

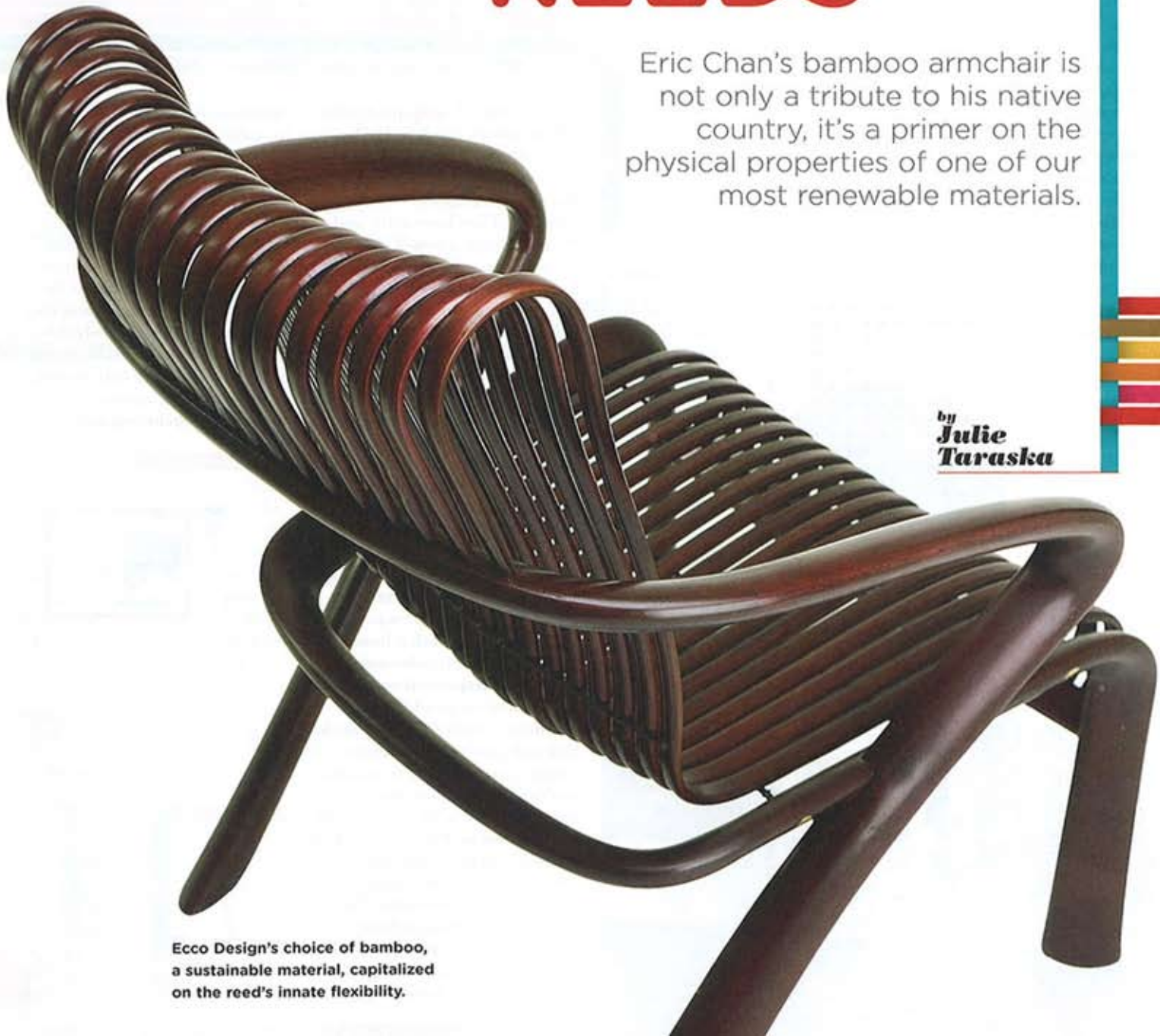
GOOD IS SUSTAINABLE

BENDING THE REEDS

Eric Chan's bamboo armchair is not only a tribute to his native country, it's a primer on the physical properties of one of our most renewable materials.

by
**Julie
Taraska**

Ecco Design's choice of bamboo, a sustainable material, capitalized on the reed's innate flexibility.





