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Unfolding the Notion of Ecology through Self-Building Practices in and outside the Design Studio

By Francesca Gotti[*] & Ioanni Delsante[±]

In the context of overlapping socio-ecological crises, architecture is increasingly scrutinised not only for its environmental impact but for how it structures extraction, labour, governance, and space. At the same time, architectural education—particularly design studios—has been criticised for reproducing hierarchies, individual authorship, and competitive models that detach design from the material and social conditions of making. This paper argues that self-building, understood as a collective and materially constrained practice of assembling, maintaining, and repairing, space, can function as a critical pedagogical apparatus to unfold ecology as a situated, temporal, and civic concern. Drawing on situated knowledge, critical pedagogies, and commoning theories, the paper examines how self-building reorients design learning away from representation toward 1:1 testing, reversible assemblies, and maintenance-as-design, foregrounding scarcity, reuse, and shared responsibility. Methodologically, it adopts a qualitative, multi-sited, action-research approach combining documentation, field notes, student work, and feedback. The argument is developed through two cases: LOCI – seLf cOmmons ConstructIon, an extracurricular summer school in Pavia embedded in negotiations around an urban commons, and NEOTOPIA, a design studio in Mendrisio that reverses conventional design sequences through scarcity-driven prototyping and material reuse. Rather than proposing a prescriptive model, the paper consolidates transferable principles and tools across pedagogical and civic scales, while outlining enabling conditions and constraints for replicating self-building pedagogies.

Keywords: *self-building; architectural pedagogy; situated knowledges; urban commons; scarcity*

Introduction

In the context of overlapping socio-ecological crises, architecture has been increasingly scrutinised for its complicity with extractive economies, uneven development, and the production of spatial injustice. Critical scholarship has highlighted how architectural culture is entangled with capitalism and neoliberal forms of governance, while also questioning the discipline's self-legitimising narratives and professional myths (Deamer, 2021; Till, 2013). In parallel, alternative trajectories have broadened the understanding of architectural agency, reframing practice as a situated, collective, and relational endeavour - one that operates through "other ways of doing" beyond object production, authorship, and the traditional boundaries of the

[*]Research Fellow, DICAr Università di Pavia, Italy.
[±]Associate Professor in Architectural and Urban Design, DICAr Department, Università degli Studi di Pavia, Italy.

profession (Awan, Schneider & Till, 2011). Within this expanded field, the notion of ecology is no longer reducible to environmental performance or technical optimisation; rather, it is increasingly understood as a framework for addressing interdependencies between material production, labour, governance, care, and more-than-human relations across time (Haraway, 1988; Haraway, 2016).

This shift has immediate implications for architectural education. The design studio, still the canonical apparatus of architectural training, has long been criticised for reproducing hierarchical relations, individualistic notions of authorship, and competitive models of "excellence" aligned with professionalised and market-oriented outcomes (Dutton, 1987; Dutton & Mann, 1996). Since the late twentieth century, critical and radical pedagogies have challenged these assumptions by foregrounding education as a political practice attentive to power, subjectivity, and the production of knowledge (Freire, 1968; hooks, 1994; Crysler, 1995). More recently, a renewed debate has emerged around the need to reorient architectural curricula towards urgent socio-ecological questions, rethinking both *what* is taught and *how* learning is organised, assessed, and situated (Deamer et al., 2020; Colomina, Buckley & Coles, 2018). Within this landscape, pedagogical experiments have proliferated through design-build formats, community-based learning, and extra-institutional schools that explicitly contest academic enclosure and disciplinary self-referentiality, often by relocating learning in contested sites and engaging in material practices of making and maintenance (Illich, 1970; Aston, Hougham & Jenkins, 2020).

As a contribution to this debate, this paper examines self-building practices in and outside the design studio as an entry point to "unfold" an ecological understanding of architectural pedagogy. The term *self-building* is used here in an expanded sense, referring not only to construction by non-professionals or to the architectural tradition of design-build teaching, but also to the collective, situated, and materially constrained practices through which spatial devices, infrastructures, and environments are assembled, maintained, repaired, and transformed over time. In this perspective, self-building becomes a pedagogical medium through which students confront the material cycles of architecture - extraction and scarcity, re-use and waste, labour and logistics, durability and decay - while also negotiating social relations, responsibilities, and the ethics of intervention.

To avoid treating the above concepts as a loose constellation, this study mobilises them across three interconnected dimensions. First, *situated knowledges* are adopted as an epistemological position: knowledge is understood as partial, embodied, and produced through proximity to contexts, actors, and material conditions rather than through abstract universalisation (Haraway, 1988). Second, *critical/radical pedagogies* provide a cultural and political orientation that foregrounds the reconfiguration of roles, hierarchies, and institutional norms in teaching and learning (Freire, 1968; hooks, 1994; Crysler, 1995). Third, *commoning* is approached as both a conceptual lens and an operational framework: a set of practices through which spaces are collectively produced and governed, and through which forms of shared responsibility and care are negotiated - particularly relevant when the ecological sustainability of an intervention depends less on the artefact itself than on the social infrastructures that maintain it (Stavrides, 2016; De Angelis, 2003). Fourth, Illich's

proposition of "schooling out of school" is not invoked as a metaphor but as a methodological move: relocating pedagogical activities outside academic spaces is treated as a way to unsettle institutional routines and to bring architectural learning into direct relation with situated resources, conflicts, and everyday practices (Illich, 1970).

Self-building plays a pivotal role in developing a critical approach to pedagogy in architecture. On a cultural level, it deconstructs the hierarchical and dogmatic understanding of roles in the discipline while questioning the production of space from a methodological perspective, subverting and reversing the design process. Locating the activities of the studio physically outside the (built) academic environment, moreover, forces a critical connection with the reality of the context on all levels, basing brief, goals, and implementation on the situated resources and relations, testing the commoning dimension of design and space beyond authorship and the duality private-public. (Freire, 1968; hooks, 1994; Haraway, 1988; Illich, 1970; Stavrides, 2016)

Building on this framing, the paper investigates self-building as a pedagogical device that renders ecology tangible and contestable: ecology is addressed not only through environmental discourse, but through the lived experience of constraints, the negotiation of labour and competence, and the confrontation with time - time of construction, time of use, time of maintenance, and time of institutional processes.

