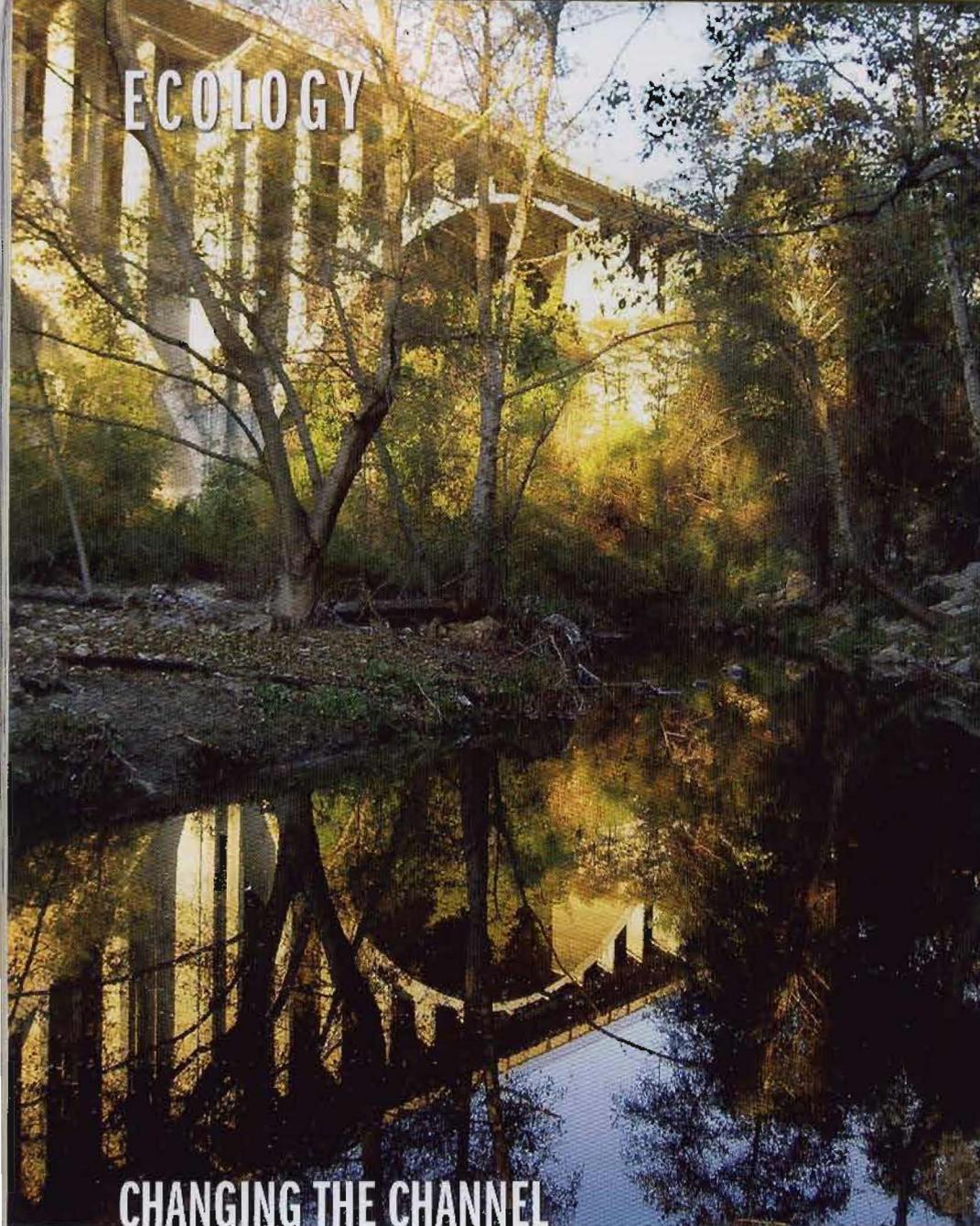


Landscape architecture

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CHANGING THE CHANNEL

In Pasadena, landscape architects are working to show that even in Southern California, a river can run through a city. **By Linda McIntyre**

IN THE LOS ANGELES AREA, the term “river,” more often than not, refers to a concrete-lined channel that sits dry much of the year and, during the rainy season, sends stormwater rushing out to the Pacific. But in and around Pasadena, a project to restore the historic Arroyo Seco (“dry stream” in Spanish) has brought riparian habitat to the close-in suburbs. This project shows, on a small scale, how landscape architects working with

nonprofit groups and municipal governments can combine and leverage their knowledge and experience to get results, even if they are starting with a river that doesn’t always fit the traditional description.