When Eric Chan speaks of bamboo, he likens it to his Chinese countrymen: strong, flexible, always moving. He talks about how, in Chinese art and literature, it represents purity and honesty. He extols its rarified uses and everyday applications. And then Chan, the founder of the industrial-design firm ECCO Design, reaches onto the shelf behind him, picks up a three-foot-long bamboo reed and several processed bamboo samples and drops them on the conference-room table of his New York office. “Today people treat bamboo like wood—they

the country’s heritage and its place in the global design community. Chan, who was born in China and raised in Hong Kong, decided to build a bamboo armchair that exploited the material’s physical properties. Partnering with Herman Miller, with which he has had a long-standing relationship, Chan created the ECCO 9707, a chair that uses individually flexing bamboo slats in its seat and back to provide comfort and ergonomic support. Combining traditional craft with modern technology, it also relies on a minimum of adhesives and sealants to remain eco-friendly.

Herman Miller provided financial and technical help for the

“People treat bamboo like wood,” Chan says. “There’s a lot of glue and labor, which is not ecologically sensible.”

extrude pieces and glue them together,” he says, handing me a block of bamboo strands affixed to one another in a checkerboard pattern. “You are using a small portion of the bamboo when you use it that way. There’s a lot of glue and labor, which is not ecologically sensible.”

He picks up the bamboo reed and bends it in half. “Trees are solid. But bamboo, by nature, is flexible. It responds to pressure but doesn’t break,” He lets the reed go, and it bounces back. “This is ergonomic,” he says. “How can I use that natural flexibility?”

Two years ago Chan got the opportunity to find out. To mark the tenth anniversary of the city’s reunification with China, the Hong Kong Design Centre approached ten designers to

project, which started in May 2007 and ended that December with the delivery of ten limited-edition chairs. But unlike the company’s usual product explorations, here commercial concerns took a backseat.

“We let the goal to innovate be primary,” says Timothy McLoughlin, Herman Miller’s design-facilitation manager. Market



The designer Eric Chan finished the 9707 with several coats of water-based lacquers, giving the

considerations would only enter the picture if the team worked on iterations beyond those for the exhibit. In that way, McLoughlin notes, it recalled other one-offs Herman Miller has supported, most famously Gilbert Rohde's Modern furniture collection for the Design for Living House, shown in 1933 at Chicago's Century of Progress Fair, and the fiberglass chair that Charles and Ray Eames, along with Eero Saarinen, produced in 1948 for a Museum of Modern Art furniture competition.

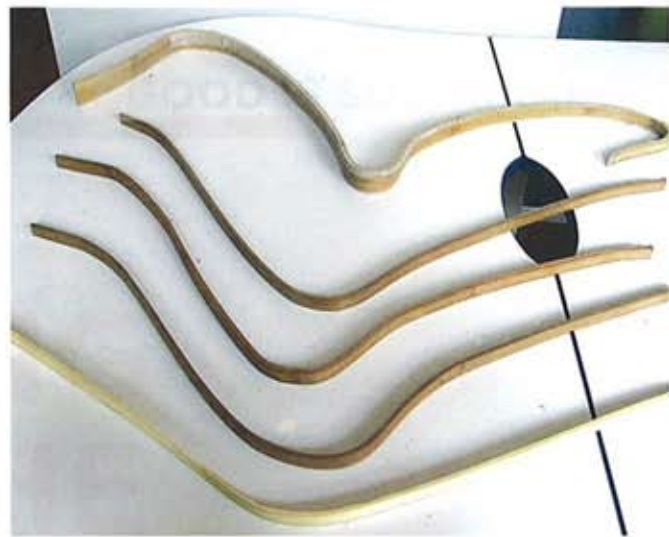
Chan began his design process with a series of research trips to Anji County, in the Zhejiang region of China, which is internationally recognized for its bamboo production. "It's a beautiful area, whole mountains full of bamboo," Chan says. He also knew of the local government's efforts to promote sustainable harvesting of the material, and to encourage residents to work locally and take an active part in the region's management.

Over the course of the project, Chan returned to the area a few times. He visited the bamboo forests, learned about traditional fabrication techniques, and talked to managers and craftsmen at local factories. He visited the regional bamboo museum, which

The strips bend to conform to the weight and shape of the user's body (top and middle). The strips at the end (right) allow for horizontal movement.



Bent bamboo reeds prior to chair assembly



In renderings of the Super Seat construction, polymer strips keep the bamboo from sagging.

traces the use of the material from traditional objects to cutting-edge applications, and met with suppliers. All of this research colored his design.