Methodologically, the paper draws on primary and secondary materials within an action-research orientation, where teaching, fieldwork, and documentation are treated as pedagogical and research practices. The argument is developed through two case studies that are intentionally different in their settings and operational structures, yet convergent in their premises. The first case, the LOCI Self-Building Commons, is an extracurricular summer school in Pavia developed within the framework of COSMO research project,[1] embedded in a broader process of engagement with residents, associations, and municipal actors in a neighbourhood park undergoing neglect and contested use. The second case, NEOTOPIA, is a design studio at the Academy of Architecture in Mendrisio (led by Leopold Banchini, with the authors as part of the teaching team), where self-building and 1:1 prototyping are used to investigate neo-vernacular and informal architectures through scarcity, re-use, and collective decision-making. Rather than producing a direct comparison, the two cases are read as complementary: LOCI foregrounds negotiation, governance, and the shared management of urban commons, while NEOTOPIA foregrounds scarcity, material cycles, and the reversal of design processes through embodied making.

Therefore, the contribution of this paper is not to propose a prescriptive model of "ecological studio teaching' but to articulate a transferable set of guiding principles and methodological tools that can support the replication and adaptation of self-building pedagogies across different contexts. These outputs are articulated at three

1. COSMO - *Commoning practices and temporary self-built architectural agencies* was a two-years (2024-2025) research project developed by University of Pavia in collaboration with University of Brescia, focusing on self-building practices related to urban commons in the Italian context

levels: (i) *methodological* (e.g. learning-by-doing, 1:1 testing, maintenance-as-design, reversibility, and disassembly as design criteria); (ii) *pedagogical* (e.g. reconfiguration of roles, collective intelligence, evaluation centred on process, and situated accountability); and (iii) *civic/urban* (e.g. artefacts as instruments of negotiation, infrastructures for care, and partnerships that mediate between academic and civic spheres). By making these levels explicit, this study aims to advance current debates that often describe innovative pedagogical experiments as isolated "best practices" without clarifying the operational conditions through which they produce knowledge and impact (Deamer et al., 2020; Stavrides, 2016).

The paper is structured as follows: first, a synthetic literature review positions self-building pedagogies within debates on critical/radical education, situated knowledge production and the urban commons. Second, the methodology section details the approach, data sources, and authors' positionality in relation to the cases. Third, the two case studies are presented through their contexts, activity sequences, and the forms of engagement they activated. Finally, the discussion consolidates insights into a programmatic set of principles, outlining the potentialities and constraints of self-building as an ecological pedagogical apparatus. The conclusion identifies the main tools developed and their relevance for future experiments in architectural education.

Self-building in Architectural Pedagogies

This contribution is situated at the convergence of four closely related strands of debate - situated knowledges, critical and radical pedagogies, practices of commoning, and cultures of self-building - brought together within the research and teaching trajectories of SArPe.[2] Rather than treating these strands as parallel references, this study mobilises their convergence in methodological and operational terms. Situated knowledges frame learning as a partial and accountable production of knowledge through proximity to contexts, actors, and material conditions (Haraway, 1988). Critical and radical pedagogies foreground education as a practice that can unsettle power relations and reconfigure roles between teacher and student, expert and non-expert, designer and user (Freire, 1968; hooks, 1994; Crysler, 1995). Commons scholarship provides both a conceptual lens and an operational horizon for thinking about shared resources, collective care, and forms of governance enacted through everyday practices rather than guaranteed by ownership regimes (De Angelis, 2003; Stavrides, 2016). Finally, self-building cultures foreground the material and organisational conditions of spatial production, from techniques and tools to labour, logistics, and maintenance (Goodbun et al., 2014; Till, 2014).

From this perspective, self-building is not introduced merely as a didactic "exercise" (or as a marginal add-on to representational studio work), but as a methodological device to interrogate ecology through practice: procurement and reuse of materials, distribution of labour and competences, temporality of construction and maintenance, and negotiation of shared use become part of the design problem. This

2. SArPe - Socially Situated Architectural Pedagogies, www.sarpe.org.

orientation is positioned in opposition to conventional studio formats in three interrelated ways. Methodologically, it shifts the centre of learning from the production of drawings and discrete proposals to iterative cycles of assembling, testing, revising, and sometimes disassembling at a 1:1 scale. Epistemologically, it contests universalising design knowledge by treating design decisions as situated and contingent, emerging from encounters with contexts, stakeholders, and nonhuman constraints such as material resistance, weather, and time. Politically, it displaces individual authorship and competitive evaluation by foregrounding collective responsibility, negotiated priorities, and redistribution of agency across multiple actors (Deamer et al., 2020; Dutton & Mann, 1996; Dutton, 1987).

The mobilisation of self-building in architectural pedagogy also has a clear origin. In the work of Walter Segal, John Turner, and Colin Ward, self-building emerged as both a technical proposition and a political claim: the right to inhabit, to modify one's environment, and to participate in the production of urban life. Segal's research on timber-frame systems centred on the figure of the self-builder and sought to make construction accessible through modular logics, simplicity of assembly, and the sharing of an approach rather than the ownership of a method (McKean, 1989). Ward documented and advocated for a broad spectrum of grassroots spatial practices—squatting, allotments, improvised huts, self-managed gardens, and play spaces—showing how everyday making and collective care expose the correlation between space and power structures (Crouch and Ward, 1997; Ward, White and Wilbert, 2011). Turner expanded the debate to the planetary scale by interpreting informal settlements as predominant forms of urbanisation and situated responses to uneven development and welfare crises, emphasising dweller control, mutualism, and local knowledge as resources for inhabitation (Turner, 1972).

These legacies persist today, yet they are reinterpreted under significantly altered conditions: climate breakdown and resource volatility, intensified regulatory regimes, and renewed attention to temporary, reversible, and maintenance-oriented interventions. Contemporary collectives and practices - such as Bruit du Frigo, Orizzontale, Raumlabor, Assemble and Camposaz - translate earlier claims for accessibility and participation into tactics that combine making, public engagement, and the reactivation of neglected urban sites. In this sense, continuity lies in the insistence that architecture can be practiced as a distributed capacity rather than as an expert monopoly; advancement lies in the way contemporary initiatives explicitly situate making within ecological and civic agendas, and often treat temporary artefacts as infrastructural mediators that enable negotiation, care, and longer-term transformation rather than as final solutions (Stavrides, 2016; Till, 2014).

