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HARVARD UNIVERSITY GRADUATE SCHOOL OF DESIGN

Harvard Design Magazine

ARCHITECTURE, LANDSCAPE ARCHITECTURE, URBAN DESIGN AND PLANNING

FALL 2007/WINTER 2008

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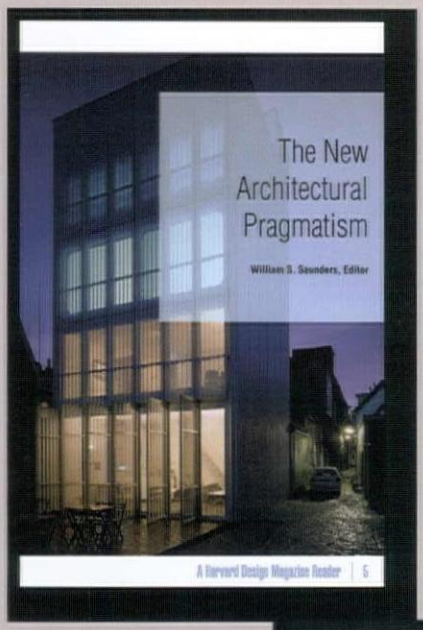
10TH ANNIVERSARY ISSUE

Critical Issues in Architecture

Harvard Design Magazine Readers



Explores the tension between adaptation and resistance to commercial conditions in architectural practice and theory.

Contributors: Stan Allen, George Baird, Lucy Bullivant, James Corner, Hal Foster, Kenneth Frampton, K. Michael Hays, Dave Hickey, Robert Levit, Evonne Levy, Reinhold Martin, Jorge Silvetti, Robert Somol, Philippe Starck, Roemer van Toorn, Sarah Whiting, Alejandro Zaera-Polo.

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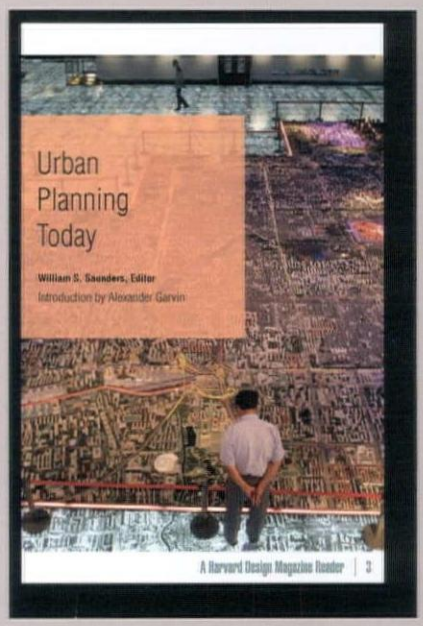

Urban Planning Today reports on projects in Atlanta, Boston, Chicago, New York, and Portland, bringing perspectives of urban design, city planning, criticism, and law to bear on the mixed bag of results observed in these cities.

Contributors: Jonathan Barnett, Lynn Becker, Peter Calthorpe, Susan Fainstein, Bent Flyvbjerg, John Kaliski, Jerold Kayden, Matthew J. Kiefer, Hubert Murray, Richard Plunz, Leonie Sandercock, Michael Sheridan.

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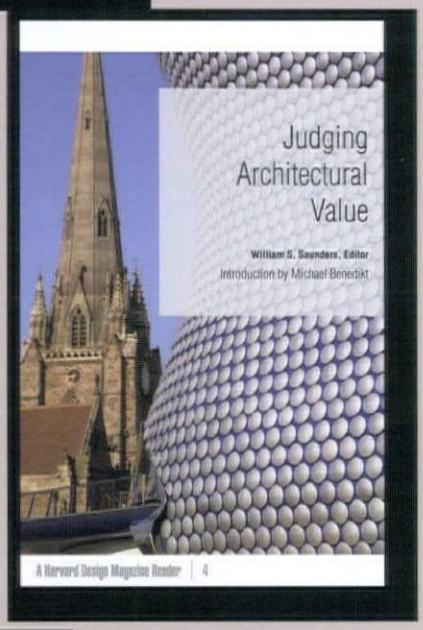

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Contributors: John Beardsley, Michael Benedikt, Tim Culvahouse, Lisa Finley, Kurt W. Forster, Kenneth Frampton, Diane Ghirardo, Charles Jencks, David Leatherbarrow, Nancy Levinson, Hélène Lipstadt, Juhani Pallasmaa, Timothy M. Rohan, Roger Scruton, Daniel Willis.

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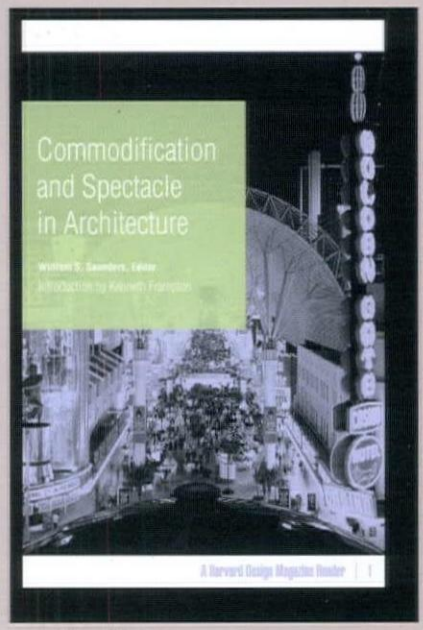

More than ever, architectural design is seen as a means to promote commercial goals. Bringing together an impressive and varied group of critics and practitioners, this collection will help to sharpen the discussion of how design can respond to our hypercommodified culture.

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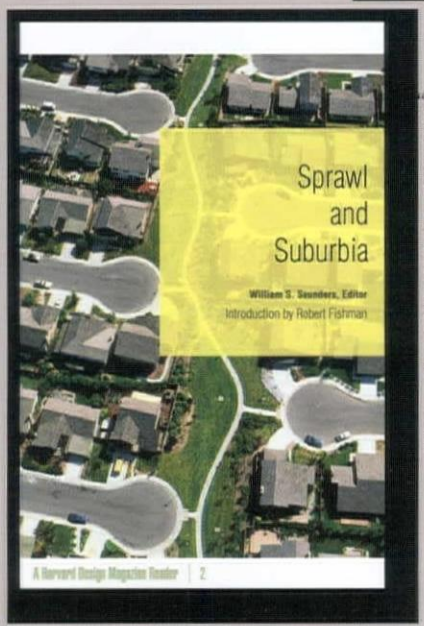

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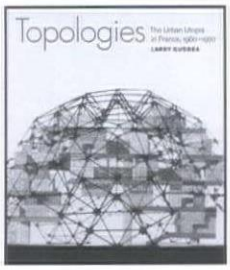

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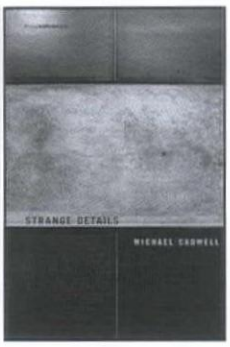

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preface by Nader Tehrani

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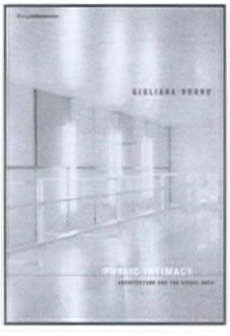

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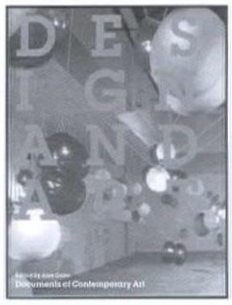

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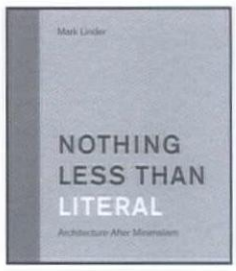

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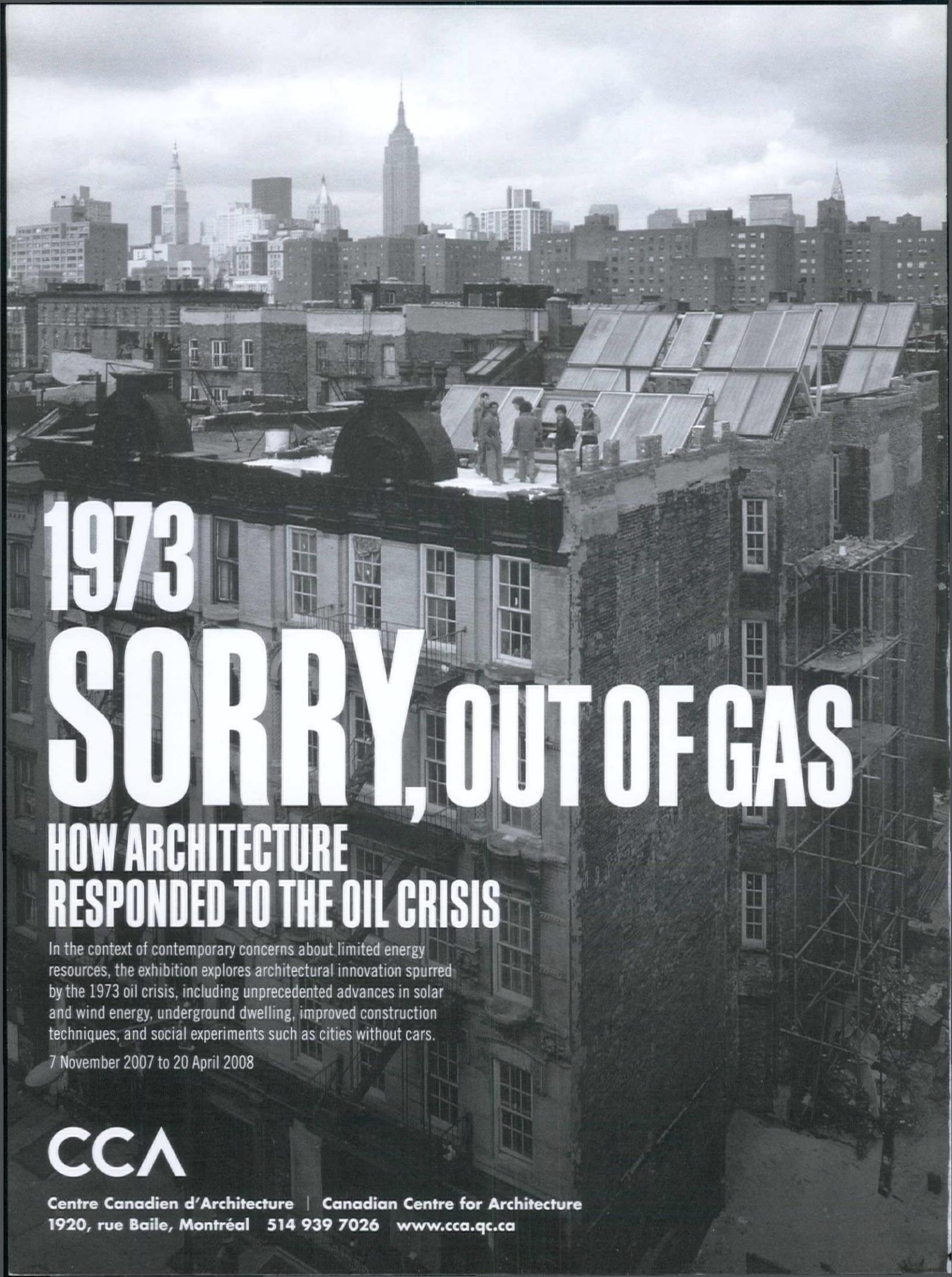

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Harvard Design Magazine was founded in 1997 by then Dean Peter G. Rowe in an attempt to fill what seemed a significant gap in architectural publishing: a place for informed and sophisticated critical thinking about "high design" and the built environment, thinking that was nevertheless accessible and inviting to cultivated general readers and to non-academic design professionals. Not only had several critical vehicles such as *Progressive Architecture* recently shut down, but also much advanced design discourse had devolved into arcane, opaque, and ungrounded speculation. HDM might offer an otherwise rarely available forum for a rigorous combination of close observation of particulars and stimulating speculation about their meaning and value.

Another motive was also at work: if a graduate school such as the GSD was to have an official magazine, it would best serve and represent its mission not so much by celebrating its programs and people as by *demonstrating* its commitment to the best possible design thinking by directly offering instances such thinking. And since it was, in particular, several global issues that called for attention, no boundaries could or should have been put around who addressed those issues: the best writer-critic-scholar-practitioners worldwide would be sought (with, of course, a first look at the potential for writers from the GSD community). Every effort would be made to avoid narrowness, dogmatism, and provinciality. In a seeming paradox, the GSD could best serve itself (and serve its "best self") by avoiding the navel-gazing and ignored-by-readers promotion found in many school magazines while still sharing news about its people and events. It is possible that HDM was path-breaking in this way, since outward-looking, issue-focused essays are now much more common in school magazines, particularly at Harvard.

So, has HDM met its goals during its first ten years? Yes and no. Early hopes were high for obtaining a non-alumni subscriber/purchaser base of around ten thousand so that the magazine would be like an *Atlantic Monthly* or a *New York Review of Books* for all those interested in key issues in the built environment. In fact, it seems that serious intellectual publications in the design realm rarely reach more than two or three thousand people worldwide (including those who borrow others' copies). Only design periodicals like *Better Homes and Gardens*, *Dwell*, and *Architectural Digest*, which feed the hungers of style/status-seekers and of potential consumers, reach large audiences. (HDM reaches 13,000, including alumni.)

But what may matter most is whether HDM has published ground-breaking, illuminating, and important work, work that has some kind of positive effects. I am convinced that it has met that standard in at least one essay in each of its twenty-seven issues. Most often these essays have been iconoclastic, challenging and toppling misguided conventions of thought and action. The University of Minnesota Press has published in book form five issue-centered collections of essays from HDM and will publish two more this year and probably more after that. As far as I know, among other design journals, only *Perspecta* and *Oppositions* have had some of their content repackaged in this way. The HDM readers seem to be succeeding in providing broad and varied perspectives on matters of some urgency.

So where is HDM headed? That's pretty much the same as asking where design and the built environment are headed, since the magazine will track those. And the answer to that question seems much less clear now than it did a year or two ago. High design, after a very fertile decade, seems a tad overripe, having exploited its new freedoms and come to need more restraint. Certainly the wider world—with a weaker economy, climate change, a foreseeable end of oil, increases in poverty and Third World urbanization, political corruption, religious and ethnic conflicts, and so on—suggests not-so-comfortable coming decades.