When *Landscape Architecture* visited the Central Arroyo Seco, a component of Pasadena’s Arroyo Seco master plan, with project manager Lynne Dwyer, ASLA, we saw a lot of native plants thriving and a few persistent exotics. Birds fluttered, chirped, and splashed in the arroyo—a trickle of a stream during this relatively dry period, but nevertheless, clearly a stream, running under a couple of freeway overpasses.

Also, on this beautiful Saturday afternoon, a lot of people were enjoying the space. The response from the community has been enthusiastic. “We’ve had incredibly positive feedback,” says landscape architect Rosa Laveaga, the Arroyo Seco project supervisor for the City of Pasadena. The local chapter of the Sierra Club has started a weekly hiking tour of the restoration. Tim Brick, managing director of the Arroyo Seco Foundation (ASF), a nonprofit group dedicated to restoring and protecting the Arroyo Seco watershed, says parts of the Arroyo Seco, especially along the lower leg, are so popular that the number of visitors verges on becoming a problem itself.

So how did Dwyer, Laveaga, Brick, and others make this happen?

The Arroyo Seco, a 22-mile-long tributary of the Los Angeles River, runs through the San Gabriel moun-

tains east of the city. The river and its surrounding mountains and forests, with abundant wildlife and rich soil, lured early settlers to the area. Others have followed for more than a century, looking for the art, culture, and recreation that flourished in the bucolic landscape as the area’s population grew steadily. A parkway, now better known as the Pasadena Freeway, was opened in 1940, connecting Pasadena to downtown Los Angeles along the path of the Arroyo Seco.

While there was a fair amount of accessible parkland around the Arroyo Seco, thanks to acquisition efforts by the City of

Pasadena residents and visitors can find a green oasis under the freeways on the banks of the Arroyo Seco.

Pasadena starting in 1913, the stream itself had, like so many others in the region, been subject to flood control measures that made it less like a river and more like a method of conveyance. Happily, though, the Arroyo Seco has not



been “channelized” in quite the comprehensive manner that, say, the Los Angeles River has.

“The L.A. River was a massive paving project, but the Arroyo Seco was done in a more piecemeal fashion,” says Dwyer, a cofounder of local nonprofit environmental group North East Trees and the project manager for the Central Arroyo Seco restoration, comprising two 10-acre sites under a couple of freeway bridges. This part of the river runs through a heavily developed area on the western side of Pasadena, including the Rose Bowl football stadium and related recreational facilities, but, owing in part to a narrowing of the bedrock underlying the streambed, portions of the

concerns among local officials that raising the water level in this part of the arroyo during the rainy season was hastening the erosion of the pilings supporting the bridge.

RESTORING A MESSY, overgrown, and sometimes dry streambed might not seem to be a glamorous project likely to attract community support, but the Arroyo Seco has had a long and symbiotic relationship with Pasadena. “There have been protection efforts going on almost as long as people have lived here,” says Brick. “Pasadena had engaged in a planning process back in the 1980s, and a group of students from [the graduate landscape architecture program at]



Central Arroyo Seco were allowed to remain “natural.”

Not to say “pristine.” Even the unpaved stretches were overrun with invasive exotic plants, including ivy, periwinkle, castor beans, palm trees, ailanthus, and, most prominent, huge eucalyptus trees. While some native trees and other plant communities managed to hang on, the exotics were crowding and shading them, especially in the understory. One area underneath the Foothill Freeway bridge in Pasadena was littered with massive concrete slabs punctuated with protruding tentacles of rebar that posed a danger to hikers and equestrians and raised

The Arroyo Seco, left, runs through the suburbs east of Los Angeles to the Los Angeles River. Landscape architects Lynne Dwyer, ASLA, and Rosa Laveaga, above, have been working for years to restore the Arroyo Seco.