Chan, who has more than a dozen chairs to his credit, started with the seat's shape. Using his experience and 3-D geometry software, he calculated a generic ergonomic profile, taking into account the average person's weight, height, and leg and arm span to create a curve that would be comfortable for 95 percent of users. But that was a static model. For the next step, he had to factor in bamboo's give.

His core questions were how much the reed should move, and how to manage that movement. He began with a solid bamboo back and seat. "The panels were good but not flexible enough," he says. Chan cut the bamboo into slats of different widths and thicknesses, experimenting until he got the tension, shape, and response that he wanted. His aim was to make the reed function like a gentle spring. When you pushed back, it would bow and cradle the body; when you let up, it would bounce back to its original place. "So your heavy portions, or the more concave and convex areas of the seat and back, they would respond," he explains.

But bamboo's flexibility is also a liability: too much give and



the chair would sag like a stretched-out sweater. So Chan needed something to control the reeds' range of displacement. That came in the form of four horizontal polymer strips—one in the chair's back and three in its seat—that he wrapped around each slat and affixed to the chair's ribbonlike frame, which was inspired by the frames of traditional Ming chairs. Known as Super Seat suspension, the polymer technology had been developed by Chan and Herman Miller for Geiger's Foray office chair. Used on the 9707, though, it allowed **continued on page 128**

But bamboo's flexibility is also its biggest liability: too much give and the chair would sag like a stretched-out sweater.

Below: An early prototype of the 9707. Below right: Chan examines a drawing of the chair.



Produced in Toronto, the chair uses bamboo from China and Canada.



continued from page 78 enough horizontal and vertical movement to keep the ergonomic curve while maximizing bamboo's natural cushioning. Chan christened the combination of Super Seat and the slats BEST, for bamboo ergonomic seating technology. This new seating paradigm, a patentable development, has the potential to be applied to a range of market sectors and products.

"[The Chinese] need to look into what other values they can contribute to the design scene," Chan says.

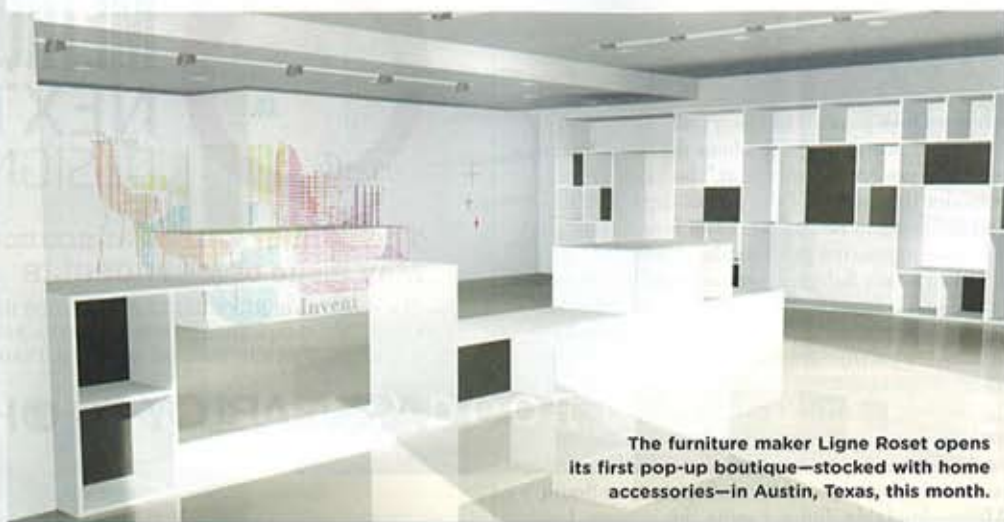
Keeping the chair eco-friendly was important to Chan: using a sustainable material like bamboo but then contaminating it with lamination seemed counterproductive. So he finished the 9707 with several coats of water-based lacquer, giving some of the chairs a reddish hue, others a dark brown.

Since the exhibit closed, the chairs have traveled to Milan, London, and New York, with several auctioned off to benefit the HKDC. "We would have accepted just a beautiful handcrafted object, a one-off," McLoughlin says, "but Eric took it further, into a platform realm, if you will." Don Goeman, Herman Miller's executive vice president of research, design, and development, concurs. "We expected that Eric was going to do more of an exercise in object design, but he was seriously trying to figure out how he could approach a new suspension of a chair using a material that was indigenous to the area and the culture he came from. There wound up being some real innovation as a consequence."