—WILLIAM S. SAUNDERS

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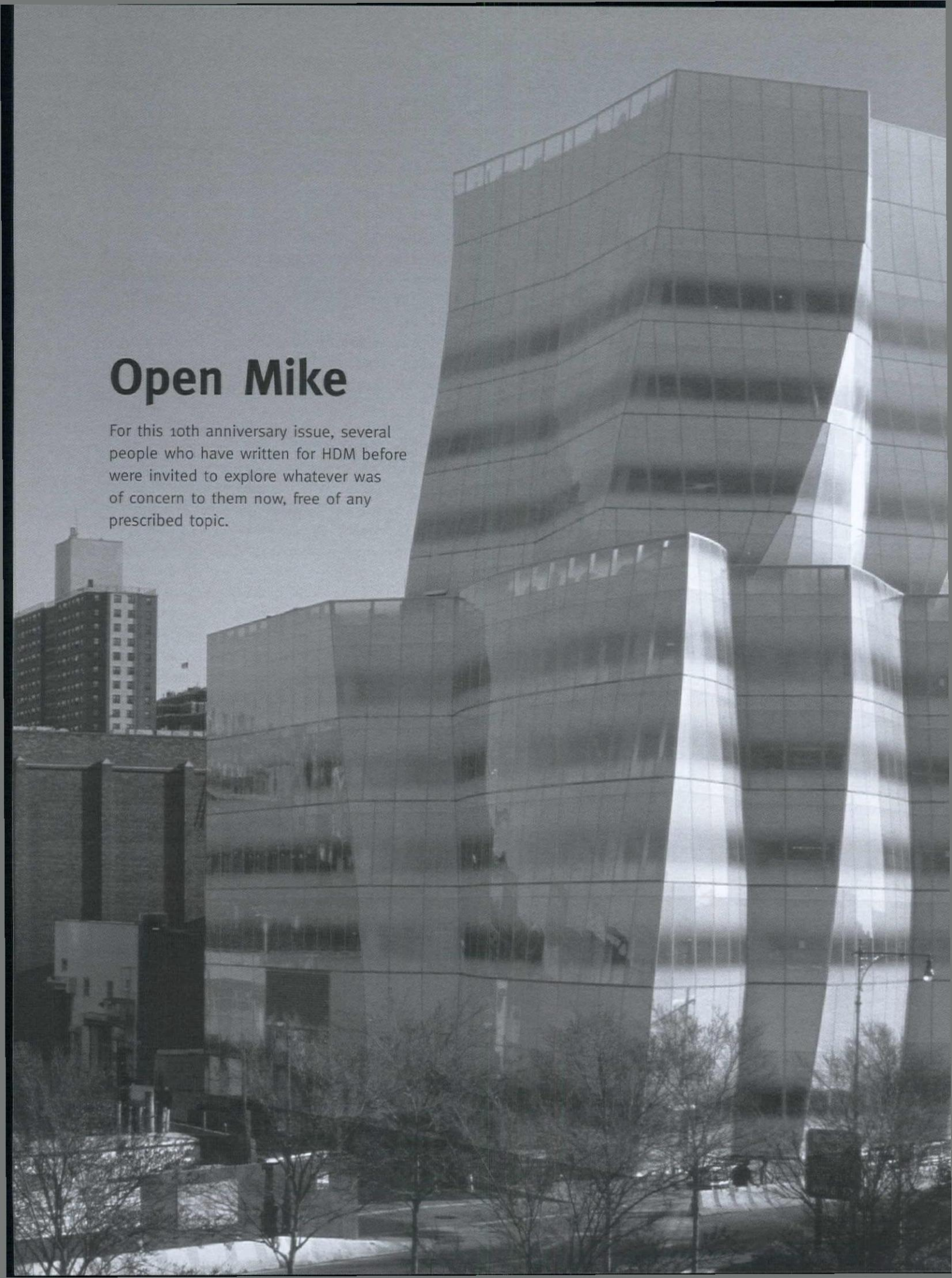
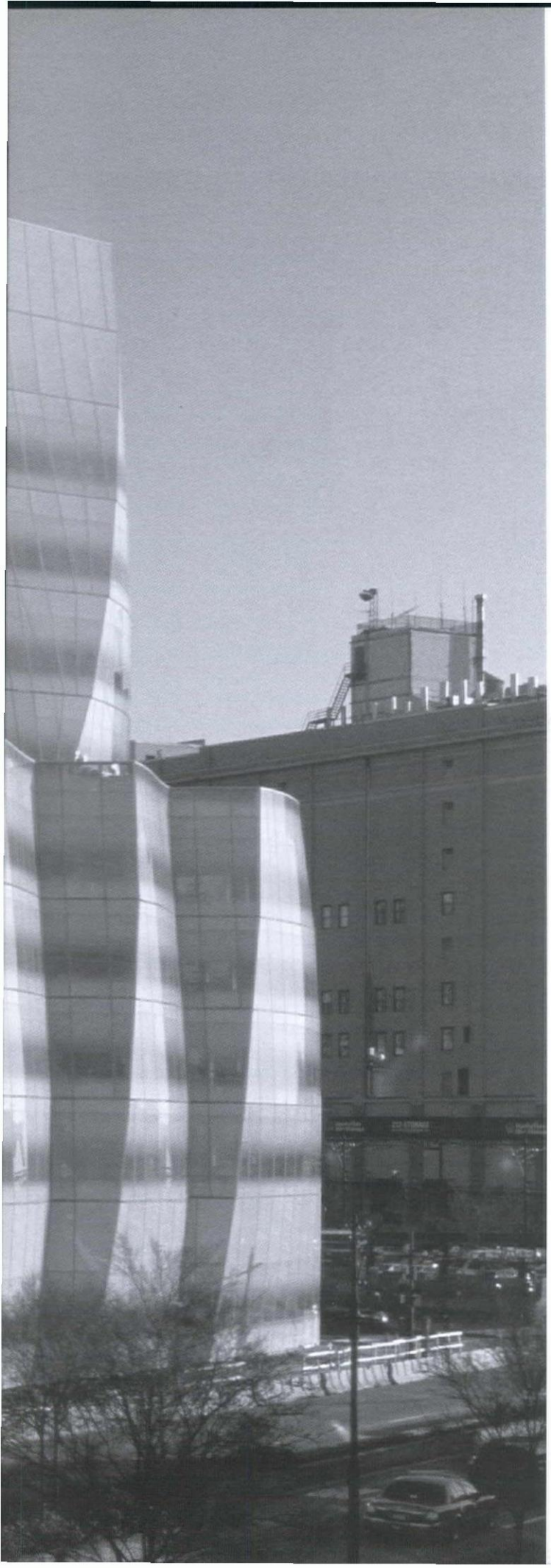


Open Mike

For this 10th anniversary issue, several people who have written for HDM before were invited to explore whatever was of concern to them now, free of any prescribed topic.



The Crystal World

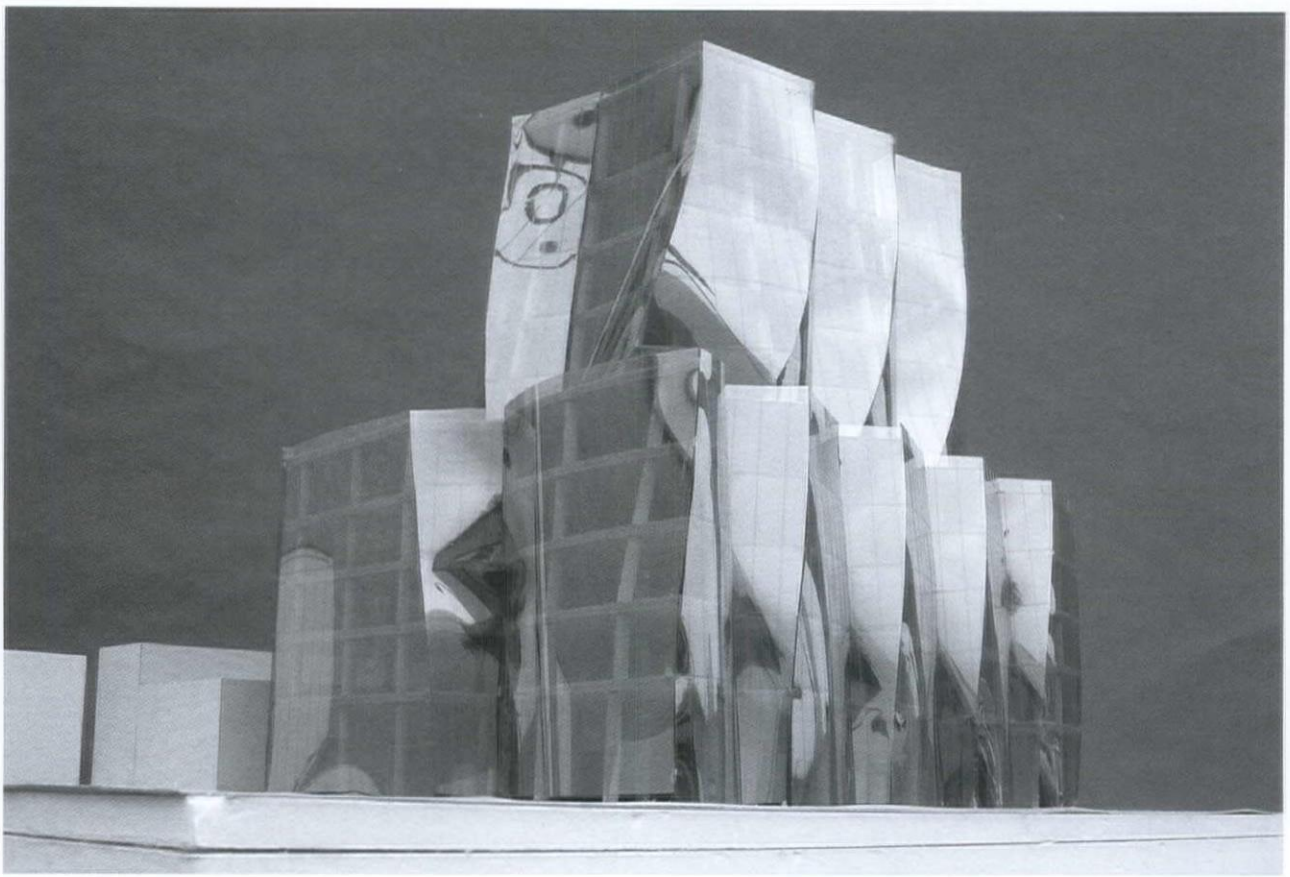
FRANK GEHRY'S *IAC* *by* REINHOLD MARTIN

***Crystalline* is not the first adjective that comes to mind when** one looks at Frank Gehry's new *InterActiveCorp Headquarters* (IAC) in New York. Located on Manhattan's West Side Highway within sight of the Chelsea waterfront and down the block from the postindustrial High Line, the building is enclosed on all sides by a shell made up of hundreds of pieces of glass, each a little different and most slightly curved. The cumulative effect is one of gentle, rhythmic pulsation. The built-in metaphorical cliché: a cloud or billowing sails. So why insist on *crystalline?* Because that word, with its hard edges and its glint, evinces a sense of brute mechanical construction, whether in the form of a geological prism or of the prismatic units of curtain-walled corporate space, such as Mies van der Rohe's *Seagram Building*, to which Gehry's *IAC* will inevitably be compared. In contrast, the carefully prepared rhetoric surrounding the building, beginning with Gehry's sketches and flowing seamlessly into the building's very own corporate website, is one of softness, of organic process, or more precisely, of what Gehry has called "juice."

Liquidity, juice: the very definition of capital, and therefore appropriate enough to describe this instance of corporate architecture. Anything more solid — geological rather than fluid or atmospheric — implies indifference (or resistance?) to capital's inexorable, circulatory pulse and therefore might seem behind the times, out of sync. But that still may be the most advantageous position from which to consider this building. Formal dynamism in architecture may or may not be related to the suppleness of today's corporations and the economic flows they channel. In any case, the question is better approached in historical perspective rather than from within the blinding glare of the present.

In 1966, a year in which urgent calls for memory and meaning appeared in the form of Aldo Rossi's *Architettura della Città* and Robert Venturi's *Complexity and Contradiction in Architecture*, the science fiction writer J. G. Ballard published a novel called *The Crystal World*. Its title refers to a process of crystallization that befalls a remote Cameroonian forest, turning it into a "landscape without time." The effect is spreading. Apparently, something has happened at the molecular, atomic, or subatomic level that causes both organic and inorganic material to become brittle, vitreous, and prismatic. It is as if Bruno Taut's luminous *Alpine Architektur* has finally arrived via a science fiction descendent of Paul Scheerbart, perversely converting Joseph Conrad's notorious "heart of darkness" into an iridescent, foreboding *Gesamtkunstwerk*. Unlike those early modern dreams of *Glasarchitektur*, however, Ballard's crystal world brings on a deadly stasis. Plants cease to grow and rivers cease to flow, with uncanny consequences. Time itself, which is normally measured in organic or environmental cycles, goes cold. In this petrified, entropic forest, nothing really happens.

Frank Gehry, *InterActiveCorp Headquarters*, New York City, 2007. Photo, bernstein associates/laurie donald



Frank Gehry, *InterActiveCorp Headquarters* early model showing reflective glass proposal. Courtesy, Gehry Partners

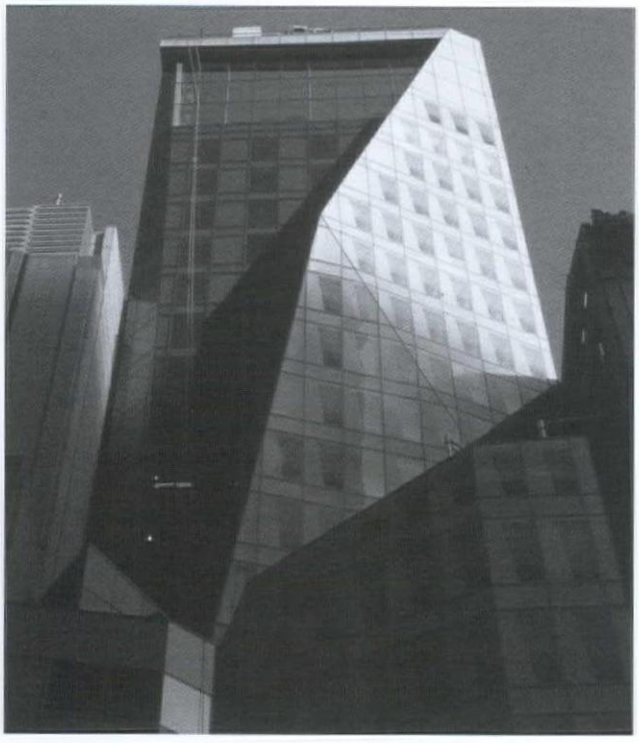
Opposite: **STUDIOS architecture, *InterActiveCorp Headquarters* interiors, office space.** Photo, Albert Vecerka/Esto

Something similar can be said about Manhattan at that same mid-'60s moment, by which time there were enough cool, glass-and-steel Miesian copies trimming out the skyline to give the impression that the entire city was gradually being frozen in place, neutralized. A Modernist sense of forward motion was giving way to a postmodern ennui accompanied by looming Cold War dread, like that registered in Ballard's novel. The transparent optimism of glass and steel was trapped in the deadening pseudo-rationality of the corporate box, which now rolled off the assembly lines of culture into interchangeable arrays that dampened the big city's dynamism to the point that it was barely audible or visible. Modern architecture receded into the background, becoming a kind of white noise. Or at least, such was the fantasy.

The reverse seems to be happening today, if Gehry's building is any indication. The ice-cold curtain-walled office building, still a fixture in New York's skyscraper forest (think of Norman Foster's recent *Hearst Building*), is melting. Or maybe it is coming to life. In any case, at *IAC* the process that made this image technically possible involved the "cold forming" of glass. The molecular structure of plate glass—a crystal—is such that it tolerates a certain amount of deflection before the glass begins to crack. Thus, a flat sheet may be bent into place on site. Though in any case the allowable curvature is slight, the limiting factor at *IAC* was not the tolerance of the glass itself but rather that of the vacuum seal running around the perimeter of each double-glazed piece. Bend too far and the seal fails. Even then, the actual curvatures used were well within the tolerance of this seal, having been further reduced by a factor of safety required by an insurance company to bring the risk of failure within acceptable limits.

In that sense, the artifice and the accounting that brought the *IAC Headquarters* into existence turned, in part, on the molecular configuration of glass crystals. Not that this mattered to Gehry's personal "creative process," which exhibited its usual resourcefulness in recognizing aesthetic potential in the natural tendency of so unnatural a material as glass to deflect under pressure. But it does raise a number of questions. The first has to do with authorship. Who designed the *IAC*? At one level, the answer is simple: Frank Gehry. But maybe we should also say "Frank Gehry," which is another name for the system behind the "star system": long lists of extras and bit players, assistants to the assistant producer. To put it slightly differently, this may or may not be a "real" Gehry building. And oddly enough, this possibility makes the entire operation more revealing about what constitutes an authentic work of architecture in the first place, and about the world in which that work may or may not exist.

