

# Means and Methods



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# Learning By Doing

This project investigates the architectural mock-up as a process that is perpetually in the making. The 1:1 scale mock-up is treated as an opportunity to learn through the process of making and to establish a reciprocal relationship between design and construction.

By treating the architectural mock-up as a learning object and product of as-found discoveries, architectural elements are positioned as opportunities to experiment with building conventions.

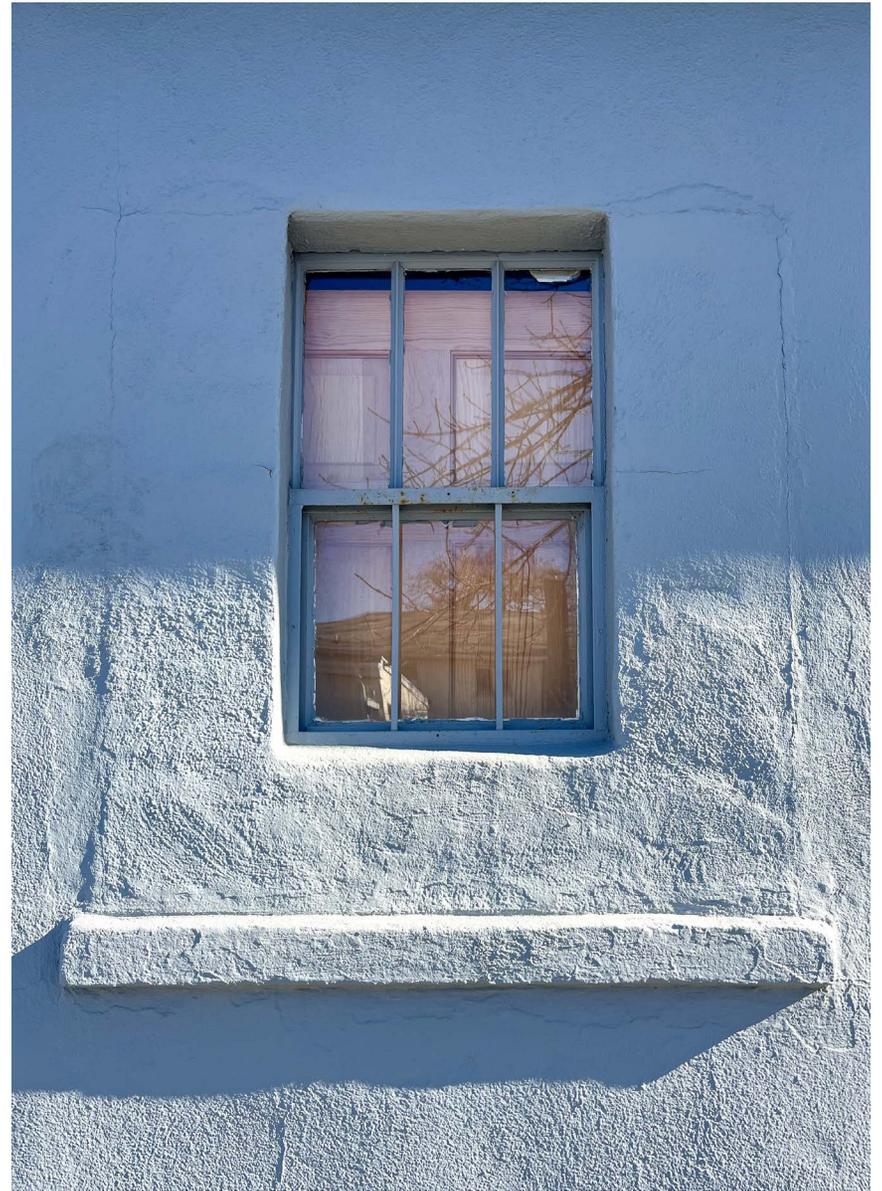
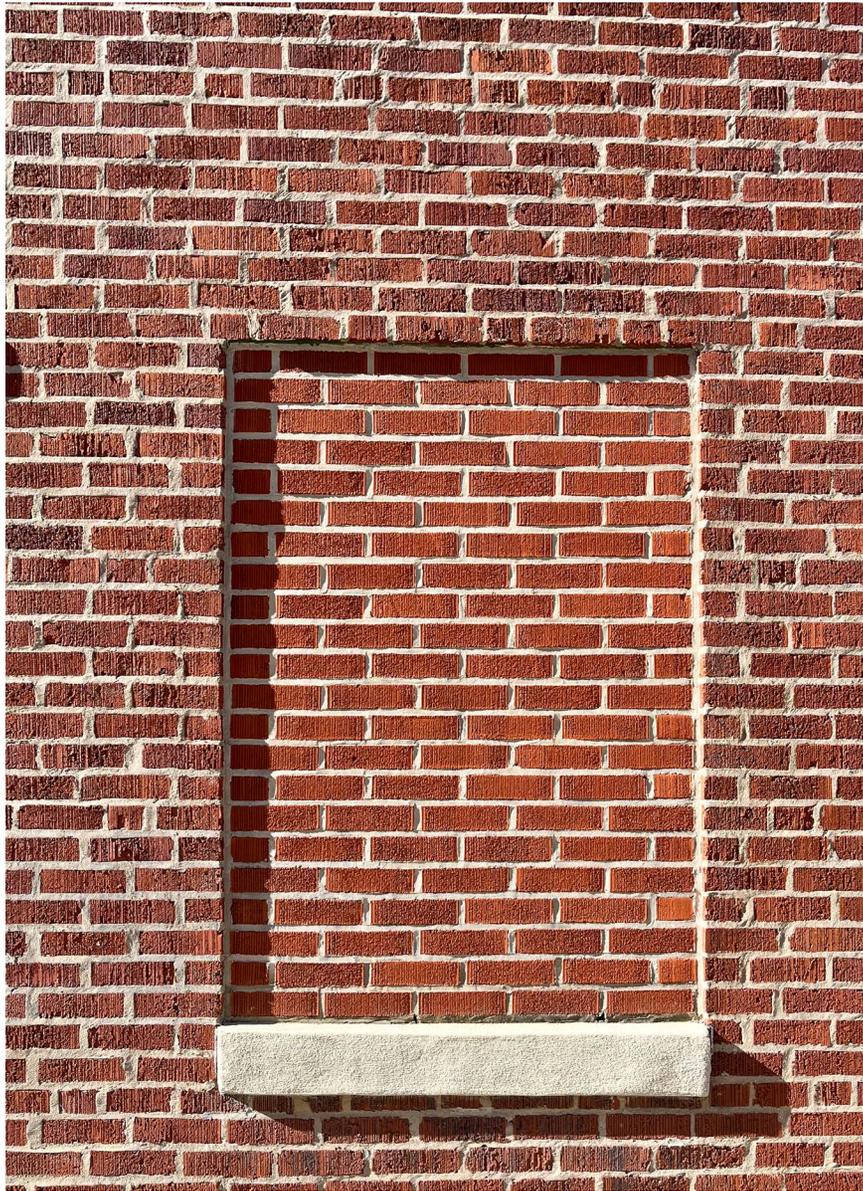
# On Methods

