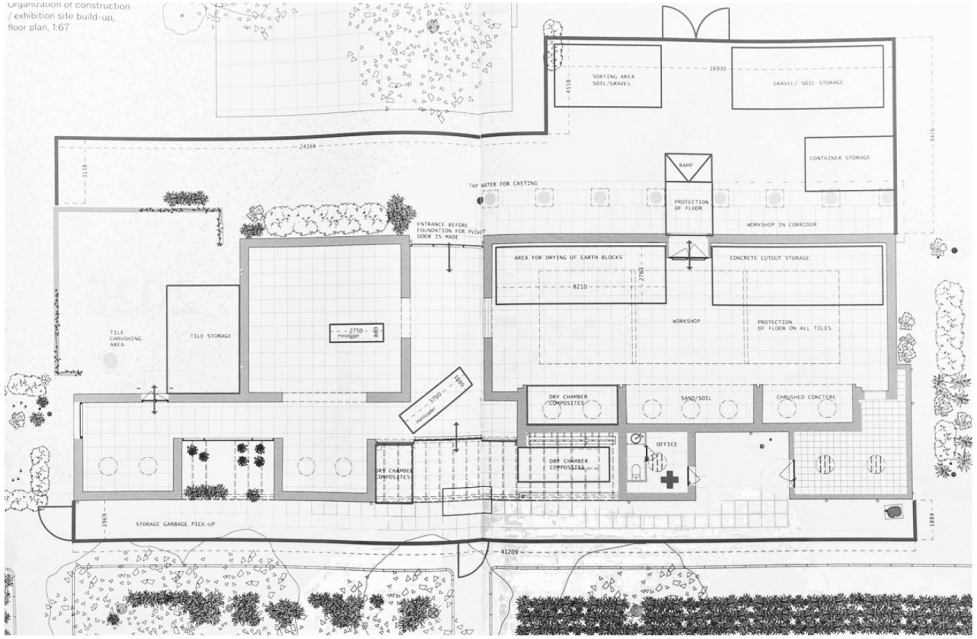
CONSTRUCTION WASTE REUSE

We reject the culture of disposability and embrace the value of what already exists.

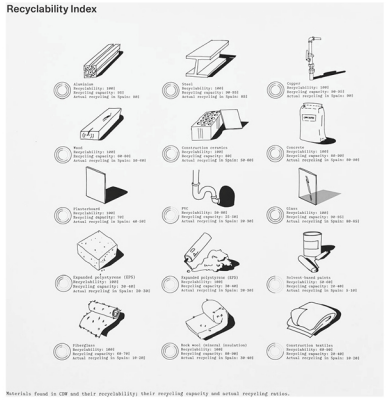
"The world is saturated with materials, shaped by time, us and transformation. We reject the culture of disposability and embrace the value of what already exists. Rethinking common practice allows us to turn apparent scarcity into abundance."

Build of Site simultaneously restores the Danish pavilion and explores unconventional ways of repurposing surplus construction materials hyperlocally. The elements presented within the pavilion originate from its own restoration. What would typically be discarded as construction waste is reimagined.

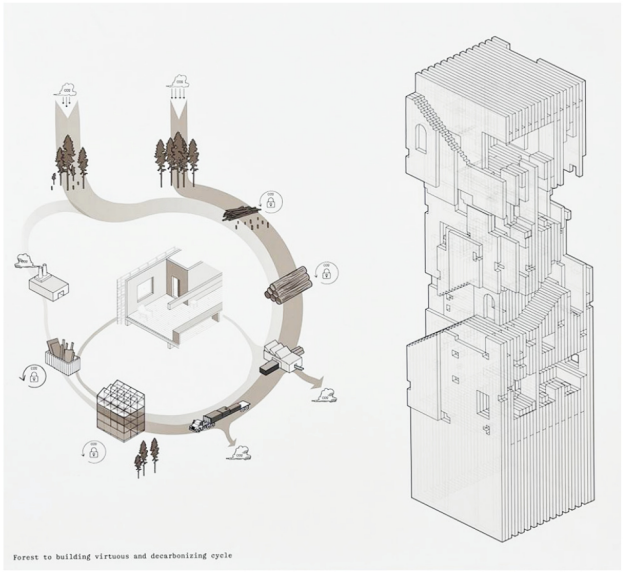
“ By combining existing building materials with unconventional bio-based binders, the exhibition demonstrates how we can use advanced technology to promote methods that use bio-based and recycled building materials.”



