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EDITORIAL SUPPORT Linda Ransey, *linda_ransey@mcgraw-hill.com*
Monique Francis, *monique_francis@mcgraw-hill.com*

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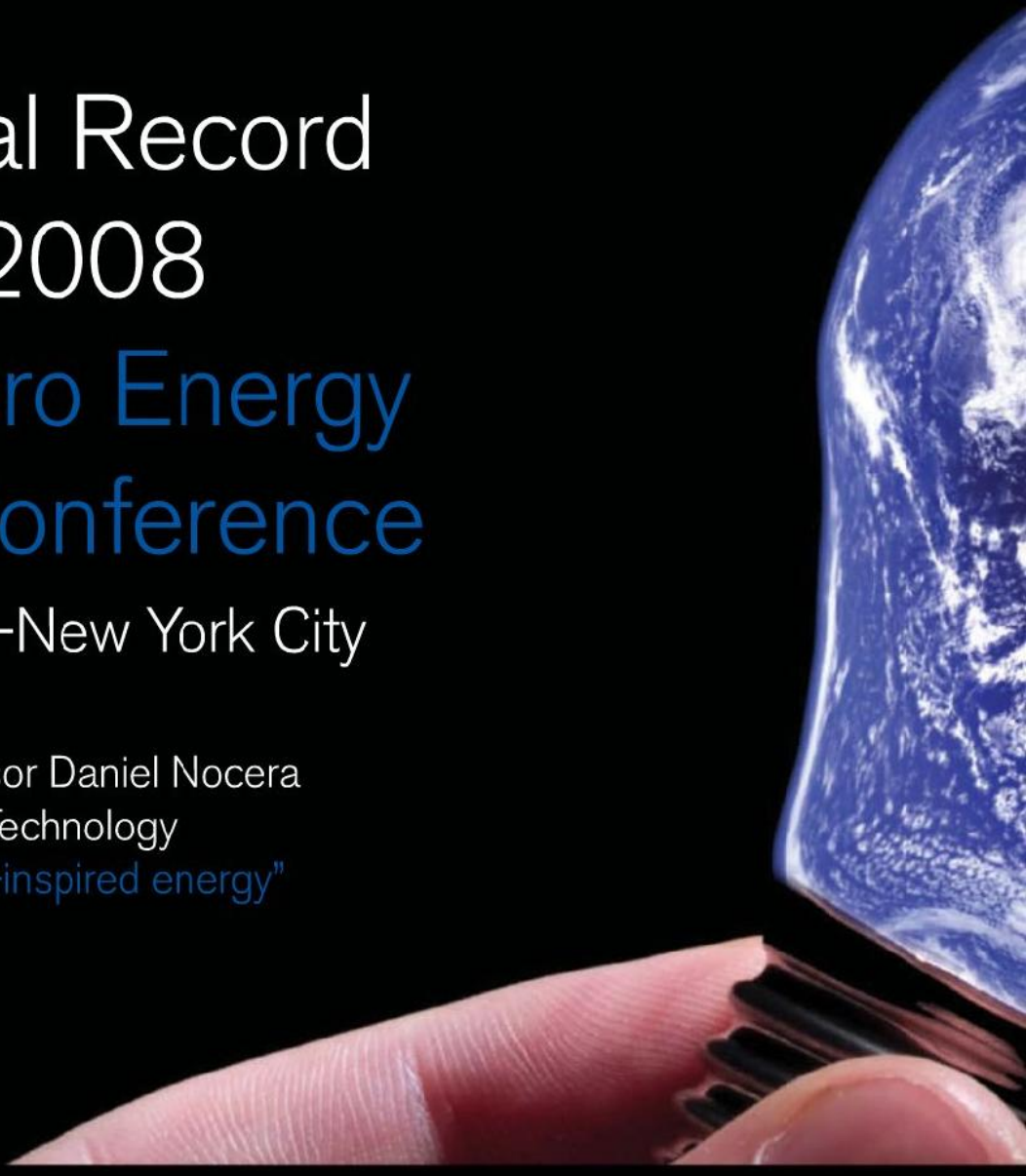

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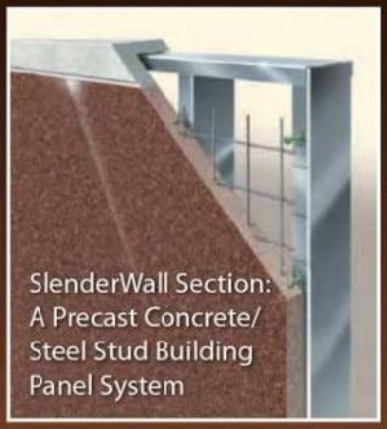

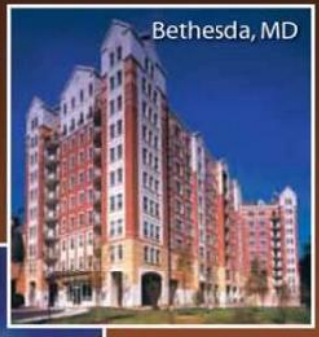

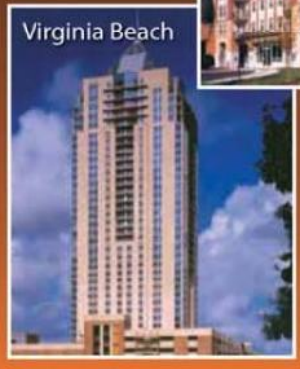

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CIRCLE 16

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China's building boom provokes ethical debate

Steven Holl, who designed Linked Hybrid (below) is one of many architects who have accepted commissions in Beijing (left).

Earlier this year, during an urban development forum at a university in Belfast, Ireland, the New York–based architect Daniel Libeskind ruffled feathers when he admonished fellow architects not to accept commissions from China and other so-called repressive regimes. "I think architects should take a more moral stance," he proclaimed. The Polish-born architect's speech incited backlash from colleagues and charges of hypocrisy—some pointed to his Hong Kong project, the now-under-construction Creative Media Centre—but his remarks raised a question that can leave some architects feeling squeamish: Is it ethical to accept commissions from authoritarian governments with poor human rights records?

It is a dilemma that more firms are facing as globalization puts foreign markets in reach, and nondemocratic Asian and Eastern European countries direct their attention toward large-scale urban development. Beijing is a prime example. The ancient city is booming, thanks to ambitious economic development schemes envisioned decades ago. More recently, scores of architects, from Herzog & de Meuron to Rem Koolhaas, have descended upon the ever-sprawling metropolis, which will host the 2008 Olympics. The cost and scope of projects are astronomical. Consider Norman Foster's $3.5 billion Terminal 3, which at 14 million square feet broke the record for the largest airport in the world.

Such projects certainly help bring foreign investment to places that traditionally have been closed off from the transformative power of capitalism. High-profile, mega-projects "can turn the world toward these countries and turn these countries toward the world," says Georges Binder, president of Buildings + Data, a firm that compiles construction statistics. Foreign direct investment in China reached $70 billion in 2007—up from $45 billion in 1997, a 55 percent increase. For an often-criticized government, the public relations boost generated from large-scale projects "can be worth several times the investment," Binder says.

While the money might be pouring in, it's unclear if these developments benefit residents. These "grand-scale urban adventures" can have huge implications, says University of Miami urban design professor Jean-Francois Lejeune. In Beijing, the government has allegedly displaced more than one million people since 2001 in order to construct new buildings and infrastructure, according to the Geneva-based Center on Housing and Eviction Rights. Additionally, it has razed traditional courtyard housing complexes known as *hutongs*, regarded by many as historic relics that merit preservation.

Some designers are taking a second look at their buildings' political resonance. Ai Weiwei, artistic consultant on Beijing's 100,000-seat National Stadium, told Reuters last summer that China's new infrastructure was like a "pretend smile," plastered on a cold, unfeeling face. Weiwei renounced his participation in the project and slammed the "opportunists" whom he claims aided and abetted the "powerful manipulators" in charge. But obviously, not all architects take the same stance. Refusing a commission can be a heartbreaking proposition, since developing markets can offer good pay and fertile ground for innovative design. In a recent article in *The New York Times Magazine*, Steven Holl said of his Linked Hybrid project in Beijing, "In America, I could never do work like I do here. We've become too backward-looking. In China, they want to make everything look new." (Several firms with commissions in China were contacted for this story, but nobody was available for comment.)

Holl is not alone. "No one I know has refused to work in China," says Joan Capelin, a New York–based public relations expert for the building and design industry. "Architects are glad to have these somewhat unfettered opportunities to design to their heart's content." Urban planning professor Thomas J. Campanella, whose recently published book *Concrete Dragon* examines the forces behind the country's urban revolution, adds that critics of China's human rights record should acknowledge how far the country has come. "China has lifted more people out of poverty than any other nation in history," he says. "Obviously, there is something positive happening." *Dorian Davis*

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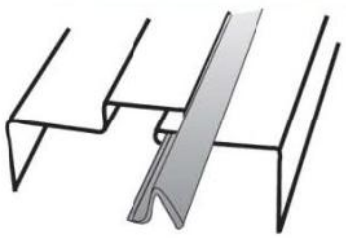

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CIRCLE 30

Learning from the *hutong* of Beijing and the *lilong* of Shanghai

Critique

By Michael Sorkin

"I do like the grandiose."
Mao Zedong, 1958

I had been to China frequently, but somehow, until a few months ago, never to Beijing. Like many cities in China, it's intimidatingly vast and growing like Topsy. Unlike other cities, though, it is laid out with an orthogonal monumentality, with vast boulevards, widely spaced buildings, and a thick aura of imperium.

The prototype for the city as a whole is the famous Forbidden City, described by Marco Polo as the finest, most complete palace complex on the planet ("... no man on earth could design anything superior to it")—an astonishing monument to dynastic power. Centralized authority loves recursion, seeing its favored forms deployed at every site and scale; official Beijing is an exemplar of this merger of symbol and control. As Versailles is to Haussman's Paris, the Forbidden City is to both historic and contemporary Beijing. And the Forbidden City was itself conceived recursively, as the terrestrial expression of celestial geometry.

The astonishing building program the city has undertaken in preparation for the coming-out party of the Olympics is an obvious extension of this attitude. The insistent grandiosity, the incredible extent, the mobilization of labor, the fixation on symbolism, and the centralization of planning, all announce a representational project as well as an urban and architectural one. The city proclaims its importance at every turn, from its humongous airport to its endless ring roads and millions of saplings planted to proclaim its greenness, mitigate the toxic air, and obscure in Potemkin fashion the remnant disorder beyond the highways.

