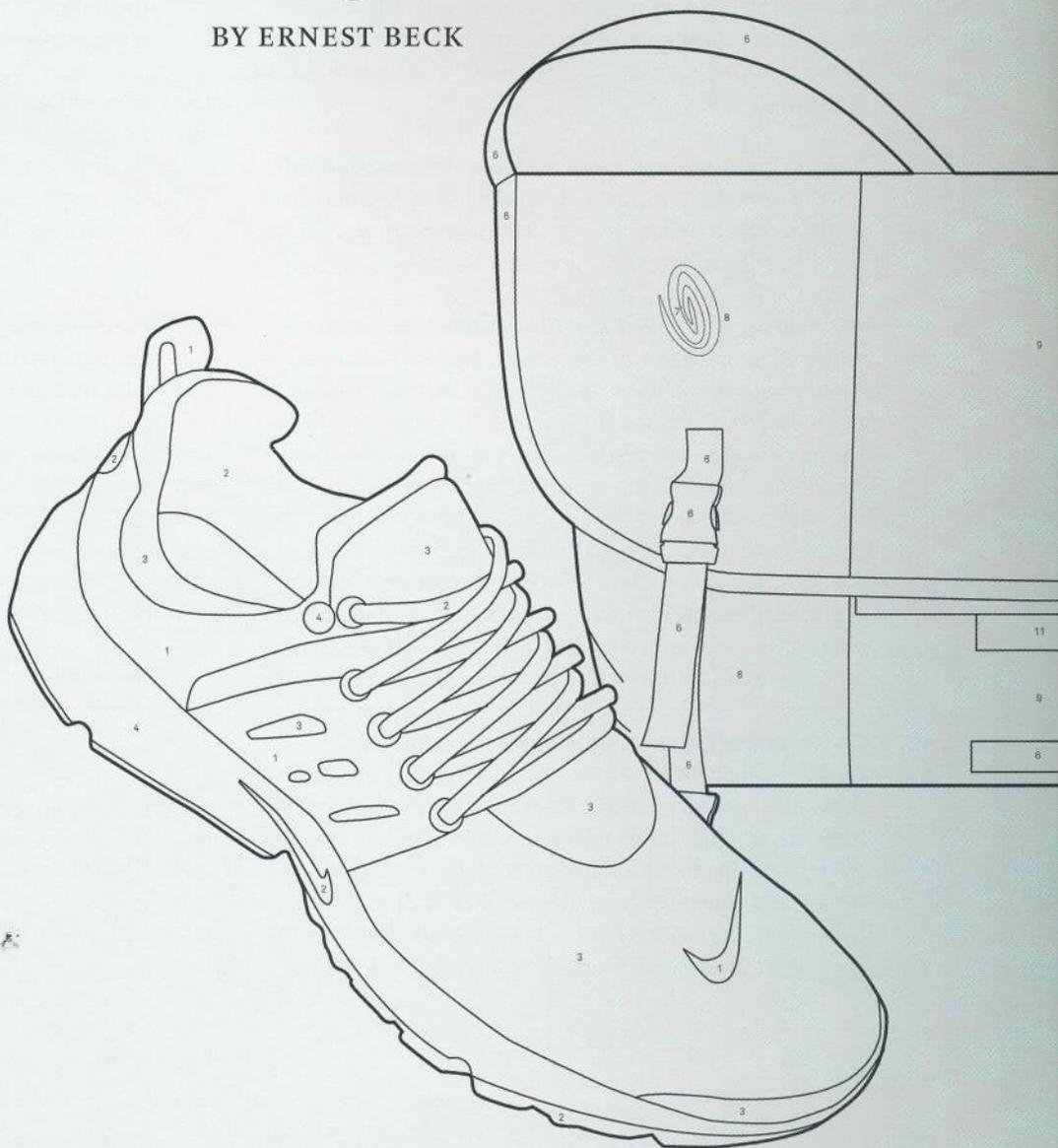


Customize This

These days, consumers can put a personal stamp on almost any product. What does it mean for design?