Presented with such a possibility, the task of criticism is not



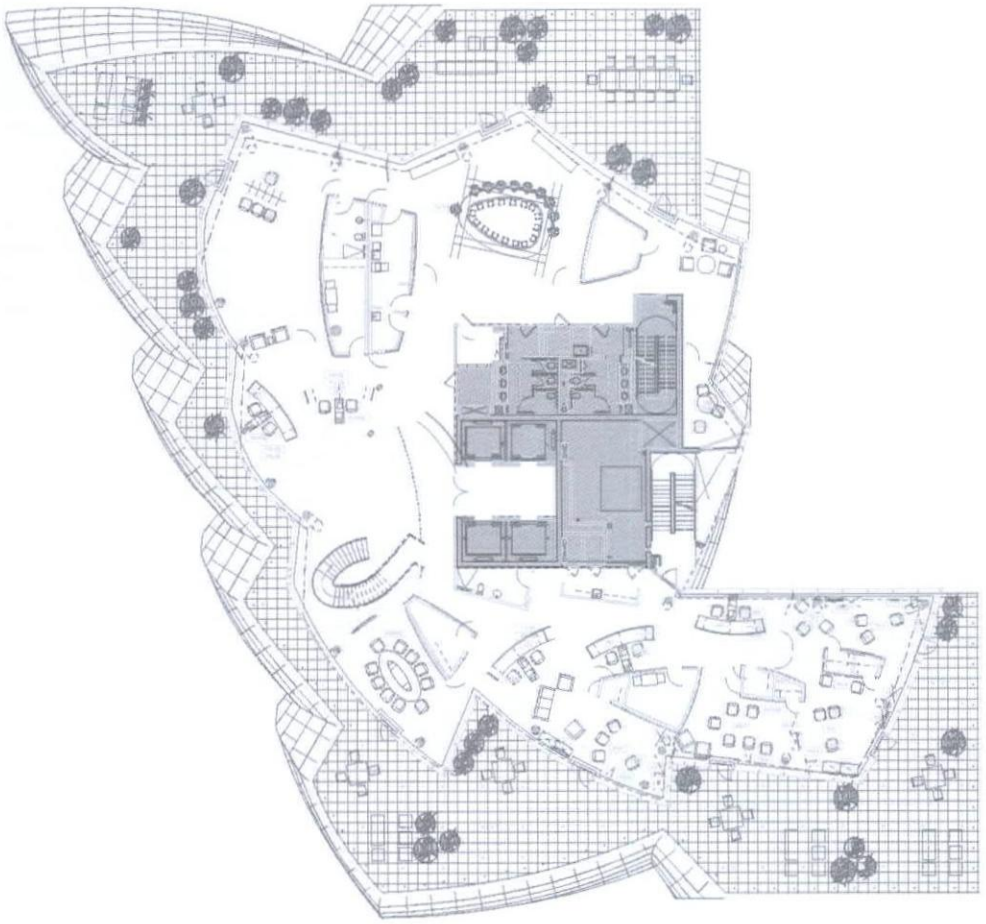
Above: **Christian de Portzamparc, *Louis Vuitton Moët Hennessey Tower*, New York City, 1998.** Photo, Peter Mauss/Esto

Below: **STUDIOS architecture, *InterActiveCorp Headquarter Interiors*, 9th floor communal space.** Photo, Albert Vecerka/Esto

to reproduce the vernacular of movie advertisements and declare a particular building a "stunning achievement." Nor is it to register disappointment, via the usual combination of scorn and condescension. Either response only offers more raw material to the culture industry. Instead, the task of criticism is to pose questions—to *de-contextualize* and to *re-contextualize*—to understand what is at stake in the situation at hand. So to ask whether (and in what sense) we are actually dealing with something that can be called a "work" of architecture here is to detach the object from the name (or "signature") of the architect to see the social, economic, *and* aesthetic function of both more clearly.

Thus: Whether or not Gehry himself arrived at the insight to use cold forming at *IAC*, an entire team of professionals was necessary to pull it off, not a few of whom worked for the glass manufacturer Permasteelisa. Where is the line between architect/author and consultant/collaborator here? Unclear. Likewise for the building's interiors, most of which were actually executed by STUDIOS Architecture. Though here, the demarcating line may be a little more visible. Generally, it can be drawn a few feet in from the facade at the perimeter cove light that lines the building on each floor and the accompanying layer of mechanical shades, each custom-cut (and many curved), that can be lowered to reduce or eliminate the sunlight. Regardless of what particular combination of architects and consultants actually designed this combination of details at the building's perimeter, together

Opposite: **Frank Gehry, *InterActiveCorp Headquarters*, 6th floor plan, 2007.** Courtesy, IAC



with the fritted glazing they construct a layered depth that may be seen from the outside during the day and a phosphorescent glow at night. These visual properties are central to the building's architectural claims.

evidently not an overriding concern for Gehry, judging from the results it was most definitely of concern to his client. IAC Chairman and CEO Barry Diller presides over a conglomerate comprising over sixty Internet-related entities, each with its own

WHO DESIGNED THE *IAC*? AT ONE LEVEL, THE ANSWER IS SIMPLE: FRANK GEHRY. BUT MAYBE WE SHOULD ALSO SAY "FRANK GEHRY," WHICH IS ANOTHER NAME FOR THE SYSTEM BEHIND THE "STAR SYSTEM": LONG LISTS OF EXTRAS AND BIT PLAYERS, ASSISTANTS TO THE ASSISTANT PRODUCER. TO PUT IT SLIGHTLY DIFFERENTLY, THIS MAY OR MAY NOT BE A "REAL" GEHRY BUILDING. AND ODDLY ENOUGH, THIS POSSIBILITY MAKES THE ENTIRE OPERATION MORE REVEALING ABOUT WHAT CONSTITUTES AN AUTHENTIC WORK OF ARCHITECTURE IN THE FIRST PLACE.

Equally important, however, is that STUDIOS, headquartered in San Francisco and veterans of Silicon Valley, are experts in the reinvention of the office. From their early, jaunty-yet-relaxed campus for Silicon Graphics (now the *Googleplex*) in Mountain View, California, to the New York interiors of *Bloomberg L.P. Headquarters*, they have developed a systems approach that combines informality with efficiency. Though office culture was

identity and mission, gathered together here for the first time in one building. And so, inboard from the cove light we find a new-economy office landscape dedicated to intra-office social life (snack bars on every office floor, cafeteria above, etc.). The plans demonstrate the difficulty of squeezing this system of social systems — quasi-modular, loose, but still systematic — into Gehry's undulating shell and core. STUDIOS accomplishes this

with a certain finesse, though the two architectures grate against one another at their many points of contact.

One such point of contact is metaphorical. It has to do with the cliché of the billowing sails which, incidentally, carries a distant echo of Jorn Utzon's *Sydney Opera House* with its own ingenious solution to the technical problem of building the compound curve. *IAC*'s interior architecture picks up the exterior curvature on a number of floors to produce ship-shaped conference rooms bearing nautical names like "Prow," "Windward," and "Leeward," "Wheelhouse." The board room is unofficially dubbed "The Bridge." Again, regardless of the particular combination of architects, consultants, and/or IAC employees with whom these theme-park names originated, they stand as evidence of a basic architectural problem. Such corporate poetics, which have frequently been known to overlay the culture of spreadsheets and profit margins with "meaningful" experiences, highlights here the question of what this building actually means — to say nothing of what it actually is.

This too seems a question out of sync with the times, an anachronism more suited to 1966 than to today. But judging from the study models generated by the Gehry office, the problem of cultural meaning was implicit from early on. For example: The glass ultimately used is very slightly reflective, with a gradient of white ceramic fritting that conceals the spandrel and gives way on each floor to a band of clear glass. At one point, uniformly mirrored glass was tried on an undulating shell quite close to the one finally built. This option, Gehry reports, was unequivocally rejected by Diller (to his architect's apparent chagrin). The association of mirrored glass with cheapness, lack of substance, and emptiness was apparently insurmountable. This, despite the fact that it solved two problems at once: the economics of the skin and compliance with energy codes. Still, too many corporations had apparently occupied too many generic mirrored boxes for the material to be an option at *IAC*, despite its distinguished origins in the hands of Eero Saarinen and Kevin Roche at the *Bell Telephone Laboratories*, or its effective use by Norman Foster at the *Willis Faber & Dumas Headquarters*, among other notable historical examples.

So we can speculate that a curved crystalline material with a uniform mirrored coating was rejected in favor of a curved crystalline material with a variable white coating because the latter was assumed to be a more effective carrier of meaning, whether by the client or by the architect. This is not only verified by the aforementioned nautical and atmospheric metaphors (sails, clouds), but also by an incipient contextualism that becomes apparent when one looks north at the building and the West

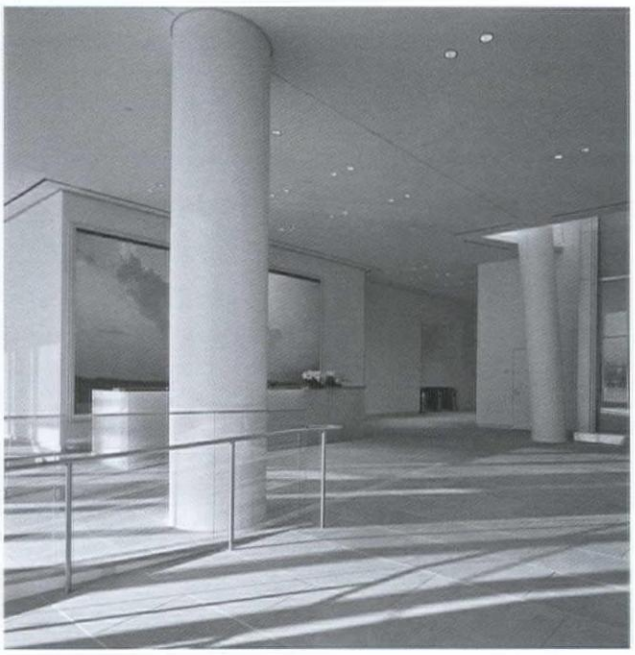
THE CONSTRUCTION SITE ACROSS THE STREET IS BEING PREPARED FOR A LUXURY APARTMENT BUILDING DESIGNED BY JEAN NOUVEL, WHILE THE BLOCK IMMEDIATELY TO THE SOUTH AWAITS A WORK BY ROBERT A. M. STERN. HOW WILL THE GEHRY BUILDING FARE WHEN COMPARED WITH THESE NEW NEIGHBORS? WILL IT LOOK AS NEW AS NOUVEL OR AS SOLID AS STERN?

Side Highway. Not only does the overall massing of the *IAC Headquarters* comply with the contextualist ideology built into the New York zoning code by reproducing a zoning envelope that holds the street edge and steps back above; it rather literally mimics the streamlined, horizontal fenestration of the comparably nautical *Starrett-Lehigh Building* a few blocks uptown.

The effect is compounded when a strange pair of precedents on 57th Street in midtown is taken into account. In the first, a yes-and-no expression of an existing window pattern is accomplished by a curtain wall with the help of layered gradients of white fritted glass at the Louis Vuitton flagship store designed by Jun Aoki. Down the block at the *LVMH Tower* by Christian de Portzamparc, the pre-*Seagram* stepped-back skyscraper type, historically clad in stone, is converted into a faceted crystal that combines transparency and translucence while holding the street edge. In both cases the apparent abstraction of glass, particularly in its aloof, precision-cut incarnation at *Seagram* but also in that building's rougher offspring, is turned figurative. In one case this yields the ghost-image of a traditional facade, and in the other a rapprochement, comparable to that attempted by Philip Johnson's *AT&T Building*, between the urban context and the stand-alone architectural allusion — an image of a "crystal," nestled comfortably into the city fabric.

To the extent that the combination of massing and glazing at Gehry's *IAC* locates it within this vitreous return to figuration (we could expand the list to include works by Herzog & de Meuron and others), it still seems more the exception than the

Frank Gehry, *InterActiveCorp Headquarters*, lobby.
Photo, bernstein associates/ray jackson



Cory & Cory Architects, *Starrett-Lehigh Building*, New York City, ca. 1912.
Photo, Irving Underhill/CORBIS

rule. As in many other Gehry projects, figuration and defamiliarized materials happily coexist. Think, for instance, of his Formica fish lamps. The building thereby elicits "meaningful" readings for the most part only indirectly. Surely to the degree that such readings remain open-ended and negotiable, this is a positive attribute. But just as surely, the slyness with which Gehry follows an architect like Johnson in pumping this commercial office building full of content — "juice" — is telling. The difference is that whereas earlier in his career Gehry too might have relied on historical citation to set the wheels of metaphor turning (as he did, for example, at *Loyola Law School*), by now meaning has been displaced to another level. The assumption, it seems, is that this building means *something*, though we are not sure what.

Were this not the case, *IAC* would stand merely as an instance of technical achievement that ably serves a practical purpose, rather than as a potentially serious work of architecture. Compound curves built with glass hung off of a tilted concrete frame, enclosing flexible office space equipped with state-of-the-art systems furniture — this would likely reflect the combined expertise and judgment of Diller and Marshall Rose, his development partner at The Georgetown Company, among others. Its architect, however, would be an abstraction named "Frank Gehry" rather than the artist named Frank Gehry.

The Gehry firm has acknowledged as much by spinning off Gehry Technologies, Inc. to collaborate and consult with other architects, engineers, and construction managers in the complex process of building other people's complex buildings. Unlike Gehry Partners, LLP (the architecture firm), Gehry Technologies, Inc., is not in the business of producing cultural meaning. In that sense, it carries the Gehry name only as a quotation that leverages the famous architect's aura. This aura has repeatedly proven its worth in Gehry's own projects by helping to accumulate the symbolic (and real) capital necessary to enable a wide range of technical achievements. So where, for example, the customized use of the Catia digital modeling platform made the *Guggenheim Museum Bilbao* possible, the impression that *that* building contains meaning has, in turn, helped make it possible for Gehry Technologies to offer its technical expertise for sale to the entire construction industry. But in the case of *IAC*, does the appearance of meaning actually emanate from the building itself or from the technical, organizational apparatus behind it?

Some will object, perhaps, that either way my use of the term "meaning" still leans too heavily on metaphor or other quasi-literary devices, and that architecture's specificity, especially in Gehry's hands, lies elsewhere — in formal innovation, for example, or in the production of something like a pre-cognitive spatio-temporal experience. Such a perspective would likely reorient our attention toward the building's sculptural and spatial properties. And indeed it does. But it also returns us to the novelist Ballard, whose words have little that is metaphorical about them. Instead, their force comes when we take his vivid

description of the "crystal world" at face value, as a surreal technical report from the edge of narrative time, rather than as novelistic pathos. In contrast, Gehry's building resists being taken literally at every turn of every corner. It exudes narrative and metaphor. Beginning with its "voluptuous" curves, it reeks of meaning and of "juice" with an earnestness that seems immune to a perverse realism of the sort practiced by Ballard.

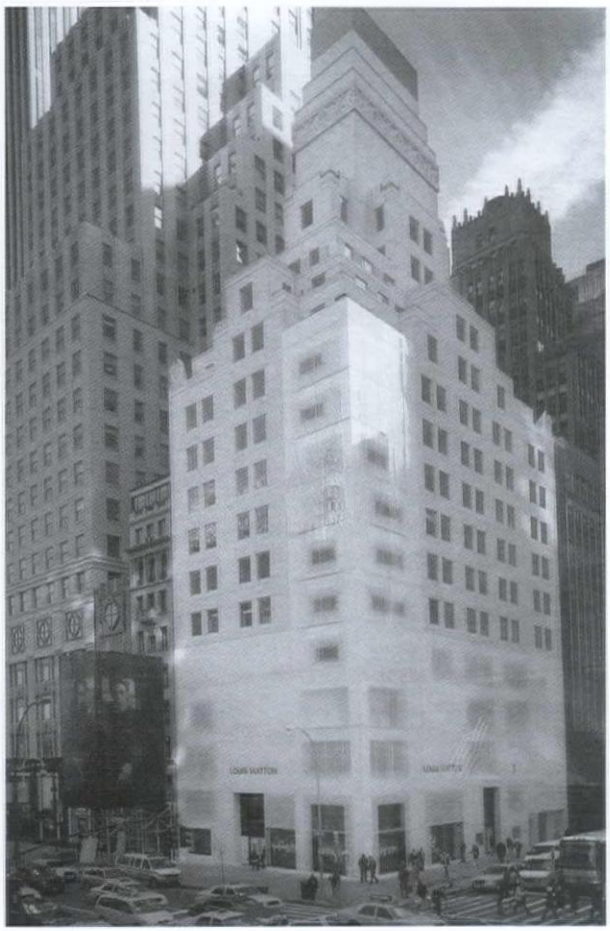
with competitive urges. This occurs, for example, when it is revealed that the construction site across the street is being prepared for a luxury apartment building designed by Jean Nouvel, while the block immediately to the south awaits a work by Robert A. M. Stern. How will the Gehry building fare when compared with these new neighbors? Will it look as new as Nouvel or as solid as Stern?