That so many of the striking buildings of this effort are designed by

foreign architects is also powerfully symbolic. For millennia, China has been known for its resistance to outside influences from non-Han barbarism. The country's modern history, in particular, has been defined by the struggle against colonization, invasion, and influence by imperial powers and ideas, including the now disappearing resistance to capitalist ideology. Indeed, as China heads in breakneck fashion down that particular path, it is laying an infrastructure that reflects the architectures and attitudes from our own high-water of capitalist consumption in the 1950s and '60s. The car and its implications

Walls, courtyards, and lanes of different sizes define both the residential areas of the Forbidden City (above) and the common *hutong* (left).

are embraced enthusiastically, creating prodigious traffic jams, freeways galore, pollution, and sprawl with all its components, from gated suburbs to numbing commutes.

The wanton hybridity of this urbanism is very much of a piece with global developments and, as elsewhere, the splicing produces forms that are alternately freakish, fascinating, forbidding, and familiar. For a culture that is immersed in an internal argument about "opening" to the outside, the conflicts between tradition and globalism are of striking importance. A revelatory incident in this debate was surely the closing last year of the Starbucks that had been operating within the Forbidden City since 2000. Closing the store was the result of a petition drive that collected half a million signatures in protest of this "affront to China's dignity." But where to draw the line?

China has been struggling with issues of indigenousness and influence for many years. If the current model for development is strongly shaped by the multinational metropolis—the format for cities from Los Angeles to Dubai—the Maoist period was in thrall of Soviet models of mass housing, heavy infrastructure, and Stalinoid monumentality, as well as the desire (most radically expressed during the Cultural Revolution) to expunge remnants of the decadent, classist imperial past. But the confrontation between native and imported formulations also led to the creation in the 19th century of a building type that proliferated by the millions and continues to offer a valuable solution to questions of life in the city while engaging both the happinesses and the anxieties of influence. It also suggests an important strategy for mediating the compatibility of large and small, surely one of the most vexing issues for the postmodern environment.

Visiting the Forbidden City, I was

Contributing editor Michael Sorkin is the director of the urban design program at City College of New York and runs Michael Sorkin Studio.

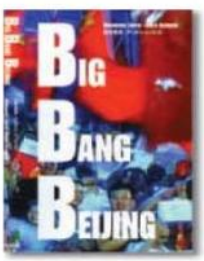
PHOTOGRAPHY: © CLIFFORD PEARSON

Books

to do business in Asia, Lu avoids formulaic quick fixes and emphasizes the importance of approaching unfamiliar Chinese styles of professional practice with patience and open-mindedness. The book is packed with good advice on topics ranging from Chinese dining etiquette to differences between Western and Eastern styles of perspective drawing. Illustrated and clearly written, *China, China* is an invaluable guide for Westerners hoping to succeed in the world's largest construction zone. *Norman Weinstein*

Big Bang Beijing, *by Hiromasa Shirai and André Schmidt. Tokyo: Kajima Institute Publishing, 2007, 305 pages, $53.*

You can hear it across the world, the boom of Beijing. The rapid urbanization of China's capital is making headlines not only in architectural magazines but general-interest publications and newspapers, as well. It's the subject of films, seminars, exhibitions, studio courses, and other forms of urban discourse.



In this colorful new book, architects Hiromasa Shirai and André Schmidt—who have worked in the Rotterdam and Beijing offices of OMA—have assembled a splashy photographic essay with brief passages (in English and Japanese) on such topics as construction, demolition, commerce, leisure, and the Olympics. The book includes a very short "Observation" from Rem Koolhaas. The authors say they hope to "weave our own Beijing tale … to capture the coexistence of the old and the new." At times, their notion of comparing old and new becomes mildly repetitive, but their intimate vignettes of Beijing's development trumps any weakness.

The images tell the story of a city undergoing an extraordinary transformation and deliver most of the book's impact. If you're an architect who has yet to venture to Beijing, you can get a quick feel for the city here. For example, in just one four-page section, the authors have assembled 32 up-close photographs of various (and all-too-typical) Chinese building facades. Other sections show images of parks, bicycles, and city banners, and help reveal the inner workings of the city.

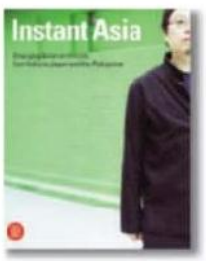
A mostly visual overview of the often-controversial subject of Beijing's radical makeover, this book is a quick read with easy-to-flip-through photography, but it should heighten our awareness of the great cacophony coming from Beijing. *Jennifer Richter*

Instant Asia: Emerging Asian Architects from India to Japan and the Philippines, *by Joseph Grima. Milan: Skira, 2008, 260 pages, $43.*

As recently as five years ago, when architects spoke of a "postcritical" environment, they typically meant an intellectual situation, a theoretical space where theory itself had been suspended and the practitioner could tumble headlong into the surge of contemporary life. Today the postcritical has an address: *Instant Asia* chronicles a continent in transition, its landscape a hothouse for architecture run riot.

The notion that China in particular is the "Wild West" of development has gotten a lot of play in the American press, and author Joseph Grima plays along. Grima, the director of Storefront for Art and Architecture in New York City, jumps the red-eye from city to city and country to country, interviewing no less than 22 Chinese, South Korean, and Japanese architects, each of whom discusses one or two signature projects. By Grima's own admission, his book is a "Polaroid," an action shot of a scene in motion, and the frantic pace he keeps squares nicely with his claim for Asia's "velocity, complexity and vigor."

Of course this brave new Asia did not emerge *ex novo*. If the Hong Luo Clubhouse by China's MAD Design seems a bit Hadid-ish, it is—two of the principals emerged from Zaha Hadid's office. The Wuhan French-Chinese Art Centre by Standardarchitecture of Beijing could be mistaken in the dark for Herzog & de Meuron's Forum Barcelona. Grima, quite rightly, makes no attempt to identify an "Asian aesthetic." What's remarkable is how easily Western design strategies,



urbanism, and functional programs have taken root in the supposedly savage terrain of hypercapitalist Asia.

But even the few really novel designers surveyed here—Ai Weiwei, for example, whose spare Courtyard 104-105 makes the book's cover—fail to evince an interest in either the formal or political condition of this architectural moment. Or perhaps they do—perhaps their work might yet reveal a critical impulse and only awaits an Asian critique as energetic as the present building boom. *Instant Asia* is an advertisement for such an investigation, and it arrives just in time for the 2008 Olympics. *Ian Volner*

Beyond Bawa: Modern Masterworks of Monsoon Asia, *by David Robson. New York: Thames & Hudson, 2008, 264 pages. $80.*

Geoffrey Bawa (1919–2003) was Sri Lanka's most important Modern architect and a very influential designer throughout "Monsoon Asia," including India, Singapore, and Indonesia. In this lavishly illustrated study of Bawa and his followers, David Robson, author of *Geoffrey Bawa: The Complete Works*, makes a convincing case for the continuing power of the Bawa legacy.

Bawa was trained at the Architectural Association during its heyday—John Summerson, Peter Smithson, and Maxwell Fry were among his teachers, and fellow students included Kenneth Frampton and Denise Scott-Brown. But his Modernism was tempered by the heady traditions of his native Ceylon—an overlay of Indian, Portuguese, Dutch, and British masters mixed with Buddhism, Hinduism, Islam, and Christianity—and its equatorial climate. Bawa's "contemporary vernacular" acknowledged the Modern masters but was more indebted to local traditions.

Bawa's apostles are creating some of the better new architecture east of India. Australian Peter Muller, for example, came to Bali via the University of Pennsylvania, while fellow countryman Kerry Hill works in Bali, Singapore, and Sri Lanka. Ernesto Bedmar, an Argentine, has practiced in Singapore for 20 years. The two dozen architects whose houses, hotels, and apartment blocks fill half of *Beyond Bawa* may be unknown to Americans, but their sensitive and beautiful Monsoon Modernism is a revelation.

Most of all, the work of Geoffrey Bawa and his followers is a refreshingly modest antidote to the bloated Western skyscrapers that afflict so much of a growing Asia. *William Morgan*

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CIRCLE 41

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approach than other similar projects in Beijing. It's a political project. Unfortunately, design does not matter much. Once inside of the neighborhood, there was more need for design innovation."

My initial visit to the main street was postponed when the mayor arrived for an inspection. The next morning, I strolled down the avenue, paved with flagstones and lined with gray-brick buildings that formed a contiguous street wall. I was happiest to see benches, trash cans, potted flowers, and crab-apple trees. Unique to Beijing, the project invites pedestrians to sit and linger. How the site will be transformed by actual use, however (think security guards and shops that serve tourists, not locals), remains to be seen. What's known is that the project will transform the neighborhood as redevelopment proceeds outward, like ripples on water.

This worries Chinese entrepreneur Kane Khan, who spent $375,000 renovating a historic hotel one block from the SOHO project. Though labor and material expenses are low, the cost of preserving a century-old building remains high. Restoring a single courtyard home requires the same paperwork as constructing a 20-story high-rise. Khan had originally budgeted $250,000 to restore the Qianmen (Front Gate) Hostel. Instead, he faced cost overrun after overrun, bringing the two-story brick building up to fire and health codes—not to mention the "gifts" he felt compelled to distribute to bureau officials. The city decreed his business would be a hostel; because it was a historic structure, Khan was forbidden to install ensuite plumbing or otherwise alter its infrastructure. Officials wouldn't tell him the city's plans for the surrounding *hutong*; the Hand could come along and paint 拆 when it pleased. As his business was about to open, the district government announced it was constructing a new upscale hotel directly across the street, in the antique style of the authentic structure he had spent so much to revive.

In the hostel's open courtyard, as we sat surrounded by burgundy beams, green posts, and red lanterns, Khan dismissed praise for his work. "It would have been so much easier to build anew," he said. "I figured that visitors wanted to see authentic Beijing." Then he realized how hard it would be to dry out the damp walls, upgrade the electricity and plumbing, and install fire sprinklers. Local officials did not applaud him for installing solar water heaters; using gas would have increased its revenues. Khan fired the original designer after he began painting over the old wood, dating from the former teahouse's inception in 1850.

After he paid for the hostel's facade to be restored, a city directive ordered all neighborhood structures to look uniform, so government-hired workers arrived to cover the original brick with gray tiles. The sound of workmen carried into the courtyard, where Khan fingered one of his many new gray hairs. "This hotel was a secret Communist meeting place, when the party was being persecuted in the 1920s," he said. "The carved wood screens in the rooms upstairs date to the 19th century. It's so difficult to find stories and facts about old architecture. When I signed the lease, the building was being used as a dormitory for the Railway Bureau." He pointed to a collage of photos he had collected during renovations: men standing on tracks and before East is Red diesel engines. "There isn't even a plaque out front," Khan lamented. "Will you write one?" ■

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The Hand shows itself on doomed buildings (1, 2). A view into the interior of a *hutong* (3). The Yanshou Jie (Prolong Life Street) market in Dazhalan (4). New two-story houses (5). High-rises replace century-old courtyard homes in this complex just south of Tiananmen Square, which includes a Wal-Mart (6). Qianmen (Front Gate) Avenue has been remade into a pedestrian shopping mall, with buildings that replicate the street's appearance in 1949 (7).