BY ERNEST BECK



FOR M.I.T. PROFESSOR NEIL GERSHENFELD, the future can be found in the basement of a community center in Boston's South End, in a place he calls a Fab Lab. Here, not far from the city's downtown shopping district, local kids learn how to design and fabricate toys and jewelry instead of simply buying them. On a recent rainy Saturday afternoon, a group of 7- to 12-year-olds was absorbed in fashioning colorful earrings. Arrayed on shelves around the room were more of their Plexiglas creations: a grasshopper with movable legs and a rocket ship with two interlocking parts.

"Personal fabrication is about personal expression," says Gershenfeld, cofounder and director of M.I.T.'s Center for Bits and Atoms, a teaching and research facility. "It's about creating a market for one," he adds, playing with a rocket ship made by one of the boys. "This isn't any rocket ship, it's *his* rocket ship."

What Gershenfeld has in mind goes far beyond crafting classes. Using commercially available and relatively inexpensive tools, visitors to the South End Technology Center are experimenting with rapid prototyping. They are making antennas to set up a WiFi network in their neighborhood; another Fab Lab in Norway is working on transmitting devices to track reindeer herds; an outpost in India wants to create an instrument that detects when milk has turned sour. Gershenfeld's goal is to place customization—really, the means of design and production—in the hands of people. In his new book *FAB: The Coming Revolution on Your Desktop—From Personal Computers to Personal Fabrication* (Perseus Books Group), Gershenfeld asks readers to consider what might happen "if mass customization lost the mass piece and became personal customization...if globalization gets replaced by localization."

Globalization isn't likely to end anytime soon, of course. But a world of Fab Labs isn't all that farfetched, either. Customization has already moved way beyond team logos and special-fit jeans: Consider the cacophony of cell phone ring tones, and the media websites that enable viewers to "personalize" the news they receive, and the infinite filtering power of TiVo. Meanwhile, new software that monitors television viewing habits and mixes demographic data enables advertisers to tailor ads to particular consumers, targeting only pet owners, for example, with spots for dog food.

At www.mytwinn.com, you can customize a doll to be an almost exact replica of your offspring. Choose features such as facial shape and hair color to create "an artistic likeness of your child," according to the website. Customize your daily shower with the

Electronic Shower System by Interbath Inc., which remembers the user's favorite temperature settings; for those who prefer a bath, the Ayoura tub by a Canadian company, BainUltra Inc., comes with special lights to change the bathwater's color to suit your mood. With the latest technologies, you can now customize your M&M's so you only have to eat red ones inscribed with your initials. And if you're bored with the characters in video games, face-mapping technology allows you to scan yourself into the action.

Customization is catching on as the Wal-Mart-ization of the world continues and copycat merchandise floods stores. Fickle consumers no longer want to buy things that look like what everyone else has. "There is so much blandness and grayness out there, people want to be able to say 'it's mine,'" says DeeDee Gordon, copresident of Look-Look Inc., a marketing research and trend forecasting company. Companies are scrambling to keep pace. The old-line auto industry, for example, offers an exploding menu of options, including paint jobs, grills, and interiors, to attract every market sector from hip-hop stars to soccer moms. "They want to customize their cars like they customize a jeans jacket," Gordon explains.

That was a basic consideration when BMW was preparing to introduce the Mini Cooper in the United States. Knowing that the boxy British car had a devout, sometimes quirky, following—fanatic fans like to emblazon their cars with wacky decals and colors, and name their Minis as if they were pets—the German automaker planned customization into the design process from day one. The strategy, says Andrew Cutler, a spokesman for MiniUSA, was based on the idea that prospective Mini owners "want the car in a certain way and we give it to them." On the build-your-own-Mini website, customers can choose body colors, roof graphics like flags, and cockpit accessories such as a carbon-fiber dash; then they take the printed order to a dealer. While waiting, owners-to-be get production reports. The company is even planning to send out snapshots of the cars on the assembly line.