Cal Poly Pomona did a great study. The [concept] plan that came out of this was never adopted by the city, even though many people had assumed it was!” The ASF has a long history reaching back to the days of eccentric journalist, preservationist, and activist Charles Fletcher Lummis, who helped launch the community of artists and craftsmen that settled around the Arroyo Seco. It had fallen into a period of inactivity but was re-

“I think they’re insane. They’re talking about naturalizing a flood control channel.”

vived in the late 1980s with a series of restoration and native plant production projects.

In 1996 the city, working with community groups representing everyone from business owners to schools to fishing enthusiasts to dog lovers and taking the Cal Poly study as a starting point, prepared a master plan to restore the lower part of the river near its confluence with the Los Angeles River. To ensure the plan was adopted, the city hired landscape architect Laveaga, a Cal Poly MLA graduate who had been working in a more conventional practice as project manager. But the job was bigger than Laveaga or the city had anticipated.

“As I would soon find out, Pasadena has a very educated and involved residential population,” says Laveaga. Neighbors demanded that no plan be adopted unless it embraced the entire arroyo as a single ecosystem. “The city elected not to move forward with the Lower Arroyo Master Plan until a vision for the whole Arroyo Seco was crafted.” There were also skirmishes about smaller issues, such as a plan to build a bike path in the Lower Arroyo that was opposed by equestrians and a proposal to allow dogs to roam off leash in designated areas during certain times.

Laveaga and the city went back to the drawing boards (and the community meeting rooms and the grant applications) to take on all components of the Arroyo Seco. Complementary plans were drawn up for the lower, central, and upper parts, the latter of which includes the southernmost 300 acres of Hahamongna Watershed Park, which had been damaged by years of sand and gravel mining.

WHILE THE CITY HASHED OUT its master plan process, the ASF and North East Trees began a separate push for a study of the Arroyo Seco watershed. After the groups secured funding from the California Coastal Conservancy and the Santa



Tons of concrete debris, above, were removed from under the Foothill Freeway bridge. The stream flows more naturally through the area now, below, and the trail is more accessible for hikers and equestrians.

Monica Mountains Conservancy, the Arroyo Seco Watershed Restoration Feasibility Study was completed in 2002.

The report set out four broad restoration goals—restore the natural hydrological functioning of the watershed; conserve water resources while improving water quality; restore habitat quality, quantity,

and connectivity; and improve recreational opportunities and enhance open space—with guidelines and action points for each goal. It also laid out a list of more than 80 restoration projects for the watershed.

Not everyone was supportive. “I think they’re insane,” an official with the company that manages the Rose Bowl told the *Los Angeles Times* after the preliminary phase of the report. “They’re talking about naturalizing a flood control channel. . . (W)e’ll fight this tooth and nail.”

But the arroyo advocates had an advantage—as with the city’s master plan, the





community was active, even if some were on the opposite side. "Pasadena is a wealthy and beautiful area, and people are very protective of it," says Dwyer. "There are whole networks of watchdogs." Then, as now, Dwyer was unfazed by NIMBYs (not in my backyard). "Complaints are a good sign," she says. "They care! It's an opportunity to engage." The Arroyo Seco was the perfect place to try a different way, says Brick. "Hydrologists have told us that it's the best candidate for urban stream restoration in the United States."

As part of the feasibility study, the nonprofit groups established two vehicles to institutionalize public and government participation—the Council of Arroyo Seco Organizations (CASO) for nonprofits and community groups, and the Council of Arroyo Seco Agencies (CASA) for the relevant city governments, Los Angeles County

"Complaints are a good sign," says Dwyer. "It's an opportunity to engage."

officials, and representatives of state and federal agencies. Laveaga, Brick, and Dwyer were now part of a network working together to restore the Arroyo Seco.

