

Recycling 2.0

Who can argue with recycling? It's sustainable, noble even. Yet, for most of us, the act of recycling is exactly like the act of disposing — except the bin colors are different. “The recycling” has come to mean a class of privileged rubbish, and recycling itself has come to represent only half of an idea: diverting trash from landfills.

But a deeper understanding of sustainability — and a corresponding shift in our values — is now bringing attention to the other half of the idea: reuse. The design community — architects, industrial designers, fashion designers, landscape architects — has embraced the concept as a catalyst for creativity.

The following six essays are reports from the design world illustrating small examples of this very big idea. They demonstrate that new attitudes about reuse influence not only what we recycle but how. Together, they suggest that we may be entering a new era of creative transformation. ▶▶

— Elizabeth S. Padjen FAIA

Fashion ▶ The re-working of old clothes is hardly a new concept. Museum collections are full of 19th-century dresses that have been reconstructed multiple times to update them according to the latest fashion. Today, with the wealth of consumer goods at our fingertips and cutting-edge designers such as Thakoon at Target, we no longer have to worry about recycling our best garment. Indeed, the notion of “sustainable” seems out of place in a fashion system that is based on planned obsolescence, yet the trend for “new” garments using old materials continues to gain currency. *Vogue* now has a green issue and the Spring/Summer 2010 New York Fashion Week witnessed concurrent “Green Shows” for the first time, featuring eco-conscious designers.

Highlights from the Green Shows included the work of Susan Cianciolo, a New York City-based multimedia artist and designer who has been at the forefront of the re-purposed clothing movement since the mid-1990s. Cianciolo’s first collection in 1995 used recycled clothing and discarded scraps of fabric from

the Chinatown factories, remade into edgy pieces with a deconstructed aesthetic. Cianciolo’s signature frayed hems and evident seaming reflect a deep-rooted commitment to the handmade, as do her do-it-yourself clothing kits. Since the conscious radicalism of her first RUN collection, Cianciolo has remained true to her mission. She still pulls clothing from her grandmother’s closet to screenprint and re-construct, breathing new life into a garment imbued with memories.

The design firm Alabama Chanin also links the present to the past, not only in the use of reclaimed textiles, but also in the reinvigoration of the Southern tradition of quilting. Historically, American quilters used every scrap of fabric they could find, from flour sacks to the unraveled threads from red tobacco pouches. Founder Natalie Chanin continues in this vein, resurrecting the ubiquitous 20th-century garment — the cotton T-shirt — and turning it into fancifully embroidered and appliquéd skirts, dresses, and tops. Although the South’s once-vibrant cotton industry has long passed, the company also now sources cotton yardage that is “grown to sewn in the United States.”

Chanin is one of a number of contemporary designers who have published do-it-yourself books, testimony to the active and growing DIY movement. While some craftspeople feel that websites such as Etsy.com are a threat to the livelihood of academically trained designers, there are many who have embraced it, including the London-based design firm Junky Styling. Founded in 1997 by Annika Sanders and Kerry Seager, the designers transform vintage clothes into dramatic silhouettes. Junky Styling cunningly retains many of the details of the original garment — the closures, the cuffs, the collars — to create fashions that have a streetwise edge to them. With a nod to their English heritage, one can see connections to the doyenne of alternative design, Vivienne Westwood, as well as the punk look of the late 1970s, an earlier incarnation of the DIY aesthetic.

Junky Styling’s obvious use of vintage clothing differs from the design sensibility of Toronto-based Preloved, which finds inspiration in the garment’s textile. Founder Julia Greive started the business as a vintage clothing shop but changed her focus when head designer Peter Friesen came on board. Friesen skillfully deconstructs the original garment and completely transforms it, using sophisticated construction and inventive seaming. Each piece is comprised of two to five used garments that have been purchased in bulk from rag houses. Like Alabama Chanin, the design firm is eco-friendly to the core, hiring only local cutters and sewers. Preloved also exemplifies the future of remade fashion: an affordable, ready-to-wear line offering the customer a one-of-a-kind garment. It’s a prospect undreamed of without the imaginative reuse of old clothes. ▶▶

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“Lapel dress” by Junky Styling features recycled men’s suit jackets. Photo by Cory Doctorow.





The Portola Valley (California) Town Center, by Siegel & Strain Architects with Goring & Straja Architects. Materials from previously deconstructed buildings on the site were reworked and integrated in the new buildings. Photo by César Rubio.

Architecture ▶ Despite strong demand for sustainable products and materials in the United States, the amount of waste produced by the building industry remains staggering. Approximately 100 million tons per year — almost 40 percent of the entire municipal solid-waste stream — come from construction and demolition. While most of this waste could be recovered, material reuse remains limited, particularly at the commercial scale. In fact, LEED credits for material reuse are among the least sought after, with only 5 to 9 percent of all LEED-certified projects having successfully received those credits.

