

THE DREAM SELLER

AMID THE CONTRADICTIONS OF MEXICO CITY,
MARIO SCHJETNAN REMAINS AN OPTIMIST.

BY JONATHAN LERNER/PHOTOGRAPHY BY ADAM WISEMAN



LEFT
About 30 people are on staff at Grupo de Diseño Urbano, where urbanistic repurposing of industrial sites is a specialty. Left to right: Rodrigo Barreto, Estefanía Reyes, and Isaac Mendoza.



ABOVE
Left to right: Manuel Peniche, Jessica Navarrete, Macarena Candela, Carmen Martínez, and Ana Calleja work on a project.

ONE BRIGHT DECEMBER DAY, Mario Schjetnan, FASLA, was ushering a visitor around Mexico City’s historic Chapultepec Park, where his firm, Grupo de Diseño Urbano (GDU), has been enacting subtle renovations for nearly a decade and a half. He detoured, though, to show something that has not required the firm’s intervention. It was a concrete sump, perhaps five meters square, three meters deep, and open on top. It is the terminus of an aqueduct, completed in 1951, that brings water from 60 kilometers away through a tunnel under a mountain range. At the time, the city’s population had more than doubled in two decades, to three million thirsty souls. This new aqueduct must have seemed like deliverance. (Today, the population of the Metropolitan Area of the Valley of Mexico, comprising the city proper plus 41 contiguous municipalities, numbers more than 21 million.)

The sump, whose function was really just to hold water before it was piped into four enormous tanks buried nearby, was treated reverentially. Sheltered within a temple-form building, the depression’s walls and floor were painted by Diego Rivera in a fantastical narrative called *Water, Origin of Life*. The inlet seems to pour through the hands of Tlaloc, the Aztec god of floods and droughts. Swirling around the floor and up the walls are life forms of increasing complexity. There are an ur-man and ur-woman, and depictions of everyday people using water (swimming, sipping, irrigating gardens), of workers jackhammering rock, and of giant pipes and valves. When the sump was actually used, the view through water surely added a vitalizing shimmer, but water was destroying the mural. Eventually the flow was rerouted and the painting restored.

Now Schjetnan pointed to where Rivera had portrayed a gathering of two dozen men in modern dress, some in hard hats, some in suits; on a table before them is a sheaf of blueprints. “The engineers who built the aqueduct,” he said respectfully, or maybe proudly—though perhaps he meant less to convey love for engineers, per se, than sympathy for anyone who grapples with Mexico City’s water challenges. Through a long career, Schjetnan—who is not an engineer, but a landscape architect, architect, and urban planner—has been one of those.

Water is a perpetual problem here: There is both too much and too little. It flows from the surrounding mountains into the bowl-like valley but finds no natural outlet. Originally it pooled into seasonal lakes; those disappeared over centuries of urbanization. The aqueduct

system is expanded now but still inadequate. The digging of wells in the valley, it is predicted, will by 2020 have caused land to subside in some spots by nearly 20 meters. Sewage and stormwater still have no easy way out. There are tunnels and pumps, but serious rains cause floods and overwhelm existing retention structures. Meanwhile, water infrastructure and management are fragmented among the municipalities. And both political culture and development planning are weak on comprehensive thinking—and on follow-through.

In one borough where water infrastructure is especially maxed out, GDU recently completed two significant projects. Parque Bicentenario, developed by the federal government, is a regional park and botanical garden. Tecnoparque is a private office complex. Tecnoparque

was allowed no increase in water allocation from the site’s previous industrial use, and was forbidden to discharge any wastewater at all. Schjetnan’s solution was twofold. Wastewater is treated at the site and stored for use in pools, fountains, and irrigation there. Rainwater is collected in cisterns and then sent into perforated wells from which it percolates into the aquifer. When Schjetnan has judged architectural competitions, “always they win with a huge beautiful water feature. Great!” he said. “They build it, and you go back two years later? Empty. But this is a working system. The fountains are aeration systems. They have to work, otherwise the whole thing either floods or stagnates, or the water treatment plant is going to smell.” If Tecnoparque, which has private owners who are motivated to keep things functioning and tenants happy, could be called “water net

zero,” Parque Bicentenario would be “water net negative.” There, not only is rainwater injected underground, but sewage is actually drawn from the city’s system for treatment and reuse on site.

