

Drawing is easy, building is hard

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Each architect has a slightly different introduction to the trades. For example, one of the three of us grew up with an intimate knowledge of tools and construction provided by a father who was a builder, while another had never so much as built a tree-house floor (his father was a professor of art). While a building background is not necessarily superior to a design background, we have found that the act of building something provides a designer with valuable insight that can't be learned in a classroom. Architects learn about materials and tools in a theoretical setting, but a real-world relationship with building materials and processes does, in fact, make architects better able to understand and visualize the construction of a structure, and therefore makes them better at their job.

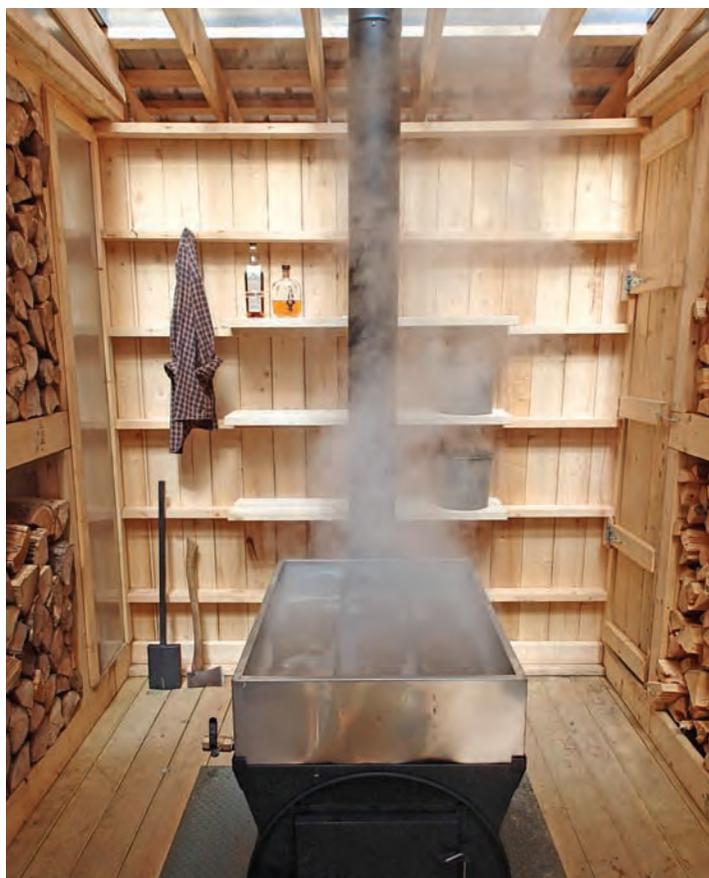
In 2009, we designed and built a family retreat space for ourselves. The project was a departure from our normal process, which is to design on paper and then turn the drawings over to a builder to be realized. Instead, we schlepped the materials to the site, hoisted walls and beams, and nailed everything together ourselves. In doing so, we came closer to understanding what both craftsmen and contractors have already learned—or perhaps instinctively know—about construction: Drawing is easy, but building is hard. Not only is the act of building physically demanding, but an architect's designs can require complex building techniques that may not be within the builder's skill set. We realized that the process of construction should be considered by an architect at least as highly as the finished product. This was the genesis of Studio North.

Design/build boot camp

Studio North, a workshop that we began in 2011, provides an introduction to the world of building for would-be architects. The



2014 students build the Consumable Sugar Shack





intensive program, in which young women and men conceptualize, design, and build an entire structure in less than a week, is unique in some ways, though many agree that the hands-on experience of building is invaluable for designers. The Yale School of Architecture, Auburn University's Rural Studio in Alabama, and the University of Utah's Design Build Bluff (winner of this year's Editor's Choice Award, p. 62) all offer construction experience to graduate architecture students. But Studio North differs as a voluntary experience for undergraduate students who are contemplating a career in architecture—many of whom have never held a hammer, never poured a concrete foundation or framed a wooden building, and never experienced the joy of a trip to a lumberyard.

