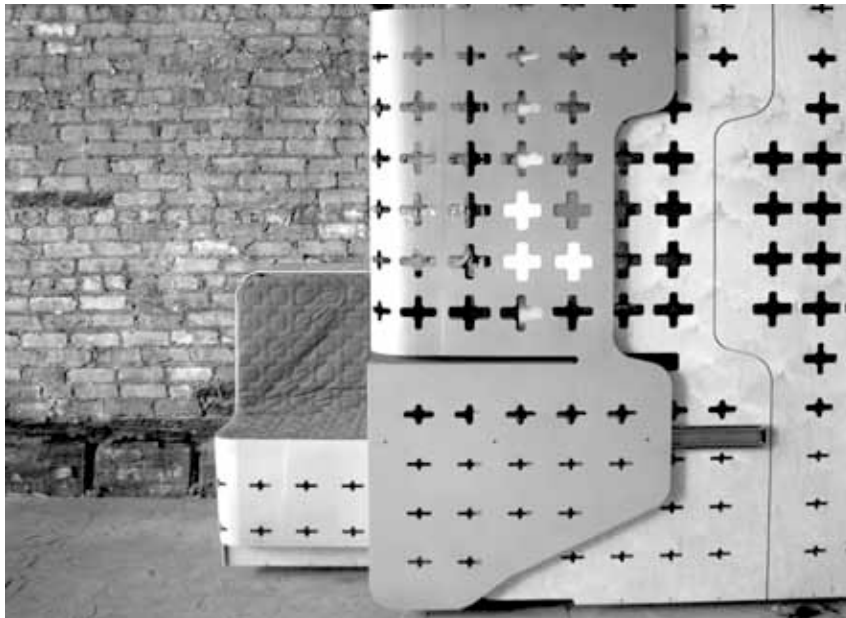


COMPUTER CRAFT

Handiwork in the Age of Digital Fabrication.



LEFT: Drift House, “Ornament” exhibition, Chicago, 2005
 RIGHT: Drape Wall, from HOME House Project: The Future of Affordable Housing, Minneapolis, 2006

“ONCE UPON A TIME, EDUCATION, INDUSTRY, AND ART WERE integrated into the work of the village artisan,” wrote Neil Gershenfeld in his 2005 book *FAB: The Coming Revolution on Your Desktop—From Personal Computers to Personal Fabrication*. Since the Industrial Revolution, design and production have become so segregated and their practitioners so specialized that it’s been hard to imagine transcending those parameters. But Gershenfeld, who teaches a class at MIT called *How To Build Almost Anything*, sees current technology as providing the potential for individuals to once again become planners *and* producers—a sea change made possible by digital fabrication, using the ever-growing cache of machines capable of instantly producing designs created on personal computers. This technology, he believes, could soon revolutionize manufacturing in the same way that publishing and communications have already been fundamentally transformed.

Blair Satterfield, a visiting critic at the Rice School of Architecture and senior project designer for PageSoutherlandPage Architects, has developed several projects using the tools of digital fabrication.

The latest in a series of evolutionary building systems developed by Satterfield and partner Marc Swackhamer for their firm SLV Design is Cloak Wall, currently featured in the *Here by Design III* exhibition at the University of Minnesota’s Goldstein Museum. The project represents nothing less than liberation from the stud-and-gypboard paradigm that characterized most housing at the end of the 20th century. The team’s three-layered wall section is assembled quickly by stacking a series of high-strength, lightweight, interlocking blocks. The assembly is finished with a quiltlike fabric that acts as an interactive weather seal.

One of the most striking attributes of the work by Satterfield and Co. is the rigorous design process indicated by its level of craftsmanship. Preceding the slick polycarbonate blocks and running felt surfaces were piles of meticulously detailed sketches and 3-D mockups. The sewn construction of Cloak House’s fabric interior feels homey and familiar; its non-virtual seams look handmade. “A good sweater can feel as nice as a room,” notes Satterfield, “Why not make a room like a sweater?” The architect has recruited

his mother, a quilter, to help fabricate prototypes. In the earlier Drift House, a temporary homeless shelter designed for Manhattan’s Bowery district, she employed Mennonite stitching traditions to make an Ultrasuede bench cushion.

Digital fabricators operate at the intersection of theory and practice. Universities currently provide optimal breeding grounds for these concepts because of their willingness to invest in the latest hardware and their abundance of tech-savvy students. While the process is still nascent, and while prototyping models remain cost-prohibitive, second- and third-generation technologies are already dropping in price. Professionals are also becoming better organized: A group of desktop manufacturers in Minneapolis, for example, has assembled a directory of local fabricators willing to co-op their resources. Based on the models of computation and communication, it seems reasonable to anticipate that the future of manufacturing may indeed be departing from the monopoly of the specialist to once again promote the well-rounded individual.

—David Dewane