Within pedagogical settings, the convergence of commons-thinking and self-building translates into concrete operational changes. Briefs are not fully pre-packaged; they are progressively formed through encounters, narratives and negotiated priorities. The studio becomes an infrastructural and organisational apparatus: it provides tools for listening and documenting, protocols for safety and collective work, and spaces for assembling and disassembling as a form of enquiry. Roles become intentionally unstable—students learn as designers, builders, and facilitators; educators operate as mentors, co-producers, and observers; and users and local actors act as informants and co-decision-makers. Importantly, building here includes

the "invisible" operations that conventional studio formats tend to externalise: site preparation, maintenance, cleaning, storage, logistics, and the collective management of tools and materials. By bringing these operations into the pedagogical field, self-building makes visible the socio-technical infrastructures that sustain urban life and reveals how ecological claims depend on everyday practices of care and governance rather than artefacts alone (De Angelis, 2003; Stavrides, 2016).

The ecological dimension of this approach is further sharpened by scarcity. Scarcity is not romanticised as deprivation but foregrounded as a critical lens that exposes the political distribution of resources and the ecological costs embedded in construction. Designing with scarcity means working with limited means, reusing, creating reversible assemblies, and using minimal toolsets. It also means tracing supply chains and recognising how material availability structures form and use. In this sense, the "architecture of scarcity" reframes vernacular and neo-vernacular practices not as aesthetic categories but as situated responses to constraints, necessity, and ingenuity (Santacruz, 2009; Goodbun et al., 2014). It also resonates with broader critiques of overproduction and waste, emphasising that ecological responsibility involves the entire chain of production, transport, assembly, and disposal, as well as maintenance and adaptation (Till, 2014; Singha, 2012).

Taken together, this convergence advances knowledge beyond existing discussions of "design-build" or community-based studios by articulating self-building as simultaneously (i) an epistemic method for producing situated architectural knowledge; (ii) a civic practice that tests commons-oriented governance and the redistribution of responsibility over time; and (iii) a pedagogical strategy that reverses the dominant sequence of studio work by moving from material, organisational, and relational constraints toward spatial propositions. This framing clarifies how the projects discussed in this paper oppose traditional studio teaching (methodologically, epistemologically, and politically) while also specifying the operational implications of combining self-building with commoning: open-ended briefs grounded in situated resources and relations, collective decision-making sustained by practical workflows, and artefacts designed as reversible infrastructures for use, care, and negotiation.

Methodology

This study investigates how self-building practices can operate as a pedagogical device to unfold an ecological understanding of architectural education and how such practices intersect with contemporary processes of commoning and scarcity-oriented design. The analysis is guided by the following (initials) research questions: (1) How can self-building reinforce commoning processes, particularly when considering the temporal dimension of reuse, transformation, and care? (2) How can self-built artefacts and micro-infrastructures support collective reappropriation and civic engagement in urban spaces? (3) How can architectural pedagogy test and sustain alternative cycles of spatial–material production under conditions of scarcity? (4) What are the opportunities and constraints of integrating these practices within

academic settings, where bureaucratic, safety, and curricular requirements often privilege representational outputs over processual and relational learning.

Methodologically, this paper adopts a qualitative, multi-sited case study approach grounded in action research and participatory action research traditions, in which teaching, fieldwork, and making are treated as both pedagogical practices and modes of inquiry. Rather than aiming for a controlled comparison, the two case studies were selected for their complementarity: LOCI foregrounds negotiation and governance around an urban common, while NEOTOPIA foregrounds scarcity, material cycles, and the reversal of conventional design sequences. This design enables a broader view of how self-building operates across different formats (extracurricular summer schools versus curricular studios), institutional settings, and degrees of civic entanglement.

Data were collected from primary and secondary sources. Primary materials include: (i) field notes and reflexive diaries produced by the teaching/research team during site visits, workshops, and critiques; (ii) photographic and video documentation of activities, spatial devices, and construction phases; (iii) student-produced outputs (drawings, maps, models, 1:1 mock-ups, and process documentation); and (iv) semi-structured conversations and interviews with key stakeholders, where applicable (e.g. residents, association members, craftspeople, and municipal representatives). These materials are complemented by secondary sources and a targeted literature review to situate the cases within debates on critical/radical pedagogies, situated knowledge production, the commons, and self-building cultures.

To strengthen the assessment of pedagogical impact, this study also draws on feedback instruments. For LOCI, short post-event questionnaires were distributed to participants shortly after summer school, focusing on learning outcomes, perceived skill acquisition, collaboration dynamics, and the relationship between design intentions and construction realities. For NEOTOPIA, pedagogical observations were triangulated with students' process documentation and the evolution of projects across the semester, including iterations of 1:1 prototyping and collective reviews. While these instruments do not constitute a longitudinal evaluation, they provide evidence of how embodied making, collective organisation and material constraints shape learning and critical reflection.

The two cases differed in terms of duration, participant profiles, and modes of engagement. LOCI combines a six-month preparatory phase of surveys and interviews in the first half of 2025 with an intensive one-week self-building summer school (29 June–5 July 2025) in Pavia's Santa Teresa district. The summer school involved an international group of 24 students, five professors, four carpenters (from Camposaz association), and a broader set of local residents and associations who engaged through encounters, negotiations, and various forms of support. NEOTOPIA is a design studio at the Academy of Architecture in Mendrisio that was developed across two semesters (Winter 2021 and Autumn 2022) engaging groups of 24 students. Each semester unfolded over the full academic term and included intensive off-campus kick-off activities (a two-day walking trip in 2021; a one-week co-living

construction inside a greenhouse in 2022, followed by a three-day inhabitation), research trips to selected field sites, and sustained 1:1 experimentation through mock-ups and material reuse.

A central methodological aspect concerns authors' positionality. In both cases, the authors simultaneously acted as educators, facilitators, designers, builders, and observers. This multiplicity is not treated as a limitation to be eliminated, but as an explicit condition of practice-based enquiry consistent with action research: self-building and commoning blur conventional separations between researcher and participant, and between pedagogical practice and scholarly observation. To mitigate the risks of over-identification, the analysis was based on triangulation across multiple forms of documentation (field notes, visual evidence, student outputs, and stakeholder accounts) and reflexive discussion within the teaching/research team.

Finally, this study addresses transferability and limitations. The cases are inherently situated and cannot be reduced to a universal model; however, the methodology allows the extraction of operational conditions that support replicability, such as the sequencing of activities, safety protocols for open construction sites, minimal and reusable toolkits, documentation practices, and post-event monitoring routines. Simultaneously, the analysis recognises the constraints that shape these pedagogies, including institutional bureaucracy, regulatory frameworks for temporary interventions, and the significant time required to establish trust and continuity with civic stakeholders.