PHOTOGRAPHY: © CLIFFORD PEARSON (3); THEODORE WRIGHT (4); MICHAEL MEYER (5, 6, 7)

you don't get a true sense of bearing until you tour the Beijing Planning Exhibition Hall and stare at the massive relief map of the city. That's where my hotel is!

Instead, you remain in a state of heightened awe, proceeding along the major roadways past bombastic glass-fronted mega-buildings, stunned by a rhythmic processional of heft and size that rings in the mind like the physical embodiment of enormous bronze bells. The massive scale—of buildings and avenues and public and private spaces (the most voluminous hotel lobbies!)—dominates contemporary experience and the visual field. St. Petersburg under the czars, Speer's Berlin, Imperial Rome—the ordered processional evokes inevitable comparisons, and all fall short of accurate analogy. Nowhere have power and immensity converged so completely.

Two construction sites within Beijing, one recently completed and one ongoing, illustrate the pace of change most pointedly. To anyone flying into the city a decade ago, arrival at the airport meant a mind-numbing scramble through the cacophonous hoards teeming in and around Terminal 1, a tiny (by international standards) structure choking on its own success. By contrast, today's visitor whisks through the sleek confines of newly opened Terminal 3, one of the world's largest buildings, designed by Foster + Partners working with Arup, in which passengers find baggage areas on a direct egress path from the arrival gate. Unlike the past, no one yells.

Headed in from the airport, the city morphs. Parkland adjacent to the road now brings greenery and walkways to thoroughfares that had been clogged with thousands of bicycles. Mature-looking trees, planted just two or three years ago, screen industrial areas and high-rise housing. Across the city, peering up like giant giraffes along the motorways, high above the trees, construction cranes lumber and turn, lifting a new generation of towers higher and higher in a multibillion-yuan construction frenzy. International brands loft above the foggy night like sails.

Ubiquitous, pervasive, the night air seems palpable, like a surreal force blanketing the city. While generated in part by coal-fired power plants, and in part by other industries (including the dust kicked up by construction sites), the haze brings a gloomy quality to most days that masks its real impact on health. The World Health Organization reports that Beijing's air sometimes reaches five times above the agency's safety standards. Adding to the brew, the wind sometimes brings a choking, silica-based dust from the Mongolian desert plains, which locals call *shachenbao*, or "dust cloud tempest." Still the towers rise.

CITY MAP

PHOTOGRAPHY: © ROBERT IVY (THIS SPREAD); DIGITALGLOBE (PREVIOUS PAGE)


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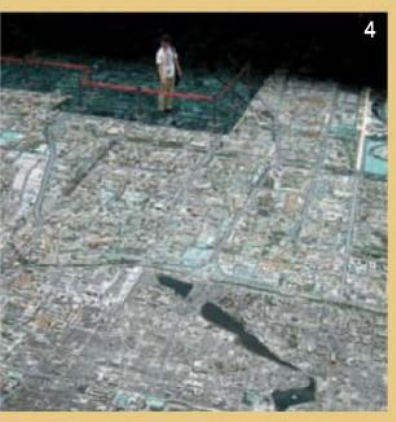
The Geneva-based Centre on Housing Rights and Evictions claims that 1.5 million residents will be displaced from their homes for the Olympics.

More than 1,000 cars a day are added to Beijing's streets.

From its start in 1990 until 2003, the city's Old Dilapidated Housing Renewal program evicted more than 500,000 residents from the city center.

In 1988, there were 5.6 million bicycles in the city.



1. A street in one of the city's fast-disappearing *hutong*. 2. Crowds walking along the monumental avenue that runs in front of the Forbidden City. 3. View of Beijing's burgeoning central business district with CCTV and China World Trade Center under construction. 4. Model of the city at the Beijing Planning Exhibition Hall.

If high-rise towers alternate with open spaces along major highways, and neighborhoods lack the cheek-by-jowl quality of Hong Kong or Shenzhen, density in one precinct approaches Manhattan levels. The CBD, set in the Chaoyang district east of Tiananmen Square, has witnessed the majority of the tallest and biggest structures of recent years. CCTV's massive headquarters, designed by the Dutch firm OMA and the China World Trade Center, by SOM, now join earlier complexes like the award-winning Jian Wai SOHO complex by Riken Yamamoto and the Yintai Center, originally designed by John Portman.

Those towers, the Olympic site, and Terminal 3 all required land. For Beijing, whose urban DNA had consisted of an interlinked aggregation of small-scale neighborhoods called *hutong*, progress has meant deconstruction of existing buildings, in many cases people's homes. In a city that counted over 4,000 *hutong* at one point, up to 70 percent have been destroyed, according to China's own news service, Xinhua. The past has been literally erased in a generation. Again, a visit to the Beijing Planning Exhibition Hall tells the tale more graphically than words. A massive bronze relief sculpture of the old city, frozen at a scale of 1:1,000 from the year 1949, exhibits a city of two- and three-story buildings, still dominated by the Imperial structures of earlier centuries. No skyscrapers punctuate the skyline.

Contemporary Chinese architects and planners and other cognoscenti have rediscovered the *hutong*, where today's visitor can find crowds mingling from a variety of backgrounds, taking in the evening air arm in arm. The hip might dip into an alleyway to a contemporary hotel or restaurant, renovated from the historic fabric of a courtyard building, while ordinary citizens go about their routines of haircuts and shopping. Architects like Ma Yansong and his partner, Dang Qun, who both trained in the United States, occupy the top floor of a building down such a street, a locale that flavors each workday with a taste of an earlier, more authentic Beijing.

The architects' offices raise the question of authenticity in modern Beijing. What does the term mean in a city so rapidly reinventing itself? And does the question of authenticity have relevance, when posited through our Western eyes? Beijing has long seemed the most Chinese of cities, with its historic precincts, its palaces and lakes, its narrow lanes where smoke curls up past 16th-century buildings. Now mandarin-collared mannequins from the 1950s in shop windows confront posters touting Euromodels wearing skimpy Gucci and Calvin Klein while everyone clings to a cell phone. Restaurants circling Hohai Lake, near Beihai Park, fill older pleasure houses now outlined in neon. Shopping malls bring capitalism to the Communist capital. Squint, and the world elides.

The disjuncture between modernity and history has provoked a vibrant art scene that has found a home in districts like Dashanzi, whose galleries and hip restaurants are housed in former factories away from the center of the city. Artists, dealers, tourists, and the curious throng here to Factory 798, housed in the vaulted halls of a former industrial facility designed by Bauhaus-trained architects. Robert Bernell, an American, founded Timezone 8 bookstore and café, which serves as a locus for the architectural community at Factory 798. Nearby, workers still disassemble small engines and break for noodles during the noon hour.

Pervaded by the ironic, by cultural confrontation, Beijing overwhelms our intellectual gamesmanship with its power and ubiquity. Today's architects are finding a clear field that allows them to realize urban dreamscapes that a lifetime's apprenticeship in the conservative workhouses of Europe or America might never fulfill. The results arrive mixed: The best show the increasing sophistication of both clients and designers, while the vast majority, the middle-of-the-road buildings that stretch to the end of sight, continue to meet the need for shelter without detail or planning finesse. Beijing, like China, is growing up. The city has bypassed adolescence, jumping into a big, newfound maturity at once awkward and thrilling. Where, we must ask, will this gangling, energetic phenomenon go?

In 2001, there were 8 million bicycles and 1.4 million motorized vehicles.

Beijing has three times as many taxis as New York City. Taxis alone account for one-third of all traffic.

In 2007, there were 10 million bicycles, and 3 million motorized vehicles.

In 2005, there were 626 public bus routes in service covering 11,800 miles.

By Clifford A. Pearson

What happened to all those blue-mirrored-glass buildings that popped up everywhere in Chinese cities in the 1990s? Where are the white-bathroom-tile facades I remember so well from my first trip to Beijing in 1995? They're probably still standing, but they no longer dominate Beijing's cityscape the way they did just a decade ago. Today, they sit in the shadow of some of the most daring and sophisticated architecture going up anywhere in the world. You drive by them, but they don't really register because you're craning your neck to see OMA's CCTV tower or catch another glimpse of the remarkable bridges connecting the upper levels of the towers at Steven Holl's Linked Hybrid housing complex. When I visited the Olympics site this April, I noticed hundreds of people standing on highway overpasses and peering through construction fences at the Bird's Nest and Water Cube before they opened. Everyone was posing, snapping photographs, and gawking. In Beijing, architecture has become a spectator sport.

The city's rapid transformation from repository of tacky architecture to avatar of avant-garde design is anything but complete. You'll see plenty of examples of crass commercial development and even some recent manifestations of pagoda-roofed towers and cornball chinoiserie if you visit Beijing today. And the never-ending construction boom has wiped away enormous swaths of the city's historic fabric. Michael Meyer, an American writer who has lived for several years in a tiny apartment carved out of a decaying coutyard house south of the Forbidden City, chronicles the ever-present threat to Beijing's *hutong* (page 72). These narrow lanes and the bustling communities they support once gave the city its unique character, serving as essential conduits for a social structure that emphasized connections between residents and their neighbors. As the *hutong* disappear, giant towers and malls rise from superblocks, throwing the city's scale out of whack and creating a metropolis devoted to the needs of the automobile, not the pedestrian.

Some of Beijing's best young architects are struggling to address the *hutong*'s demise. Confronting intense development pressure to build big, practitioners such as Yung Ho Chang and Zhu Pei have proposed designs that recall the fine-grained patterns of the old city, even if they involve new construction. In the redevelopment of the Qianmen district south of Tiananmen Square, Chang (and several other talented architects) seem to have lost many of the design battles to powers more interested in "theming" the main avenue than in sensitively evoking traditional streetscapes. But Chang remains optimistic that the project as a whole will represent a step forward in developing a pedestrian-oriented neighborhood. Last year, Zhu's studio devised a strategy for redeveloping the Xisi Bei *hutong* area by preserving or "freezing" its best elements, inserting modern interpretations of traditional structures, and adapting industrial buildings added in the 1950s and '60s to new uses. The plan envisions converting the industrial buildings—what Zhu calls "tumors"—into urban incubators where new businesses can start-up and grow. While maintaining the *hutong*'s pattern of narrow lanes and irregular open spaces, the scheme would enable the district to carry on its tradition of change and renewal.