We know that the students who join us each summer for what is essentially a design/build boot camp are not likely to become builders. Our intention is to give these aspiring architects a taste of construction, bridging the gap between the visualization of an idea and the physical completion of a structure. Designers create better architecture if they understand firsthand how buildings are made, and this is the goal of Studio North.

The idea that the building process is an integral part of theoretical design should be a no-brainer; no one would publish a cookbook without first testing the recipes, for example. When you mix and pour cement into a form, or shape a board to act as a functional piece of a building, you learn the nuances of concrete, wood, and other materials. Understanding these materials is important—it allows an architect to design a building that can be constructed more efficiently and less expensively without sacrificing superior design.

When we initiated the first Studio North workshop in 2011, students came to Vermont from as close as Dartmouth College and as far away as North Dakota State University. This course was not a leisurely summer activity. We deliberately chose a week in June for its long days of sunlight, and we worked twelve hours per day. It was total immersion. We began by throwing around ideas and sketching, putting pencil to paper to express concepts. But physical labor began immediately after lunch on that first day, as we poured concrete for a foundation and built a wooden platform by day's end.

From mind to hand

Over the years, Studio North students have designed and built a variety of structures from a standard kit of parts: stock lumber, translucent fiberglass panels, galvanized steel connectors, and timbers harvested on site. While the shapes and final uses of all the



2011 students build the Chicken Chapel

Studio North structures are different, each involved building foundations, floors, walls, and roofs—basic structures that had to offer stability and protection from the elements. The projects, beginning with the Chicken Chapel in 2011 up to 2016's Viewing Structure, were envisioned as something that could be completed within the six days—nothing so large or difficult that it would overwhelm inexperienced builders, but something complicated and challenging enough that there would be a real sense of achievement. Of course, we know that our students will not become building experts in such a limited time, but we make sure they get a taste of the different components that go into such an accomplishment.

Our students' success is not only based on completing a movable, habitable, or utilitarian piece of equipment or a practical agricultural structure; the final product has to be a recognizable, thoughtful, and creative work of architecture as well. Even so, we believe a



2016 students build the Viewing Structure

"We offer students much more than blisters, wounded thumbnails, and sore backs."



significant portion of design is informed by the process of building. Sitting at a drawing board with a pencil or using a tablet for computer-aided design is the first step of creation, but it is still abstract and theoretical. With hands-on knowledge, an architect might consider the difficulty of building certain aspects of a structure, and make more efficient, cost-effective, and client-friendly designs. So with each day, our students do less and less drawing, and a lot more building.

Each year, students with little or no experience with even the basics of lumber and tools learn to turn milled trees into a building. Or, in the case of the Birch Pavilion, they learned the challenges of working with unpeeled logs. While framing the superstructure of the Wilderness Huts or shaping the wooden walls of last year's Viewing Structure, students graduated from simple hammering and nailing to more sophisticated techniques for shaping, bending, and joining. With this hands-on knowledge, they can go on to design buildings that are structurally strong with unique but buildable architectural features.

The neophyte architects emerge as builders. And because the Studio North structures were built for specific and varied purposes, these builders can see their ideas not only realized, but also put to work. Rhode Island Red chickens moved into the Chicken Chapel upon completion, and the Rolling Pig Pen was tried out by a Tamworth sow. The Birch Pavilion's aim was contemplative, so its handsome lines and classical proportions echo temples throughout history. The curbed walls of the Viewing Structure channel the eye through the "lens" to a framed portion of the sky and the landscape. Having not only the experience of building, but the understanding of the building's purpose, is another step toward bridging the gap between architectural theory and practice.

Studio North can be seen then as an enrichment course in the art of architecture. We believe that our program and others like it offer students much more than blisters, wounded thumbnails, and sore backs. An appreciation for what it really takes to build a structure will serve them well throughout their careers. Regardless of whether they continue on to a formal architecture program, our Studio North alumni have gained both practical construction knowledge and an understanding of their limits and their abilities. And the students' approach to design is now informed with knowledge of how the builders that they will collaborate with will turn their ideas into reality.

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