LOCI - Self Commons Construction Summer School

Figure 1. *Narrating Spaces with Dwellers, June 2025*
Source: Francesca Gotti

Figure 2. *Testing the Structure in the Football Pitch, July 2025*
Source: Francesca Gotti

LOCI Self-Building Commons was an intensive summer school coordinated by the University of Pavia and held in the Santa Teresa district, a neighbourhood that grew around a former industrial fabric factory (now dismissed) in Pavia. The site of intervention is an elongated lot composed of green areas, vegetable gardens, sports fields, and a playground, framed by a railway track, a canal, and two low-traffic roads. Over the years, both vegetable gardens and green spaces have been cared for primarily by local associations and elderly residents. In contrast, the football and tennis fields are in a state of decay. Nonetheless, they have been included in a prospective municipal restoration program, in which collaboration with the university was conceived as an experiment in participatory regeneration and shared management.

The LOCI initiative unfolded through a preparatory phase and an intensive on-site workshop. During the first six months of 2025, the research team - together with students and assistants from a BA-level Design Studio led by the authors - conducted site surveys, walk-along conversations, and semi-structured interviews with local residents and associations, with the support of municipal offices. This work reconstructed the local ecology of stakeholders and practices, including gardeners and elderly residents maintaining allotments and green areas, informal users of the playground and sports spaces, neighbourhood associations, the municipality (technical and political representatives), and craftspeople engaged in the construction phase. The preparatory phase produced narrative maps and role-play tools that documented everyday routines, memories, conflicts, and aspirations, and served to establish trust and a shared vocabulary before any physical intervention was proposed.

In operational terms, negotiation occurred through iterative cycles of listening, public encounters, and situated prototyping. Rather than proposing a predefined design, the team used preparatory materials to formulate a minimal and open brief that was continuously discussed on-site with stakeholders. The summer school was conceived as an open construction site: daily set-up and take-down of the working station, visible construction phases, and informal moments of conviviality were used as occasions for encounters and feedback. This approach treats artefacts not as final "solutions" but as infrastructural mediators that could support further claims, collective care, and the possible formalisation of shared responsibilities over time.

The regulatory framework constitutes a decisive boundary condition. Within the Italian context, many municipalities have developed tools for the shared administration of urban commons (e.g. regulations and collaboration pacts) that enable citizen groups to participate in the care and management of public assets through negotiated agreements. Simultaneously, temporary interventions in public spaces remain constrained by liability, safety standards, and authorisation procedures, which often limit the time frame of experimentation and the degree of hands-on participation by non-professionals. LOCI was therefore designed to operate within these constraints: safety protocols were established with the carpenters' association (Camposaz), access and storage were negotiated with residents, and the temporary and reversible character of the devices was adopted as both a design principle and regulatory strategy. Importantly, the workshop was conceived as a catalyst for a longer process: the built artefacts and the documentation produced during the course were intended to support ongoing discussions with the City Council towards a formal agreement for shared management.

Figure 3. *Building a Public Furniture around Trees, July 2025*
Source: Francesca Gotti

Figure 4. *Measuring and Building wooden Furniture for the Public, July 2025*
Source: Francesca Gotti

The self-building summer school gathered an international group of twenty-four students, five professors, four carpenters, and a broader set of residents who engaged in different ways. The equipment and tools were stored overnight in a resident's private garage. Each morning, a carpentry station was arranged in a shaded corner of the site and disassembled at the end of the day. The material constraint, approximately four cubic meters of spruce planks of diverse sizes, was the main design boundary. Participants were divided into three groups to work on three locations (football pitch, playground, and tennis court), enabling a distributed reading of uses and conflicts across the site.

The initial brief was intentionally minimal and was based primarily on information, insights, and memories shared by stakeholders, providing no pre-packaged design to follow or reference. The design-and-build process followed an organic rhythm in which collective decision-making intersected with rapid prototyping, testing, adjustment, and disassembly where required. Beyond building new devices, the teams also engaged in extensive maintenance activities—cutting grass, repairing nets, repainting surfaces—actions that were not originally planned but became central to the pedagogical and ecological significance of the intervention. Maintenance operated here as an act of design: it foregrounded time, decay, and care as part of the architectural problem, and made visible how the durability of public spaces depends on recurring and shared practices rather than on one-off transformations.

By the end of the week, the participants had built three spatial devices, independent yet functionally related, to support sports and convivial activities. The objects

adopted open-ended structures that interface with trees, sidewalks, bushes, and existing sports infrastructure. They were assembled using simple and reversible techniques developed and tested jointly by students, carpenters, and researchers, enabling future modifications and potential disassembly. Their reduced scale was deliberately "domestic"—easy to approach and appropriate—minimising physical impact on the site while maximising the potential for everyday use and care. In line with a commons-oriented approach, the devices were conceived less as finished artefacts and more as invitations to inhabit, maintain, and renegotiate the space over time.

Figure 5. *Repainting of the Tennis Court, July 2025*
Source: Francesca Gotti

Figure 6. *Inauguration of the finalised Bench for the Public in July 2025*
Source: Francesca Gotti

Lessons learnt from LOCI

From a pedagogical standpoint, LOCI functioned as an intensive learning environment in which embodied making, collective organisation, and situated negotiation were inseparable. A short post-event questionnaire[3] was distributed to participants shortly after the summer school, indicating strong perceived learning outcomes in three domains: construction skills and material literacy, collaboration and collective decision-making, and a heightened awareness of the temporal and social dimensions of public-space maintenance. These results support the claim that self-building can operate as a methodological device to "materialise" ecological and civic questions that remain abstract in conventional studio settings.

The second lesson concerns the relationship between building and care. The unplanned emergence of maintenance activities proved essential for both the success of the workshop and reframing sustainability. The work on existing surfaces and infrastructures shifted attention from novelty to continuity and from form to

3. Questionnaires were related to the experience as a whole in qualitative terms, specifically they included open questions about: the relevance and usefulness of past design experiences for the situated exercise; the difficulties of working in a foreign context in close contact with residents; the challenges posed by temporal and spatial constraints in the design process; the personal and collective limits and opportunities encountered while working as a group; the difficulties in translating considerations of social, relational and usage matters into built forms.

everyday routines of use and repair. This suggests that short-term pedagogical interventions can be most effective when they include and explicitly value practices of care as design knowledge—thereby aligning ecological discourse with the mundane but decisive labour that sustains shared environments.

Participation and engagement unfolded unevenly across the stakeholder groups. While local residents and associations did not engage substantially in hands-on construction (a condition anticipated from previous experiences in Pavia), they supported the initiative through other means: providing electricity and storage, sharing food, and offering informal feedback during open construction days. These gestures—often small but repeated—constituted an ecology of mutual support that mirrored the workshop's emphasis on care and highlighted how commoning processes may be enacted through multiple forms of contribution beyond direct building labour.

