Proceedings of the International Conference on Adaptive Reuse. Volume 1
Crudeli A., Molle F., Carrai E. (Eds.), STH Press, 2026. ISBN 9791281661141
Paper DOI – https://doi.org/10.65686/ENFG1825

Elements, Montage, Reclaimed

Practice and Pedagogy of Adaptive and Creative Reuse

Patrizio M. Martinelli

Northumbria University, Newcastle upon Tyne, UK, patrizio.martinelli@northumbria.ac.uk

Abstract

The chapter examines adaptive and creative reuse as both a design practice and a pedagogical framework capable of addressing the epistemological and ecological challenges of contemporary architecture. It argues that discipline must realign theory and education with the realities of climate breakdown through renewed attention to the elements of architecture, the methodology of montage, and the material ethics of reclamation. Drawing upon academic teaching and research and professional work developed in parallel, the chapter articulates a circular methodology in which theory, practice, and teaching operate as interdependent modes of inquiry. *Montage*, understood as an analytical and compositional strategy inherited from the avant-garde, serves as a critical tool for dissecting and reassembling existing spatial and material conditions. The use of reclaimed materials extends this framework into an ecological and poetic dimension, linking environmental responsibility with architectural invention. Through this integrated approach, the chapter proposes a pedagogy of reuse that situates architectural education within the urgency of the climate crisis while cultivating critical, creative, and ethically engaged designers.

Keywords: Elements, Montage, Climate Crisis

Introduction

In *The Pedagogies of Reuse*, edited by Graeme Brooker and Duncan Baker-Brown, Scott McAulay delivers a stark assessment of architectural education's preparedness for climate emergency. Reflecting on the 2021 School of Re-Construction, McAulay concluded that architectural pedagogy is not preparing students for a climate-altered future «not in the slightest». His critique echoes Susannah Hagan's observation that «the past is doomed to be repeated if education repeats the past. Tutors trained in the old ways train students in the old ways» (McAulay 2024, 31). This shared diagnosis reveals a disciplinary issue: architecture has not yet fully recognized climate breakdown as the defining moral and intellectual challenge of our epoch. When pedagogy lags behind reality, students remain unprepared for the fundamental transformation already reshaping practice. My response to this provocation has been to return to disciplinary foundations, not as nostalgic retreat, but as critical re-examination grounded in my dual position as scholar and practitioner. This reconsideration begins with fundamental questions: what constitutes the elements of architecture? How can these elements be studied, dissected, and reassembled in ways that challenge disciplinary conventions and prepare students for urgent environmental realities? How might spatial elements, building components, material assemblages, and natural systems participate in responsible design processes, particularly within frameworks

of adaptive and creative reuse? Crucially, in the context of existing structures, how can we learn to recognize, analyze, and creatively recompose the elements already present, transforming what exists into new spatial and experiential configurations?
This chapter examines these questions through an analysis of my pedagogical approach and design practice, employing a methodology that deliberately intertwines these domains. This integration reflects a crucial duality in architectural academia: theory/practice, which manifests pedagogically as research/teaching. Edgar Morin articulates the stakes of this relationship: «Theory is open to the universe it seeks to explain: from it, it draws confirmation, and if data arise that contradict it, it proceeds to verification and revision. […] A theory that closes itself off from reality turns into a doctrine. Doctrine is theory that claims its truth has been definitively proven and rejects all refutations offered by reality. The doctrinal citadel fortifies its axioms, which thereby become dogmas» (Morin 1989, 69)[1]. Without continuous engagement with practice, theory ossifies into doctrine, rigid, dogmatic, detached from lived experience. Professional work and empirical reality verify, challenge, and transform theory, maintaining its vitality and relevance. This circular movement from theory to practice and back constitutes the research methodology I embrace, resonating with philosopher José Ortega y Gasset's definition: research is « to pose problems, work to solve them, and arrive at a solution […] only to question it again, turn it once more into a problem (to criticize it), and thus repeat the entire process» (Ortega y Gasset 1989, 50)[2]. Grounded in this epistemology, I maintain a productive tension between the binary dimensions of architectural discipline (research/theory and teaching/practice), creating a virtuous cycle that engages students not merely in professional training but in cultivating methodological flexibility and critical habits of mind. This approach develops capacities for reading and interpreting contexts, places, and needs, capacities essential for addressing society's evolving challenges, particularly during this moment of environmental crisis.
The following ruminations are drawn from my recent practice and pedagogical work at Northumbria University, Newcastle upon Tyne, where I lead the Interior Architecture studio for second-year students.