These solutions are site specific and site scale. But Tecnoparque, with 14 hectares, and Bicentenario, with 55, are hardly small scale, when considered as rips in the urban fabric, which they had been. Tecnoparque, formerly a steel fabrication plant, and Bicentenario, once an oil refinery, are examples of a vision Schjetnan advocates for, the redevelopment of former industrial properties. He enumerates factors during the 1980s that led to the enforced closing of heavy industries in Mexico City: the explosion of a gas plant with deadly consequences for its surrounding informal neighborhood, a powerful earthquake that prompted



ABOVE
Mario Schjetnan,
FASLA, at Mexico City's
Chapultepec Park.

emigration and relocation of vulnerable facilities, and infamously bad—finally untenable—air pollution.

Two-plus decades on, a number of large postindustrial properties remain disused. The redevelopment of some is in the works, but disjointedly. “Private developers are trying to connect large parcels with each other,” Schjetnan said. But the physical obstacles alone are daunting. Typically, such sites are bounded by a rail corridor or by an impenetrable boulevard, or maybe both; paradoxically for a city with vibrant street life, major arteries can be pedestrian no-go zones, often crossable only on

widely separated overhead catwalks. Stations on the efficient but suffocatingly thronged metro system are far apart; it seems that anybody who can afford it opts to drive. Another challenge is that “there is still no integrative official plan” for infill on these brownfield sites—the more regrettable because many of them are clustered in the same area. For example, just across a boulevard and rail line from Tecnoparque—and from a university campus, a sports arena, a municipal park, and a dense residential district—there is a nearly 500-hectare moribund industrial zone and a suburban line train station.

Schjetnan laments the lack of an overarching approach to stormwater. “Even until today, they’re continuing to build huge tunnels to get rid of the water. It’s crazy,” he said. Schemes like his of channeling it into the aquifer, for example, could be mandated, and be especially effective in projects “where you have large parcels, like a campus or a shopping center.” The lack of commitment to comprehensive planning leaves him exasperated. “The city, even with a so-called leftist government for the past 15 years, hasn’t done enough on the east side where there are 2.5 million people who are very poor. It’s depressing.” A vast new airport

SCHJETNAN “HAS BEEN VERY EFFECTIVE IN BRINGING METABOLIC ISSUES INTO THE DIALOGUE OF THE URBAN PROJECT.”

—FELIPE CORREA

is being built, on a third of a roughly 1,600-hectare tract of former lake basin. “That’s the federal government. They had a great opportunity to do an integral master plan, at a very large scale, with the surrounding areas,” he said. “We have proposed it several times to the authorities. We’re working on the landscape of the new airport, but just at the level of a green roof, not even at the level of the infrastructure of new highways that are going to go there.” He added, “Again, it’s the old concept of engineering. It doesn’t relate to the environment. ‘I don’t want floods, so what do I do? I build a huge lagoon and I put the overflow into a pipe and the pipe goes out of the city.’”

Felipe Correa, a codirector of the Master of Landscape Architecture in Urban Design program at Harvard’s Graduate School of Design, has researched and written extensively about Latin American cities. Schjetnan “has been very effective in bringing metabolic issues into the dialogue of the urban project,” Correa said, “working on issues of landscape—not necessarily as a discipline, but as a condition—in a culture where design has primarily favored the object.” He added, “Proj-

ects like his are politically not easy to achieve in such a contested city.”

On a recent morning at Parque Bicentenario, which was completed in 2012 and which he had not visited in more than a year, Schjetnan was pleased at the level of maintenance and the vigorous health of the plantings. The storm- and wastewater systems were functioning properly. But he was dismayed that interpretive signage in the botanical garden had deteriorated to unreadability. He also regretted that elements of GDU’s plan had never been realized. A proposed aquarium was not built; a café never opened. Educational programming was minimal. With a metro station at its entrance, the park is accessible and well used. As he spoke, an aerobics class was taking place in a pavilion, and pickup volleyball and soccer games were being organized. A few weeks before, some half a million people had attended an annual children’s book fair there. “But it’s too large—it needs attractions so it’s not just a green area,” Schjetnan said. “They built the lake, but they haven’t implemented the boats. We planned a tram that would take you from the entrance all around, and they didn’t implement that. Things like that are what this park is still lacking.”