AT ONE POINT, UNIFORMLY MIRRORED GLASS WAS TRIED ON AN UNDULATING SHELL QUITE CLOSE TO THE ONE FINALLY BUILT. THIS OPTION, GEHRY REPORTS, WAS UNEQUIVOCALLY REJECTED BY DILLER (TO HIS ARCHITECT'S APPARENT CHAGRIN). THE ASSOCIATION OF MIRRORED GLASS WITH CHEAPNESS, LACK OF SUBSTANCE, AND EMPTINESS WAS APPARENTLY INSURMOUNTABLE. THIS, DESPITE THE FACT THAT IT SOLVED TWO PROBLEMS AT ONCE: THE ECONOMICS OF THE SKIN AND COMPLIANCE WITH ENERGY CODES.

Even exit stairs are turned into significant architectural events.

Here, while appearing effortless at so many other levels, the *IAC* tries too hard. It may outshine Richard Meier's *Perry Street Towers* a few blocks south. But as with so much contemporary architecture desperate to remain interesting in the face of overwhelming odds, barely concealed anxieties come to the surface

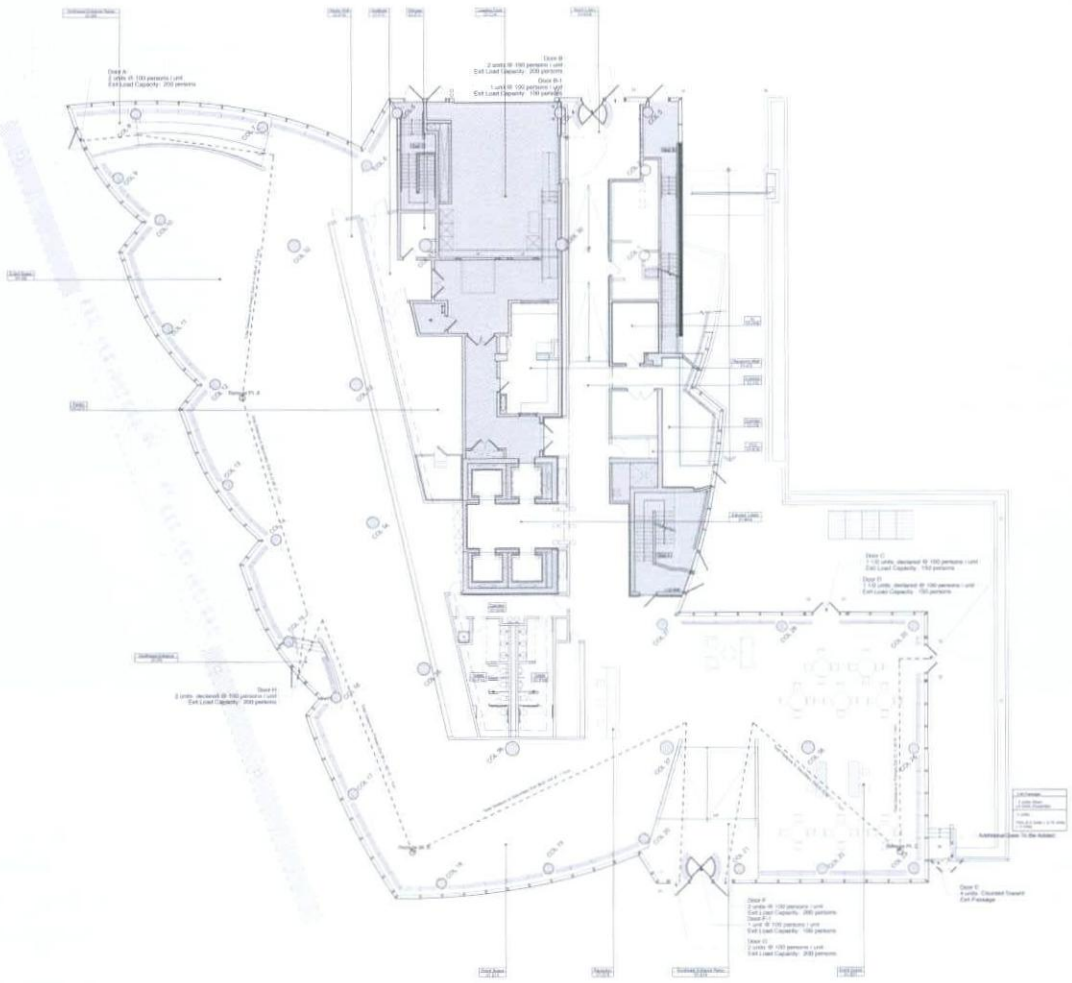
Jun Aoki, *Louis Vuitton Flagship Store*, New York City, 2004. Photo, Jimmy Cohrssen and Stéphane Muratet/From, "Ferris Tale," *Architecture Interieure*, vol. 313, page 104.



Regardless of how things turn out, *IAC* has one distinct advantage, which resides in the relationship between Frank Gehry and "Frank Gehry." This relationship can be described as a chicken-and-egg affair, a sort of shell game in which artistic aura and anonymous technical innovation continually trade places. For example: The *IAC* is not nearly as adventurous formally as is the *Disney Concert Hall* or *Bilbao*, though its no-nonsense qualities do lend it a certain rigor. Witness the semi-smooth transition in the west elevation from five bays at the base to three at the top, which poses a geometrical problem elegantly solved with a set of fluent passages from concave to convex. That these bays exist in the first place, however, is as arbitrary as the ripple effect they produce for passers by. Likewise, despite the care and sophistication of the curtain wall detailing, the relatively uniform exterior surface endures an uncertain, somewhat tentative encounter with the ground plane. This uncertainty is compounded inside by the ambient vagueness of the lobby space, the format and experience of which are not much different from that of an off-the-shelf tower, circa 1966.

Still, the sheer existence of these particular forms in this particular material carries an aura of its own. So where the architecture falters, the technology picks up. This is the genius of Frank Gehry, or "Frank Gehry." It is a genius that at one level plays directly into the role of master builder previously assigned to that other Frank who designed that other *Guggenheim*. This is the myth of "genius" itself, in which architect and architecture enter into an eternal, mystical union that is usually consummated with a freehand sketch. At another level, it is all business, cool and calculating. This combination is the key to the question of whether this is a serious work of architecture. Automatically assuming that it is (because, say, there are sketches) risks missing the possibility that in its relative economy, as in its matter-of-factness, the building cannot help but yield to its own artifice. Its meaning (whatever it is) ultimately appears forced, as does its formal resolution. Which makes it all the more evident that, like glass itself, the building is a construction in the sense that "Frank Gehry" is a construction, to say nothing of Frank Gehry: simultaneously magical and mechanical, surprising and predictable.

A final clue lies in the abandoned mirrored glass, which never really went away. Instead, it went inside, into the very depths of the Gehry-designed core that accompanies the Gehry-designed



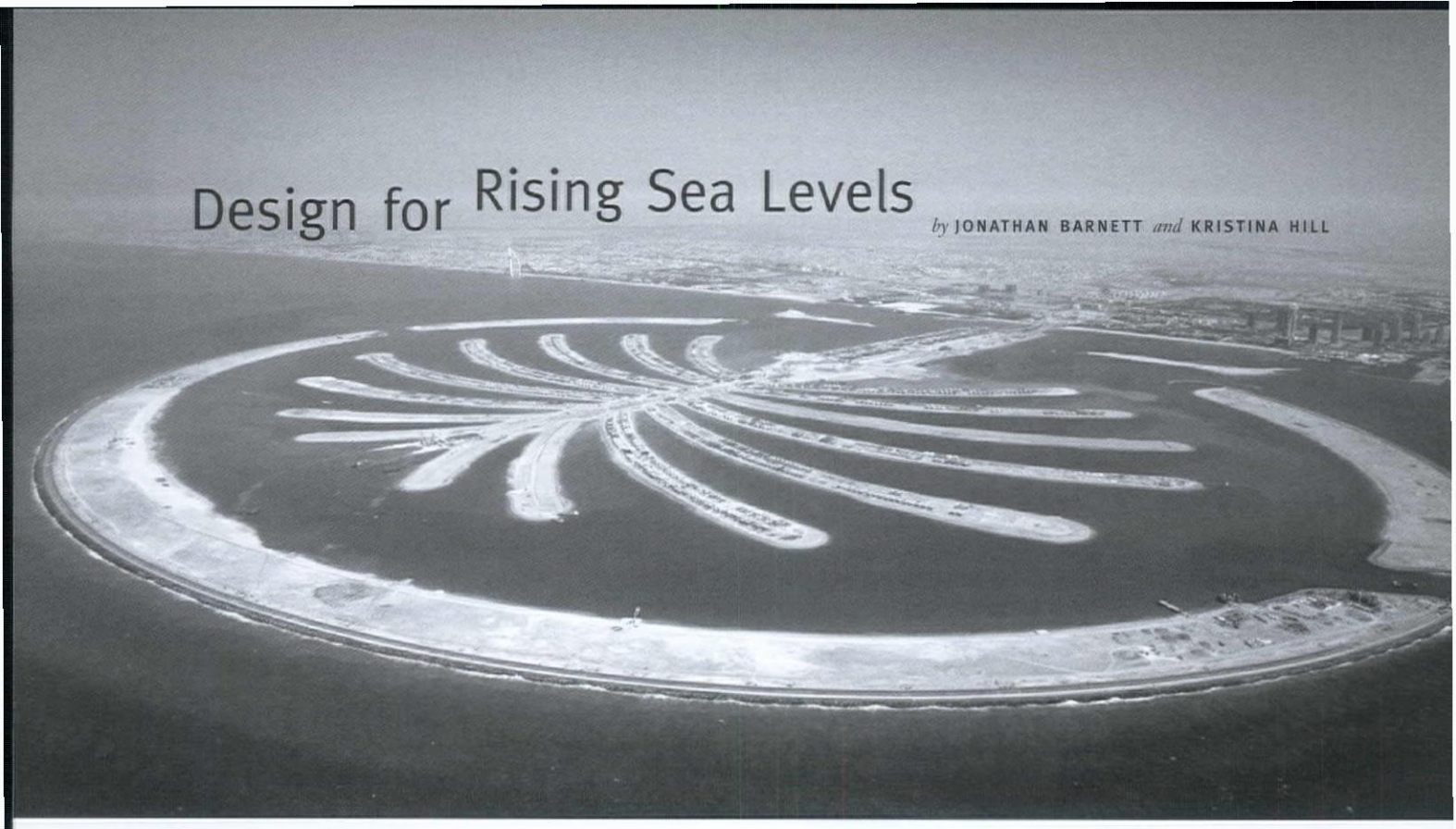
Frank Gehry, *InterActiveCorp Headquarters*, ground floor plan. Courtesy, IAC

shell. In the vast empty lobby there is a very long, very high translucent glass wall. Behind it, there is a very long, very narrow space, lined with eighteen digital projectors facing away from the wall, and eighteen pairs of angled, crystalline mirrors that reflect their digital light back onto the translucent glass. The result is what the building's website calls the "world's largest high-resolution video wall," supporting a single, rear-screen projection that is the cumulative, coordinated output of the eighteen projectors. In this pulsating, animated wall as in the building itself, whose pulsating, animated figure requires the technical coordination of hundreds of pieces of glass, the mechanical part is subordinated to the organic whole. The hall of mirrors that makes such a trick possible is necessarily invisible. Likewise, "cold-formed or 'bent' glass" is another name for the behind-the-scenes technical virtuosity that takes over where the work of architecture leaves off, thereby encouraging us to believe that this brittle shell-and-core holds together just enough to contain something like meaning. And "Frank Gehry" is another name for the hall of mirrors that takes over when the real Frank Gehry has left the building, again.

To the extent that it too can be considered part of a larger whole, whether actual or virtual, every building implies — or imagines — a city and a world. The city implied by the *IAC* is a city of proper names administered by capital: Gehry, Nouvel, Stern, Meier, etc. This city already exists. There is nothing visionary about it, whatever particular form it takes. But to the extent that the proper name, in architecture, stands in for an abstraction, there is another city lurking behind each. To sign a building is to sign a contract with the crystal world. Bound by such a contract, one service that few signature architects are able to resist providing is that of bringing this cold world to life by delivering meaning. With consummate professionalism, Gehry's architecture attempts to render this service at *IAC*. To its eternal credit, it fails. Instead, we are left with the cold hard thing itself: a complex set of carefully balanced curves interrupted by the occasional straight line, digitally calculated and mechanically produced. In its crystalline surfaces we can catch a murky glimpse of the world that has made it possible and that it, in turn, has helped to make. In such a world, real materials like glass are transformed into wish-images whose aura has far from withered away. This new form of aura is defined by an unresolved oscillation between "original" (Gehry Partners) and mass-reproducible "copy" (Gehry Technologies). If the resulting effect can be called meaning, then this is a meaningful building. If not, then all the better. □

Design for Rising Sea Levels

by JONATHAN BARNETT *and* KRISTINA HILL



Palm Island Project, United Arab Emirates, 2004. Photo Jorge Ferrari/epa/CORBIS

A waterfront site for a single family house in Easthampton, New York, recently sold for more than $100,000,000. Condo development rolls onward over the barrier beaches along Florida's eastern shore. The Pudong district rises from the marshes in Shanghai as towers are constructed on newly formed islands off the coasts of Dubai and Abu Dhabi. The possible effects of storm surges, on top of a global rise in sea level, don't seem to be influencing how investors, governments, and tenants are making decisions about all this.

In the book version of *An Inconvenient Truth*, Al Gore shows illustrations of various urban areas under water ("In Shanghai and the surrounding areas, more than 40 million people would be forced to move"), and big parts of choice coastal real estate, like all of Florida south of Orlando, disappearing into the sea. These are projections of what could happen if the polar ice caps melt and produce a twenty-foot sea-level rise. These scenarios are dramatic; they get our attention; they help people understand the issues. But we don't know how to relate such apocalyptic visions to current problems. We are used to thinking of the environment as something that changes very slowly, if at all, and are confident that modern engineering can solve just about any problem. The problem is, no matter what happens now in the world of politics, sea levels are going to rise faster in our lifetimes than they have since before the first cities were built. How fast and how much? Our conclusion is that this will be an extremely significant challenge that our coastal regions will have to confront over the next fifty years.

Sea levels have been rising for thousands of years, since the last ice age, but so slowly that in the past natural systems have adjusted incrementally. We now know that sea levels will rise faster because of warmer water temperatures and accelerated melting of ice sheets, but we don't know enough about the physical processes that affect major ice sheets to know exactly how global temperature increases will affect them. The temperature increases that have already occurred have committed us to a faster rate of sea-level rise no matter what we do at this point. But how much more should we expect in fifty years, or 100, or 150? Could sea level change drastically within our lifetimes?

The blunt answer is "Yes." Scientists who have studied the last great melting period between glaciations say that sea levels rose between thirteen and nineteen feet when parts of Greenland and the West Antarctic Ice Sheet melted. It's more likely we'll face increases on the order of a foot or two by 2050, with accelerated increases after that. We don't know how long the more drastic melting will take, what its extent will be, and what we could still do to slow it down or prevent it. There are probably internal mechanisms that cause collapse in the ice sheets, but the climate models being used don't include these mechanisms, so they don't predict sea-level rise completely.[1] Sea level will rise faster than it has in the past, but at this point only careful monitoring of the actual ice can tell us the rate of acceleration that is due to the ice sheets. As designers and planners, our problem is whether we should design and plan for a very small change, a moderate change, or a very big change. And by when? Strategy decisions are made more difficult because we generally deal with trends that can be treated as linear. This one is going to be exponential.

In the late 1980s, one of us, Kristina, recalls having a discussion with an ecologist about our apparent inability to comprehend change that occurs not in dramatic steps, nor at a steady linear rate, but rather exponentially, starting out

with a low slope that steepens over time. The biggest changes seem to happen almost overnight, because late in the process the curve is so abrupt. People want to believe that the flat part of the curve in the early phase of change is really linear, not the start of an exponential curve. And when the big changes occur later on, we often treat them as "sudden" disasters when, in reality, they were quite predictable.