Focusing on customization and giving consumers so much power could have backfired in production delays and increased costs, Cutler acknowledges. But instead, customization became "a fantastic sales tool," he says, with around 60 percent of Mini Coopers sold in 2004 undergoing some form of personal makeover.

For companies that recognize this fundamental shift in customer relationships, it has meant the demise of the traditional marketing model and a reconsideration of design criteria. Corporations

that used to talk to customers now realize that consumers have the technical means not only to talk back but also to dictate to the corporation. "Now the consumer really is king, because they have the control," says Robert Greenberg, chief executive and chief creative officer of R/GA, the interactive advertising agency. Empowered by technology, "consumers no longer consume, they want to customize their lives," he explains.

R/GA's work for Nike reflects that shift. In its second redesign of the Nike iD (for "individual design") website, which went live in April, the company aimed for a premium look with a stark black background and the introduction of various "collections"—as if athletic gear were haute couture. Those who need guidance designing their shoes can click on "inspiration points" for help; more creative-minded consumers can start from scratch and build bespoke athletic shoes from raw models.

Customization, meanwhile, can help build brands. For San Francisco-based Timbuk2 Designs Inc., the hip maker of messenger bags, customization has enhanced the company's irreverent image. Consumers can choose from 16 color combinations and accessories such as a phone holster and CD player case, as befits Timbuk2's roots in the subculture of urban bicycling (it was founded by a bicycle messenger). "What people do to our bags, it's like tattoos and body piercing," says Mark Dwight, chief executive of Timbuk2. Another advantage, he adds: It mollifies customers who have complained that the company has betrayed its heritage by shifting some manufacturing from San Francisco to China.

Customized products accounted for about 20 percent of Timbuk2's revenue of around \$20 million in 2004, and that percentage is growing. Still, Dwight keeps three designers in house, to avoid what he calls "the evil twins of customization: complexity and confusion." For the new Market Tote Bag, which is scheduled to launch in August, the designers stuck with the brand's classic tricolor aesthetic, fabric panels, and construction techniques—along with a few customizable elements such as color and internal pockets—to ensure the product could be made at the San Francisco facility. The goal, Dwight says, was "to strike a balance between personalization options and production efficiency."

In many ways, that is what Fab Labs are about, too. With equipment costing around \$25,000, the South End workshop is a low-cost production center, one that can be easily replicated in countries

with limited resources. Circuit boards can be made for less than one dollar; WiFi antennas cost pennies. "A century ago, we built libraries and schools," Gershenfeld explains, noting that "personal fabrication is a new kind of literacy that can be brought to the community." Once the groundwork is laid, he adds, grassroots inventors are just waiting to be discovered.

For the moment, companies like Nike have little to fear from home fabricators who might try to mold running shoes in their basement. But the company is getting competition from rival Puma, which this summer will launch a concept called Mongolian Shoe BBQ in select concept stores. Based on a Mongolian barbecue, in which diners select meat and vegetables to produce a "personalized" meal, shoppers will be able to design their shoes from an assortment of 13 components including pre-cut fabrics, colors, and materials available at an in-store site (recipe instructions are provided).

In a similar way, Nike is combining customization with traditional bricks-and-mortar retailing at an outpost in New York's trendy NoLita neighborhood. It's a shoe store—open by appointment only—where consumers create their own shoes with the help of a design consultant.

Designed by Lynch/Eisinger Design of New York, the space features a shop window with grid-like shelving displaying consumer-made Nike shoes. Inside the former fishmonger's, the decor includes white shag rugs and baroque-style wallpaper printed with images of Nike shoes, outsole patterns, and Nike athletes. Behind closet doors hide the raw, gray shoe molds for sizing; nearby are color chips similar to those found in a paint store. Seating nooks with black leather sofas and computers provide a cozy setting for a design *tete-a-tete* between a consumer and a consultant.

The experience, says Nate Tobecksen, a Nike spokesman, is "similar to being empowered as a designer." It's a notion that parallels in a more style-conscious way Gershenfeld's Fab Labs, asserting the idea that, as Gershenfeld says, customization is essential to who we are because "we are like birds; we like to display our plumage." ★

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