This project combines observation, skill building, and a learning-through-making approach to reconstruct the relationship between the banal and the absurd and between hands-on physical making and final outputs. Rooted in the language of architectural elements, the process of learning-by-doing teaches the participant basic building conventions and empowers greater agency for individuals in the shaping of the environments around them.

Documentation, reflection, and abstraction of the often overlooked aspects of the built environment allow the designer to establish ways of working and outputs that blur the boundaries between art and architecture.

The relationship between design and making is rooted in the importance of thinking with your hands. Immediacy, resourcefulness, and adaptability are prioritized as a result of a process that intertwines drafting and crafting. The aim of this project is to propose a pedagogical model that establishes a closer connection to how things are made and to encourage curiosity and increased agency in the shaping of the built environment.







Enzo Mari, *Proposta per un'autoprogettazione modellini*, 1973

# On Practice

One of the main inspirations for this project is *Autoprogettazione* by the Italian designer Enzo Mari. As part of this project, the designer freely distributed plans for 19 furniture objects. Published in 1973, prior to the proliferation of the term “open-source”, these designs were simple and employed basic construction techniques. A stimulus rather than a model, the drawings laid out assembly instructions for inexpensive and functional furniture.

Through the process of assembly the user would learn about construction techniques and develop the ability to build things for themselves. Through critical thought based on practical work, Mari presented his audience with an opportunity to question their relationship to production and use.

# Educational Precedents

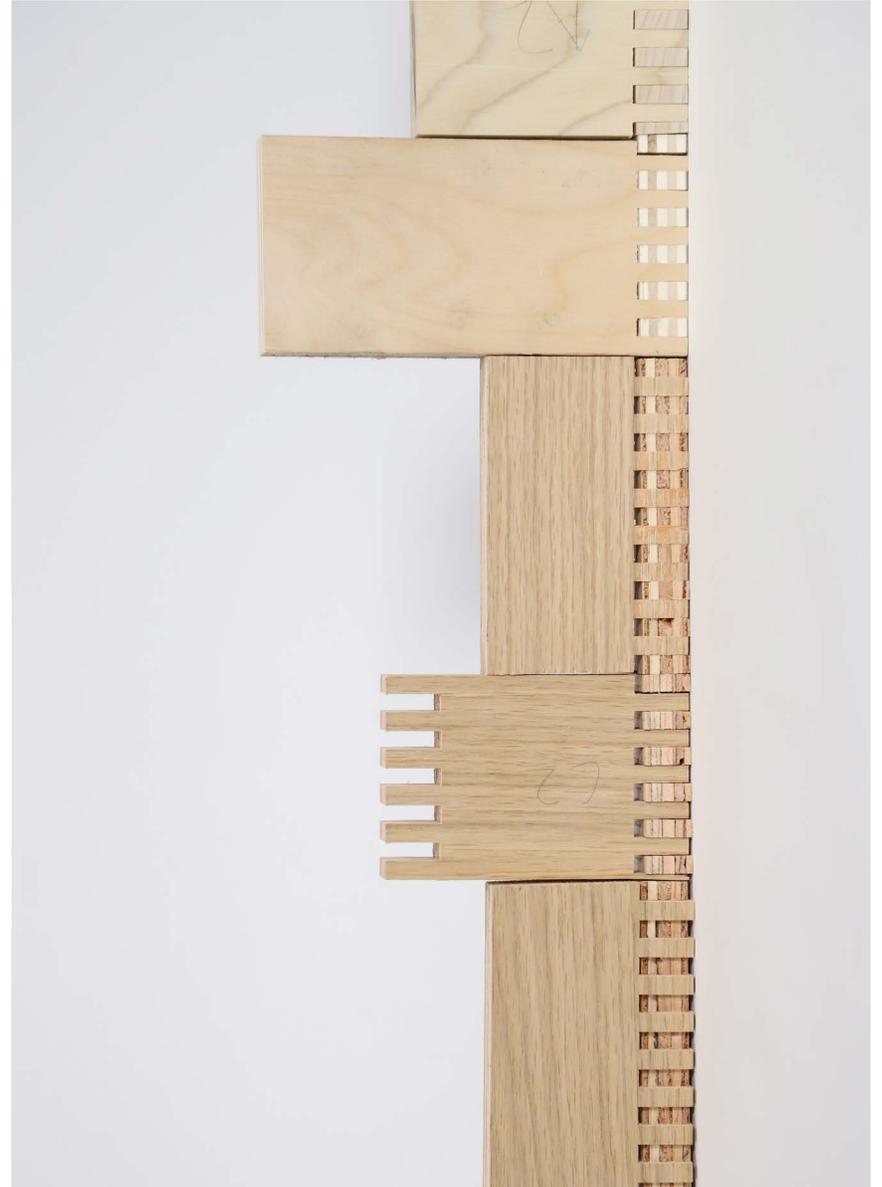
To develop a better understanding of how Enzo Mari's utopian yet utilitarian spirit could be applied to architecture and architectural education, I have looked at educational models that share similar approaches to "thinking with your hands" and cross-disciplinary collaboration.