The workshop also made it explicit that commoning is primarily a temporal process. A one-week construction effort cannot, by itself, establish shared governance; however, it can catalyse longer trajectories of inhabitation and responsibility. In this respect, constant presence and post-event monitoring are crucial for ensuring safety. Following the workshop, the team performed regular site visits during July and August, documenting patterns of appropriation and misuse, and making minor adjustments (for instance, relocating benches to improve visibility and everyday oversight). These small corrective actions did not "solve" the site's structural issues, but they supported the integration of the devices into routines of care and use, and provided concrete evidence to inform ongoing discussions with municipal actors.

Finally, the LOCI case underscores that the sustainability of temporary spatial devices depends less on their material robustness and more on the social infrastructures that sustain them. The summer school revived communication between civic actors and municipal representatives and strengthened the visibility of the park as a shared concern of the community. At the time of writing, discussions are ongoing with the City Council to identify the most appropriate regulatory pathway for approving and maintaining the structures, and with residents to organise collective maintenance moments (e.g. a "care day") that can consolidate a sense of shared ownership. In this sense, the pedagogical experiment operates as an opera aperta: it produces an initial material proposition whose value lies in enabling longer processes of negotiation, care and collective responsibility.

NEOTOPIA

During the winter semesters of 2021 and 2022, architect Leopold Banchini (Geneva), together with assistant professors Pablo Garrido Arnaiz and Francesca Gotti, led a design studio at the Architecture Academy of Mendrisio: Neotopia. The studio questioned the production of architecture in contemporary society by investigating neovernacular architectures and self-building practices. Non-pedigreed and professional architects are equally approached, starting from the principle that there must

be no distinction between anonymous and official architecture when both are produced with intention, care, and inventiveness, proving an attentive selection of materials and development of techniques.

"Are there such things as universal needs, and can education radically question preconceived notions of what architecture needs to be? To figure this out, one must escape the safe environment of the academic world, which is undeniably homogeneous and privileged. (...) To regain agency in a world where class struggles rage and economics seems to decide the future of our environment, it is urgent to escape the white cube". This extract is part of the curatorial text that Leopold Banchini wrote for the publication that closed the three-year mandate as director of the Studio for Immediate Spaces at the Sandberg Institute of Amsterdam (2016-2019). His pedagogic posture resonates in the experience carried out in Mendrisio: the necessity to escape academia and enter the real world, the need to address responsibilities and potentialities for designers and practitioners in a more-than-unequal global scenario.

The Architectural Academy in Mendrisio is a privileged environment: design studios are held for the entire duration of the semester in an assigned room specifically reserved for the students of that studio. This means that the space is accessible seven days a week, all day, beyond the specific weekly schedule, providing students with a huge availability of space and time to develop their work in. The studio is also equipped with different building tools and is used to store the working materials collected by students.

In the first week of both semesters, students and professors gathered outside the academia: not in front of its doors, not in its courtyard, but far from it. The first action was to stand out in the world, navigate the territory, and physically measure its capitalist nature while performing an anti-capitalist alternative.

In September 2021, the group embarked on a two-day walking trip, leaving Monte Ascona (on the shore of Locarno's lake) to reach Mendrisio Academy. The exploration was first and foremost an opportunity for participants to create a strong bond among each other and to experiment with collective decision-making - which directions to take for the route, when and where to stop for breaks, when and where to settle for food and sleep. It was also a powerful survey of the Swiss landscape across its natural, artificial, and built environments, an embodied observation of distances and modifications produced by machinery and technology but affecting bodies and nonhuman actors.

Figure 7. *Improvised Storage for Communal Living (September 2022)*
Source: Giovanni E. Galanello

Figure 8. *Self-built Dry Toilet in Coldrerio Greenhouse, September 2022*
Source: Giovanni E. Galanello

The second semester (fall 2022) was dedicated to the topic of intensive agriculture and farming landscape: the kick-off activity for the first week was the construction of a co-living settlement inside a greenhouse owned by a farming company in Coldrerio, 40 minutes' walk from Mendrisio. Students were divided into small groups, each dedicated to the development of a portion of the settlement which had to address a specific need of the temporary community (sleeping, eating, washing, storing, relaxing…): the built devices were designed to perform actions collectively, their form was developed by simulating these actions and implementing found materials and repurposed objects. Students had to quickly and efficiently build a network of material suppliers (construction sites, landfills, recycling centres, building companies, farmers) to implement their design proposals within a week: concept and construction were directly connected in a bouncing relationship between thinking and observing, designing and testing, assembling and deconstructing. Thus, improvisation became the guiding principle of spatial production, where collective decision-making occurs through direct action and reaction. The temporary settlement was fully functional for three days, sustaining all the daily activities of the community while developing and being improved: elements and details were layered up, bringing the initial rudimental devices to a level of refinement by the end of the experience. In conclusion, all materials - recovered, loaned, or rented - were returned to suppliers or stored at the Academy for future use.
Both experiences were key in reflecting on situating actions in relation to the context and its resources, fostering an instinctual and collaborative approach based on the principles of scarcity, reuse, and mutualism.

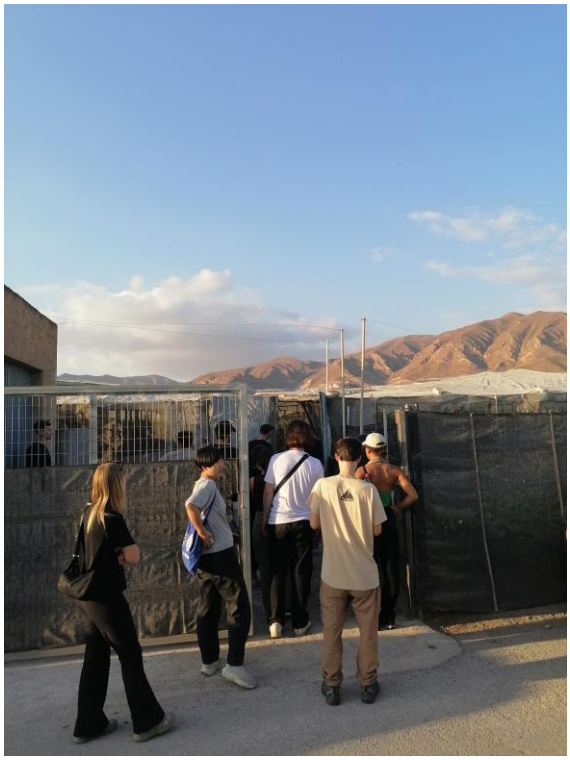

Figure 9. *Visit to Almeria greenhouses in September 2022*
Source: Francesca Gotti