The Elements of Architecture

Every design outcome emerges from compositional process. The term "composition" derives from Latin *compositio*, meaning "a putting together, connecting, arranging". In architecture, composition's fundamental components are the elements of architecture or archetypes; in adaptive reuse, this compositional process takes on particular significance: it requires first dissecting and comprehending the existing elements, floors, walls, roofs, openings, thresholds, before strategically recomposing them alongside new interventions.
As Thomas Thiis-Evensen observes in *Archetypes in Architecture*, «behind the plurality of the many forms in history lies a simple set of archetypes which we can call the grammar of architecture. These archetypes may be understood as images which can be identified in relation to both architectural form, function and technology» (Thiis-Evensen 1987, 17). The author also reflects on the bodily experience and phenomenological relationships with space and its components: walking (on, through, along), ascending and descending, standing and sitting, looking (at, through), seeing, hearing, touching.

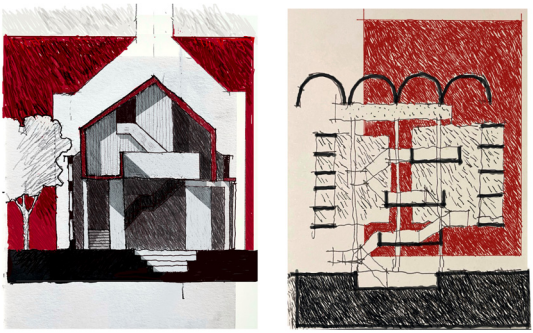

Fig. 1. The Elements of Architecture, studies (Patrizio M. Martinelli, 2023)

Working from this foundation and tracing a theoretical trajectory from Durand through Semper to Von Meiss, and more recently Koolhaas, students investigated how architectural elements have been manipulated throughout history to compose increasingly complex architectural typologies. In adaptive reuse, this historical understanding becomes operative: students must learn to identify these archetypes within existing structures, dissect their current configurations and conditions, and reimagine how they might be recomposed. Existing floors, walls, or roofs are not simply a given constraint, they are elements to be analyzed, deconstructed conceptually, and potentially reconfigured. The reinvented floor could lead to *Raumplan* compositions; if inclined it can become a Corbusian ramp for *promenades architecturales* or transfigured in "stairs as stages" (Christopher Alexander) or "as rooms" (Gio Ponti). Similarly, a wall admits manipulation toward varied degrees of openness and thickness, or be opened, thickened, punctured, suspended, or functioning not merely as spatial divider but as a thick, equipped vertical plane, as interior façades or semi-transparent screen. The roof, across its variations (gable, dome, vault, flat), can become an inhabited space (the roof-garden), or become a detached, independent structure, or operate as device for admitting in the interior natural elements.

Montage, Adaptive/Creative Reuse, Reclaimed Materials

Intervention in existing structures, their renovation, adaptation, and reinvention, bears significant analogy to compositional strategies of collage, as Fred Scott argues in *On Altering Architecture*. Scott describes collage as «assimilation of disparate elements into a resolution where the parts work together while maintaining their own identity» (Scott 2008, 137). Within adaptive reuse contexts, however, the term montage, often used synonymously with collage (Stierli 2018) proves more conceptually precise. Montage functions simultaneously as powerful representational and analytical tool, and as effective design and compositional technique. This methodology emerged from 1920s avant-garde movements and their deployment of prefabricated or preformed elements assembled toward artistic expression: the Dada hybrid images of Heartfield and Grosz, the fragmented narratives of Joyce and Döblin, the filmic and theatrical practices and theories of Eisenstein, Vertov, Brecht, the interior spaces of Kiesler, El Lissitzky, and Schwitters (Bablet 1978; Teitelbaum 1992;

Collins 2022). Montage emerged as optimal tool for capturing and representing metropolitan complexity (Giedion 1941) and "shock", a practice requiring active subjectivity (Tafuri 1969) and conscious analytical comprehension of reality.