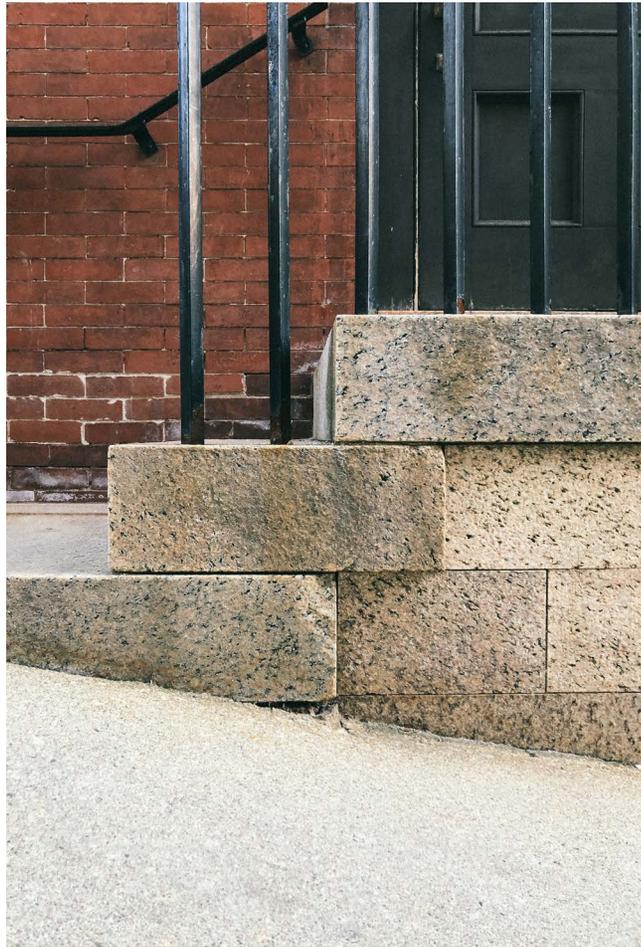
Black Mountain College was a liberal arts college with art at its core. The school brought together numerous disciplines including fine arts, the humanities, and numerous design disciplines. This overlap provides an example of how ways of practicing can inform one another and can open up means of collaboration. Rooted in a progressive model of education, the school followed American philosopher John Dewey's principle of "learning by doing". This model advocates for a hands-on approach to learning, meaning students must interact with their environment in order to adapt and learn.

The other example is Taliesin West. In this case, the school of architecture is the site, and is treated as a project that is perpetually in the making. Roofs, walls, and stairs are treated as experiments for how things are put together and are viewed as opportunities to reimagine what these elements are and can be. Simply put, the school was built by students and instructors as part of a pedagogical approach.