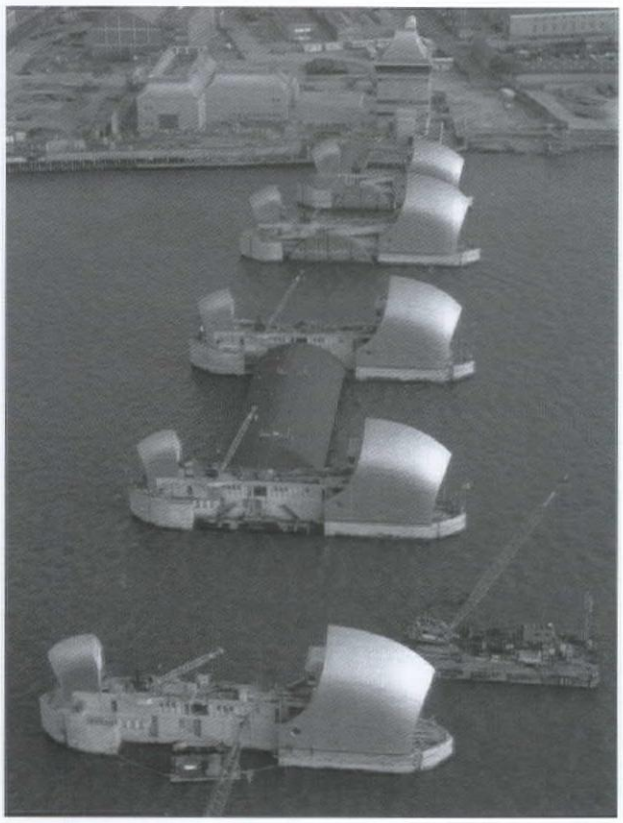
Kristina was explaining this problem of human comprehension to a friend while walking on a beach. The tide was coming in. As she got to the part about change seeming to happen suddenly, even though it has been gradual, they realized that they were now (suddenly) walking on an isolated sand bar and would have to wade to shore. No more needed to be said.

As far as we can tell, most designers and planners aren't thinking seriously about climate change in the U.S. unless they work closely with the insurance industry, which is dropping tens of thousands of East Coast customers and raising rates on the rest, in part as a result of climate predictions.[2] Ecologists all over the world also know that it's a very big deal. The World Bank knows. But building and landscape architects, engineers, and planners don't seem to have connected the dots. Jonathan, the other author of this article, worked on the first reconstruction plan for New Orleans after Hurricanes Katrina and Rita and saw the devastation from a storm surge that could have been prevented if the flood walls had been properly constructed. He became frustrated with the many comments from people outside New Orleans that the city had simply been built in the wrong location and ought to be a write-off, and he began to wonder what would happen if we applied the same standard to other places. Biloxi and other Gulf Coast cities also suffered severe damage from Katrina and Rita. Key West had flooding comparable to that in New Orleans from Rita. If we looked around the country at other vulnerable cities, we'd have to write off many more than New Orleans.

Few people realize that even without climate change, New York City is at risk from a hurricane that could drive a storm surge more than twenty feet above mean sea level over lower Manhattan and other coastal areas of the City, flooding subway and vehicular tunnels and putting Kennedy and LaGuardia Airports under water. The "Long Island Express," a Category 3 hurricane that passed to the east of New York City in 1938, produced a twelve-foot storm surge and fifteen- to twenty-foot-high waves, striking the coast with a fast-moving wall of water about thirty feet high and resulting in 700 deaths and the destruction of 4500 homes along the coast.[3] Downtown Providence, Rhode Island, was under fifteen feet of water from that same storm. Galveston was destroyed by a hurricane in 1900. Other coastal cities like Charleston, Miami Beach, Miami, Baltimore, and Boston are also at risk from storm surges today, even without changes in sea level. Chronically under-maintained infrastructure across most of America, along with our very human ability to disbelieve what we have not personally experienced, leaves many cities vulnerable to life-threatening floods and extensive property losses. As the length of time between such disastrous storms increases, the number of vulnerable infrastructure elements, properties and people increases. If several cities suffered disasters on the scale of New Orleans within a few years of each other, there could be devastating national economic effects.

The Netherlands, where much of the land is below sea level, has been facing storm surge problems for centuries and is a leader in protection techniques. London and the Thames Estuary are other locations where substantial storm surge protection is already in place. Bangladesh, where much of the land is close to sea level, is unprotected from storm surge, and its problems become more serious as sea levels rise. Any inhabited delta, like New Orleans, is going to have to make major adjustments to deal with climate change;

Results of the "Long Island Express" hurricane, West Hampton, Long Island, New York, September 21, 1938. Copyright, Bettmann/CORBIS



Rendel, Palmer and Tritton with Charles Draper, The Thames Barrier, Woolwich, London, England, 1982. Photo, Adam Wollfitt/CORBIS

examples include, the Pudong skyscraper district of Shanghai, the Mekong Delta, the northern coast of Egypt. Low-lying island cities like Venice or Key West are also at high risk.

Other aspects of climate change add to the concerns about rising sea levels. Will there be more Katrinas in the Gulf than there have been in the past? More Hurricane Isabels and Floyds on the East Coast? That's difficult to answer, because according to one recent modeling effort, sea surface temperatures and vertical wind shear could increase simultaneously; historically, increased vertical wind shear has been associated with diminished hurricane activity and intensity.[4] On the other hand, that model is so new that we might well want to wait and see if it is validated by others before accepting its results. Will the area designated as a 100-year floodplain become a ten-year floodplain in Boston[5] and in other cities where increased precipitation and a rising sea level are predicted? This outcome seems very likely, according to peer-reviewed studies cited in the Intergovernmental Panel on Climate Change's (IPCC) latest predictions for North America.[6] Will the Arabian Gulf get more Category 5 tropical cyclones, like the unprecedented one that occurred this past June, flooding homes and sucking SUVs into flash floods in the capital city of Oman? Is Dubai ready for cyclones that would flood its new palm-shaped artificial coastline of luxury homes? Although we don't know what will happen to the number and intensity of cyclones, we do know that in Dubai, the equivalent of billions of US dollars have been spent to put vulnerable housing on shallow spits of land where a hurricane of any size would cause substantial damage, and quick evacuation of residents would be very difficult.[7]

It is time to consider the effects of sea-level rise systematically and rigorously, and plan for what needs to be done about it. The IPCC Report released in February 2007 concludes that while sea levels have been rising at the rate of 1.8 millimeters per year from 1961 to 2003, from 1993 to 2003 the rate of sea-level rise was 3.1 millimeters per year. This report is edited by governments as well as scientists and went through paroxysms of edits before it was released, resulting in a conservative estimate of future risks. It is possible that the changes that have been observed are just normal fluctuations, but most scientists now believe they are evidence of a new trend. What is the trend?

If the rate of change during the last ten years is projected forward as a straight line, it would result in only about a one-foot increase in sea level by 2100. Most people think we are seeing the base of an exponential curve, but there is still disagreement about the slope of the curve. As we noted earlier, some sea-level rise can be attributed to thermal expansion and some to melting glaciers and ice caps. Thermal expansion of the oceans depends on the predicted range of global temperature rise; the rate at which ice caps and glaciers are melting depends on interrelated variables that, in addition to ranges of potential air and water temperature change, include reduced reflectivity of the ice cap as it melts, which could cause melting to accelerate since the melted caps absorb more heat. Further complications: Some portions of the world's continents are subsiding and some are rising, and the point where oceans meet land fluctuates with daily and seasonal tides, making sea-level trends difficult to observe locally without consistent satellite data.

NO MATTER WHAT HAPPENS NOW IN THE WORLD OF POLITICS, SEA LEVELS ARE GOING TO RISE FASTER IN OUR LIFETIMES THAN THEY HAVE SINCE BEFORE THE FIRST CITIES WERE BUILT. HOW FAST AND HOW MUCH? OUR CONCLUSION IS THAT THIS WILL BE AN EXTREMELY SIGNIFICANT CHALLENGE THAT OUR COASTAL REGIONS WILL HAVE TO CONFRONT OVER THE NEXT FIFTY YEARS.

A mid-range prediction seems to be a worldwide average increase in sea level of about a foot by 2050 and three feet —almost a meter—by 2100. The Director of the Goddard Space Science Institute, James Hansen, has said recently that given observable trends in the melting of the ice sheets, "I just can't imagine that you could keep sea-level rise under a meter" by the end of this century.[8] Locally, that average could translate into bigger numbers or smaller numbers, depending on whether a section of coast is submerging or emerging, geologically speaking.[9] In Boston, for example, according to the *Boston Globe*, continental subsidence will add about six inches to sea-level rise this century.[10] Other influential global entities are moving ahead to make their own estimates of local risks. If you turn to a February 2007 World Bank report, *Impact of Sea Level Rise on Developing Countries*,[11] a one-meter rise by the end of the century is at the low end of their estimate. The Bank is estimating the upper end of the range by the end of the century as three meters in the countries they studied, and possibly as high as five meters if there is an "unexpectedly rapid break-up of the Greenland and West Antarctic ice sheets." Whether the global average ends up at one foot or sixteen feet by 2100, clearly some highly populated cities are in serious trouble, not just from rising seas but from the more severe effects of storm surges. Equally sobering is the fact that whatever the change is by 2050 or 2100, sea levels will continue to rise further for hundreds of years as the planet continues to warm, even if the rate of warming slows.

WHAT ARE THE CONSEQUENCES OF SEA-LEVEL RISE?

Whether or not climate change accelerates sea-level rise, our shorelines are having a quiet ecological crisis best known to people who fish. The near-shore aquatic environment is the nursery for many of species that are the mainstay of regional and global fishing economies. The U.S. fishing industry alone contributed more than $28 billion to the gross national product in 2001, and coastal habitats are critical to its future. But coastal marshes have been disappearing at a rate of 20,000 acres per year.[12] Over the last 100 years, Puget Sound in the Pacific Northwest has lost 73% of its original salt marshes; on the other side of the continent, Chesapeake Bay had already lost 90% of its submerged sea-grass meadows by 1990.[13] In the few estuaries, salt marshes, and sea-grass beds left, continuing urban development; nutrient runoff from parking lots, roofs, lawns, and farms; and transportation impacts are major threats. At our current growth rates, the coasts of North America are urbanizing so quickly that we can expect 25% of all coastal lands to be developed by 2025—and to continue to develop beyond that level.[14] To a great extent, the fate of the near-shore environment determines the health of our oceans and the future of one of our most important food sources. Even as this complex world of birds, fish, crabs, and countless other life forms is squeezed and polluted from the land, it will be flooded from the sea. More water may not sound like a bad thing for fish, but even a six-inch increase in sea level could turn many of today's remaining shallow-water marshes into open water or sandy beaches, backed up against buildings, roads, and parking lots that used to be further inland. If that happens, we'll lose shrimp, crabs, salmon, and dozens of other economically important species, not to mention those that don't have a price tag at the grocery store.

If you're thinking we could just do without shrimp, consider the water we drink. The fate of the underground aquifers and freshwater rivers many cities depend on for drinking water depends on sea level as well. One to three feet could impact groundwater supplies that support New York City, New Jersey, and Long Island, the Delaware River freshwater intake for Philadelphia, and the cities and farms of California that depend on the Sacramento and San Joaquin River systems for drinking and irrigation water.[15]

Then there's the flooding. Coastal roads, subway tunnels, drainage pipes, housing, and just about everything else we've built along the coast are extremely vulnerable to higher high tides and storm surges. The impacts to transportation infrastructure aren't just expensive; they actually jeopardize the logistics of evacuation routes, which can have a direct impact on human survival rates. Sewer outfall pipes that are affected by tides could back up and cause severe new flooding far from the edge of the sea itself when sea levels rise. Entire districts of some coastal cities could end up being below sea level, and all coastal cities become more vulnerable to flooding from the higher storm surges that result from rising oceans.

INSURANCE AS A BELLWETHER

Since accelerated sea-level rise is already a reality, we should expect to see the private sector paying close attention and getting mobilized to protect its assets. Indeed, if we consider

Oosterschelde Storm Surge Barrier, Zeeland, Netherlands, February 8, 2004. Photo, Jaap Wolterbeek/ANP

the insurance industry, that's exactly what we find. Media reports state that Allstate recently stopped accepting customers for homeowners insurance along the coasts of New Jersey, Connecticut, Delaware, and in the five boroughs of New York City, where they also won't renew policies for 30,000 of their 600,000 residential customers. While this isn't news in the Gulf Coast states, homeowners all along the mid-Atlantic and northeast Atlantic coast are watching their insurance premiums and deductibles increase by two and three digits. Their insurers are pointing to the risks of climate change as the reason.[16]

IN DUBAI, THE EQUIVALENT OF BILLIONS OF US DOLLARS HAVE BEEN SPENT TO PUT VULNERABLE HOUSING ON SHALLOW SPITS OF LAND WHERE A HURRICANE OF ANY SIZE WOULD CAUSE SUBSTANTIAL DAMAGE, AND QUICK EVACUATION OF RESIDENTS WOULD BE VERY DIFFICULT.

The institutional and private investors who own shares in these large insurance companies have been urging their Boards of Directors to consider the risks of climate change and to incorporate those risks into their business practices. The pension funds of Florida and California, for example, have joined a group called the Investor Network on Climate Risk, which pressures publicly held companies to tell shareholders how they are dealing with the financial risks and opportunities of climate change and its impacts. The Florida State Board of Administration manages $180 billion in assets, with $140 billion of that coming from the Florida Retirement System. The California equivalent, CalPERS, has a fund with a market value of $245 billion. Globally, insurance is the world's largest industry, with a total market value of $3.4 trillion. And out of all the $374 billion in payouts that industry has made around the world from 1980 to 2004, more than 70% has been driven by storms, with an additional 5 to 10% driven by flooding. According to Evan Mills, a scientist who specializes in insurance and climate change at Lawrence Berkeley National Laboratory, the ratio of losses to premium revenues is increasing as a result of weather-related losses.[17] The upshot is that the insurance industry is likely to increasingly shift the costs of sea-level rise and more damaging storm patterns to governments and individuals. For example, the Association of British Insurers actively advised the British government to make the massive investments in flood defenses that were constructed in the Thames River Estuary after severe floods affected central London in the 1950s.

Melting icebergs, Ilulissat, Greenland, July 31, 2006. Photo, Paul Souders/CORBIS

Some insurance companies are also looking farther into the future and are influencing builders and other market agents to do more to mitigate climate change. Fireman's Fund recently offered the first premium credits for "green" building elements and added requirements to rebuild green as well. Allianz is funding sustainable block-scale residential building experiments in Germany, where the goals are to generate more energy than is used and drastically reduce water use. Insurance Australia is offering online automobile carbon-offset services to its customers. Travelers is offering discounts to drivers of hybrid vehicles. One of the world's largest insurers of insurance companies, Swiss Re, has identified corporate director's and officer's insurance as a vulnerable area now that companies that emit greenhouse gases are being sued by various U.S. states. Rather than let these corporate board members off the hook, they have begun to require companies to detail the corporate practices that will allow them to take climate change risks into consideration.[18]

By working with large insurance companies, government regulators could encourage rationality when either the private sector or public agencies make major investments in coastal urban futures. Important dialogues could begin about how to share the significant investment costs of adapting coastal areas to sea-level rise and new flooding patterns. Because they would bring insurers and institutional leaders together, these new investment and cost-sharing discussions provide a way to allow flexible design and planning solutions to emerge that would be insurable, politically feasible, and recognize the need for social equity in how citizens are protected from immediate and longer-term dangers.

PROTECTING COASTAL DEVELOPMENT

There are essentially three ways of dealing with the effect of rising seas on coastal development.

1. Development can be moved away from the shore, and the shoreline can be restored to a state that will accept the fluctuations of rising tides and storm surges. This may be the best alternative for individual houses in vulnerable locations, but it would be the last resort for whole cities.

2. Development can be raised above flood levels, in its current place. Individual houses raised a story or more above ground are becoming a familiar sight in coastal locations.