Visitors to the Danish pavilion are invited to experience a snapshot of an experimental process, where they can observe how the building’s own resources are repurposed for new uses. Here, technical and architectural processes are showcased, giving visitors access to a creative knowledge process normally hidden from view.



Exposing material waste. Understanding the inherant recyclability of common construction materials, and their actual percentages of recycling in Spain.



Closing the circle. The Spanish pavilion explores the new structures that can be created using waste created in the production of industrialised solid wood.

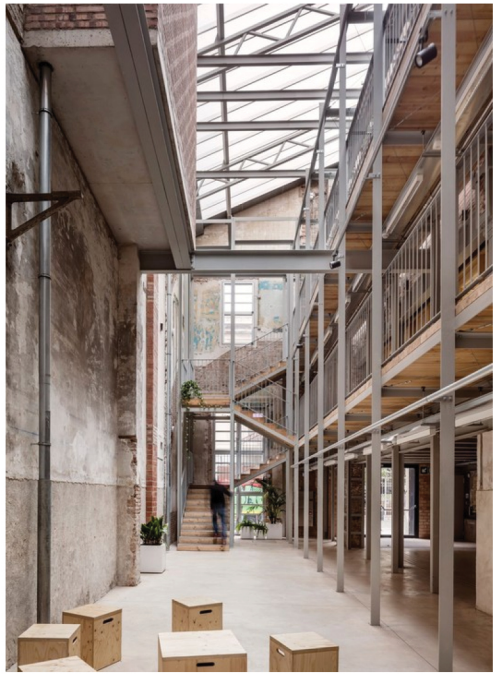
ADAPTVIE REUSE

Decay - based renewal.

"The main takeaway of the Spanish pavilion is to demonstrate, not only speculate, that another way of building is possible."

The Internalities exhibition showcases a series of existing projects and research that have contributed towards de-carbonising construction in Spain. The next page showcases a characteristic example by Harchitectes.

Harchitectes restores the civic centre by reusing as many of existing elements as possible. Instead of viewing the weathered materials as obsolete, they are seen as increasing the building's value.



The design further embraces the passage of time and the ephemerality of each building cycle, by organising the circulation through a series of catwalks and stairs that evoke the image of construction site scaffolding.

“Embodying a non-hierarchical collage of traces from changing times, House14a reflects the ongoing narrative of its evolution. Rather than presenting itself as a completed work, it embraces its role as a phase within an ongoing process.”

Each element, whether rough or refined, old or new, is equally valued, and gains relevance through processing, assembly, and the possibility of continuous adaptation.

SALVAGING MATERIALS

Architecture must surrender its claim to permanence and participate in the continuous cycles of matter.

“We are a cooperative that organises the reuse of construction materials. We dismantle, process and trade salvaged building components”

By trading in salvaged materials, we help reduce the quantity of demolition waste, while offering quality building materials that have a negligible environmental impact.