For Chan, the project stirred a desire to help his countrymen find their own design voice. "The Chinese know how to make things," he says. "You give them a design, they make whatever you want them to make. It is time for them to realize that they don't need to make or do what people tell them. They need to look into what other values or cultural dimension they can contribute to the whole design scene."

They have the natural resources and the desire, he believes, but technology is their shortcoming. Chan worked with a factory in Anji, experimenting with bending bamboo strips, but the facility didn't have the advanced skills and machinery needed to manufacture the chairs. (They were ultimately produced in Toronto, using bamboo from China and Canada.) If Herman Miller does make a commercial version of the 9707, Chan would like to have it produced in Anji. But he wants to go beyond the chair. He's exploring ways of collaborating with the region's designers on an eco-friendly product that could be integrated into their local culture and would respect their way of life and natural resources.

"I know design is coming around in a circle," Chan says, back in his office. "I feel doing good design is not just for my own ego. It's an opportunity to connect with a community and take political entrepreneurship to another level." He picks up the bamboo reed from his table and idly presses on it. "And that's a bigger mission." ○



The furniture maker Ligne Roset opens its first pop-up boutique—stocked with home accessories—in Austin, Texas, this month.

continued from page 112 of products at a broad range of price points.

Late last year, when the economy was already in free fall, DWR moved forward with plans to open two new stores—one in New York, the other in Santa Monica—devoted exclusively to home accessories. The rationale: consumers who shy away from a \$4,000 couch may be enticed to pick up a really nice \$30 garlic crusher. So far, it has worked: "The Tools for Living stores," Brunner says, "are actually doing very, very well." (The struggling company's efforts may be too little too late. At press time, it was rumored to be on the selling block.)

THE CACHET OF EXCLUSIVITY

As big-box chains have sprung up in every city, suburb, and town, offering identical merchandise in each location, novelty has grown more meaningful. Soho's Kiosk has developed a hipster following with its mini exhibitions of affordable products that can't be found State-side. And last month, the MoMA Design Store debuted its Destination: Seoul collection, featuring 75 products (most new to the United States) by young, emerging Korean designers. In May it will release a selection from Brazil. Other companies, seeking to appeal to the new wave of "design-art" collectors, have commissioned limited editions by top-name designers. The Conran Shop carries a small-series run of the Bouroullec Brothers' Steelwood chairs, each stamped with its own edition number. On a more democratic note, Target offered housewares by John Derian for only six weeks; they sold out almost as soon as they hit shelves last fall.

JUST GET THEM IN THE DOOR

Retailers are feeling even greater pressure to develop original marketing tools. "The fact is, today we have to increase the brand recognition

and increase the foot traffic in our stores," says Antoine Roset, of the family-owned Ligne Roset, which recently inked an exclusive deal with Sony to sell furniture on the game Home, a virtual community akin to Second Life. "It is a very small range of our collection, but people are buying it!" he says. The company is also expanding its reach in the brick-and-mortar world: the first of its planned pop-up boutiques—stocked only with accessories and smaller pieces of furniture—will open this month in Austin, Texas. The new shops will give customers the immediate gratification of cash-and-carry purchases while providing Ligne Roset the opportunity to extend into smaller markets without incurring the expense of massive showrooms.

THE INIMITABLE MR. M.

No retail roundup would be complete without Murray Moss, who revolutionized the industry when he opened his first eponymous Soho store in 1994 and began mounting museum-quality displays informed by his own singular approach to design. Always one step ahead of the competition, he and his partner, Franklin Getchell, invested in the Soho restaurant Centovini, turning the eatery into a dynamic exhibition space and marketing tool. The space, decorated by Moss himself, is replete with dazzling Venini chandeliers, Piero Fornasetti plates, and Joe Colombo bar stools—all, naturally, available through his stores.

Asked whether he will change his inventory to answer the call for cheaper and more functional products, Moss admits that he has entertained the idea of making some concessions. "I might say to people, 'I think you should buy six glasses and not twelve.' That doesn't necessarily mean you shouldn't buy Lobmeyr." But he cautions against giving customers what they think they want. "That's the easy way out. Don't you think I should propose to you at my own expense what I know and try to take you somewhere else? Isn't that far riskier? Yes. Why do I do it? Because I can't help myself, and I'm spoiled. Is that a good business plan? No, it isn't." ○