Most large-scale commercial development from the past two decades has ripped large holes in the city's urban fabric, but a few projects have pioneered a more progressive urbanism. For example, Beijing Finance Street, a 9.25-million-square-foot mixed-use complex on the west side of town, features buildings that hold the street edge and encourage pedestrian activity, parking tucked below grade, and a crescent-shaped public park at the center of the site. Planned by the San Francisco office of Skidmore, Owings and Merrill (which also designed many of the buildings), the project connects to the streets and buildings around it and is now being used by the city's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PHOTOGRAPHY: © TIM GRIFFITH (1, 3); COURTESY AI WEIWEI (2); SHUHE ARCHITECTURAL PHOTOGRAPHY (5, 6)

In 2008, there are 5 subway lines in operation with 88 miles of tracks, 83 stations, and 3.51 million riders each day.

Rainfall is less than 24 inches a year. As a result, Beijng is facing a water shortage.

53 miles of subway tracks currently are under construction. The city hopes to build 349 miles by 2015.

In 2005, the amount of suspended particles in the air inhaled by city dwellers per day as represented in cigarettes was 70. In comparison, residents of Milan inhaled the equivalent of 15 cigarettes, London 29 cigarettes, Los Angeles 35, and Mumbai 50.

1. SOM's Beijing Finance Street project. 2. Ai Weiwei's new gallery in an area outside of the Factory 798 district. 3. The Ullens Center for Contemporary Art in one of Factory 798's East German–designed buildings. 4. Studio Pei-Zhu's design for rejuvenating the Xisi Bei *hutong*. 5. and 6. Buildings by LOT-EK at the Sanlitun complex.

planning authorities as a model for developers wanting to work in the area.

To see another encouraging example of innovative urban development you can go to the Sanlitun district where many countries have long maintained their embassies. Called Sanlitun North and Sanlitun South, this pair of mixed-use complexes separated by just one block fits into the existing network of streets and creates a pedestrian-oriented environment with proper sidewalks and a series of courtyards and plazas. The developer hired the Japanese architect Kengo Kuma to master plan one half of the project and Hong Kong–based Oval Partnership to plan the other, and brought in edgy firms such as SHoP, LOT-EK, Beijing Matsubara Architect, Sako Architects, and Kuma to design the buildings. Scheduled to open right before the Olympics, the development mixes high-end retail with offices and a boutique hotel in low- and mid-rise buildings that feature colorful facades with projecting elements such as angled bay windows and industrial materials. After the building shells were completed, though, a new developer took over the project and seemed to be making changes to some of the exteriors when I visited the project in April.

As in other cities, the best kind of development often flows from grassroots efforts by people driven by goals other than making money. In Beijing, Factory 798, an ever changing, rapidly maturing arts district, demonstrates the power of such organic development. Pioneered by struggling artists who appropriated the impressive, north-lit spaces inside a set of derelict industrial buildings, the complex has become the red-hot center of the capital's thriving arts scene, bringing together spaces for artists to create, exhibit, and hang out, as well as places for the public to see art, buy art, and hang out. Every time I go there, I discover new galleries, studios, bookstores, and cafés that have emerged since my last visit. This past November, the 70,000-square-foot Ullens Center for Contemporary Art, designed by Jean-Michel Wilmotte and Qingyun Ma, opened with a splashy series of parties and work from the extensive collection of Chinese art of Guy and Myriam Ullens, a wealthy Belgian couple with deep ties to (and pockets in) China. After my last visit in April, the Iberia Center for Contemporary Art opened in a 43,000-square-foot space fronted by an undulating brick wall. Once a locus for renegade artists, Factory 798 has developed into something more commercial, more global, more established. Some of the artists who put the place on the map, such as Ai Weiwei, now say it has lost its edge and have moved out. But there's no question that Factory 798 offers Beijing a model for growth radically different from the top-down pattern of government-and-corporate mega-construction.

In Beijing's relentless drive to prepare for the Olympics, it has expanded its subway and light-rail systems, added the world's largest terminal to its airport, and created a site for the Games that will be a new public park after the last athletes leave. Although not officially part of the Olympic effort, projects like CCTV, the National Center for the Performing Arts, and hundreds of commercial high-rises have moved forward in its wake. At the end of August, though, the city will face a question already on everyone's mind: Now what? Olympic cities such as Atlanta in 1996 and Los Angeles in 1984 did little to expand or improve their essential urban infrastructures and saw few long-term dividends as a result. Barcelona, on the other hand, used the 1992 Olympics to build parks all over town, rejuvenate its waterfront, erect much-needed housing, and establish a new image as a global hub for innovation. During its current boom, Beijing has dealt with earlier mistakes and blue-mirrored-glass eyesores by simply obscuring them with layer after layer of increasingly expensive construction. But now the city faces monumental problems of pollution, population growth, and a widening gap between rich and poor. How it handles these challenges will determine whether it becomes a world-class city where talented people want to live and work or just a really big city constantly wrestling with really big problems. ■

Each year, 323 million square feet of space is built in Beijing.

In May 2008, 205,000 people graduated from colleges and universities in Beijing, compared with 10,000 in 1996.

In November 2007, the average price of for-sale housing in Beijing was $204 per square foot.

In 1990, there were 1,021 million acres of arable land in the metropolitan area. By 2003, there were only 64,000 acres left.

The Forbidden City encompasses 7.75 million square feet, but only 4.3 million square feet will be open to the public by 2009.

PHOTOGRAPHY BY MICHAEL GOODMAN

URBAN TRANSFORMERS

RECORD looks at a few of the people shaping Beijing's skyline and pioneering a new wave of building innovation

Yung Ho Chang
Atelier Feichang Jianzhu

Founder of China's first private architecture firm, Atelier FCJZ, and head of the department of architecture at MIT, Yung Ho Chang is at the forefront of China's architectural modernization. In his work, Chang tries to blend the contemporary and the traditional. Current projects include the redevelopment of the Qianmen district in Beijing (along with other architects), the recently completed SamHo Publishing building in Korea, and a teahouse in Chengdu. An installation by Chang will be on view this summer in the courtyard of the Victoria and Albert Museum in London.

Rory McGown
Arup

Rory McGown has been a structural engineer at Arup for 21 years, working on projects across the globe. Currently he leads Arup's Beijing office, and works on such projects as CCTV, the Shenzhen Stock Exchange Building, and Beijing's Xicui Zero Energy Media Wall. Reflecting on Arup's involvement in Beijing's development, McGown remarks, "While the Olympics have been a catalyst for unprecedented growth, this growth will continue for some time to come. Arup's role will be to continue to push the bar in engineering design skills, quality, and appropriateness."

Michael Kwok
Arup

Involved in the structural design of Terminal 3 at Beijing Capital International Airport, the National Stadium, and CCTV, among others, Michael Kwok has played an important role in implementing many of Beijing's progressive designs. Kwok joined Arup in 1986 as a design engineer and is now general manager and a director of Arup's Shanghai and Beijing offices. He is a registered structural engineer in the People's Republic of China and has worked on projects in Hong Kong and London.

Ole Scheeren
Office for Metropolitan Architecture

Ole Scheeren runs the Office for Metropolitan Architecture's Beijing office and is the partner in charge of CCTV's new building. He is responsible for OMA's work throughout Asia, including the Singapore Scotts Tower and an upcoming Prada Epicenter in Shanghai. He joined OMA and Rem Koolhaas in 1995, becoming a partner in 2002. Scheeren first traveled to Beijing in 1994 and describes the city today as "an amazing place to live." He says it is not only "quite livable, but it is in the process of becoming one of the most important cities in the world."

Li Hu
Steven Holl Architects

Li Hu has been with Steven Holl Architects for eight years, becoming a partner in 2005 and head of the firm's Beijing office in 2006. Today, he lives and works in both Beijing and New York, running such major projects as the Linked Hybrid housing complex in Beijing, the Museum of Art and Architecture in Nanjing, and China Vanke's new headquarters in Shenzhen. In 2002, Hu worked with Holl and Yung Ho Chang in launching the bilingual architectural journal *32:Beijing/New York*.

Brian Timmoney
Foster + Partners

Brian Timmoney grew up in London and joined Foster + Partners in 1990. He moved to Hong Kong in 1992, returned to London in 1997, then headed to Malaysia in 1999 to spend four years working on the Petronas University of Technology. Timmoney is now partner and chief representative of Foster + Partners' Beijing office. Recent work includes the Ping An International Finance Centre, the Huadu Mixed-Use Development in Guangzhou, and an office tower in Kuala Lumpur.

Zhu Pei (right)
Wu Tong (left)
Studio Pei-Zhu

Zhu Pei and Wu Tong have designed a number of influential projects in Beijing, including the Blur Hotel (Hotel Kapok), the Beijing Publishing House, and Digital Beijing. The firm was featured in RECORD's Design Vanguard in December 2007. Zhu trained in both the United States and China, while Wu earned a degree from Tsinghua University. Zhu was one of the original partners of Urbanus before establishing his own firm in 2005. The firm expects to break ground this year on its first commission abroad, an art pavilion in Abu Dhabi.

Photographer Iwan Baan focuses his camera on the people who are building the new Beijing