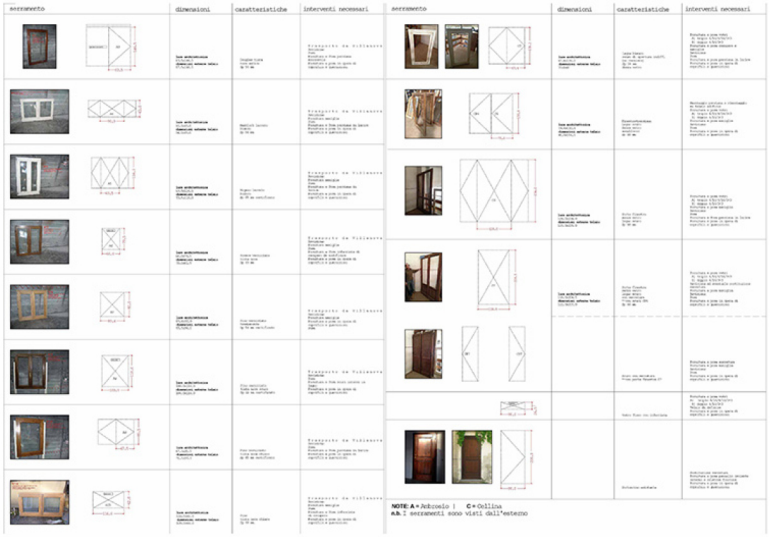
“Two main sources of reclaimed materials were used: curved plywood radiator covers from Brussels office buildings and glued laminated timber. Apart from the screws, every element is made from reclaimed materials, including door handles, washbasins, table legs and chairs.”

“The primary goal was to create both a physical and theoretical space to discuss local sustainability and explore the potential of low-cost alternative construction techniques.”

The main construction materials used were:

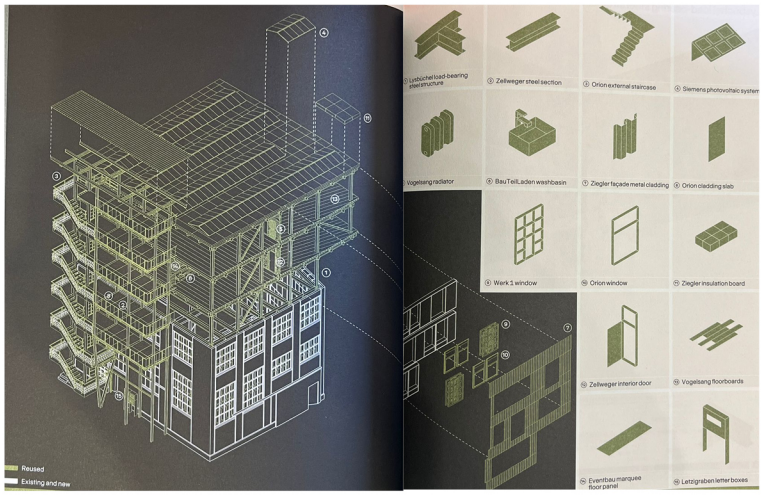
1. Soil: During the restructuration of the local community of Casa Chiaravelle that took place in the year prior to the workshop, they had to dig a new black water line. The result was 15 cubic metres of leftover soil. This soil was used in the form of earthbags.
2. Bottles: glass bottles were sourced from a network of local partners. They were used for the facade.
3. Windows: the large number of house rennovations taking place in Milan means that a lot of windows and frame of good insulative properties go to waste. This workshop managed to cut the chain of disposal.

The project incorporates salvaged materials: the external and internal window and door frames, roof tiles, parapets, gates, grates, and the stones in the small garden all come from the pre-existing building, from other demolitions or from local scrapyards.

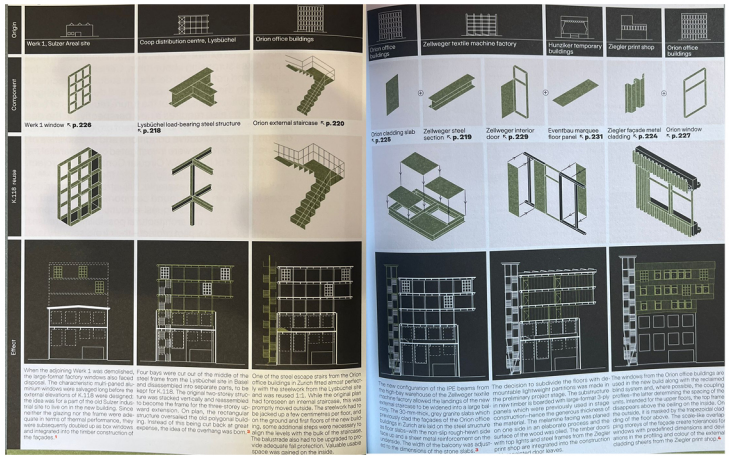


For the building's foundations, efforts were made to minimise the use of concrete; instead, wire mesh cages were filled with stones and fragments of the old brickwork.