*David K. Ross, Archetypes, 2021*



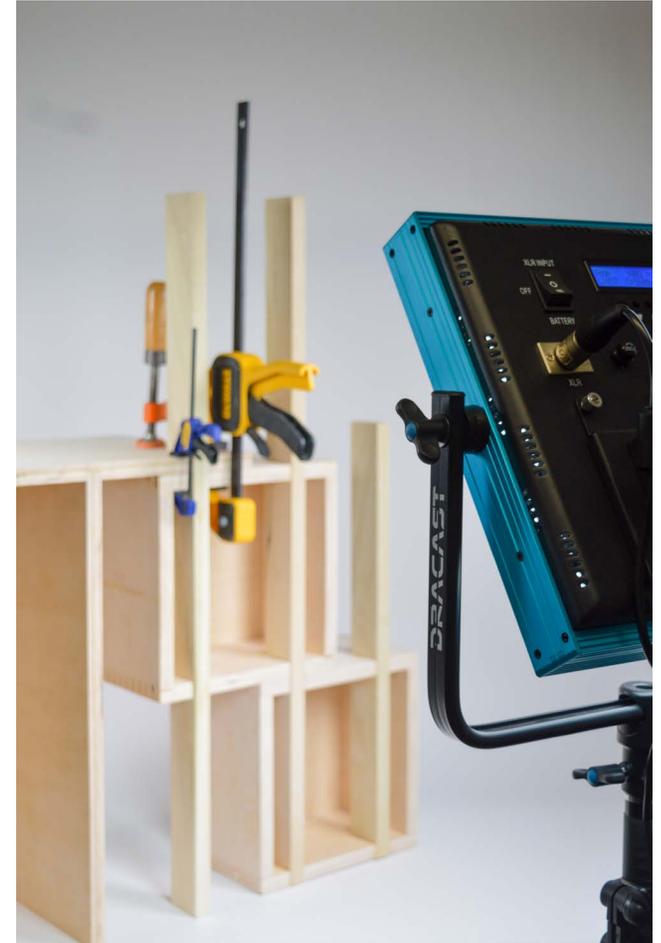


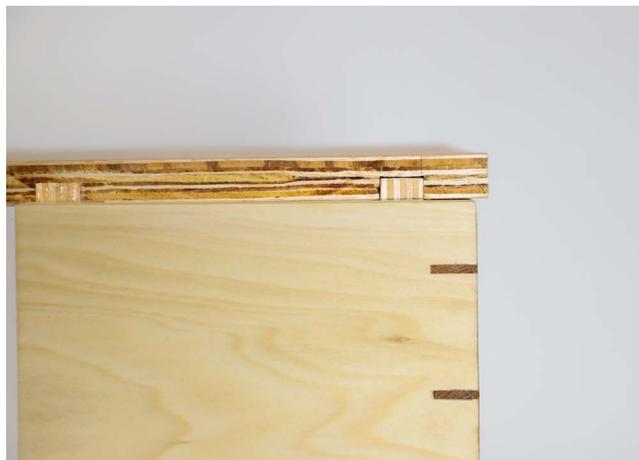
# Learning Objectives

This project explores the role of the mock-up in the design process. Architectural conventions are investigated as a medium to learn basic principles in structural design and the expression of design intent through the crafting of construction details. The making of the mock-up acknowledges the imperfections of the learning process. The cracked ceramic tile and the blown out screw are indicative of material friction. They provide a lesson on how to work with material limitations, learn from others, and work with others.

While abstract in nature, the study model or maquette provides an overall view of a building project and a bird's eye view of the architect's vision. The mock-up on the other hand, is merely a fragment. It is an artifact extracted from the whole. It allows the designer to evaluate things that may be missed in the scaled model. The implications of material interactions between and the relationship between the body and fragment come to the foreground.

Mock-ups make architectural design more collaborative by bringing together the many disciplines that are required to realize a built project. It is a moment when architect, engineer, craftsman, and client come together to bridge the gap between design intent and realization. Bringing different expertises to the table is an opportunity to challenge how the architectural profession separates labor and how things are valued.







# Looking Back

The act of making encompasses the act of learning. Through critical thought based on practical work, the learning of basic construction practices such as 2"x4" framing and introductory carpentry techniques are paired with a play on architectural imagination to provide optimistic and potential realities of architecture. These objects lie between the boundaries of the human and building scale, between furniture and architecture, and between the functional and the non-functional. The focus of this project is the process not the output.

The architectural mock-up is a collective artifact. It positions the act of making as more important than the final form's appearance. The form is a representation of making and a presentation between the whole and the parts. The development of fragments constructs a language of form. Through their layering, exposure, and interactions they establish a process that is interactive and responsive.









# Radical Optimism

John Dewey, American philosopher and educational reformer, and Martin Heidegger's concept of present-at-hand were great sources of influence to the development of this project. The documentation of "everyday" architectural quirks through the means of photography provides a platform for reflection. Once these elements are freed from the constraints of utility, they can be treated as as-found discoveries latent with architectural and spatial potential.

Through the belief that "experience is at the center of learning", architectural elements are rebuilt, fragmented, exposed, and reconfigured to create spaces of unexpected intimacy. One of my main hopes is to propose an educational model that encourages others to make with their hands to diminish the hierarchy between learning process and final product.

For this project, I have used the architectural mock-up to develop my making skills. I have sought out configurations that leave space for imagination and inspiration.

Working at the 1:1 scale has taught me how big or small things actually are, the utility of home-improvement youtube videos, and to measure twice and cut once. Most importantly, I have learned that things don't build themselves and that building is a collaborative act of care and trust. I have relied on my friends and peers to lift, carry, hold, cut, glue, clamp, imagine, and reimagine these objects. Now that I have cut dado joints, set up cut sheets, and have framed 2"x4" walls - I know that I can do it again and that I can help others do the same.