A new tool may help to change that. The *Design for Reuse Primer* seeks to more clearly understand the obstacles impeding reuse and provide the design and construction industry with knowledge and tools that can help alleviate the barriers. Scheduled for release in mid-2010 as a Web-based resource, the *Primer* also aims to bridge the communication and knowledge gaps among the various players involved in the reuse process. Thus it is targeted to a broad audience, including designers, contractors, clients, and municipalities. The primary feature of the *Primer* will be a series of case studies that serve as guides to the reuse process. They will not only showcase the possibilities for reuse but also serve as models that readers can adapt to their own projects.

The *Primer* was developed by the San Francisco nonprofit Public Architecture, working with deconstruction and material reuse expert Brad Guy and various government agencies, and

supported by a grant from the US Green Building Council. The research team has identified a diverse range of projects varying in size, location, type, budget, scope, and design intent for inclusion as case studies.

In addition to the case studies, the project website will provide a directory of resources connecting people to additional tools that can facilitate material reuse. The website is meant to be interactive, allowing users to contribute knowledge and engage in dialogue and allowing the project to continue to grow as a productive resource.

Building codes, perceived environmental health and safety concerns, scheduling and storage constraints, the inertia of familiar methodologies — there are many challenges limiting the role of reuse in the design and construction industries. Yet increasing rates of material reuse can have profound positive environmental implications, affecting everything from energy consumption to landfill waste. The *Design for Reuse Primer* aims to stimulate the development of new systems and infrastructure to make reuse a more common component of a sustainable building strategy. ▶▶

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Materials

► For as long as people have built, we have un-built, too. A thousand years ago, Europeans removed the physical traces of departed conquerors by repurposing Roman bricks for new construction. Viking shipbuilders reused choice timber in new vessels. The United States, colonized to supply its bounty of raw materials to Western Europe, has less experience with the concept of reuse. My father tells of moving to an old farmhouse in northern Vermont in the 1950s and finding in the barn a ball of string measuring three feet in diameter. And next to it, a shoebox that was filled with bits of string and labeled "String Too Short To Save."

Today, the practice of reusing building materials is flourishing in a renaissance driven by environmental considerations as powerful as the economic motivations of the past. For Boston Building Resources (the new name, effective this spring, for the Building Materials Resource Center and the Boston Building Materials Co-op) and its Reuse Center, the financial advantages historically associated with salvage are on an equal footing with landfill diversion and embodied energy reduction. Aiming to make a positive community impact through the supply of economically accessible building materials, the Reuse Center offers a membership discount program for individuals with low to moderate incomes and for nonprofit organizations.

It was the oil crisis of the '70s that compelled architect John Rowse to start sharing his expertise in building science and construction methods with his neighbors. In 1978, he founded the Boston Building Materials Co-op to provide homeowners with both an affordable source of insulation and training in weatherization techniques. Despite the subsequent drop in oil prices and dissipation of environmental awareness, the cooperative continued to thrive. Workshop space was added to enable members to make

window repairs without investing in expensive tools, and in 1993 the Reuse Center was launched in two tractor-trailer containers on the site.

Word spread among local contractors and the trailers quickly filled with doors, windows, fixtures, and other materials diverted from landfills. Showrooms contributed new products such as lighting fixtures that were slow to sell. The less-than-ideal conditions of uninsulated trailers in blazing heat did not deter homeowners from doggedly sifting through the growing collection.

Recognizing the growing popularity of building material reuse, the staff eventually replaced their six trailers with the warehouse building that houses the Reuse Center today. In 2008, approximately 800 doors, 400 windows, and 50 kitchen-cabinet sets found new homes via the clean and orderly aisles of the Reuse Center. Boston Building Resources also sold more than 500 composters produced by the Massachusetts EPA and 250 rain barrels constructed of 55-gallon plastic containers that had been previously used for food storage. The unquestionable success of the organization demonstrates a demand for secondhand materials in good condition — and proof that more designers, contractors, and clients are following the advice of director Matthew St. Onge: "Think reuse before new."

For more information, including donation guidelines, visit: www.bostonbuildingresources.org. For a directory of North American reuse centers, salvage yards, and deconstruction specialists, visit: www.bmra.org. ►

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Furniture ▶ It may take a sociologist, or perhaps a psychologist, to one day explain the cultural puzzlement that is best described as the Modern Revival. Other architectural revivals have allowed a decent interval of at least a century to pass before dusting off pre-used forms and devices. But the current fascination with all things midcentury has barely skipped a generation. It's the design equivalent of boomers and their kids all knowing the words to "Satisfaction."