WHILE PASADENA'S master plan was fleshed out, Laveaga worked to get the funds to bring it to life. Among other things, she successfully applied for a \$1 million grant from the California Resources Authority for the Central Arroyo Seco part of the project and hired Dwyer to manage it. Dwyer had to hit the ground running; she set up shop in a cubicle in the city offices and began developing a base map and bringing on board technical experts such as a biologist and a conservation ecologist to write up a vegetation management plan for the project.

"One of the frustrations of working on grant-funded projects is the short timeline," she says. "For restoration projects, you have to develop plans, get permits, manage exotics, and get plants in the ground." Real restoration goes on for years, she says, while a grant covers only a year or two. "A lot of applications ask how far along you are," says Dwyer. "Getting permits in place and other issues sorted

Erosion control sculptures made of natural riparian materials, top, by artist Dan McCormick, center, help to slow, direct, and divert runoff. As native plants take hold, bottom, the sculptures slowly break down.

out is helpful," in terms of both winning the grant and making the most effective use of the funds.

The Central Arroyo Seco restoration project alone required a slew of permits from several agencies and jurisdictions: California Fish and Game Commission, CalTrans (the state department of transportation), the California Regional Water Quality Control Board, the Army Corps of Engineers, and the City of Pasadena. Dwyer's advice on agencies: "Get them on the project early and find out what documents and other information they need. Later, they go off on their own tracks and it's harder to coordinate." It's important to remember, she says, that the agencies want to work with you. "They want good things to happen! They're not trying to stand in your way, they just want to see the technical data." Dwyer's patience and persistence paid off—for example, the Los

Everyone could get behind removal of concrete, but taking out exotic plants, especially mature eucalyptus trees, was an emotional issue.

Angeles County government agreed to close the Devil's Gate Dam while the concrete and other debris were removed from under the 210 freeway.

To get the good technical data agencies are looking for, says Dwyer, landscape architects need good science and engineering partners. She recently set up her own shop, BlueGreen Open Space Planning & Design, with fluvial geomorphologist Martin Kammerer, who also worked on the Central Arroyo Seco restoration.

Finding like-minded engineers has been more of a struggle. The engineers working with Dwyer and Laveaga on the Central Arroyo Seco project wanted to install riprap under the freeway bridges. "It was very hard for them to buy into a bio-engineering solution," says Dwyer.

WHILE EVERYONE COULD get behind removal of concrete debris, removal of the exotic plants, especially the mature eucalyptus trees, was an emotional issue for the community. Pasadena has an ordinance forbidding the removal of most mature trees, and its residents take pride in the city's leafy and inviting character. And despite the projects' proximity to freeways, a lot of houses and backyards back up to the restoration sites. In some cases, residents had thought of the Arroyo Seco streambed as an extension of their own gardens, planting, tending, and using it as such.

"We had to keep people informed of what we were doing and why," says Dwyer. To keep the community on its side, the project team made some compromises; for example, they agreed to spare one particu-

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With less competition from exotics, native plants and trees along the footpaths are thriving.

larly majestic and high-profile eucalyptus tree from the removal squad.

Despite the team's outreach efforts, they were unable to bring everyone on board. During the removal phase, a local hiker

lamented to the *Pasadena Star News*, "Until a month ago the trail was veiled by beautiful, lush greenery, and as one strolled along the rocky streambed, it was hard to believe you were in the midst of a city, let

alone under a freeway. I didn't know or care if this verdant foliage was native, imported, or even from the moon! Now this once-scenic area is a wasteland of stumps, the much more visible bridges completely changing the once-pristine view."

Even if some found it hard to appreciate, this stump-ridden landscape was a victory for restoration. Laveaga and Dwyer worked hard to train the municipal staff to identify and eradicate the aggressive invasive plants that had taken hold, creating laminated flip books and other materials with photos of the interlopers and succinct descriptions of the most effective methods of getting rid of them.

During the process of removing exotics, the team sought to preserve the native plants that remained, using the "Bradley method" whereby exotics are removed in a slow but systematic fashion, working out from stands of natives into areas more heavily infested. This method, developed in Australia, is based on the theory



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that native plants can reclaim space lost to exotics if allowed to reestablish themselves a little bit at a time. It was specified for the project by conservation ecologist Verna Jigour and well suited to the conditions around the Arroyo Seco. "There was an amazing amount of intact native" plants underneath the cover of exotic vines and tree canopy, says Dwyer.