GDU observed its 40th anniversary last year. For five years before founding the firm, Schjetnan was the design director at the National Workers’ Housing Fund Institute, a federal government agency. He describes himself as an optimist—“in this profession either you have to be, or get out, because we sell dreams”—but he has learned to be a realist. “When you do these huge projects, they never come up to 100 percent. If you hit 80, it’s a big success,” he said. “It is a political condition that we are still a vertical political society. It’s not only money. It is lack of organization, of education, lack of public participation.”

The distinguished Mexico City architecture critic Louise Noelle looks at Schjetnan’s contribution from two angles. “On one hand there are all these fantastic parks and public spaces that people are enjoying, the normal inhabitants of this city, and of many other cities in Mexico. And then there’s the way he has been working in these places, and that is something regular people don’t know,” she said. “It’s not only the landscaping part, but the more scientific part, how you move the water, how you clean the earth.”

PARQUE BICENTENARIO



ABOVE
A walkway extends through the garden, with its rain-collecting pavilions.

LOW MOUNTAINS are visible in the middle distance, but Parque Bicentenario is in a part of the city that's quite flat. And it's likely that few visitors even notice the park's subtle changes in grade. At the main entrance, across the street from a metro stop still called Refinería, there are just four shallow steps up to a broad promenade. As the walkway curves toward the heart of the park, it passes through sections of the botanical garden representing xeric scrubland, temperate wetland, and deciduous tropical forest. This section of the former oil refinery had

been covered by a 40-centimeter-thick concrete slab. To avoid the expense of demolishing it, the slab was left in place. The eight-hectare botanical garden, built over it, showcases the principal biomes of Mexico. Of course, these different plant communities required different soils and soil depths. "Every part of this garden is like a planter," Schjetman explained. These planter-like terraces contain soil ranging from two to five meters deep, so the garden has a variety of levels. But vertical circulation is achieved entirely, and almost imperceptibly, with ramps.

Three of the biomes—tropical evergreen forest, coniferous cloud forest, and desert—are inside greenhouses, which GDU designed using a cubic module of 15 meters. They are simple, transparent structures with roofs like inverted pyramids to collect rainwater. The same basic design, and rainwater harvesting function, were used for a pair of buildings intended for a restaurant and gallery but now housing offices, and for a pavilion with masonry bleachers on two sides, which is used for informal performances and classes. A fountain in the entry

FRANCISCO GÓMEZ SOSA



SERGIO MEDELLIN, TOP LEFT; GRUPO DE DISEÑO URBANO, INSET AND BOTTOM LEFT AND RIGHT

MASTER PLAN

TOP
Access to the rest of the park is through the botanical garden.

INSET
The garden represents Mexico's principal biomes.