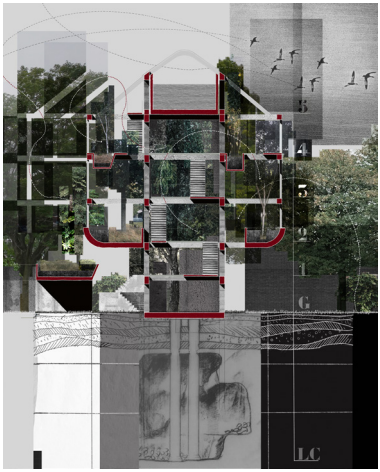

Fig. 2. The House of Natural Elements, montage (Patrizio M. Martinelli, 2025)

Montage operates «as an act (not a gaze) of interpreting reality [...] in which the artist deconstructs reality» before recomposing it (Pastorello 1978, 125). In architecture and in particular in adaptive and creative reuse, this analytical interpretation becomes paramount. Critical dissection and comprehension of context precede and interweave with design process as existing elements are assembled in renovated structures, a methodology encapsulated by the concept of "architectural analysis and analytical design", developed particularly through Gianugo Polesello's research and teaching in the 1990s and early 2000s (Iori 1995). Polesello often recounted Le Corbusier's epiphany viewing Pisa's Piazza dei Miracoli from a train window, recognizing principles he had deployed in his Palace of the Soviets project: the unity of human-scale detail paired with the turbulence of urban and architectural scale. This constituted a cinematic experience for Le Corbusier, a montage of architectures apprehended through motion, whereas the eight combinations of the Palace of the Soviets, published in his *Œuvre complete,* demonstrate architectural montage technique explicitly, with preformed components (identical across iterations) combined as machine parts to construct the "machine for living in". Significantly, Dada artists who practiced photo-montage, described themselves, in Raoul Hausmann's words, «as engineers, our work as construction» (Richter 1964, 118), in a world informed by mechanization (Giedion 1948). In fact, etymologically, montage refers to construction itself, originally meaning «disposition of machine parts in a desired order (Littré 1874, 614), and in architecture these parts correspond to elements of architecture, which, when assembled through montage techniques, realize spatial compositions. As theorized by Eisenstein, describing a walk in the Acropolis, montage techniques also structure the experience of built space: architecture is experienced through movement in space as composition of elements, scenes, and events

(Eizenštejin 1985; Eisenstein et al. 1989). It is experienced also through movement in time, particularly in adaptive reuse, evoking layered memories, histories, and traces of past occupation. These sequences often employ filmic montage strategies emphasizing themes of tension and opposition: materiality and immateriality, openness and enclosure, darkness and light, compression and release, variations in texture, scale, volume, mass, and depth (Eisenstein 1949). In adaptive reuse, montage of old and new thus facilitates recollection and memory by enabling spatial reconstructions encompassing the absent, incomplete, and imperfect, while evoking non-linear chronological experience and simultaneous perception of past, present, and future.

Montage operates not only formally but materially. The deployment of reclaimed construction materials and building components as pre-defined, pre-existing, pre-formed elements assume central importance, prioritizing sustainability, minimizing demolition waste, and reducing environmental impact. As demonstrated by practices such as Rotor, and scholars including Graeme Brooker and Ruth Lang in recent publications (Brooker 2026; Lang 2022), reclamation operates simultaneously as ecological, economic, ethical, and poetic imperative in contemporary design. Salvaged wood, brick, steel, finishing materials, tiles, mosaics, panels, even furniture and fixtures from decommissioned structures receive renewed life cycles, reducing demand for virgin resources. These materials contribute not only to sustainability but add depth and uniqueness to designs, narrating their origins through texture, patina, and craftsmanship, demonstrating the transformative potential of thoughtful, resource-conscious design. Ruth Lang, whose work focuses on the practice of creative reuse, notes also the challenges of this approach (Lang 2022). While standard components (doors, light fittings) are more easily reused due to ongoing availability, structural elements like concrete frames and engineered timber are more difficult to repurpose. Testing and contractual warranties present additional challenges, as reused materials have inherent variability requiring contractors and insurers to accept responsibility for quality and structural integrity. Successful material reuse requires designers to conduct experiments and site alterations with contractors during the design phase rather than only during construction. Therefore, Lang advocates systemic changes in architectural practice, emphasizing that as more projects exemplify material reuse strategies, contractors, clients, and consultants will be encouraged to embrace the opportunities this approach presents, moving it from niche practice to industry standard.