Then the project team "hydroseeded" about half the total project area with several different native seed mixes—one for shady dry slopes, another for south-facing slopes at high risk for erosion, and another for riparian areas. They took cuttings from local willows and black cottonwoods and placed them along disturbed areas of the streambed, parts of which were severely eroded owing to runoff from the freeway bridges. Plants from containers were used in only a few places, close to the trails, where visitors could enjoy them and see

progress quickly and up close. "There's a constituency of people here who care," says Dwyer. "But they won't care so much if it looks like a weedy vacant lot."

The project team also added interest with an unusual restoration feature: artistic erosion control. In 1996 Laveaga had come across environmental artist Dan McCormick at a public workshop in Pasadena. She and Dwyer later commissioned McCormick, who has training in salmonid restoration and ecology as well as architecture, to create a series of erosion-control sculptures made of willow, cottonwood, sycamore, alder, and other riparian native materials.

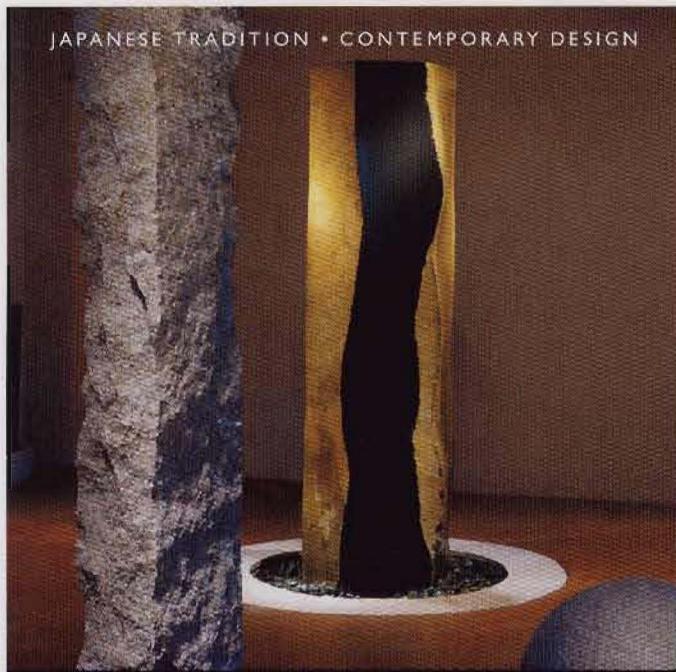
The meandering installations, shaped to mimic the contours of eroded streambanks and gullies, helped to define trails, direct and divert runoff from the roads above, and collect debris from storm drains. They are designed to either break down over time or to become "living sculptures" to replicate historic conditions such as a floodplain. "I give aesthetic weight to the restoration process so that, as the recovery

action is established, the artist's presence will not be felt," McCormick says. Dwyer has used artistic elements in other projects, such as whimsical gates and fences around pocket parks along the Los Angeles River, and believes art in the landscape is an important element, not a frill, in public work. "I've done projects with nothing but plants, and they don't seem to register as 'places' in people's consciousness to the same extent," she says.

AS WITH MOST PUBLIC projects, especially those funded by a finite amount of grant money, maintenance remains an issue in the Central Arroyo Seco. "Keeping on top of what's native and what's exotic," says Dwyer, "is a lot harder than mowing a park." And funds are in short supply, even in wealthy communities. "There's always more demand than resources," she says.