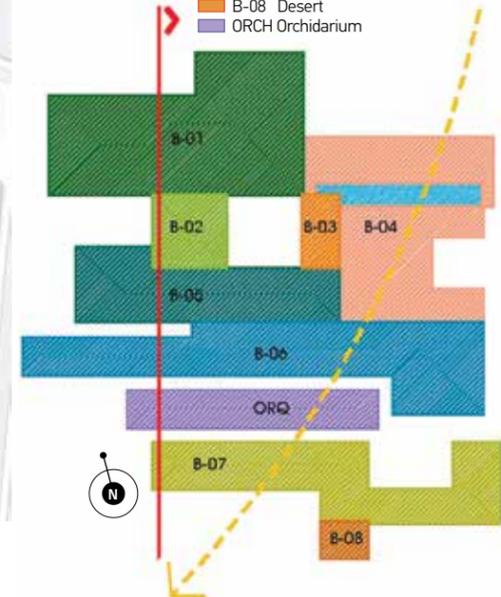
NATURA BOTANICAL GARDEN

NATURA GARDEN BIOME ZONING

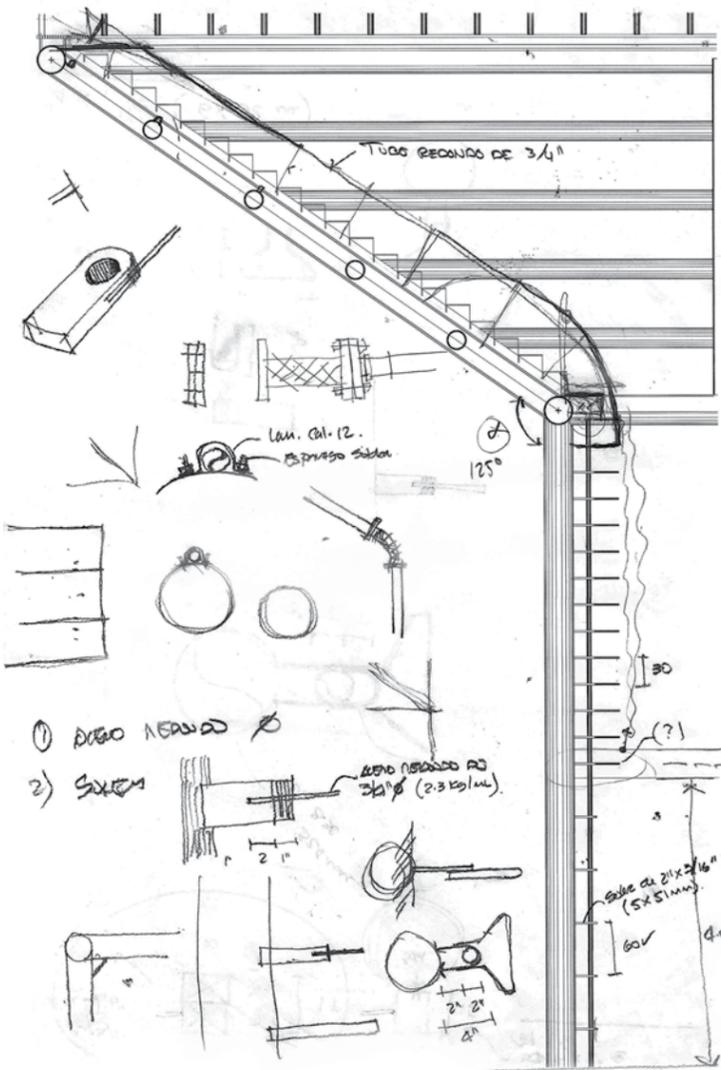
- LEGEND**
- B-01 Coniferous Forest
 - B-02 Tropical Evergreen Forest
 - B-03 Mesophyll Montane Forest
 - B-04 Xeric Shrubland
 - B-05 Oak Forest
 - B-06 Temperate Wetland
 - B-07 Deciduous Tropical Forest
 - B-08 Desert
 - ORCH Orchidarium