FROM THE GROUND UP

National Stadium, August 2007

National Stadium, October 2007

National Stadium, May 2007

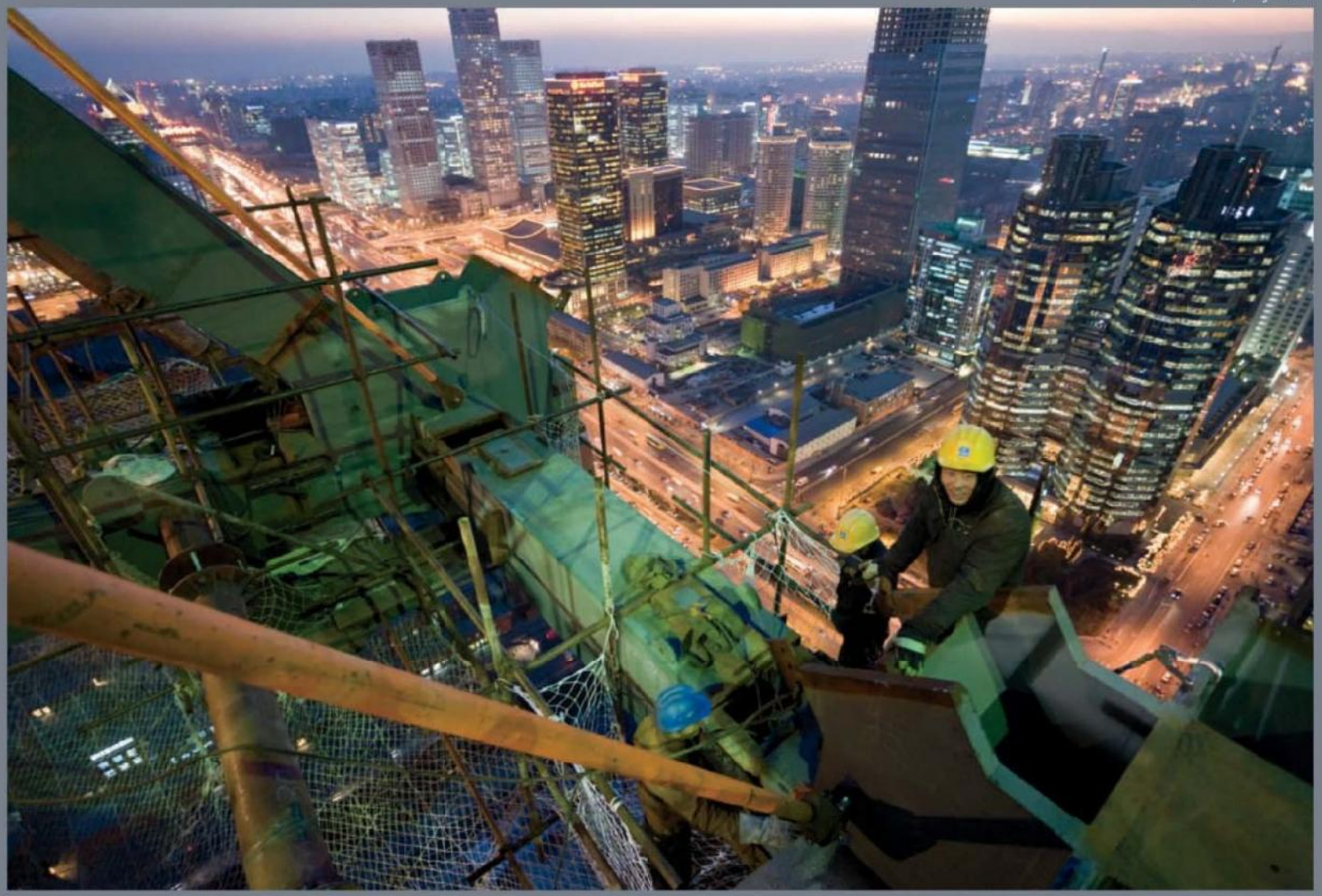
Migrant workers represent nearly one quarter of Beijing's population, and 95 percent of them are men. Women and children usually stay in their hometowns and villages, because they can't change their *hukou* (residency papers), and schools won't accept pupils from outside areas. Men flock to the city, responding to high demand for manual labor and contractors' pressing deadlines. Most construction workers are farmers and usually go back to their villages during harvest season, often creating labor shortages in urban areas at these times. In the city, the workers live together in temporary dormitories on construction sites, or crowd together in shared housing complexes. They earn 500 to 1,000 yuan a month ($72 to $144)—about half the average wage in China's urban areas. *Jennifer Richter*

CCTV, July 2007

CCTV, March 2006

CCTV, May 2006

CCTV, July 2007



National Swimming Center

PTW, ARUP, AND CSCEC wrap a set

More than 4,000 ETFE pillows made by Vector Foiltec wrap around the building, including its roof, creating a translucent greenhouse.

# of pools with high-tech bubbles

By Clifford A. Pearson

They started with the idea of a box made of bubbles enveloping a set of swimming pools. The concept came quickly and earned everyone's support. Figuring out how to make it work turned out to be more difficult. For three months in the spring of 2003, a team from the Australian architecture firm PTW, Arup, and China State Construction and Engineering (CSCEC) explored evolutionary biology, arcane 19th-century geometry, and the latest computer-modeling technology, racing against a competition deadline for the design of the National Swimming Center, the main venue for swimming events at the 2008 Olympics.

The team had already learned that Herzog & de Meuron's bird's-nest scheme was selected for the National Stadium next door. "We wanted to do something different from Herzog & de Meuron's design," recalls Tristram Carfrae, the leader of the Arup delegation. "Their's was red and round, so our's would be blue and boxy." Since swimming pools need to be heated most of the year, the team figured that a greenhouse a building that cap tures and holds solar energy—would be the most efficient structure for the job. That led to the notion of a continuous skin for the roof and walls, one that would be transparent or translucent. Glass wouldn't be right, because its acoustics would create a din inside the building. So the team selected ethylene tetrafluoroethylene (ETFE), a transparent form of the plastic Teflon. In addition to being acoustically transparent, the material is lightweight and remarkably sturdy even at thicknesses as little as 0.008 inches (0.2 millimeters).

Looking at forms and patterns found in nature, the group started designing the skin. They quickly focused on soap bubbles and what happens to their geometry when they congregate. At first, the designers tried clustering cylinders to create a flat roof and walls, but weren't happy with the gaps between the cylinders and the awkward shift from vertical cylinders (to support the roof) to horizontal ones (to support the walls). In their search for the most efficient way to divide space into cells of equal size with the least surface area between them, the designers explored solutions proposed in the 19th century by Belgian physicist Joseph Plateau and British mathematician William Thomson Kelvin, and by the Irish physicist Denis Weaire and his assistant Robert Phelan in the late 20th century. Eventually, the team adapted Weaire and Phelan's ideas, developing a building skin made of cells with either 14 or 12 sides. "We wanted the bubble pattern to seem random, not repetitious," explains Chris Bosse, who was one of the project architects for PTW and now runs his own firm in Sydney called the Laboratory for Visionary Architecture (LAVA). Using the Weaire-Phelan geometry, the group created a skin made of 4,000 ETFE bubbles, some as large as 30 feet across, with seven different sizes for the roof and 15 for the walls.

A space frame assembled on-site from 22,000 steel tubes welded to 12,000 nodes holds the cells in place and provides a column-free structure with spans of 396 feet in either direction. The three-dimensional frame is nondirectional—meaning it

LEDs on the frames around each of the ETFE pillows can light up the building in any color or colors, but the designers hope to limit it to aqua tones.

has no up or down, left or right—making it perfect for a high-seismic zone such as Beijing. The chemically treated water in the pools and the air pollution outside the building, though, are both corrosive. So the design team placed the steel frame inside a cavity made of two layers of ETFE pillows. For the roof, the cavity is 25 feet deep, and for the walls it is 12 feet.

Called the Water Cube (even though it's a box 584 feet square and 102 feet high, not a cube), the rectangular design won over the competition jury. Completed early this year, the building seems to float on water, thanks to a reflecting pool surrounding it and a gentle cascade of water washing down its base and into the pool. Inside, the bubble theme continues with circles incised on the floor of the main lobby and a Bubble Lounge on the second floor where—you guessed it—champagne is served at bars made of smooth Corian dotted with circles.

The building holds three swimming pools aligned on its north side and a water leisure park (not yet completed) on the south. Visitors feel encased in an aqueous environment. Daylight streams through the ETFE pillows, which have been imprinted with blue frits on the outside and silver ones on the inside to reduce solar loads. In places where glare and heat need to be reduced, the frits cover more surface area (up to 90 percent); in places where daylight and heat gains are desired, they cover as little as 10 percent of the surface. By reducing the need for electric lighting and mechanical heating, the ETFE skin will cut energy consumption by 30 percent, says Arup. And like Teflon, very little sticks to ETFE, so dirt should wash away after each rain. (A small army of workers suspended on ropes, however, were cleaning the inside pillows in April, after the building's concrete floors were polished, sending dust everywhere.) Vents in the cavity between the bubbles can be closed in winter to trap heat and opened in summer to reduce temperatures. The designers further reduced energy use by installing underseat air-conditioning in the spectator areas and cooling only the lower strata of air—where people are—in the pool halls. (For more on the building's technology, see page 150.)

LEDs wrapping around each of the 4,000 bubbles allows the building managers to light the Water Cube's surface with any combination of colors. But the design team hopes they will use only aqua colors: blues and greens, reports Bosse. "We'd like the colors to create an underwater feeling."

The building seems to be a hit with the media and the Chinese public. Eight hundred miles away in the city of Ningbo, throngs of people in May were snapping photos of their friends in front of a mock Water Cube erected as an advertising gimmick for a beer company. It's hard to resist a building that somehow merges the fluid dynamics of bubbles with the precise geometry of a giant box. ■

Project: *National Swimming Center*
Design consortium: *PTW Architects, CSCEC+Design, and Arup—John Bilmon, Mark Butler, Chris Bosse, Zhao Xiaojun, Wang Min, Shang Hong, Tristram Carfrae, Peter Macdonald, Kenneth Ma, Haico Schepers*

ONLINE: To rate this project, go to ***architecturalrecord.com/projects/.***

Andreu himself sculpted the bronze dividers separating different varieties of marble in the lobby floor. Overhead, Brazilian mahogany panels soften the expanses of glass and metal.

Escalators carry passengers from the main lobby to the upper reaches of the largest (left) and smallest (right) of the three theaters.

PHOTOGRAPHY: © PAUL MAURER (THIS PAGE)

the coin slot on a bubble-gum machine. The passageway has a glass ceiling, but looking through the shallow pool is less exciting than it sounds.

At the end of the passageway, escalators carry visitors up into the dome. In covering the lobby's floors, walls, and curving ceilings, Andreu seemed determined to use every type of marble, wood, and metal he could find. True, the domed ceiling, which is clad in richly grained wood, is a powerful unifying element. And if there are lots of surfaces to decorate, it's because everything undecorative—the building's guts—is underground. Of course, the labyrinthine "back of house," really three basement levels, had to be connected to the upper floors. Thus, the building required 78 passenger elevators and more than 30 escalators, according to Andreu.

Luckily, the theaters themselves are lovely. The opera house, with more than 2,400 seats, is wrapped, inside and out, in gold-toned aluminum-and-stainless-steel mesh (made by Germany's GKD); the effect is soft and elegant. The second-largest space is a concert hall with about 2,000 seats arranged around a central "pit." Its ceiling is an undulating fiberglass surface sculpture, based on a plaster model by Andreu. In the smallest of the three venues, a 1,000-seat theater for traditional Chinese opera, walls are upholstered in Chinese silk in shades of orange, purple, and red. To this listener, who heard rehearsals in all three halls, the acoustics were terrific. (In the case of the opera house, Jean-Paul Vian, of French acoustic consultant CSTB, described an artful compromise between Andreu's desire for curved surfaces and the acoustical advantages of rectangular forms: The architect draped metal-mesh surfaces—which are acoustically transparent but visually opaque—over a masonry shoebox.)