Figure 10. *Wandering from Locarno to Mendrisio, September 2021*
Source: Francesca Gotti

The first experiences inaugurating the semester were aimed at strengthening personal and collective intelligence, intuitivity, and sensitivity, enacting reflections around resources' availability and management. Following this, the team embarked on a research trip to the specific case study locations identified for each semester: the self-built settlements in the city of Lisbon (Portugal) and the informal houses scattered throughout the vast greenhouse area of El Ejido (Spain). The trip was meant to explore the sites and collect first-hand information to later produce accurate surveys; one of the core tasks of the studio was to redraw the spontaneous architectures produced by dwellers to understand their structure, materiality, and building techniques. This was not a stylistic exercise, nor a way to define the design brief: the aim of the studio was not to solve issues related to the living conditions of the settlements, but rather to learn from amateur builders. The survey allowed us to explore the rich architectural variety offered by such extreme social and economic limitations.

Redrawing and collecting photographs was the key to the development of new construction techniques, the base for the students' projects. As much as spontaneous projects are based on the availability of resources and tools, the studio pushed for the definition of affordable architecture: projects that would take into account the scarcity of materials, accessible assemblage processes, and the realistic physical effort required to build them. Consistent with the kick-off activities of the semester, projects were mainly developed through 1:1 mockups, using natural, repurposed, or rented materials, re-working the same ones until the very end of the semester. Once

again, this aimed to reflect on the production chain of construction, on the energy and time implied in producing, transporting, and assembling each component.

Intertwined with the aspect of materiality and construction was functionality. Projects had to address housing as a main function, specifically communal living for small groups of people. This request guided students in reflecting on architectures shaped by the needs of inhabitants for daily activities and the negotiation between minimum spaces, intimacy, subjectivity, and interactions. The results were architectures deeply defined in their spatiality and aesthetics by scarcity, need, relationships, and daily actions.

To inform and trigger students in a deeper way, a calendar of meetings with artists and experts and performative workshops was set, and the group was engaged in weekly dinners hosted by student facilities, growing throughout the semester a sense of community, responsibility, care, and inventiveness.

Figure 11. *Burnt-hearth Technique for Neotopia 2022*
Source: Giovanni Emilio Galanello

Figure 12. *Salt Tile Technique for Neotopia 2022*
Source: Giovanni Emilio Galanello

Lessons Learnt from NEOTOPIA

Neotopia has been a productive experimental ground for students in Mendrisio, who enthusiastically joined a rather disruptive approach to architecture, in strong contrast to that proposed by the rest of the Academy. Students proved to be extremely open to experimenting with non-conventional techniques and diving into performative and improvised design actions. Moreover, they embraced the collective and collaborative atmosphere and principles proposed by the team, always showing a proactive and careful attitude, beyond and against the competitive and individualistic posture promoted by the archistar system.

The combination of weekly convivial activities, constant hands-on work and rework on the projects, and the intersection of physical engagement and critical thinking generated a stimulating ongoing debate to which students actively contributed in and outside the classroom. Thus, the boundary between design course activities and everyday questioning of systemic dilemmas was blurred to the extent that discussions arose around a variety of topics that did not coincide with architecture. Training with consistency in building practice came hand in hand with training in criticism and reviewing correlations between the design sphere and the social, economic, political, and environmental spheres.

The reversal of the design steps, from the production of materials to the design of spaces, from the deconstruction of design techniques to the development of spa-

tialities based on the economy of needs, was a key feature in informing the pedagogical process with a critical approach to the ecology of architecture. The studio never intended or aimed to provide realistic solutions to more equitable forms of urbanism in the face of global crises. Rather, the goal of the course was to form a critical approach and develop a method of investigation through building and materiality to be applied in design practice in different contexts.

Students had the chance to learn real construction techniques, acquiring knowledge and skills about materials and tools in a direct confrontation with the reality of construction sites and self-made architecture. Of course, this was only realised at the small scale of 1:1 mock-ups and was not developed into bigger interventions, if not for a very short time (the three days of cohabitation in the greenhouse). The actual long-term implementation of the principles experimented with during the design studio was not tested with the engagement of civic actors or permanently shared with a community. The concrete development of the ideas designed and the techniques produced could not be documented in real-life applications, but were deeply debated and reviewed throughout the course of the semesters, taking into consideration various possible implications.

The chance to share the experiments developed with Neotopia with a wider public of academics, professionals, and citizens would allow the principles studied to be replicated and scaled up and the results achieved to be strengthened on a pedagogical level.

Discussion

The two case studies discussed in this paper - despite their different formats and degrees of civic entanglement - converge on a shared claim: self-building can operate as a critical apparatus for architectural pedagogy when treated as a situated, collective, and time-based practice. Rather than adding "making" to an otherwise conventional studio, the practices examined here reconfigure what counts as architectural knowledge and its production. They foreground ecology not as thematic content but as an organisational problem that connects material cycles, labour, governance, and care. To make the contribution explicit, this section consolidates the discussion in a programmatic form, articulating guiding principles at three levels - methodological, pedagogical, and civic/urban - while outlining the enabling conditions and constraints.

Methodological Principles

Design as situated enquiry. In both LOCI and NEOTOPIA, knowledge is produced through proximity, walking, observing, listening, and building with and within specific contexts. This aligns with the epistemology of situated knowledge (Haraway, 1988), in which design decisions emerge from encounters with actors and resources and are accountable to the partial perspectives that produce them. Self-building amplifies this condition by adding non-human constraints - material

resistance, weather, time, bodily effort - into the field of design, making trade-offs explicit and contestable.

Iteration through 1:1 testing, reversibility and maintenance. Self-building shifts the studio methodology from a linear sequence (brief–concept–representation–final output) to iterative cycles of assembling, testing, revising, and sometimes disassembling. In LOCI, reversible assemblies and small-scale devices allowed adaptation after observations of use. In NEOTOPIA, repeated 1:1 mock-ups and material reuse connected spatial propositions to procurement and construction logics. Across both, maintenance and repair emerge as design operations rather than post-design tasks, foregrounding durability as a temporal and organisational achievement.