- 1 NATURA BOTANICAL GARDEN
- 2 WATER GARDEN
- 3 SUN GARDEN
- 4 EARTH GARDEN
- 5 WIND GARDEN

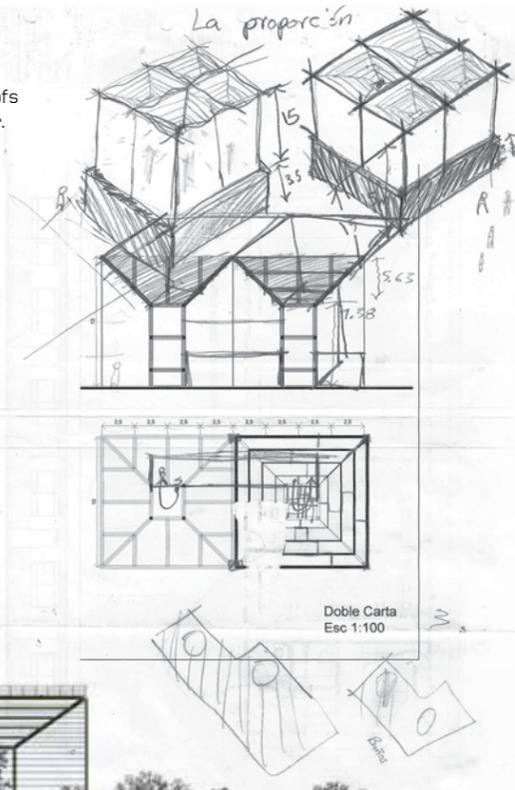


PARQUE BICENTENARIO



ABOVE
The structures have inverted pyramid roofs to capture rainwater.

LEFT AND RIGHT
Concept drawings for the botanical garden structures.



GRUPO DE DISEÑO URBANO. DRAWINGS AND SECTION; SERGIO MEDELLIN, PHOTO



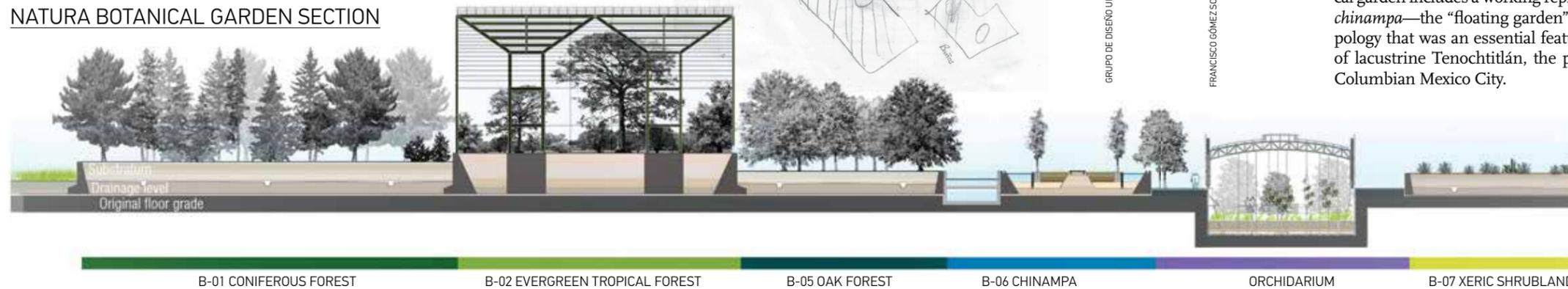
CLOCKWISE, FROM BOTTOM LEFT
Schjetnan directs work to install the aquifer recharge infrastructure; inside the orchidarium; a representation of Mexico City's watery original condition.



FRANCISCO GÓMEZ SOSA, TOP AND BOTTOM RIGHT; GRUPO DE DISEÑO URBANO, BOTTOM LEFT



NATURA BOTANICAL GARDEN SECTION



plaza reiterates the inverted pyramid. In addition to the biomes, the botanical garden includes a working replica *chinampa*—the “floating garden” typology that was an essential feature of lacustrine Tenochtitlán, the pre-Columbian Mexico City.

An orchidarium was created by roofing over a 100-meter-long, seven-meter-deep formerly open tank that held waste from processing petroleum. “It was a mess,” Schjetnan recalled. Visitors now stroll through it on a walkway elevated above a simulated forest floor of bromeliads and ferns, as if walking through the tree canopy. The orchids are on shelves, metal grids, or columnar cages suspended from the rafters. Its great narrow length and semisubterranean position make the orchid house a dramatic space.

It was an unusual and didactic move to locate the botanical garden so that virtually every park visitor would pass through it—even if they were just headed to the great lawn for a picnic or to an event in the amphitheater. Its gardens and greenhouses can be explored by anybody, on impulse. And even those uninterested in botany and biomes must register, if only subliminally, that something intentional to do with the natural environment is going on around them.

TECNOPARQUE



ABOVE
The pools provide aeration for the graywater treatment.

RIGHT
In a bustling city, the plazas are refreshingly tranquil spaces.