This is not a great design strategy in denser areas, where it would make more sense to raise the streets and buildings for an entire district. FEMA regulations permit parking to be below flood levels, so both parking and utilities could remain at today's grade level; future utilities and parking would actually cost less with that approach, since it is cheaper to build parking and utilities up from grade than to excavate. Street levels and side sewer lines were raised in the mid-19th century in entire districts of Chicago and Seattle to improve drainage. Raising the elevation of a whole urban district can work, although it is obviously expensive and requires the coordination of public and private investment.

3. Protect coastal cities with a combination of wetlands restoration, flood walls, and pumps. A version of this strategy, minus significant wetland restoration, failed in New Orleans; although the walls should have worked, their construction turned out to be faulty. After devastating storm surges from North Sea storms in 1953, the governments of Great Britain and the Netherlands invested in major engineering protection against flood surges. The Thames estuary protection includes barriers across the approximately 1,600-foot width of the Thames River to protect central London. These retractable steel barriers rest on the river bottom in sections between five-story towers and swivel upward and sideways to hold back a flood surge. They have been used many times since completion in 1983, and more often recently. At a cost of more than 500 million pounds in 1983 (which today would exceed a billion pounds and equal about $1.9 billion USD), the project was paid for primarily by public taxation and was designed to last until 2030. The centerpiece of storm surge protection in the Netherlands is a much larger estuary-mouth barrier, the Oosterscheldekering, built from 1976 to 1986 just south of Rotterdam. That behemoth is 5.6 miles long and mostly fixed in place, with movable gates along slightly less than half its length to allow tidewaters and boats to pass through in fair weather. Built at a cost of 2.5 billion euros (or about $3.4 billion USD), the dam was designed to last 200 years. These are expensive investments, but even these big numbers are much smaller than the property values protected: New York, for example, has more than $1 trillion in insured coastal property.[19]

While some governments and their engineers are thinking in terms of enormous barriers, some architects have been thinking of altering buildings instead. The Rotterdam Architecture Biennale of 2005 brought together a cross section of architectural ideas in an exhibit specifically on water and cities. Using the past as a point of departure and displaying extreme real-world examples of constructed coastlines such as the Palm Jumeirah in Dubai, the exhibit was in some ways a valuable eye-opener. But when design concepts for dealing with climate change were requested from various practitioners around the world, the proposals that came back were more about shock than strategy. Perhaps that was the intent of the organizers. But the idea that glass-fronted buildings could and should detach from stilt-like supporting piers and float during floods won't exactly appeal to insurance companies: Under what weather and terrain circumstances would floodwaters come without significant winds, waves, and debris?

Architects, engineers, landscape architects, urban designers, and planners owe the public a serious discussion of how to deal concretely with the effects of sea-level rise up to at least 2060, as well as a look beyond to protections that would last until the end of the century.

LANDSCAPE AS COASTAL INFRASTRUCTURE

In the more complex third strategy we described above that includes mechanical barriers and pumps as well as wetlands, the open question is how landscape can form an infrastructure for coasts.

Most design thinking for coastal protection explores options in the vertical plane: walls, mechanical barrier arms, levees, and houses on stilts. The alternative is to think horizontally. If we could design a living coastal infrastructure that would support marine ecosystems and also absorb some wave energy and flood water and allow that new coastal infrastructure to migrate inland as sea levels rise, we would have the kind of solution that engineers sometimes call a belt-and-suspenders approach. In New Orleans, a statistic widely quoted was that every five miles of coastal wetlands restored could reduce storm surge by about a foot. When storm surges are expected to exceed twenty feet, coastal wetlands alone don't seem an immediate practical solution. Sandy barrier islands like those found at the mouth of New York harbor or Virginia's eastern shore can move by ten feet in a single year. Clearly, like mechanical barriers and pumps, landscape strategies have to be used very carefully to achieve significant long-term benefits. The designs must address the specific limiting factors that exist in ecosystems and human systems.

Two of the most significant limiting factors for the growth of shallow-water sea grass beds that nurture fish and crabs are insufficient light, since rays of sunshine are blocked by turbid water that suspends sediments and pollution in storm-water runoff. Artificial islands and reefs of various kinds can make deep water shallower, creating places where sea grasses can grow, as long as we simultaneously continue to improve the quality of water running off cities, suburbs, and farmlands. If the artificial islands and reefs are built to float in a submerged position, rather than fixed in place on the bottom of bays or beaches, we can move them inland as the sea rises to form a flexible new marine edge. These structures could be built with select materials from the industrial waste stream, and by recycling some materials from buildings that are being torn down and replaced. The questions of cost and modularity will be important, along with the ability of these floating structures to absorb wave energy or create flood storage on the freshwater side.

There are three critical reasons to consider these horizontal approaches: first, they are the best solution for supporting coastal ecosystems short of simply removing big sections of coastal cities along their waterfronts and restoring predevelopment habitat; second, in most coastal building situations the value of the assets being protected will not justify billions of dollars in investment in vertical coastal barrier systems. And third, if we don't pay what it takes for new barriers to make sure they are built to open mechanically, they will contribute to more severe problems for aquatic ecosystems. The simpler strategies of decamping or raising the floor levels of buildings may be viable options in low-density development, but the more comprehensive solution to protect lower-density urbanization as well as ocean ecosystems is to unpack our vertical strategies and reconsider systems that can operate in the horizontal zone.

BARRIER METHODS FOR PROTECTING DEVELOPMENT FROM SEA-LEVEL RISE

The Thames and Eastern Scheldt barriers provide templates that can be applied to comparable situations where the value of property is so high that it could justify these investments. Structures analogous to the Thames Barrier could be placed across the Narrows, the entrance to New York Harbor, and across the passage from Long Island Sound, roughly where the Throgs Neck Bridge is located, to protect many vulnerable locations from storm surges.[20] The outer reaches of New York's waterways could be protected by a barrier on the model of the Eastern Scheldt in the Netherlands, connecting barrier beaches from Sandy Hook to Coney Island. If such a barrier were needed, it would be part of a system of seawalls that would protect the barrier beaches themselves. An early version of such a seawall is the one built on Galveston Island after the 1900 hurricane. Boston Harbor could be protected by a series of seawalls along the coast and something like the Eastern Scheldt barrier across its opening. An installation like the Thames Barrier across the Shanghai River might protect Shanghai's Pudong district from storm surges, and perhaps a barrier even longer than the one across the Eastern Scheldt could protect the whole Arabian Gulf.

PLANNING, DOLLARS, AND SENSE

In the United States we need engineering and planning studies of every coastal city to look at the type of coastal protections that may be possible and what their effect would be on future development. We also need new financial strategies that would make these investments affordable for our cities, which already struggle and often fail to fund new infrastructure and maintenance. Federal and state dollars will be essential components of any plan to provide equal protection to citizens at all income levels.

But realistically, what arguments or evidence will mobilize those dollars and raise significant new revenues for disasters that have not yet occurred in a society in which relatively low taxes are perceived as too high?

The Interstate Highway System enjoys widespread political support because it provides benefits in every state, creates a great many jobs—as well as profits for big construction companies—and has a dedicated source of funding, a federal gasoline tax. Protecting coastal development from sea-level rise will be a problem in many states, and a high proportion of the U.S. population lives in them. Protection ought to be seen as a bi-partisan, national issue, providing plenty of potential work for the construction industry. There could be substantial resistance from states far from a coast unless new fund allocations would also pay for expanded reservoirs and aqueduct systems in the arid West or new river flooding protections in the Midwest.

It is difficult to think of a funding source that has the beautiful simplicity of the gasoline tax. The most likely place to look for fiscal solutions may be in partnership with the insurance industry. Perhaps insurance companies would buy long-term government bonds to finance coastal protections that would make these areas insurable. But this is only cash-flow management, since the government would still be paying the interest on the bonds. Some kind of fail-safe government guarantee of these insurance policies may be needed. In Great Britain and the Netherlands the national interest was enough to justify public expenditure on coastal defense. Could that happen in the U.S.?

BOSTON HARBOR COULD BE PROTECTED BY A SERIES OF SEAWALLS ALONG THE COAST AND SOMETHING LIKE THE EASTERN SCHELDT BARRIER ACROSS ITS OPENING. AN INSTALLATION LIKE THE THAMES BARRIER ACROSS THE SHANGHAI RIVER MIGHT PROTECT SHANGHAI'S PUDONG DISTRICT FROM STORM SURGES, AND PERHAPS A BARRIER EVEN LONGER THAN THE ONE ACROSS THE EASTERN SCHELDT COULD PROTECT THE WHOLE ARABIAN GULF.

Since a secure source of federal government funding was available for the interstate highways, planning at first was seen as solely about engineering, and for a long time it did not occur to decision-makers that local communities should be consulted. We all know our Jane Jacobs stories about the harm new highways did to inner-city neighborhoods. We live with the decentralized development that highways have facilitated as an unplanned side effect. As we adapt to sea-level changes, we'll need to avoid making the same kind of mistake. Social equity, above and beyond broader cultural

and economic health, must be a top priority when public funds are used.

Deciding what to protect and how to protect it is going to require rational leadership if we want to come to conclusions that are truly in the public interest. The voices of influential people with houses in locations that probably do not justify the costs of protection will have to be balanced against the future of low-lying, low-income neighborhoods where protection could be effective but political clout is small—after hurricane Katrina, George W. Bush famously was able to imagine himself sitting on Trent Lott's rebuilt front porch but had no such vision for New Orleans' devastated Ninth Ward.

The science of coastal defense is still developing. Some groins and seawalls have turned out to actually cause more erosion, and we may fail in some of our experiments to support coastal ecosystems. But the no-action alternative includes the loss of many ecosystems. Lack of certainty does not justify complacency.

There is time, measured in decades, before the effects of sea-level rise make coastal dangers significantly worse. But we are going to need to use all the time we have. It took Britain and the Netherlands from 1953 to the mid-1980s to put key flood barrier systems in place for exceptionally valuable landscapes. We will need a process of public education and participation. We will need extensive studies to determine the scope of the problem, the range of potential solutions, their cost, and ways of managing those costs. Leadership will need to come from state and federal governments, but the design professions can and must help set the strategic direction. □

NOTES

1. According to Dr. Vivien Gornitz, a top NASA scientist who has been studying climate change and its implications for sea level since the late 1980s, a global average temperature increase of 1.9 to 4.6 degrees. C could cause major changes in these massive ice reservoirs. That increase could be reached by 2100 in the IPCC's SRES A1B scenario. In this scenario, global economic and population growth continues but new and more efficient technologies for energy use are assumed to be in use. It also assumes balanced growth in fossil and non-fossil fuel use, which is not yet the case. It's not a worst-case greenhouse gas emissions scenario, but it is sufficient to produce the kind of warming that historically caused large parts of the world's massive ice sheets to melt and raised sea levels by sixteen to twenty-three feet. Gornitz calls the IPCC's latest estimate that sea level could rise by half a foot to two feet by 2100 "probably a very conservative estimate" in part because "current computer models do not yet include many of these dynamic ice processes." (Email to Kristina Hill, June 19, 2007.)

2. K. Breslau, "The Insurance Climate Change," *Newsweek*, January 9, 2007, <www.msnbc.msn.com/id/16720746/site/newsweek/>.

3. The historical record of hurricanes leaves the New York area with a 150-year "return interval" for a Category 3 storm like the Long Island Express of 1938. For more details about that storm, see: <www2.sunysuffolk.edu/mandias/38hurricane/damage_caused.html>. As climate change and sea-level rise occur, this rate of occurrence may not reflect the region's new realities, which could be worse. New York's vulnerability is assessed by insurers as a function of the magnitude and likelihood of storms, but also in terms of the amount of insured property along the coast. New York has more than $1 trillion in insured coastal property, putting it a close second to Florida in terms of vulnerability and far outpacing other U.S. states.

4. G. A. Vecchi and B. J. Soden, "Increased tropical Atlantic wind shear in model projections of global warming," *Geophysical Research Letters* 34, L08702, doi:10.1029/2006GL028905, April 2007.

5. See the final report at <www.tufts.edu/tie/climb/>.

6. A draft of the North American impacts chapter is available at <www.climatesciencewatch.org/file-uploads/Ch14.pdf>.

7. Images and descriptions of this artificial coastline can be found at <www.thepalm.ae/jumeirah/>.

8. R. Kerr, "Pushing the Scary Side of Global Warming," *Science*, June 8, 2007, 1412–1415.

9. This is why it is impossible to simply draw a line at some elevation above sea level to identify urban areas that could be impacted by sea level rise. Impact maps must consider local subsidence by adding it to the predicted global average for sea-level rise, as well as the erosive impacts of waves (including typical as well as storm-driven waves). The so-called "Brunn's Rule" in coastal geomorphology is often interpreted to mean that every centimeter of sea-level rise corresponds to fifty to eighty centimeters of horizontal beach erosion. Applying that rule means that a three-foot rise in sea level would correspond to 150 to 240 feet of shoreward erosion of a sandy beach.

10. Illustration for a climate change simulation, *Boston Globe* website, April 2007 <www.boston.com/news/multimedia/interactive_bostonflood/>.

11. Susmita Dasgupta, Benoit Laplante, Craig Meisner, David Wheeler, and Jianping Yan, "The Impact of Sea-Level Rise on Developing Countries: A Comparative Analysis," World Bank Policy Research Paper 4136, February 2007, <http://ideas.repec.org/p/wbk/wbrwps/4136.html>.

12. Pew Oceans Commission, "America's Living Oceans: Charting a Course for Sea Change," Pew Trusts, 2003, <www-ocean.tamu.edu/GOOS/GSC8/nowlin.ppt>.

13. More information about trends in estuary environments can be found at <www.estuaries.org>.

14. D. Beach, "Coastal Sprawl: The Effects of Urban Design on Aquatic Ecosystems in the United States," Pew Oceans Commission, Arlington, Virginia, 2002, <www.pewtrusts.com/pdf/env_pew_oceans_sprawl.pdf>.

15. About a third of New York City's water customers depend on the Long Island aquifer for water, which is vulnerable to intrusion by salt waters as sea levels rise. New York's emergency water source has been the Hudson River, which was accessed at the Chelsea pumping station in the late 1980s during a major drought. This emergency intake is vulnerable to the movement of salt water up the Hudson as sea levels rise. For more detailed information about water supply in these areas and its vulnerability to climate change, see D. Major and R. Goldberg, "Water Supply," *Metropolitan East Coast Water Sector Report* (New York: Columbia University Center for Climate System Research, 2001), <www.epa.gov/climatechange/effects/coastal/SLRDelaware.html>; Knowles and D. Cayan, "Potential Effects of Global Warming on the Sacramento/San Joaquin Watershed and the San Francisco Estuary," *Geophysical Research Letters* 29: 18, 2002.

16. Breslau.

17. Concise and accessible information on this subject can be found in E. Mills, "Insurance in a Climate of Change," *Science*, August 12, 2005, 1040–1044.