Documentation as shared infrastructure. Because self-building produces knowledge in action, documentation (field notes, visual records, process maps, and narrative accounts) is constitutive. This enables reflection, triangulation, and transferability, providing civic actors with accessible artefacts for negotiation. This expands the studio's output beyond drawings toward a repertoire of evidence - process traces, protocols, and situated arguments - that can circulate across institutional and public arenas.

Pedagogical Principles

Reconfiguring roles and hierarchies: self-building destabilises the dogmatic separation between the designer and builder, educator and learner, and expert and non-expert. In both cases, students are required to act as designers, makers, and organisers; educators operate as mentors and facilitators; and external actors (craftspeople, residents, institutions) become co-producers of the learning environment. This resonates with critical and radical pedagogies that treat education as a practice of redistributing agency and questioning authority (Freire, 1968; hooks, 1994; Crysler, 1995).

Collaboration as an ecological and civic skill. Contrary to competitive studio cultures, these pedagogies intentionally foreground collective intelligence: decisions are negotiated, work is coordinated, and responsibilities are shared. Collaboration is not presented as a "soft" outcome but as a technical and ethical competence required to operate within the constrained ecologies of resources, time, and care. This directly addresses the ecological dimension of architectural practice, where sustainability depends on the coordination among multiple actors rather than individual authorship.

Evaluating the process, not only the products. When learning occurs through iterative making and negotiation, evaluation must account for processual achievements: how students interpret constraints, document and justify decisions, organise collective work, and respond to feedback and unanticipated conditions. This does not eliminate assessment; it shifts the criteria from the coherence of a final representation to the quality of situated judgement and the ability to sustain a design trajectory under real constraints.

Civic and Urban Principles

Artefacts as mediators of negotiation and care. In commons-oriented settings, built devices function as "material arguments". They enable encounters, make claims visible, and open questions about legitimacy, responsibility, and maintenance. In LOCI, temporary micro-infrastructures helped reactivate dialogue between users and the municipality and supported the possibility of a shared-management agreement. This confirms that commoning is enacted not only through discourse but also through infrastructures that organise use and collective attention (De Angelis, 2003; Stavrides, 2016).

Time and constant presence as conditions for sustainability. Both cases clarify that the ecological sustainability of interventions depends less on the temporary artefacts themselves than on their integration into the everyday routines of appropriation, monitoring, and care. Short-term pedagogical intensities can catalyse longer processes, but only when accompanied by post-event presence and mechanisms for continuity (e.g. monitoring routines, care days, and institutional follow-up). This temporal dimension is central to understanding ecology as maintenance and governance rather than a one-off "green" design gesture.

Scarcity as a productive constraint and a political lens. The cases show that scarcity can be operationalised as a design framework rather than a limitation: minimal toolkits, reuse logics, reversible assemblies, and careful attention to supply chains reframe architectural value away from accumulation and toward appropriateness and adaptability. This connects to debates on the design of scarcity and the need to rethink production cycles in the face of resource volatility and ecological limits (Goodbun et al., 2014; Till, 2014).

Enabling Conditions and Constraints

The above principles are not proposed as a universal model. They require enabling conditions that are often unevenly available: time to establish trust, safety protocols and legal clarity for work in public spaces, access to tools, storage, and minimal resources, and institutional support for non-linear, process-based learning. The cases also expose constraints: academic and municipal bureaucracies, liability regimes, and curricular structures that privilege representational outputs, which can reduce the space for experimentation. Moreover, political instability and misalignment between academic calendars and civic timelines can undermine continuity. These constraints are not external "obstacles" but part of the pedagogical problem: learning to operate within them is a form of situated competence.

In summary, this paper clarifies self-building as a methodological device that links ecological discourse to the concrete organisation of spatial production. By articulating a programmatic set of principles and conditions, this paper advances beyond descriptive accounts of "innovative studios" and provides a transferable vocabulary to design, evaluate, and adapt self-building pedagogies across contexts. The emphasis remains on an *opera aperta*: a framework that guides action without prescribing fixed forms and maintains openness to situated negotiation, revision, and care over time.

Conclusions

This study set out to examine how self-building can function as a critical apparatus for architectural pedagogy when mobilised as a situated, collective, and time-based practice. By bringing together situated knowledge, critical/radical pedagogies, commoning, and a scarcity-oriented attention to material cycles, this paper proposes an understanding of ecological architecture that is not limited to environmental performance but addresses the concrete organisation of spatial production: procurement, labour, logistics, governance, maintenance, and care (Haraway, 1988; Freire, 1968; De Angelis, 2003; Stavrides, 2016; Till, 2014). Through two complementary cases - LOCI Self-Building Commons and NEOTOPIA - the paper demonstrates that self-building is not simply a didactic technique, but a method for producing architectural knowledge in action and for testing alternative forms of agency beyond individual authorship.

Three main insights emerged from both cases. First, self-building makes ecological questions tangible by introducing nonhuman constraints (material resistance, weather, time, bodily effort) and exposing the full chain of spatial production - from sourcing to assembly, use to adaptation, and potential disassembly. Second, when coupled with commons-thinking, self-building can operate as a civic practice: artefacts and micro-infrastructures work as material mediators that enable negotiation, organise attention, and redistribute responsibility, while highlighting that sustainability is inseparable from governance and everyday care. Third, scarcity operates as a productive constraint that shifts value away from accumulation and toward appropriateness, reversibility, and repair, fostering a design attitude that is both materially grounded and politically attentive to resource distribution (Goodbun et al., 2014; Till 2014).

Hence, this study consolidates a set of pedagogical tools and methodological operations that can inform future experimentation. Methodologically, these include: open-ended briefs formed through situated encounters and iterative negotiation; iterative 1:1 prototyping and reversible assemblies as a core design workflow; the explicit inclusion of maintenance, repair, and adaptation as design operations; minimal and reusable toolkits, with attention to sourcing and supply chains; and documentation practices (field notes, visual evidence, process maps, and protocols) treated as shared infrastructures for reflection and civic dialogue. Pedagogically, the cases foreground: role reconfiguration (students as designers/builders/facilitators; educators as mentors/co-producers; external actors as co-educators); process-based evaluation criteria; and collaboration as a technical and ethical competence, not an ancillary "soft skill". At the civic/urban level, they point to artefacts conceived as mediators of negotiation and care, and follow-up routines (monitoring, minor adjustments, collective care moments) as conditions for continuity beyond the duration of a workshop or semester.

These cases also clarify the limits and risks. Short-term pedagogical intensities cannot establish durable commons governance by themselves, nor can they substitute for long-term investment in maintenance and public infrastructure. Moreover, hands-on work in public spaces is shaped by liability regimes, safety requirements, and institutional procedures that may restrict participation and compress timeframes.