Research, Practice and Teaching

The principles, rules, strategies that inform the act of montage, as composition of element, materials (new and reclaimed), movement in space and the tangible and intangible movement in time (traces and memories) were the themes of my research on adaptive reuse at University Iuav of Venice, in 2014-2015[3]. Investigating the intervention on the existing, I identified a series of operative approaches and instances enclosed in keywords that become true operational tools: juxtaposition, stratification, grafting, completion, addition. These five strategies, paired with the montage technique and the use of architectural elements, provide a precise vocabulary for the experiments and alterations, offering specific theoretical and practical frameworks for the transformation, transfiguration, even betrayal of the existing structures (Martinelli 2016). Adding to this the strategies proposed in recent research (Brooker, Stone 2018; Wong 2017; Plevoets, Van Cleempoel 2019), it is possible to

build up a guidance for the practice and teaching of adaptive reuse.
In summer 2024, I developed a competition entry for the adaptive reuse of a 1950s modernist building in Ohrid, North Macedonia, which achieved finalist shortlisting[4]. The project aims to acknowledge the significance of the existing building, contributing to the ongoing discourse on how to intervene in Modern Movement architecture.

Fig. 3. Savoye Interrupted, Nautical Club Ohrid competition entry (Patrizio M. Martinelli, 2024)

The proposal's strategy is rooted in a precise understanding of the building as it stands and as it was originally conceived, with the goal of reactivating it functionally but, more importantly, in its figurative aspects. This approach seeks to highlight the existing or implied (even incomplete) modernist components of the project. To achieve this, the design relies on montage and the reinvention of architectural elements drawn from the building and the modernist archive, completing and emphasizing what exists, what is missing, incomplete, lost, or unrealized in its original inception, construction, or subsequent adaptations. The project is characterized by robust, powerful walls, one of which is the existing stone wall, preserved and celebrated as a central element of the building. A three-story equipped wall is installed on this structure. This feature serves as the backbone of the interior experience: visible from every floor, it functions as a monumental "cabinet of curiosities," hosting permanent or temporary exhibitions, acting also as an interior façade, punctuated by openings and catwalks, evoking a theatrical scene along the interior route. The ground floor is sculpted as a bas-relief, stair-like structure, reminiscent of Appia's stage designs and Saarinen's conversation pits. A large, detached roof shelters the modern ruin, drawn from Le Corbusier's repertoire, offering an opportunity to "complete" the existing building. Most of the new structural components would be in reclaimed timber, sourced locally, as well as the finishing materials (floor tiles, cladding, built-in equipment) and possibly the furniture.
While the competition remained distinct from teaching, methodological overlap proved significant. Identical design strategies and principles of analysis, montage, and material reclamation shaped both endeavors, demonstrating how practice and pedagogy mutually reinforce one another.

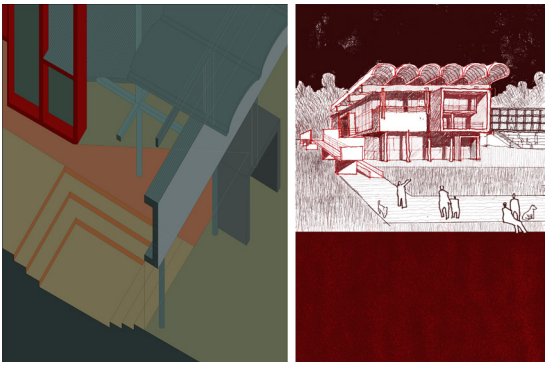

Fig. 4. Savoye Interrupted, Nautical Club Ohrid competition entry (Patrizio M. Martinelli, 2024)

At Northumbria University, for *The House of Elements* studio[5], second-year students worked on the adaptive reuse of Sutherland House, a derelict campus building, applying theories of elements, montage, and reclamation. They investigated elemental archetypes through Thiis-Evensen, phenomenology reading Steen Eiler Rasmussen, and montage strategies drawn from cinema, theater, and architecture. Students began by systematically dissecting the "host building", analyzing how it comprises specific archetypes, dissecting and documenting existing spatial relationships, material conditions, and structural logic.