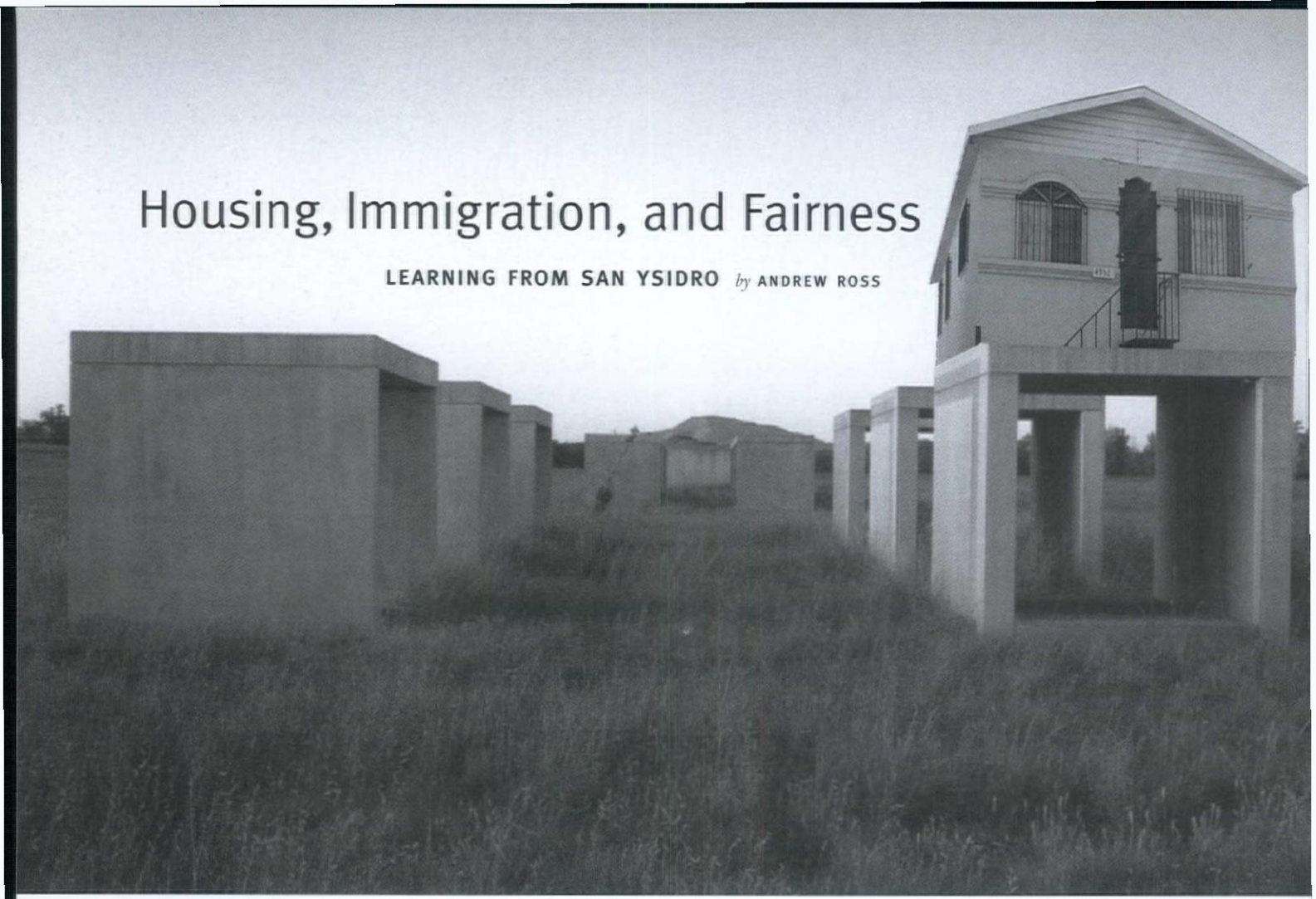
18. E. Mills, R. J. Roth, E. Lecomte, "Availability and Affordability of Insurance under Climate Change: A Growing Challenge for the U.S." prepared for the National Association of Insurance Commissioners, 2005, <www.ceres.org/pub/docs/Ceres_insure_climatechange_120105.pdf>.

19. L. J. Valverde, "Hurricane Risk in NY City & Long Island: Towards a More Realistic Appraisal of Extreme Weather Risk in the Northeast United States," Insurance Information Institute, New York, May 5, 2006, <www.iii.org/media/presentations/hurricaneriskNY/>.

20. M. J. Bowman and D. Hill, "Bracing for Super-Floyd: How Storm Surge Barriers Could Protect the New York Region," briefing for the New York Academy of Sciences, <www.nyas.org/ebriefreps/splash.asp?intebriefID=415>.

Housing, Immigration, and Fairness

LEARNING FROM SAN YSIDRO *by* ANDREW ROSS



Trickle-down sustainability. This is what architects now support: Focus on clients at the top end and hope that good ideas and practices spread to ordinary building. The rewards of visibility and prestige go to those who can claim to have designed the "greenest" in the forest of signature luxury-housing or office towers. On the landscape of single-family housing, New Urbanist efforts are aimed at upper middle-class suburbanites with "choices" about how and where to locate their families and material assets.

But what if we approached sustainability from the other end, from the perspective of new immigrants—a ballooning population with chronic housing needs and conservation habits formed from long experience with meager resources? Adopting the standpoint of those with the fewest choices might help refocus the debate about sprawl while redefining the character and uses of "urban infill" development.

If you had to name some hot button issues that rouse, if not inflame, American public opinion, undocumented immigration would be up there alongside land-gobbling sprawl. Scour the public media spectrum, however, for efforts to link these issues, and you might come away empty-handed. Given the many points of connection, this is surprising. Both anti-sprawl and anti-immigration advocates are all too easily portrayed as partisans of the status quo, with a zeal for barring new entrants and blocking development. So, too, concerns about the sustainability of both ill-planned land development and unregulated population growth appear to overlap. More Americans living wastefully on the land is the last thing the world's energy budget needs.

Yet virtually none of the eco-cost accounting that has been applied, tirelessly, to sprawling development has factored in the housing needs of the immigrant workers who are hired to build and maintain the infrastructure of suburbia as well as provide long-term services for its residents.[1] Large-scale developers and their contractors benefit directly (and rapaciously) from the ready availability of their undocumented labor. Indeed, some of the loudest notes in the pro-immigrant chorus have been sounded by managers of the home-building industry. Their data show how much of the recent construction boom relied on cheap immigrant labor and, to a much more disputed extent, immigrant home-buying.[2] With housing starts sharply down in most regions and with merchant-built growth on the urban peripheries stalling, the opportunity now exists to rethink land use.

Undocumented immigration is not going to stop anytime soon, though it is being pushed further underground. Best, then, to start thinking about balancing the housing, employment, and commuting needs of immigrants in a more or less permanent way. With economic mobility sharply reduced,

Estudio Teddy Cruz. Affordable housing in juxtaposition to social service infrastructures. Courtesy, Estudio Teddy Cruz

new arrivals are likely to reside at their point of entry for longer periods of time. From a design perspective, this challenge of semi-permanence is new. It differs from the response to distressed migrant communities typified by the organizational work of Architecture for Humanity, where the task of engineering shelter solutions is triggered by the emergency conditions of humanitarian crises.[3] Given that the employment landscape is morphing so quickly, the emphasis on permanence may seem imprudent. But the demographic and employment patterns suggest that, in the future, changes may well affect those in high-wage sectors, increasingly impacted by the march of outsourcing up the skills ladder, more than they affect low-income groups, whose services cannot be outsourced and will always be needed.[4] In addition and above all, the exigencies of the ecological crisis demand that we think about land development, design, and urban planning from every potentially helpful angle.

For sure, cities and less dense regions absorb immigrants in different ways, but the need to design a more effective job/housing balance is consistent. How can decent, affordable housing be designed in a sustainable way—in particular, close to jobs? How can commute times for low-wage workers be reduced? How should zoning and coding regulations be revised to enable this? How can these efforts be financed when most of the funding structures for affordable housing stand in the way? Most challenging of all, perhaps, how can designers and architects get immigrants involved meaningfully in the design and planning process at a time when fear of deportation keeps them out of sight? Surely somewhere in the design and/or planning professions are people dedicated to addressing these questions. But most evidence suggests otherwise. The immigrant populations who build and keep everything running are almost as invisible to architects and urbanists (even those trained in community design programs) as they are to the average middle-class American who would rather not acknowledge the indispensability of their labor.

Before the lavish system of federal incentives for building suburban sprawl and upmarket urban development was established, the business of constructing housing for immigrants was among the most lucrative sectors of the housing industry. In the era of the industrializing city, sizable returns were extracted from investments in settling new arrivals who had limited shelter choices. Until recently, the market for "cracker box apartment buildings catering to immigrants"[5] in barrios and other low-income enclaves provided a highly bankable prospect, and rent gouging from inner-city substandard housing is still among the more profitable forms of land speculation. Though the history and persistence of these exploitative practices are shameful, they blow away the given wisdom that there is no profit to be made from building low-income housing and that it requires heavy government subsidies. Indeed, socially responsible design groups have demonstrated all too well that decent, aesthetically vibrant housing can be built at low cost. One example is the Rural Studio's 20.0 model—a two-bedroom, stick-frame house that is energy-efficient, meets federal standards, and can be built by any commercial contractor for $20,000, including materials and labor.

Since new immigrants are the most vulnerable clients, they are often preyed upon by those only slightly less poor than themselves. Historically, some of the most venal slumlord practices were among immigrant slum dwellers themselves, and this is still most apparent today in the Global South on the peripheries of the megacities where rural migrants settle in spontaneous shantytowns.[6] Other instructive lessons can be drawn from circumstances that apply specifically to the Global South. In the swelling cities of developing countries, environmental advocates often find themselves at odds with affordable housing advocates. Why? Because migrants tend to settle on the most fragile ecologies —riparian corridors, for example, where degradation occurs most rapidly, or in dried up river beds, thereby impeding efforts to restore rivers. Planners are often caught in between, trying to resolve the conflict between pro-environment and anti-poverty advocates.

VIRTUALLY NONE OF THE ECO-COST ACCOUNTING THAT HAS BEEN APPLIED, TIRELESSLY, TO SPRAWLING DEVELOPMENT HAS FACTORED IN THE HOUSING NEEDS OF THE IMMIGRANT WORKERS WHO ARE HIRED TO BUILD AND MAINTAIN THE INFRASTRUCTURE OF SUBURBIA AS WELL AS PROVIDE LONG-TERM SERVICES FOR ITS RESIDENTS.

In the countries of the Global North, because of land costs and immigration controls, the picture is quite different. Despite the transnational sensibility of many new immigrants, the tendency is more and more toward permanent settlement. This reorientation, inspired by the 1986 Immigration Reform and Control Act, and by the New Right's legislative fondness for "family values," requires a quantum shift in responsible design, since it involves access to educational institutions along with a whole range of social services. Housing, in this context, is just one link in a network of support that can and should be designed together, from a sustainable standpoint. Yet, in urban areas, where new immigrants are the fastest growing population segment, little attention has been paid to their ecological footprints by planners or environmentalists.

The latter tend to fall into two camps: pastorally minded "greens," who are committed mainly to combating exurban

housing development for the well-heeled, and environmental justice advocates, who are focused on the prejudicial distribution of hazardous waste sites among minority populations or the dangers posed by inadequate brownfield conversions. Latino/a urbanists have begun to change the conversation, by arguing that the recent immigration of indigenous Mesoamerican communities into Southwest cities is a key to restoring the ecologies of the region. The impact of their land-use practices and ethno-cultural views on food and watershed sovereignty have already registered positively in the informal spatial map (in their street, alley, and marketplace use) and on the agronomy (urban farms and community gardens) of these cities.[7] For the planning establishment, lower-income immigrants routinely do not register as target constituents, either because they don't qualify economically as eligible clients or because they lack public clout in city politics. New Urbanists, who have led the charge toward sustainability through their promotion of "traditional neighborhood development" (TND), take the prewar, small Euro-American town as their blueprint, oblivious to the long history of compact towns that thrived in the Southwest region, first in indigenous pueblo settlements, then in Mexican-origin urban villages of the 19th century. Indeed, urban studies scholars David Diaz and Michael Mendez have argued that the true conceptual roots of New Urbanism are more readily located in those sustainable Southwestern forms that morphed into the densified urban barrio of the 20th century.[8] The customary preferences of Latino immigrant communities today are already congruent, they point out, with basic New Urbanist principles—mixed-use development and high-density interaction of private and public space—though the low-budget, hybrid outcome is usually too messy for the approved TND aesthetic taste.

SOCIALLY RESPONSIBLE DESIGN GROUPS HAVE DEMONSTRATED ALL TOO WELL THAT DECENT, AESTHETICALLY VIBRANT HOUSING CAN BE BUILT AT LOW COST. ONE EXAMPLE IS THE RURAL STUDIO'S 20.0 MODEL—A TWO-BEDROOM, STICK-FRAME HOUSE THAT IS ENERGY-EFFICIENT, MEETS FEDERAL STANDARDS, AND CAN BE BUILT BY ANY COMMERCIAL CONTRACTOR FOR $20,000, INCLUDING MATERIALS AND LABOR.

Traditional immigrant gateways, like New York, Boston, and San Francisco, which do not have room for easy peripheral expansion, cannot absorb new arrivals in the same way that the sprawling cities of the Sunbelt can. The latter are the most rapidly expanding American cities, where immigration is a big factor in population growth and where anti-immigrant sentiment is strongest. Apologists for sprawl argue that cities like Phoenix and Houston, with permissive land-use policies, have done a better job of accommodating the poor than "smart growth" strongholds like Portland, which tend to be high-priced and racially exclusive bastions where the immigrant streams settle outside of the city.[9] Yet the explosion in urban property value has squeezed the poor most, fast outpacing their income increments. Indeed, the biggest increases in the percentage of income that residents spend on housing are in the fastest growing immigrant destinations in states like Texas, California, and Colorado.[10] The geographic patterns of the mortgage crisis are also pretty clear, since the culture of many immigrants is to sink savings into housing equity as soon as they can. Immigrants with limited English language capacity and access to information networks have been especially vulnerable targets of the predatory lending practices that flourished until recently in many cites and first ring suburbs, and so they have been left, disproportionately, holding bad subprime loans.

Largely because of the vestigial influence of "frontier values," Western and Sunbelt cities are often seen as exemplars of *dumb* growth. They exhibit the clearest contradiction between the pro-growth mentality of their Chambers of Commerce, the coding and zoning regulations of their planning agencies (crafted to protect established interests in the housing industry), and the virulent anti-immigrant sensibilities of the general incumbent population.

Take the county with the biggest population growth in the U.S. for several years—Arizona's Maricopa, which includes Phoenix and is as large as New Jersey. It has added 700,000 residents since 2000, most of them immigrants and migrant retirees.[11] The Maricopa County sheriff, Joe Arpaio, claims to be "America's Toughest Sheriff," and he stands out among a highly competitive field in the South, having revived the use of chain-gang labor (while instituting it for women and juveniles) and pioneered prison conditions aimed at both fiscal efficiency and punitive severity. Arpaio uses his office to recruit volunteer citizen posses to hunt down undocumented immigrants whom he incarcerates in one of his notorious "tent city" jails. Not surprisingly, he is very popular among the frontier-minded and a source of embarrassment to government officers whose job it is to attract business to the county, not to mention an annoyance to housing contractors concerned about maintaining their cheap labor supply.[12]

Planning departments in swelling southern counties like Maricopa have also tried to appease popular sentiment about immigrant control by introducing unconstitutional legislation to restrict housing occupancy. A Manassas, Virginia, law ordained that occupants had to prove consanguinity or

a direct family relationship to the homeowner, while Cobb County, in Atlanta's metro north, has proposed legislation limiting occupancy of a housing unit to no more than four unrelated dwellers.[13] Such measures are targeted at the expanded family households favored by many immigrants as well as at the proliferation of "drop houses" filled with bunk beds for use by multiple families. To evade charges of discrimination, these measures are enacted in the name of controlling density—a longstanding obsession in the planning profession, which has, over time, become fully institutionalized in the housing market.

At the same time as their county counterparts introduce demographic control through housing policy, pro-growth city managers are happily trumpeting the statistics of population increase. For the low-income population in cities like Phoenix, this means ever-expanding barrios, suffering from the typical symptoms of underdeveloped immigrant housing: deteriorating stock, land speculation, chronic underinvestment from both public and private sectors, restricted access to financing for home buying and home improvement, and overcrowding and overpricing. In 2003, one of every four households in Maricopa was spending more than 50% of its income on housing.[14]

Historically, barrios in Southwest cities were located near centers of employment, but that is no longer the case. Manufacturing plants transferred from Northern states are not close at hand. And, while a variety of low-wage service employment exists in Maricopa's central commute shed, serving the cities of Phoenix, Scottsdale, Mesa, and Tempe, those working in construction or as domestic employees travel long distances daily to exurban subdivisions that are increasingly encroaching on high-risk flood plains and other Sonoran Desert lands subject to severe erosion and sediment damage. Settlement patterns in Maricopa have long exhibited the telltale signs of speculative leapfrog development that leaves unusually large acreages of bypassed land (by 1980, a full 40% of the city of Phoenix was vacant land).[15] Air quality in most commute sheds is badly deteriorated, and the National Wildlife Federation has alerted the county that dozens of animal and plant species are now imperiled.[16] In

Southern California's first ring of suburbanization is being dismantled as McMansions fill the new periphery. But SoCal's Levittown genre of debris is recycled to build the new suburbs of Tijuana. Leftover postwar bungalows from San Diego cross the border and are installed on top of metal frames leaving the space below open for other uses. Photo, Giacomo Castagnola/Courtesy, Estudio Teddy Cruz

a county beset by water shortages, the result is a bizarre cocktail, with very American ingredients, guaranteed to deliver a nasty ecological hangover.