Rather than treating these as external obstacles, this study frames them as part of the pedagogical problem: learning to operate within regulatory and organisational constraints is itself a form of situated competence, and it is crucial for replicability. A further limitation concerns impact assessment: the feedback instruments used here (questionnaires and process documentation) provide qualitative evidence of learning, yet they do not replace a longitudinal evaluation. Future work could strengthen this dimension through follow-up interviews, alumni tracking, and longer monitoring of artefact appropriation and maintenance trajectories.

Finally, this paper takes a clear position on the studio culture implied by these pedagogies. Collaborative orientation is not a compromise against "excellence" but a deliberate political and ecological choice: when design is understood as the organisation of shared resources, labour, and care, competition is a poor proxy for architectural quality. Instead, the cases suggest that judgement and rigor can be cultivated through collective responsibility, explicit protocols, and accountable documentation. In this sense, self-building pedagogies contribute to reorienting architectural education towards an ecology of practice - one in which learning is inseparable from the ethical and material conditions of making, the civic infrastructures that sustain use over time, and the ongoing work of negotiation and care that makes shared worlds possible.

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Bibliography

Asto, H., Hougham, R. J., and Jenkins, M. "Participation in Architectural Education: Lessons from Community-Based Projects". *Journal of Architecture* 25, no. 2 (2020): 123–142.

Awan, N., Schneider, T., and Till, J. *Other Ways of Doing Architecture*. London: Routledge, 2011.

Baltazar, A. P., and Kapp, S. "Learning from Favelas: The Poetics of Users' Autonomous Production of Space and Non-Ethics of Architectural Interventions". In *Reconciling Poetics and Ethics in Architecture Conference*. Montreal: McGill University, 2006.

Bataille, G. (Ed.). *George Bataille: Essential Writings*. London: SAGE Publications, 1998.

Bourassa, G. N. "Toward an Elaboration of the Pedagogical Common". In *Educational Commons in Theory and Practice: Global Pedagogy and Politics*, 75–93. 2017.

Charlot, J., Ertas, H., and Pak, B. "The Architecture Design Studio as a Commons". In Delsante and Rong (Eds.), 2019.

Collet-Sabé, J., and Ball, S. J. *Educational Commons: Towards a Common Life*. London: Bloomsbury Academic, 2022.

Colomina, B., Buckley, C., and Coles, A. *Are We Human? Notes on an Archaeology of Design*. Zurich: Lars Müller Publishers, 2018.

Crysler, C. G. "Critical Pedagogy and Architectural Education". *Journal of Architectural Education* 48, no. 4 (1995): 208–217.

Crouch, D., Olivia, L., and Ward, C. *The Allotment*. Nottingham: Five Leaves, 1997.

Deamer, P. "The Architectural Common". In M. Mahdavi and L. Wang (Eds.), *New Geographies: Commons*, 271–285. Cambridge, MA: Harvard University Graduate School of Design, 2021.

Deamer, P., Deeg, L., Metz, T., and Tursky, R. "Design Pedagogy: The New Architectural Studio and Its Consequences". *Architecture_media_politics_society* 18, no. 1 (2020).

De Angelis, M. "Reflections on Alternatives, Commons and Communities". *The Commoner* 6 (2003): 1–14.

De Cauter, L. *Entropic Empire: On the City of Man in the Age of Disaster*. Rotterdam: nai010 Publishers, 2013.

De Lissovoy, N. "Pedagogy in Common: Democratic Education in the Global Era". *Educational Philosophy and Theory* 43, no. 10 (2011): 1119–1134.

Dutton, T. A. "Design and Studio Pedagogy". *Journal of Architectural Education* 41, no. 1 (1987): 16–25.

Dutton, T. A., and Mann, L. *Reconstructing Architecture: Critical Discourses and Social Practices*. Minneapolis: University of Minnesota Press, 1996.

Freire, P. *Pedagogy of the Oppressed*. New York: Herder and Herder, 1968.

Fyson, A., and Ward, C. *Streetwork: The Exploding School*. London: Routledge, 1973.

Goodbun, J., Klein, M., Rumpfhuber, A., and Till, J. *The Design of Scarcity*. Moscow: Strelka Press, 2014.

Haraway, D. *Staying with the Trouble: Making Kin with the Chthulucene*. Durham: Duke University Press, 2016.

Hardt, M., and Negri, A. *Multitude: War and Democracy in the Age of Empire*. London: Penguin, 2004.

Hardt, M., and Negri, A. *Commonwealth*. Cambridge, MA: Harvard University Press, 2006.

hooks, b. *Teaching to Transgress: Education as the Practice of Freedom*. London: Routledge, 1994.

Illich, I. *Deschooling Society*. New York: Harper & Row, 1970.

Korsgaard, M. T. "Education and the Concept of the Commons: Reimagining the Public Sphere". *Educational Philosophy and Theory* 51, no. 10 (2019): 1013–1023.

Lewis, T. "Exopedagogy: Education Outside the Bounds of the Educational System". *Educational Philosophy and Theory* 44, no. 8 (2012): 852–853.
McKean, J. *Learning from Segal: Walter Segal's Life, Work and Influence*. Basel: Birkhäuser, 1989.
Pelger, S., Sigurdardottir, A. K., and Svensson, L. "Learning for the Commons: An Inter- and Transdisciplinary Challenge". *Sustainability* 9, no. 8 (2017): 1366.
Sara, R. "Learning from Life: Exploring the Potential of Live Projects in Higher Education". *Journal for Education in the Built Environment* 6, no. 2 (2011): 8–25.
Santa Cruz, A. B. *Architecture of Scarcity*. Doctoral Thesis, University of Sheffield, 2009.
Singha, S. *Architecture for Rapid Change and Scarce Resources*. London: Routledge, 2012.
Stavrides, S. *Common Space: The City as Commons*. London: Zed Books, 2016.
Till, J. *Architecture Depends*. Cambridge, MA: MIT Press, 2013.
Till, J. "Scarcity and Agency". *Journal of Architectural Education* 68, no. 1 (2014): 9–11.
Turner, J. *Freedom to Build: Dweller Control of the Housing Process*. New York: Macmillan, 1972.
Ward, C. *Anarchy in Action*. London: Allen & Unwin, 1973.
Ward, C., White, D., and Wilbert, C. *Autonomy, Solidarity, Possibility: The Colin Ward Reader*. Oakland: AK Press, 2011.