Andreu, who has spent much of his career designing airports, was a logical choice to design a building as big and ambitious as this one. And his Egg contains some winning elements. But his client—a China in thrall to Western architecture—didn't know when to stop. ■

Project: *National Center for the Performing Arts*

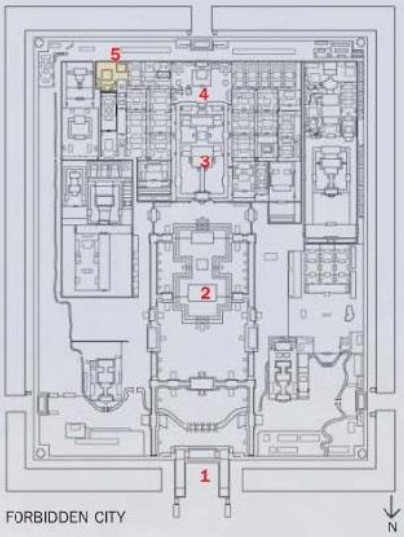
Architect: *Paul Andreu Architect Paris—Paul Andreu, principal; François Tamisier, Serge Carillion, Olivia Faury, Mario Flory, Hervé Langlais, project architects*

Associate architects: *Aeroports de Paris Ingenierie, Beijing Institut of Architecture & Design*

Consultants: *Centre Technique et Scientifique du Bâtiment (acoustical)*

ONLINE: To rate this project, go to ***architecturalrecord.com/projects/.***

1. *Meridian Gate*
2. *Hall of Supreme Harmony*
3. *Palace of Heavenly Purity*
4. *Imperial Garden*
5. *Jianfu Palace Garden*

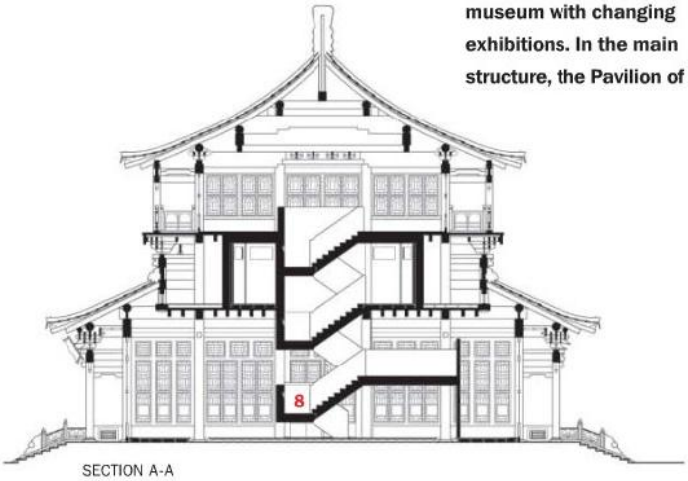


The reconstructed Tower of Auspicious Clouds now has a reception room (opposite). The Pavilion of Prolonged Spring is used as the VIP event space (this page).

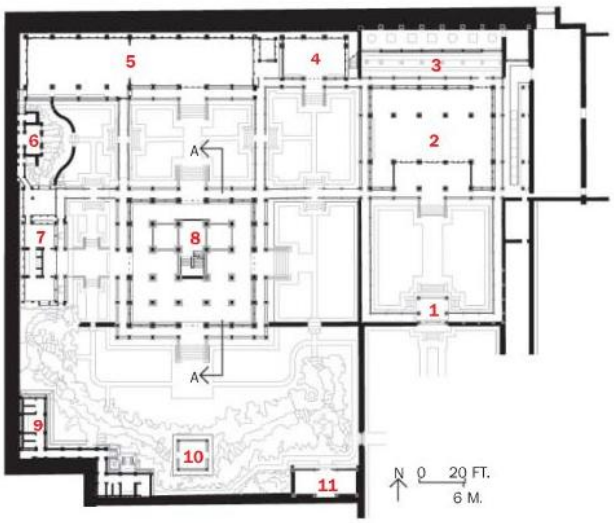
The careful reconstruction of the pavilions, undertaken by the Palace Museum and aided by the China Heritage Fund, is visibly demonstrated by the covered walkway extending in front of the Pavilion of Prolonged Spring (above).

PHOTOGRAPHY: © CHENG SHOUQI/CHINA HERITAGE FUND (THIS PAGE AND OPPOSITE)

The interior of the Pavilion of Tranquil Ease (above) offers unhampered space for a museum with changing exhibitions. In the main structure, the Pavilion of Prolonged Spring (right), the architects installed a new floor above the fragile original, and designed a massive walnut stair to take visitors to the third floor.



SECTION A-A



JIAN FU PALACE GARDEN PLAN

1. *Fate of Preserving Integrity*
2. *Pavilion of Tranquil Ease (museum)*
3. *Tower of Illuminating Wisdom*
4. *Tower of Auspicious Clouds (reception room)*
5. *Studio of Esteemed Excellence (multifunction hall)*
6. *Lodge of Viridian Jade*
7. *Hall of Concentrating Brilliance (pantry)*
8. *Pavilion of Prolonged Spring (VIP, banquet hall)*
9. *Chamber of Crystalline Purity (restrooms)*
10. *Belvedere of Abundant Greenery*
11. *South Guard House*

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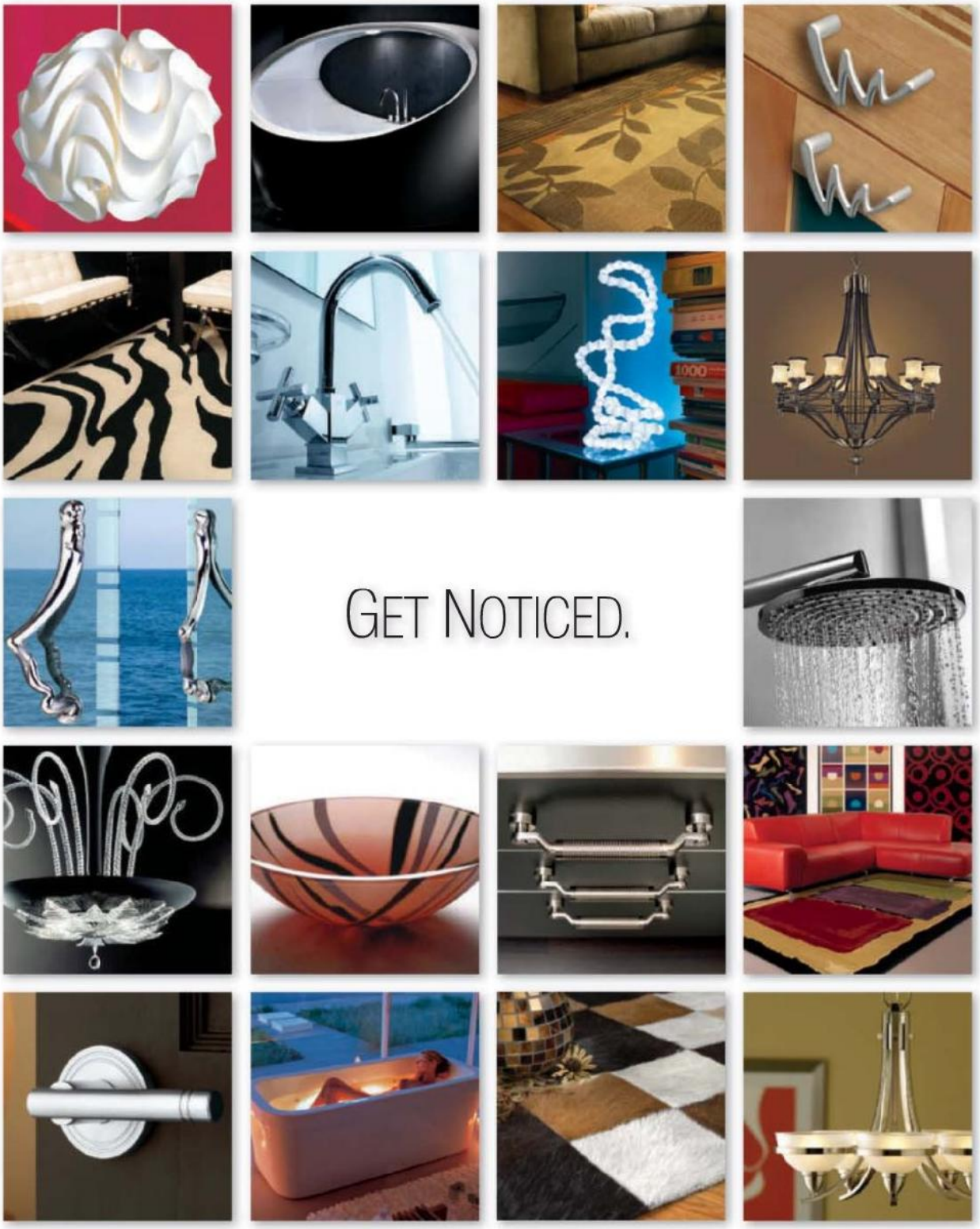

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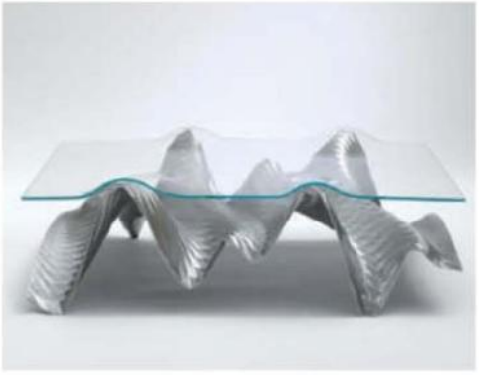
CIRCLE 54

► Free falling

By replacing sliding mechanisms with hinges, Pivot's two drawers appear to precariously cascade from a resting position against the wall. Israeli-born designer Shay Alkalay also made the replacement so that this solid-wood console table's drawers may be opened and accessed simultaneously. Arco, Winterswijk, the Netherlands. www.arco.nl **CIRCLE 208**



◄ Old meets new

An offshoot of Mallett, an international dealer of 18th-century antiques, Meta produces extremely limited editions of furniture by contemporary designers made by traditional artisans. The New York–based architecture studio Asymptote, for example, reduced the scale of its digitally conceived, organically rendered buildings to create the base of the table Ivo. The base is a custom material recreated from a piece of 228-year-old Imperial Tula steel, finished by craftsmen who helped restore the Kremlin Palace. The top is slumped glass. Meta, London. www.madebymeta.com **CIRCLE 209**

► Leather bound

Using a patented cutting technique first developed for screens and partitions, Franco Poli created a leather tracery for the back of the Aretè armchair. The seamless incision process transforms the coach hide into a three-dimensional shape. Matteograssi. Mariano Comense, Italy. www.matteograssi.it **CIRCLE 210**

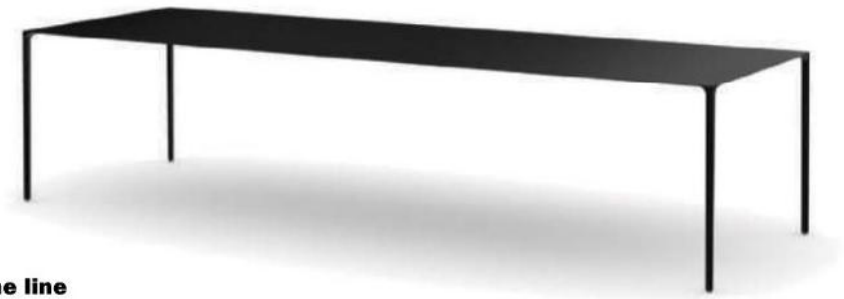
◄ Illumination integration

Sphere Luminescence, created by Finnish designer Tuukka Halonen, is a combination light source, fixture, and shade in one dazzling form. This is accomplished with acrylic-tube-wrapped electroluminescent wire that is folded into a series of tessellations resulting in the luminaire's spherical shape. Tuukka Halonen, Helsinki. www.tuukkahalonen.com **CIRCLE 211**