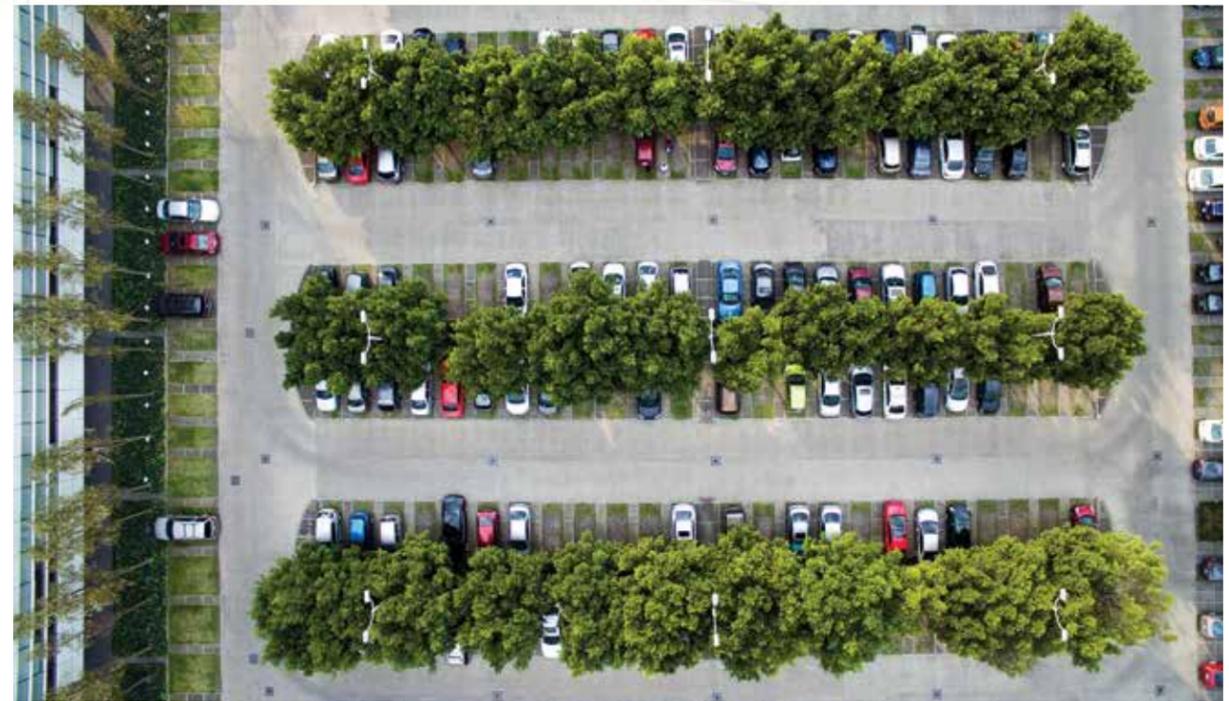
N DENSE, kaleidoscopic, polychrome Mexico City, Tecnoparque is a spatial and aesthetic anomaly. The tenants—mostly back-office units of banks and tech companies, who have 12,000 employees on site—occupy six restrained, virtually identical buildings. The buildings are three stories high and 80 meters square. They are glassy at ground level, where deep overhangs create porticos along all four sides. Above, their facades are white-clad, with continuous ribbon windows. The buildings sit in a checkboard grid. The spaces between them are 100 meters square. At the property's perimeter, those voids are mostly parking. But the three central ones are pedestrian plazas. The buildings' duplicative mass and horizontality set up a rhythm and a sense of containment. This arrangement might have been boring, but passing diagonally through the portals made



FRANCISCO GÓMEZ SOSA



FRANCISCO GÓMEZ SOSA, TOP RIGHT AND BOTTOM; GRUPO DE DISEÑO URBANO, TOP LEFT



TOP LEFT
An early concept drawing of the plazas.

TOP RIGHT
Each building has a landscaped atrium.

LEFT
Parking areas are lushly planted.



by each pair of buildings' juxtaposed corners evokes a momentary compression and reveal. The quiet architecture frames and directs attention to the wide-open plazas. The plazas are identical in dimension, function, and program, but rich in their design.