This fascination is especially evident in the growing interest in midcentury furniture. Although many of these designs have been in continual production, *Dwell* magazine (founded in 2000) and the national retailer Design Within Reach (founded in 1999) introduced names such as Breuer, Nelson, and Eames to a new, younger audience, while simultaneously demonstrating how their furniture could fit a 21st-century lifestyle.

They have also given momentum to what might sound like an oxymoron: vintage Modern. Jane Prentiss of Skinner, the venerable Boston auction house, first noticed the trend around 1990, when many of her clients — boomer professionals who were collecting fine arts and antiques — began to buy the original midcentury furniture they remembered from their childhoods for their own teenage and 20-something children. "Because they themselves enjoyed collecting," she remembers, "they wanted to find something that their children would like, as a way of connecting with them." Prentiss established Skinner's 20th Century Design department at that time, which now runs at least two auctions a year (the next is March 27).

Retailer Normand Mainville noticed the interest, too, opening Machine Age in Boston's Fort Point Channel area in 1991 to sell vintage Modern furniture; a large part of his business then was providing period props for the movie industry. Today, many of his customers are "visual people" — artists, architects, photographers; some are serious collectors, while others are young people just starting out. And competition has blossomed, both locally and nationally (not to mention regular listings on Craigslist).

So why the interest in used furniture? Why would someone buy an old Eames chair when they could buy a nice fresh new one? "Presence," Mainville answers. His customers appreciate the authenticity and history of the furniture, as well as the sense that these pieces are often unique and more personal.

Cost can be a factor, too. While rare or unusual pieces can command impressive prices (such as the 1973 George Nakashima table that Prentiss recently sold for \$213,000), some are less expensive than their new counterparts, and frequently less expensive than the goods sold by mass-market furniture retailers.

Prentiss casts the trend against a larger social context. Much of the furniture fits today's informal lifestyles; young people especially embrace it as "theirs." Buyers of all ages are attracted to the quality and craftsmanship, as well as the rarity of some materials such as woods that are no longer available. And, she notes, buying previously owned furniture is inherently sustainable.

As concerns about sustainability permeate our culture and influence our values, it's hard not to wonder if vintage Modern furniture will serve as gateway antiques, introducing a new generation to a marketplace that currently bemoans the graying of its customer base. Prentiss notes that her department has brought new buyers to Skinner, who often branch out to other interests, most notably Native American and ethnographic objects, vintage jewelry, and American folk art.

Can New England antique furniture be far behind? Designed and handcrafted by local makers using local materials without oil-based synthetics or noxious off-gassing, recycled across generations, and often available at prices far less than any new furniture, these pieces embody the very essence of sustainable values. Buying a New Hampshire Chippendale tiger-maple desk might soon seem like a very modern idea. ▶

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Manufacturing ▶ In *Cradle to Cradle*:

Remaking the Way We Make Things, architect William McDonough and chemist Michael Braungart popularized the concept of managed product lifecycles, changing how we think about the things we buy. *Cradle to Cradle* proposes a future where commerce achieves both economic prosperity and environmental responsibility by closing material loops. So-called “service systems” supply consumers with televisions, computers, and home appliances — by leasing in lieu of selling — and shift the burdens of maintenance and disposal back to the service provider. Goods that might otherwise be discarded are instead “remanufactured” — refurbished, reused, or recycled into new products. While conceptually appealing, in practice these systems sometimes struggle to find their feet.

Service systems are common in business-to-business (B2B) transactions where tax deductions on rental fees are often more appealing than acquiring depreciating assets like copiers and printers. Similar systems have struggled in household markets, where end-users value the concept of ownership and aren't afforded the same tax advantages. Electrolux tried renting washing machines to homeowners in Sweden, charging on a per-wash-cycle basis; the units were reclaimed, refurbished, and resold at the end of the trial. It failed, as household consumers could buy comparable products at similar cost through various credit plans, allowing them to keep the product after the payments ended.

The “car sharing” company, Zipcar, has shown, however, that it is possible to reverse consumer sentiment. It capitalizes on the hassle and expense of owning a car in the city, turning non-ownership into a desirable lifestyle choice, making it hip to Zip.

In Japan, where consumers pay high fees to dispose of appliances, manufacturers developed cooperative reclamation and recycling infrastructures in response to tightening legislation. Matsushita's Eco Technology Centre went beyond recycling, by using the disassembly process as a diagnostic for new products. It assesses the ease of disassembly and recycling, and reports suggestions back to designers, so new units are easier to process.