Residential Products Milan Furniture Fair

► Plastic fantastic

After more than a year in research and development, Konstantin Grcic and manufacturer Plank launched Myto. This precisely engineered cantilevered stacking chair is made entirely of BASF's advanced Ultradur High Speed PBT (polybutylene terephthalate) plastic, notable for its strength and flowability, which is injection molded as a monoblock with a comfortable supporting frame structure. Elliptical perforations emphasize its dynamic design and flexibility. Plank, Ora, Italy. www.plank.it **CIRCLE 212**

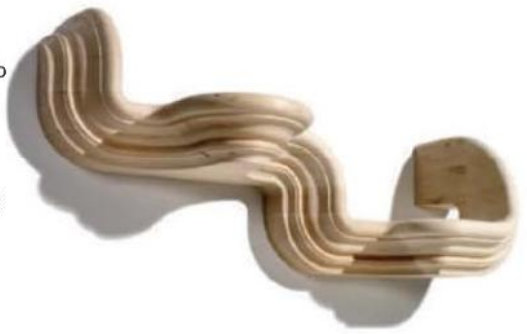


▲ A fine line

To create Surface Table, product designer Terence Woodgate and renowned racecar engineer John Barnard revisited carbon fiber, which Barnard had previously used to build a monocoque ("single shell" construction) McLaren vehicle that won three consecutive Formula One world championships. Thanks to the material's strength, the composite table measures 3 meters (10') in length and narrows to just 2 millimeters (0.08") at its edge—five times thinner than any other table on the market. Established & Sons, London. www.establishedandsons.com **CIRCLE 213**

► Strangely familiar

By adapting three- and five-axis CNC mill technology to his furniture production, designer and craftsman Paul Loebach references multiple historical woodworking methods in a single piece. His basswood Shelf Space, for example, appears to combine sophisticated routing and steam-bending techniques in a wall-mounted bookshelf distinguished by a meandering form that is authentically contemporary. Paul Loebach, Brooklyn, N.Y. www.paulloebach.com **CIRCLE 214**



◄ Pix cushions

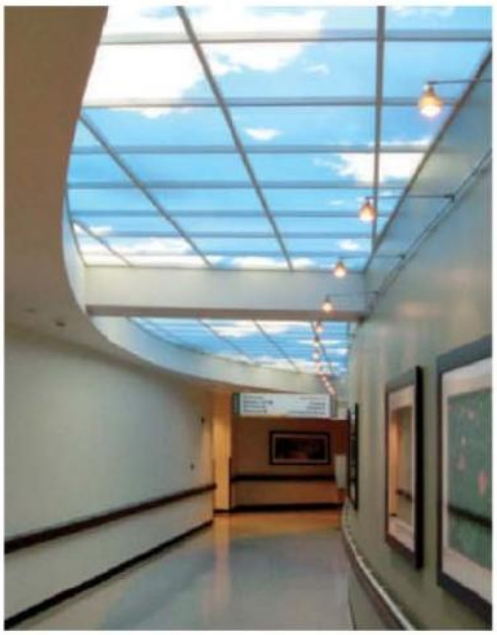
Evoking a three-dimensional pixel, the curvilinear forms of Ron Arad's Pixel Sofa actually comprise a series of rectilinear volumes in various heights. Each distinct module features a complex fabrication of two types of polyurethane foam and is fixed to a platform by steel pins. Moroso, Udine, Italy. www.moroso.it **CIRCLE 215**

For more information, circle item numbers on Reader Service Card or go to **architecturalrecord.com/products/**.

Product Focus

Ceilings

This month's roundup showcases a selection of new and innovative ceiling systems that feature undulating resin panels, prefabricated wooden coffers, and a simulated skylight. *Sebastian Howard*



SkyCeilings have been installed in as many as 25 countries, largely in health-care facilities, as this innovative product can have a relaxing and mood-enhancing effect on people.

Trompe l'oeil skylights soothe hospital patients and beautify numerous spaces

If Sky Factory's products remind you of Renaissance-era *quadratura*—those illusionistic ceiling frescoes—you're not alone. The Vatican, home of some of the world's most famous faux-architectural frescoes and ceiling paintings, placed an order for Sky Factory tiles to be installed in two hospitals it operates and owns. This is no small endorsement for the Fairfield, Iowa–based company.

Company founder Bill Witherspoon talks wistfully of the days when artists could fool a viewer into believing a ceiling painting was actually an oculus. Photography, he says, ruined the trick as people became more discerning consumers of visual culture. His company, he believes, is bringing illusion back to architecture in the form of SkyCeilings, a product that uses translucent, high-resolution images of nature illuminated from above by 6500-Kelvin lamps. This cool temperature mimics daylight.

Sky Tile Elevators, which hold the tiles above the ceiling grid, prevent shadows from being cast on the photographs. Further, they appear to be structural elements supporting a skylight, which adds to the effect. Witherspoon says that the illusion is so complete that it "actually tricks the mind into triggering a physiological relaxation response." People in these rooms tend to behave more stably, which is an obvious benefit if installed in a conference room, for instance.

According to the company, SkyCeilings have been particularly successful in hospitals, where it is common for patients to experience stress. Here, a calming image of clouds and trees may facilitate medical procedures. For instance, Witherspoon notes that nervous, claustrophobic patients bottleneck many MRI facilities, and just seeing an illusory sky can soothe a person and allow personnel to work more efficiently. In fact, he claims that in hospitals where his product has been installed, technicians see fewer fidgety patients every day—significant, given that hospitals may charge $2,000 for an MRI. And the product is available in an LED version that produces no radio frequency interference, which is of paramount importance around MRI machines. www.theskyfactory.com

CIRCLE 214

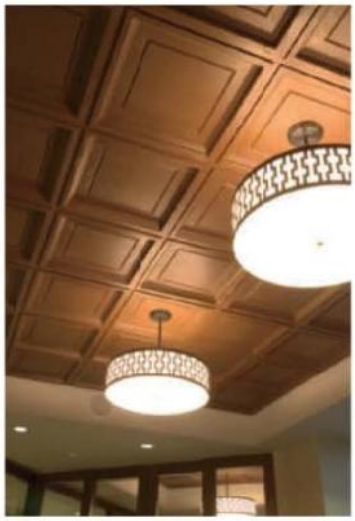
For more information, circle item numbers on Reader Service Card or go to **architecturalrecord.com/products/.**

◄ Sleek lighting and diffusion

Hunter Douglas Contract Ceilings has introduced an Integrated Solutions system, which organizes its Techstyle Acoustical Ceilings, providing a sleek aesthetic and easy swing-down access to mechanicals. Lighting fixtures and diffusers, for example, are ordered into neat, 6" strips that fit between and flush with the large textile panels. Available in a range of panel sizes and fixture spacings to accommodate numerous configurations, the system is simply installed and maintained. Thornton, Colo. hunterdouglascontract.com **CIRCLE 217**

► Faux-wood panels

The new USG PANZ line of ceiling tiles are aluminum panels laminated with a faux-wood grain. The simulated-wood choices for metal panels and planks include oak, maple, and cherry, and are available in a variety of sizes up to 2' x 6'. The company manufactures its ceilings using 90 percent recycled material, and the high aluminum content in this product makes it a viable candidate for recycling at the end of its life cycle. USG, Chicago, Ill. www.usg.com **CIRCLE 219**



◄ Sinuous ceilings

3form's Shapes series consists of predesigned and fully configurable resin panels. The model shown, called Flow A&B, creates a gentle, fluid flow with a two-panel, repeat pattern. Part of the Continuous Pattern category, Flow A&B provides specifiers with a custom-look, decorative design solution. Other varieties in the Shapes series form twists, sharp angles, peaks, and valleys, and the products can be installed on both walls and ceilings. 3form, Salt Lake City, Utah, www.3-form.com **CIRCLE 221**

For more information, circle item numbers on Reader Service Card or go to **architecturalrecord.com/products/.**

▲ Prefabricated coffers

The Evoba Wood Ceiling (right) combines the look of custom-crafted millwork with the easy installation of conventional suspension systems. The modular components assemble like a conventional T-bar grid system, and the patented joint technology forms a strong, milled joint without custom tooling. The system adapts to any size room, and comes in such woods as oak, cherry and maple. Fasade Decorative Thermoplastic Panels (left) mimic traditional stamped tin and work with any standard 2'-by-2' or 2'-by-4' grid system, or can be applied directly to a surface. ACP, Appleton, Wis. www.acpideas.com **CIRCLE 218**

► High-perfomance absorption

CertainTeed's AdagioTM ceiling panel, the newest addition to the company's Designer Series of ceiling systems, combines the sound absorption of high-density fiberglass with the sound-containment qualities of mineral fiber. This hybrid design, which has an NRC rating of 0.95, and a CAC rating of 38 to 40, eliminates the need for full-height wall partitions. Adiago is easily installed in compatable suspension systems. CertainTeed, Valley Forge, Pa. www.certainteed.com **CIRCLE 220**

▲ Large-scale acoustical dampening

NewAcoustic is a ceiling system by Newmat created for high acoustical absorption. The microperforated PVC membrane is stretched over a PVC or aluminum rail, and can be installed by itself or on top of an acoustical core. Different colors and finishes limit the size of each ceiling section to anywhere between 250 and 1,250 square feet. The product has a noise-reduction coefficient from 0.5 to 1.0. NewAcoustic is used in facilities such as San Francisco's Olympic Club (above), and in numerous Apple Stores. Newmat USA, West Babylon, NY. www.newmatusa.com **CIRCLE 222**