Each plaza is focused on a pool. Each pool, at its edge, has a structure with a terrace. One pool is sinuously free-form, and its building, a café, is a curve with a canted roof on an oval pad. One pool is rectilinear but with staggered margins, and is crossed at an angle by a footbridge; its adjacent

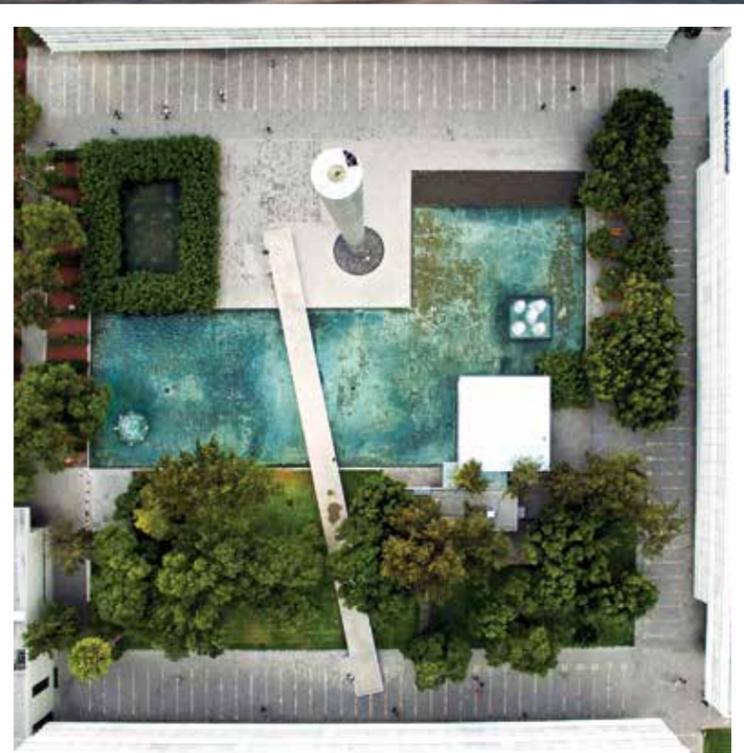
TECNOPARQUE



ABOVE
Openness and a soaring sculpture lend drama to the first plaza pedestrians enter.

RIGHT
The plazas are identical in dimension but distinct in design.

building, also a café, is in plan a trio of overlapping rectangles. The third plaza's pool is a long, neat rectangle. The adjacent building, a smaller rectangle of similar proportions, is a multipurpose function room; this plaza's café is across the water tucked into an intimate grove of orchid trees. The pools are filled with recycled wastewater. Unseen beneath their concrete floors are the cisterns, in the same shapes, that hold rainwater. "We turned around a problem into an opportunity," said Schjetnan. From scarcity came "the icon that the plazas have—a lot of water." The axes that run between the buildings and demark the plazas are uniformly paved in a specially formulated dark concrete that incorporates pulverized volcanic stone and are striped with rough-faced, contrastingly light



PEDRO HIRIART, TOP; FRANCISCO GÓMEZ SOSA, BOTTOM

GRUPO DE DISEÑO URBANO, TOP; FRANCISCO GÓMEZ SOSA, BOTTOM



ABOVE
The campus is defined by modules 100 meters square.

LEFT
A grid of trees casts dappled shade over one plaza.

marble. But in each of the plazas, the other hardscaping, the plantings, and the experiences of space are distinct.

Tecnoparque includes a small retail center including a day care, a bank branch, a gym, and a food hall that opens to a playground garden on a small publicly owned adjacent parcel. The development's mixed-use nature is challenged, though, by the need for security. The retail section is publicly accessible. Entry to the office park itself is controlled, perhaps partly because of the country's ongoing problems of narcoterrorism and crimes of opportunity—although Mexico City is safer than many locales—but also because of the sensitive work that goes on there. "It's a nerve center," Schjetnan remarked. "They control all of the plastic cards for Mexico and Central America." This interface between open and secured areas

is a recurring challenge in Mexican projects. Here GDU turned another problem into opportunity. Compression and reveal: The main pedestrian entry involves a walk down a long, narrow garden, through glass doors into a lobby, which serves as

a checkpoint, and out through its equally transparent far side into the first of the big plazas. It's unfortunate that not everyone can experience this encounter with design, but for the office workers it must be an energizing daily moment.