“We are adding to an existing warehouse with the goal of using only existing components from demolitions.”



The planning process is reversed. It begins with the collection of materials and continually evolves as the search for different components progresses. The selection of the component is followed by measuring, inventorying, and cataloging: In order to reuse a component, we need the most precise information possible.



Where new materials are needed, natural building materials such as wood, straw, and clay are chosen. They, like the reused building materials, are processed with minimal energy consumption, guaranteeing an excellent indoor climate.

“With the K.118, the in-situ construction office succeeded in reducing the construction footprint by 60% compared to a comparable conventional new building.”

PARTICIPATORY RENEWAL

The meaning of the space is constantly renegotiated through local use and care, demonstrating that value can emerge from ephemeral practices.

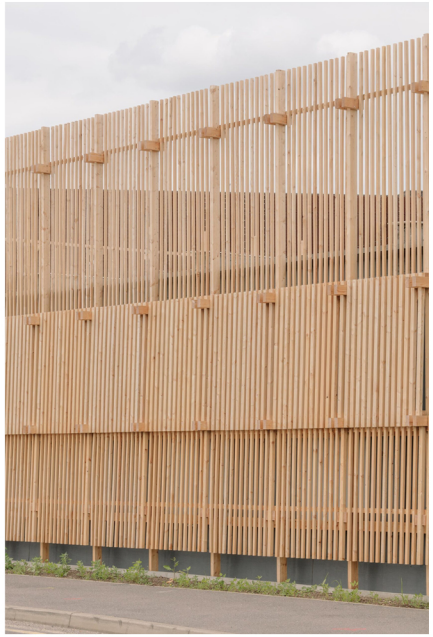
“The meaning of the space is constantly renegotiated through local use and care.”

The public square was built and designed with the local community. It is found at the intersection of two streets, the site was formerly a wasteland.

Weekly workshops were carried out for a month to ensure the smooth collaboration of all actors. These included a carpentry, a graphics and a landscape workshop.

DESIGN FOR DISASSEMBLY

Making architecture cyclical.



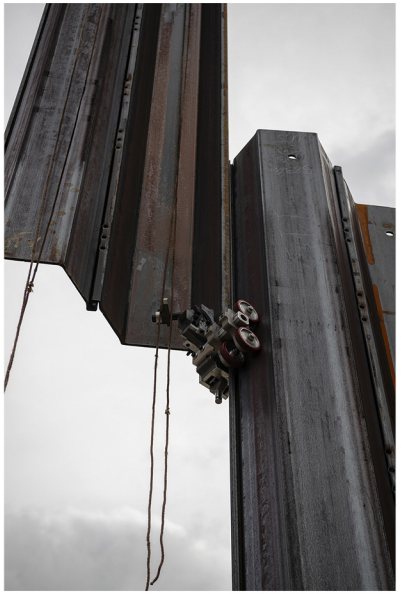
"The facade is aimed to speak of the activities inside the school, as an exploration of assembly which will eventually be disassembled and used in other areas around the Olympic Park."

Repurposed cabins were used as the primary structural elements.

The timber cladding was designed for easy disassembly and reuse.

Overall the modular design will allow components to be relocated or recycled post-use.

“The modular construction allows for disassembly and component reuse. The design facilitates future material recovery.”



The facade consisting of sheet piling is the building's particular feature. Moreover, to meet the tight schedule, the sheet piles not only form the facades but also the foundations, speeding up construction time. The solution also ensures ease of re-use when the building is dismantled.

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