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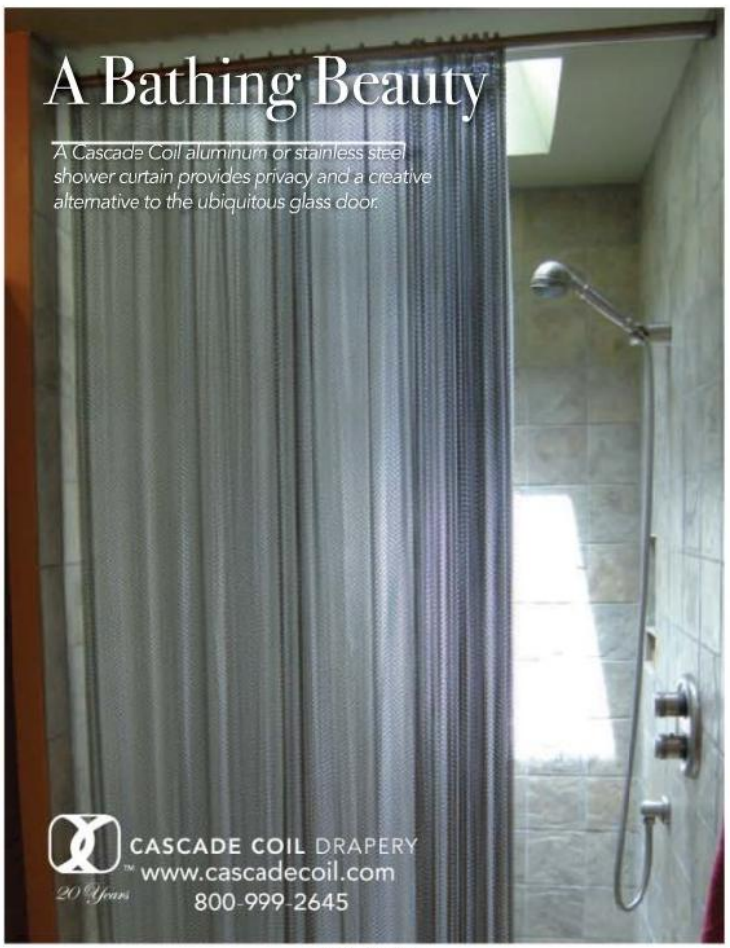
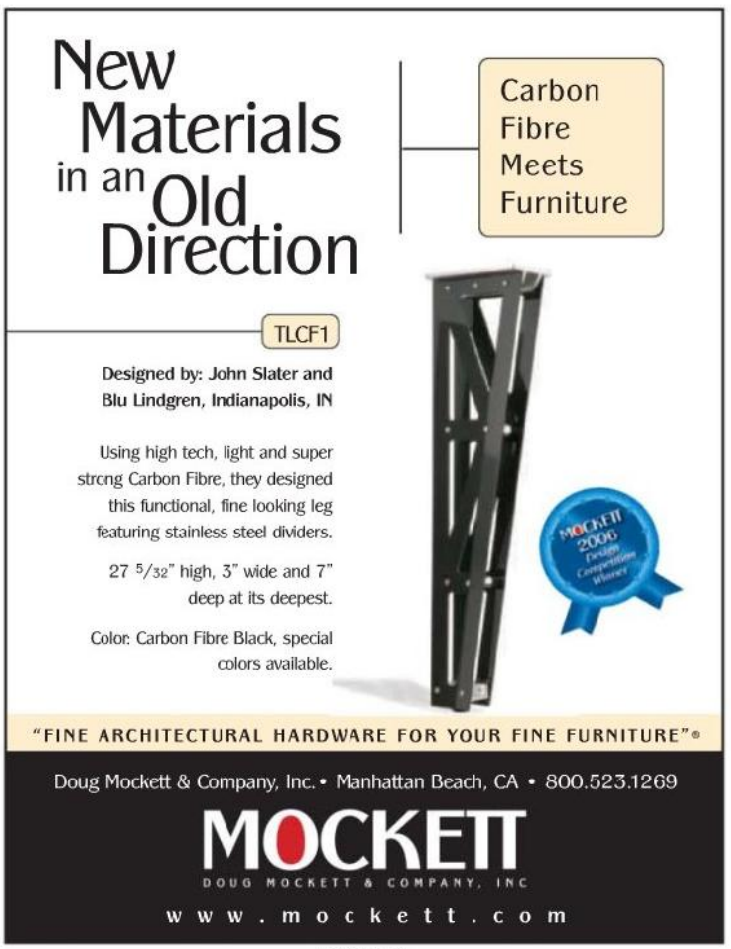


CIRCLE 75



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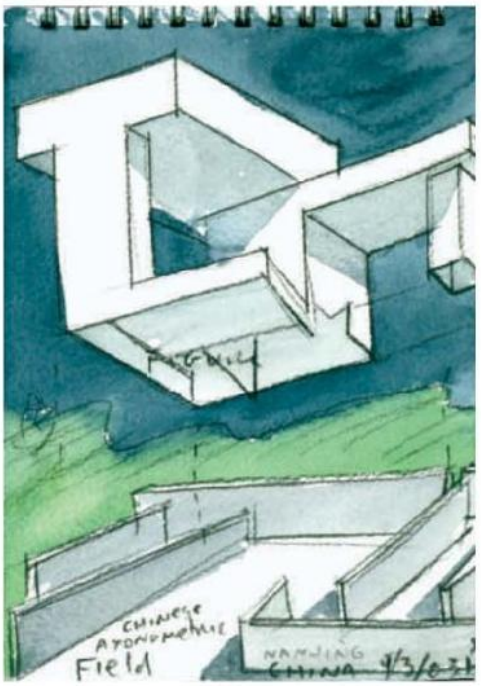
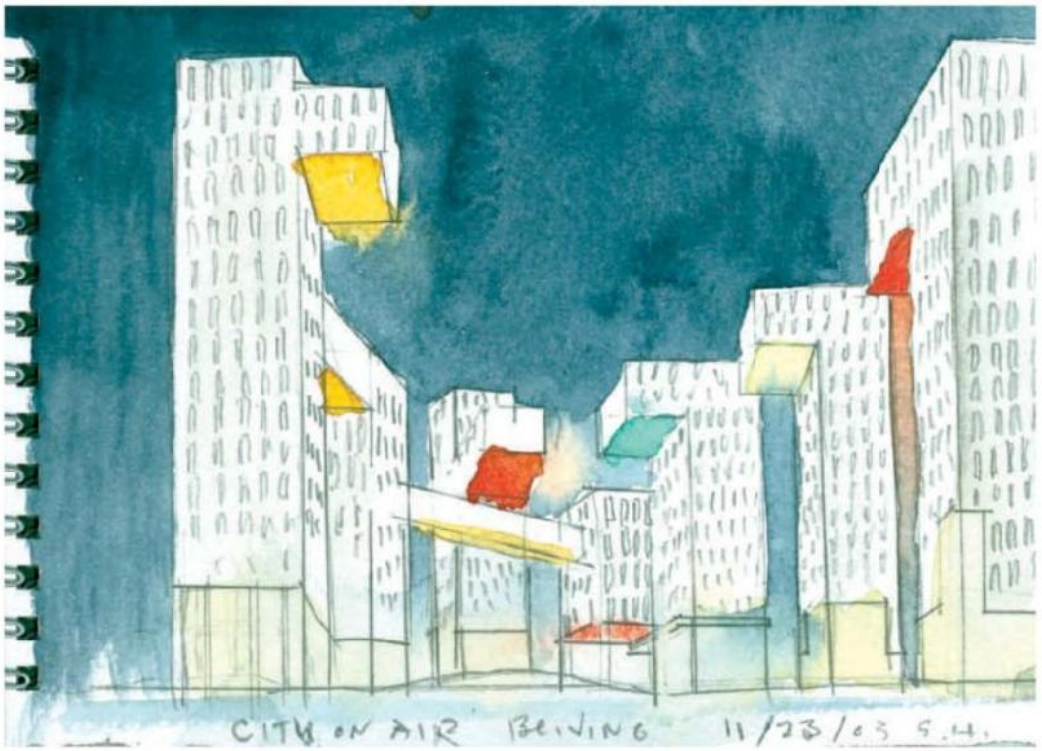
The Architect's Hand

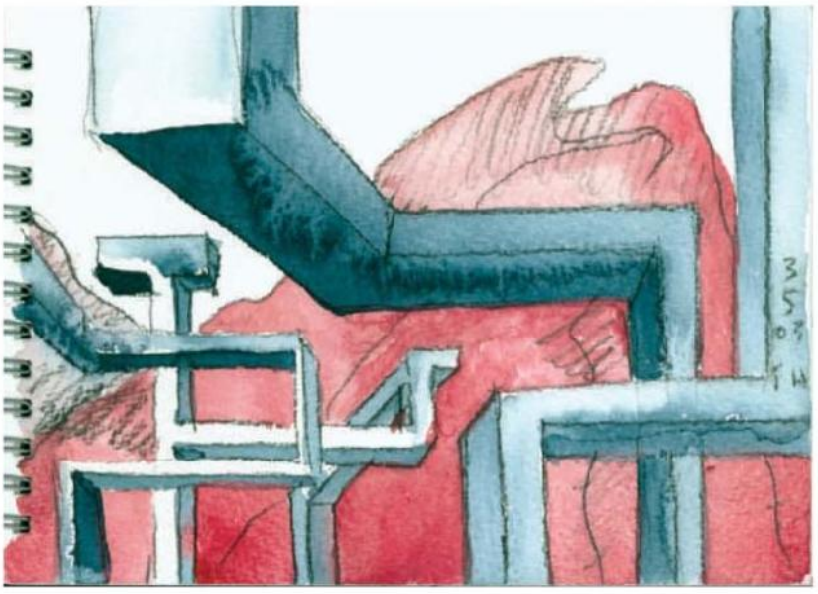




***Museum of Art and Architecture, Nanjing, 3/5/02* (above), and 9/3/03 (above right). *Linked Hybrid, Beijing, 11/23/03* (below). All images are watercolor and graphite on "The Langton" watercolor booklet.**

His only constant ground

Steven Holl's sketches are the work of an expert draftsman with a healthy sense of whimsy. He began using watercolor in 1978, after finding something lacking in his painstakingly detailed graphite work. His drawings—some of which are in the Architecture and Design collection of New York's Museum of Modern Art—are figurative but abstracted, dreamlike yet concrete. He finds a "joy in this way of beginning" the design process. New York gallery owner Fredereike Taylor recently exhibited some of Holl's drawings at the China International Gallery Exposition (CIGE) in Beijing. She has known the architect for many years and says, "I don't think that there's a day that goes by that he doesn't draw."



Asked how literally he translates the surreal sketches into models and buildings, Holl says, "Often the small paintings are playfully vague; yet at the same time they capture the idea that will drive the design of an entire project. I don't make any restrictions except using a 5-by-7-inch sketch pad." The pad fits on an airplane tray table and accompanies Holl on his frequent international travels. He says that the "reality of airports and flights is almost like a separate planet ... The [sketch] pad is my only constant ground up there."

Holl's drawings of the Nanjing Museum of Art and Architecture and Beijing's Linked Hybrid (page 130) were among those shown this spring at CIGE. While the labyrinthine *Museum of Art and Architecture, Nanjing 3/05/02* is loosely related to models for the project, the later sketch from September 3, 2003, bears a strong resemblance to the museum as it is currently being built. *Linked Hybrid, Beijing 11/23/03* is similarly literal: The painting clearly shows the basic form of Holl's complex of buildings under construction in China's capitol. Both projects are scheduled for completion this year.

For Holl, drawing is more than just one step in designing a building. As he says, "It is in my blood." *Sebastian Howard*

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