MANY ASPECTS of this park's creation are unprecedented in Mexico's capital. Unprecedented, too, is the area immediately around it, a squeaky-clean edge city consisting almost entirely of architectural statement residential and office towers. Called Santa Fe—or New Santa Fe, to distinguish it from the adjacent working class district—its construction was prompted by an exodus from more centrally located posh neighborhoods badly affected by a 1985 earthquake. It's the kind of place where every building sits on a parking-deck podium, and there are



FRANCISCO GÓMEZ SOSA



FRANCISCO GÓMEZ SOSA



sidewalks but no street life. Until the park opened late last year, there was no civic space either.

La Mexicana is built on the site of a decommissioned sand and gravel mine, in an area of steep ridges at the southwest margin of the city. An early master plan slated its 41 hectares for parkland, but as property prices soared, there was pressure to use it for housing instead; as many as 12,000 units were proposed. In an instance of public engagement that is unusual here, locals mobilized in opposition. The eventual result was an agreement to use 70 percent of the site for the park, and the remainder for new infrastructure and 1,600 housing units—plus an innovative accord by which the developers of the housing subsidize the construction of the park as well as a citizen-led trust that operates it.

Owing perhaps to the insistence of entitled residents in the immediate neighborhood as well as to this funding source, the park is elaborately programmed—and splendidly realized. It has a land art-caliber skatepark. A playground is overlooked by the terrace of a chic boulangerie; there's also a Starbucks, and a long curving portico that functions as a food court. An impressively well-furnished dog park adjoins a Petco outpost and a veterinary clinic. Of course there are running and biking tracks, and a second phase will locate athletic fields on the roof of

ABOVE
Instead of gates, a gateway signals openness and welcome.

LEFT
Bioswales, a channel, and a pool with a fountain form part of the "humid axis."

LA MEXICANA



a new underground Costco store. Such active functions are balanced by thoughtful opportunities for quiet use. Two high places with long views, for example, are scattered with shade structures, each of which

supports a hammock, and also have grassy circular depressions you can stroll down into so that the metropolis disappears, along with its background rumble; Schjetnan calls those “hidden gardens.”

At the main pedestrian entrance to the park—a short walk from a station on a regional rail line that’s nearing completion—Schjetnan conceived a “civic plaza.” It’s like a crossroad, where the main promenade through the park intersects a walkway connecting the already built high-rise area with the future residential development on the park’s opposite side. Schjetnan describes La Mexicana as having “both a human axis and a humid axis,” which twine together through the park’s length, the latter being a sequence of fountains, channels, bioswales, and pools. This park too is designed to collect and manage stormwater and use treated water for irrigation, although geology made injection wells unaffordable because the aquifer here is 350 meters down through rock.



ABOVE
Residential development of adjacent land will underwrite the park’s cost.

RIGHT
There are a 4.3-kilometer bike path and a 3.5-kilometer running path.



LEFT
Open space and civic space, for a high-rise edge city.

BELOW
A “hidden garden” depression in a hilltop gives visual and aural respite.

At the park’s two main entrances there are structures, painted shocking pink, that look like gates. They are gateways, not barriers, and are always open, as is the park itself. A slogan was promulgated during the public planning process: “Un parque de todos,” or “Everybody’s

park.” Between the glamorous new towers and the poorer neighborhoods nearby, class differences can’t be ignored. At La Mexicana, interaction between people of all classes will also be unavoidable—a point Schjetnan made with a pleasurable grin. ●

JONATHAN LERNER IS THE AUTHOR OF THE 1960S MEMOIR *SWORDS IN THE HANDS OF CHILDREN: REFLECTIONS OF AN AMERICAN REVOLUTIONARY*.



GRUPO DE DISEÑO URBANO, TOP; FRANCISCO GÓMEZ SOSA, BOTTOM

FRANCISCO GÓMEZ SOSA