Caterpillar and Xerox have led industry efforts to “design for loops.” Caterpillar's highly profitable Remanufacturing Division inspects, cleans, rebuilds, repairs, recycles, and resells end-of-life machinery parts. To reclaim profitable volumes of material, it charges customers a deposit that as much as doubles the price of the part. The financial incentive of returning the product creates a reclamation rate of 93 percent, supporting the division's \$1 billion annual revenue.

Xerox has also been very successful in remanufacturing, claiming certain photocopiers have seven lives, with six diversions from landfill. Its B2B rental of reprographic equipment creates a controlled distribution of products, where Xerox can easily take back a unit at the end of its service contract. The company's innovation is to design products specifically for disassembly and reuse of parts. Caterpillar and Xerox have both sought external expertise in remanufacturing, but found limited supporting research in business and design schools.

Despite some successes, the state of the service-system approach to commerce shows that, while altruistic and environmental motivations have created some convincing marketing stories, good intentions haven't had enough leverage to warp the prevailing cradle-to-grave business paradigms into closed loops. The success of existing models has hinged on financial incentives, legal penalties, and the coincidental, idyllic conditions of niche markets to trigger innovative approaches to design and business. Perhaps both industry and government will take lessons from current leaders and propel mainstream business up the learning curve of a new economy. Until then, *Cradle to Cradle*'s concept of a self-sustaining industrial cycle will remain in its infancy. ▶

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Bette Midler with the rapper 50 Cent. Prompted by a cleanup effort in her own neighborhood, Midler founded the New York Restoration Project to redevelop “under-resourced” parks and community gardens in New York City. Last year, rapper 50 Cent funded NYRP’s renovation of a community garden in his childhood neighborhood in Queens. Photo by Johnny Nunez/WireImage.

Neighborhoods

► What do 50 Cent, Bette Midler, Michael Pollan, and Mel King have in common?

A documented love for the transformative power of gardens.

Gardens offer one of the most elemental forms of reuse. Dead leaves and discarded coffee grounds become compost that help wrinkled, dry seeds sprout to shiny green life. Community gardens also recharge neighborhoods, transforming vacant lots and neglected parcels into well-tended places. The City of Boston has 150 community gardens, nearly all of them on properties that were once abandoned.

The practice of reusing vacant urban land for gardens began in the United States during the economic depression of 1893. The mayor of Detroit — a city particularly hard hit by the downfall of the railroad industry — asked owners of vacant land at the city’s periphery to allow the unemployed to grow potatoes. Other cities, including Boston, soon created similar “allotment” gardens of their own. As Sam Bass Warner outlines in *To Dwell is To Garden*, the presence of urban gardens ebbed and flowed from allotment gardens to schoolyard gardens to the “victory” gardens of WWI and WWII, and all were top-down, government-sponsored forms of philanthropy.

Today’s bottom-up, community-based approach began in the 1970s, “the child of new politics and abandoned city land,” in Warner’s words. The new politics grew from Civil Rights-era neighborhood activism, further fueled by the first Earth Day and then an energy crisis. The vacant land was a byproduct of the midcentury suburban exodus; even Boston’s population shrank by 20 percent in two decades, leaving behind hundreds of empty properties. In 1974, as a state representative, Boston activist Mel King sponsored legislation to allow gardeners to use vacant public land at no cost; in 1976, Mayor Kevin White channeled federal community-development block grant dollars into the creation of

20 gardens. Unimpressed by government management and wanting to be part of the planning process, a handful of individuals from different neighborhoods founded Boston Urban Gardeners (now the Boston Natural Areas Network) — a citizen-based advocacy coalition. Neighborhoods established gardens at an extraordinary rate: by 1982, there were 120 in Boston. In the midst of profound racial tensions and the busing crisis, boarded-up buildings and urban renewal, community gardens offered a place for people of any age or ethnicity to declare a hopeful attitude toward their city through the most humble of means, while providing affordable food and flowers in return. They still do.

What’s new now? Waiting lists to join Boston gardens have tripled in the past few years. There’s a hipness to 21st-century urban gardening. The graying ’70s activists, recent immigrants, and well-intentioned college students have been joined by locavores and Michael Pollan devotees, Martha Stewart/Patti Moreno do-it-yourself types, and Alice Waters wannabes. In the Great Recession of our day, those seeking cheaper alternatives to grocery-store produce have again taken up neighborhood gardening, as have (apparently) multi-millionaire rappers. In 2010, the community garden is once more a source of neighborhood renewal and a dynamic example of true common ground.

What else is different now? Green thumb or not, popular attitudes toward city living have changed. In part due to efforts like community gardens, urban neighborhoods are again a destination. ■

Gretchen Schneider AIA, LEED AP gardens in the new Bremen Street Community Garden (formerly a Logan airport park-and-ride lot), and is working with the teen Environmental Chelsea Creek Crew on a permanent public art installation for “Our Garden” in East Boston.