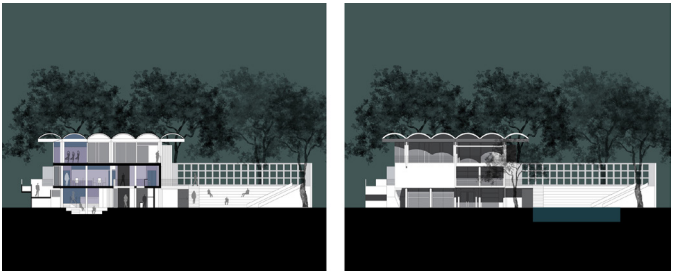

Fig. 5. Savoye Interrupted, Nautical Club Ohrid competition entry (Patrizio M. Martinelli, 2024)

This analytical phase proved essential: before proposing interventions, students needed to understand the building as an assembly of elements that could be selectively retained, modified, or replaced. Students then reinvented these dissected elements: floors as stages and *Raumplan* variations, roofs as inhabited planes, walls as transparent frames and interior façades. The design process thus became a strategic montage, determining which existing elements to preserve intact, which to modify, and how to integrate new components into meaningful relationships with what remains. Through this process, students learned to perceive the existing building not as constraint but as reservoir of possibilities. Some projects emphasized new thresholds, others choreographed dramatic interior promenades, others experimented with reclaimed brick, timber, steel to create layered tectonic atmospheres. Their proposals transformed the building into a sequence of poetic interior

spaces highlighting the expressive potential of spatial composition, phenomenological arrangement of architectural events, reused materials, and elemental reinvention. A critical requirement mandated engagement with reclaimed construction materials and elements, ideally sourced locally, sometimes directly from the host building. By incorporating reclaimed materials, students sought to achieve harmonious synthesis of sustainability, functionality, and character, demonstrating the transformative potential of thoughtful, resource-conscious design, creating feedback loops between demolition, adaptation, and construction, between analysis and design. The brief asked them not merely to preserve but to transform, to demonstrate how adaptive and creative reuse can operate simultaneously as analytical and inventive, ecological and cultural, material and poetic.

Conclusion

Returning to Scott McAulay's provocation: is architectural education preparing students for a climate-challenged future? My pedagogical approach attempts response by rethinking education around the triad of elements, montage, and reclaimed materiality. Elements return us to fundamentals of architectural composition, training students to analyze, challenge, and reimagine architecture at its most elemental level. Montage equips them with compositional strategies suited to working with existing conditions, acknowledging time, memory, and transformation. Reclaimed materiality positions sustainability and degrowth at design's core, embedding ethics and ecology as response to climate crisis within the process itself. Together, these concepts constitute not merely a toolkit but a mindset, a pedagogy of adaptive reuse acknowledging climate crisis's urgency while cultivating creativity and intellectual rigor. This represents, I argue, the architectural education our students, our discipline, and our planet now require.

Notes

1. Translation from the Italian by the author.

2. Translation from the Italian by the author.

3. The research has been developed in 2014-2015, with the Research Fellowship *Building Renewal. A Design Approach to the Relationship Between the New and the Old in Former Port-Industrial Areas*, at University Iuav of Venice, Department of Architecture, Construction, Conservation (supervisor: prof. Armando Dal Fabbro) and published in Martinelli 2016.

4. *Savoye Interrupted: Elements/Montage/Adaptive Reuse*, entry for the International Design Competition Nautical Club Ohrid, organized by Terraviva Competitions, 2024.

5. *The House of Elements* studio, Year 2 Interior Architecture, Northumbria University, academic years 2023-2024, 2024-2025. Teaching team: Patrizio M. Martinelli (module leader), Ben Couture, Francesca Lanz.

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