In an era in which so many public spaces are so dependent on volunteers, it's sometimes hard to round up neighbors for mundane tasks such as weeding. "A lot of

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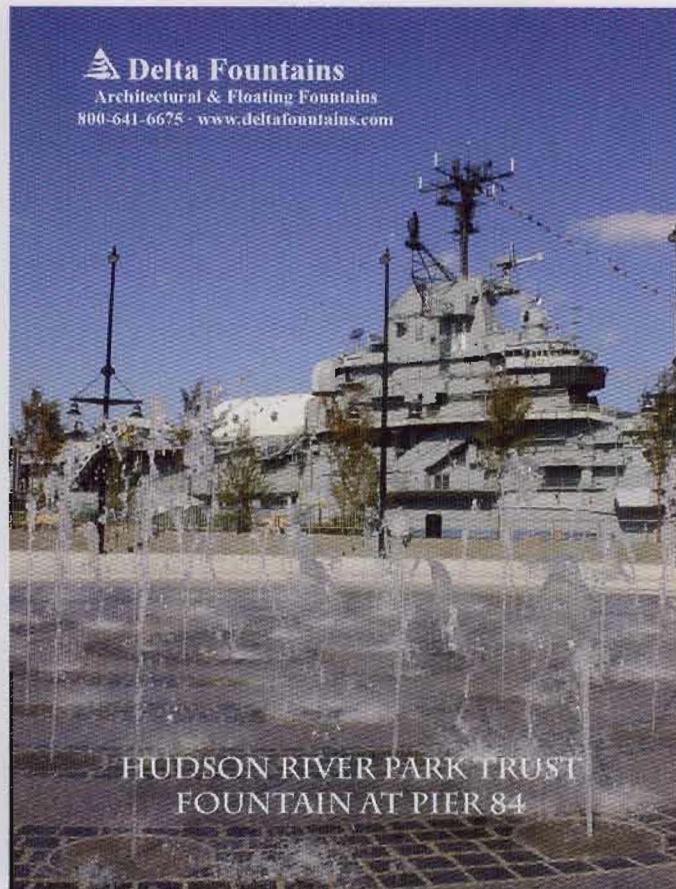
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“Keeping on top of what’s native and what’s exotic is a lot harder than mowing a park.”

people can’t get behind just killing mustard,” says Dwyer. At the same time, nearby residents have to be made to understand that some popular garden plants—periwinkles, ivy, palm trees—pose a big problem for native landscapes such as this one. “We do a lot of talking to people about what restoration means,” says Dwyer.

Among other things, restoration means you’re in it for the long term. The City of Pasadena and the ASF recently won a \$2 million grant for additional restoration work in the Central Arroyo Seco and improved drainage in the Rose Bowl parking lot. Dwyer and her partner Kammerer worked with Laveaga on a recent study and grant proposal to restore Berkshire Creek, an offshoot of the arroyo, and remain involved in that and other arroyo-related projects. Brick is also engaged in an effort to secure federal funding for a more ambi-

tious watershed study by the Army Corps of Engineers. CASA and CASO continue to meet. Laveaga is overseeing the continued implementation of the master plan and pursuing funding to carry it out. “It’s going to take working and working in the same areas over and over to achieve the proper ecological balance,” she says. “But you can immediately see the benefits with every small improvement we help implement.”

That master plan has been crucial to the success of the Central Arroyo Seco restoration and the other components of the project. “It’s worked out really well for the city staff,” says Laveaga. “The document is not sitting on a shelf. It’s referred to all the time, and the projects really do serve as my marching orders.” It’s also helped to get funding. “We’ve demonstrated our credibility,” says Laveaga. “Since the adoption of the plans, we’ve received well over \$7 million in grant funds for projects in the

adopted plans.” The city’s commitment has also made it easier for nonprofits to win grant money. “It’s much harder if you have no public partner,” says Dwyer. “It’s important to have long-term accountability, so the investment isn’t wasted.”

DWYER HOPES that the success of these Arroyo Seco projects will spur momentum for the mother of all restoration projects—the Los Angeles River. In February, a group of Los Angeles officials released the Los Angeles River Revitalization Master Plan, a hugely ambitious amalgamation of 239 projects, large and small, to do for the Los Angeles River what Laveaga, Dwyer, Brick, and others have done for the Arroyo Seco, including, in some places, tearing out concrete. The estimated price tag of the master plan is \$2 billion.

However the politics and financial issues sort themselves out, Dwyer, who seems to possess limitless energy, wants to be a part of the effort. “Everything we’ve done so far is small,” she says. “I want to make some big stuff happen.”

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