One eminently rational solution, initiated by Phoenix planners in 1995, was to start an infill program, backed by tax credits, incentives, and waivers. Yet the program was aimed exclusively at owner-occupied, single-family homes and included no mixed-use provisions. Planners shied away from higher densities when they faced political opposition from the "frontier values" mentality that still drives regional growth.[17] In addition, the program put no caps on the price of qualifying homes, so many of the recipients of the subsidies turned out to be well-heeled. The effort was a typical lost opportunity for putting efficiency, sustainability, and affordability in one package. Ideally, an innovative infill program could have delivered construction jobs with short commutes, along with decent housing for the workers themselves. What better way of harnessing the sweat equity that has been the creative elixir of so much immigrant homesteading elsewhere?

The situation in America's fastest growing county cries out for more ingenious community-based efforts in which sympathetic architects are able to broker the dialogue between government agencies, housing advocates, nonprofit developers, implementers, and residents in need. The Sunbelt model for this kind of brokering has been defined by Teddy Cruz, who is uniquely positioned—working across what he calls the "laboratory" of the San Diego/Tijuana border—to facilitate culturally appropriate responses to affordable housing in both cities. Indeed, it would be more accurate to approach this urban region as if it were one metropolis, however strictly divided, with two centers only twenty minutes apart. The steel border wall that is the divider effectively renders San Diego what Cruz likes to call "the world's largest gated community."

WHEN YOU ARE DESIGNING FOR AFFORDABILITY AT THE COMMUNITY LEVEL, LITTLE ROOM IS LEFT FOR THE SELF-SATISFIED BELIEF THAT GOOD DESIGN IN AND OF ITSELF WILL IMPROVE PEOPLES' QUALITY OF LIFE, LET ALONE PROMOTE BETTER CITIZENSHIP. DESIGNER FUNDAMENTALISM OF THIS SORT HAS TO CEDE TO LESSONS ABOUT THE SOCIAL ECOLOGY OF A COMMUNITY'S NEEDS.

Cruz has been inspired by informal settlements on the Tijuana periphery that are typical of the new Mexican *barriades* swelling with rural migrants. There, design is mostly about self-building with materials—tires, garage doors, siding, and whole bungalows—recycled from the American city to the north. The local government is obliged, after the fact, to supply infrastructure and utilities to these unplanned settlements, which are then legally protected from demolition. Cruz has grasped the democratic essence of this process and has tried to upgrade and regularize it by calling for officials and NGOs to pressure Tijuana's large *maquila* employers, who take advantage of the migrant labor, to play a more responsible role by manufacturing self-help housing kits. To date, he has persuaded at least one such employer (a Spanish-owned *maquila* that makes jumbo industrial shelving) to produce a prototype building frame within which occupants can accommodate the recycled materials.[18] Ideally, the frames would come as part of a kit, with an assembly manual and a snap-in water tank.

North of the border, the possibilities are already heavily predetermined by zoning and coding regulations and by public policies directed toward boosting private sector entrepreneurialism, business growth, and luxury housing. As a result, almost no affordable housing has been built in San Diego in the last decade. Clearly, self-help in and of itself is not an option for low-income communities like the predominantly Latino border town of San Ysidro, where Cruz has undertaken his most innovative housing projects. Partnering with a nonprofit developer who has respected community roots and relations ensured grassroots participation in the plans. Affordability is ensured by a managed micro-credit system through which owners can barter their services, bank their time, or earn credit with sweat equity rather than rely on a single loan structure typical of subsidized housing projects.

In addition, Cruz was able to help the developer (Casa Familiar) petition successfully for a waiver of San Ysidro's zoning codes—especially the density ordinances—as the opening salvo of an ambitious campaign to take on all of San Diego's building codes. These are a clear, technical obstacle to Cruz's self-avowed task of making the best, most sustainable use of leftover urban space for the communities that need it. The spaces and the uses made of them are "nonconforming" in every sense, but they are much more plentiful and practical as affordable housing prospects than those few that qualify as "infill" sites under the city's building ordinances. Contrary to the assessment of density—"units per acre"—that is enshrined in the regulations, Cruz likes to define density as a matter of "social choreography": the number of "social exchanges per acre." The emphasis here is on the social sustainability of a community project, i.e., what component parts (beyond mere housing) are needed to ensure that residents can adequately support each other.

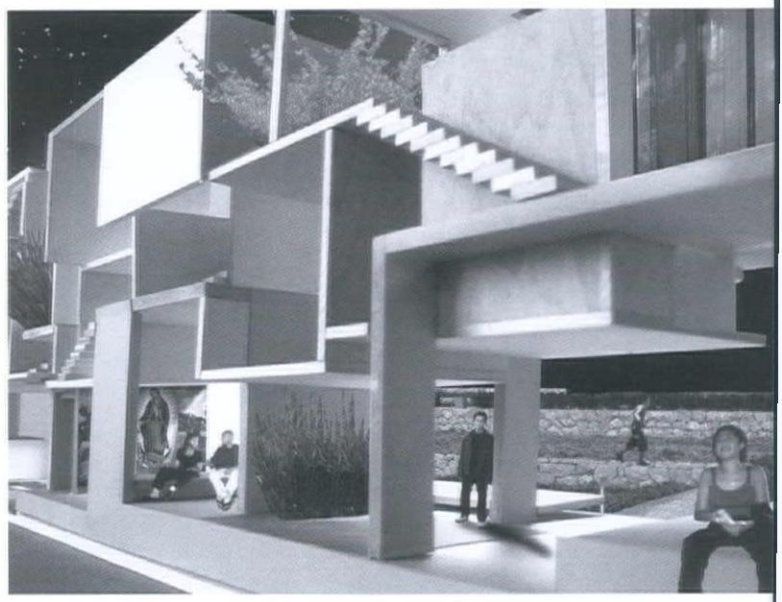
Cruz sees housing as "less about a collection of objects and more about participatory community processes and the resourcefulness and organization of people."[19] This definition (under which the community exercises some ownership of the project from the outset), and the practice it entails,

blends the improvised south-of-the-border ethos with the best lessons learned by U.S. designers of affordable housing over the last few decades. Indeed, its promotion of user empowerment harkens back to the advocacy planning movement of the 1960s and 1970s while being realistic about the political obstacles that lie in the path of today's designers. Housing is a verb, as John Turner, the anarchist progenitor of the self-housing movement, used to remind us,[20] and in today's U.S. immigrant enclaves, where individuals are too vulnerable to act on their own, it is best approached as a form of community organizing.

How does this impinge on the mentality of the professional? When you are designing for affordability at the community level, little room is left for the self-satisfied belief that good design in and of itself will improve peoples' quality of life, let alone promote better citizenship. Designer fundamentalism of this sort has to cede to lessons about the social ecology of a community's needs. Nor is the feat of cracking a local zoning code the Holy Grail for planners. It may be a necessary key to opening the door to more sustainable building, but it is not a sufficient demand to make on public policymaking.

Truly sustainable shelter for low-income residents, as affordable housing innovator Michael Pyatok of Oakland, California, has insisted, may depend on the existence of a robust network of social supports—a secure job base, a decent public school system, accessible public transit, housing subsidies through rent control or inclusionary zoning, and some palpable sense of community respect.[21] Without these, the greenest or best designed housing won't help low-income occupants make it, let alone be able to preserve an environmentally sustainable lifestyle. Brian Bell's Design Corps, which has built housing for migrant farm workers, promotes similar lessons about "inclusive" design geared to respond fully to the social, economic, and environmental priorities of communities.[22] The upsurge of design/build and community design programs in many of the nation's architecture schools is a heartening sign that the message is finally getting through.[22]

Pyatok is fond of recalling his Brooklyn tenement childhood in neighborhoods served by a wide range of public supports. But New York City today is a different place, all but unaffordable and increasingly bereft of attention to public interest, never mind public affluence. Its much-vaunted public housing system is struggling to maintain existing stock, while the continuing construction boom is almost wholly devoted to upscale development.[23] The official percentage for the city's foreign-born population is nearly thirty-seven, but that number of non-natives has increased by only 60,000 over the last five years, or 2%, while the biggest rate of demographic change is occurring in first and second ring suburbs in the tri-state area. Unofficial estimates put the foreign-born as high as 60% in a city where half of the



Estudio Teddy Cruz, a small parcel in San Ysidro becomes a micro-infrastructure for housing. A garden and a loggia are the framework for different dwelling configurations and community exchanges, as Casa Familiar, the non-profit community based non-profit who develops the project, injects its social and cultural programming. Courtesy, Estudio Teddy Cruz

renters (who make up two-thirds of the population) pay more than 30% of their income on housing, and in some locations more than 60%.[24]

The housing market is the tightest and the rent burden highest in low-income communities. Despite the efforts of the city's numerous nonprofit community developers to mitigate the affordable housing shortage, as many as 100,000 illegal units have flourished (according to the Citizens Housing and Planning Council). Overcrowding, code violations, and fire traps are legion in this kind of housing, which is least equipped to meet the highly variable needs of immigrants.[25]

Even if they had access to a fully loaded system of social supports, the city's Global South immigrants would face cultural and economic challenges avoided by the second-generation white ethnics of Pyatok's Brooklyn. Their capacity to move outside the poverty trap is severely limited by racial marginalization and by the loss, in recent decades, of several rungs on the ladder of American mobility. For the foreseeable future, their social and economic isolation is assured—the cultural distance from neighborhoods like Flushing or Brownsville to the golden cores of Manhattan is immeasurably greater than it was in Pyatok's childhood. Given this degree of isolation and alienation, the built environment claimed and customized by an immigrant community takes on a particular stabilizing significance. While New Yorkers pay loud lip service to the City Hall credo that theirs is a "city of immigrants," the pride wears thin rapidly when judged against the meager resources that City agencies actually devote to ensuring that new arrivals have a safe, let alone civilized, place to call home.

In this respect, the cold-weather climates of Northern cities like New York pose an additional challenge for design efforts at dignified and sustainable solutions for immigrants. In Southwestern communities like Cruz's San Ysidro, it is easier to maintain or reinvent the ecological frameworks—horticultural, social, physical—that are meaningful to the survival of transplanted communities. Building a loggia for market commerce or public intercourse, or laying out a community garden plot for Oaxacan heirloom seeds can go a long way toward creating a robust community. Such efforts to transfer immigrant know-how in efficient, sustainable living to a country infamous for its inefficiency can serve as environmentally positive examples. Moreover, design details of this sort take on a crucial significance in the face of external threats—whether from government authorities, property speculators, or land developers. To survive the rough justice of urban America today, a community needs to draw on all of its resources and assets—financial, physical, or symbolic.

Cold-weather examples are less numerous, however, and more often have a symbolic rather than a material significance. One celebrated example is the South Bronx *casita* known as *Rincón Criollo*, a tiny wooden bungalow that thrived on a vacant street corner lot for thirty years as a community center with its own garden. The *Rincón Criollo* typology evoked the Puerto Rican *campo* in frankly nostalgic ways, but the serviceable use of its space for dances, musical performances, and regular social intercourse was also a source of Nuyorican (Puerto Rican New Yorker) community pride.[26] The fight to save it was increasingly pitted against the need for affordable housing in the Melrose neighborhood, especially as the revitalization of the South Bronx picked up steam.

The Melrose section had been among the hardest hit by the wave of disinvestment and housing abandonment that swept through the South Bronx in the 1970s. An urban renewal plan comprising thirty-five contiguous blocks and including 2,600 units of new housing was conceived by the city in the late 1980s to reverse the damage. But the plan's provisions for bulldozing the existing housing stock would have displaced a significant number of residents, while the old housing would have been replaced with more upmarket units, out of reach for neighborhood residents who had a median family income of less than $12,000 a year. Nor had the conception of the plan included any community consultation.

Riding the resentment with which advance word of the project was received, a citizen group called Nos Quedamos ("We Stay") won approval from city agencies to transform this top-down plan into what would become a widely respected model of large-scale design through community participation. The redesign of the plan placed an emphasis on building in services—health, cultural, and educational—that were not available in the neighborhood, along with an expansion of job opportunities. No residents were to be evicted, and the provision of affordable housing was a priority.[27]

When the original plan threatened to move residents out of the neighborhood, the *Rincón Criollo casita* was there as a potent reminder of earlier evictions and cultural losses. Nos Quedamos mobilized these sentiments as part of its successful effort to revise the plan by incorporating community needs. But over time sharp differences opened up between enthusiasts of the low-tech *casita* ethos and the housing advocates who collaborated with power elites in city government and well-connected architectural firms. The *casita* was eventually moved a few blocks to make way for the new housing, but the community garden was lost along with several others in the neighborhood. It was especially mourned by the elderly for whom it was a living link with their former livelihoods as farmers.[28]

Indeed, it was the local conflict over the fate of the gardens that proved most instructive. The bulldozing of community gardens, built lovingly on vacant lots all over the city, had been one of the most bitterly contested policies of former mayor Rudy Giuliani. In many poor neighborhoods ripe for real estate speculation in the 1990s, these leafy products of mutual aid stood as an affront to the greed and insouciance of the gentrifying developers who were being aided and abetted by City Hall. For the South Bronx, a community with a sky-high incidence of asthma, the eradication of green space added a public health concern to the list of reasons why the gardens were so cherished. When the public tenor of the Melrose debate was reduced to whether the community most needed affordable housing or gardens, the outcome was a foregone conclusion. But there was no end of resentment that a community action group, committed to sustainable design, had allowed it to be framed that way.

Cruz's San Ysidro plan preempts these kinds of community divisions by working in cultural, social, and physical considerations from the outset. But can this mix be replicated elsewhere, especially outside the Sunbelt? Cruz has taken on his first cold-weather project in the Hudson River Valley town of Hudson, which is increasingly divided between western wards that house African Americans and new immigrants (drawn from Ecuador, the Caribbean, and Bangladesh) and eastern wards occupied by more upscale white exurban newcomers, clustered around the town's surging antiques economy. Cruz is choreographing the efforts of a non-profit developer, the PARC Foundation, to build mixed-use affordable housing complexes (including public amenities like a swimming pool and an ice rink) on several lots, both privately and publicly owned, that bridge different wards. Though the client population is much less homogeneous than that of San Ysidro, the project's public forums and workshops, conducted in four languages, have already focused some agreement around culturally specific demands. One of these—coming, primarily, from the Ecuadorians and Bangladeshis—is to make provision for communal cooking spaces.

But the more pressing concerns have been about jobs and the need to build in an infrastructure of direct links to social services. In response, some of the early propositions include artisanal workshops to help jumpstart livelihoods and office space for other micro-business startups. Social service organizations have also been drawn into the partnership, persuaded by advantageous tax credit programs to enter a domain—housing production—they had not considered their bailiwick. Relatively unhampered by the rigid coding regulations enforced in San Diego, the Hudson project has a real chance of bridging the town's divisions, its separate but unequal economies, demographies, and cultural sensibilities. It might also help soften the bitter legacy of a long fight over the proposed (and ultimately thwarted) siting of a large cement plant (low-income groups wanted the jobs; the antique and second-home communities inveighed against the environmental impact). Above all, it offers another model of how a community, in Cruz's words, can come close to being a developer in its own right, while redefining the meaning of infill along the way.

Do Cruz's small-scale local initiatives add up to a programmatic endeavor? Not yet, but they soon may. After all, the gap between the emergency needs of immigrants and the existing supply of housing provisions is immense, and the record of workable ideas for plugging the gap is negligible. If Cruz's formula coheres, city planning agencies ought to show as much interest as they did in responding to pressure from New Urbanists to revise their zoning codes. Who knows? The uptake may be as extensive. New Urbanism initiated its program on the high end of the suburban landscape for a well-off client population rich in resources and has seen its templates adopted in low-end locations such as Hope VI public housing or in post-hurricane reconstruction in New Orleans in the *Katrina Cottage*. The lessons of San Ysidro come from the communities most starved of social and fiscal capital. In time and with the right kind of knowledge transfer, they might offer more upscale solutions to reducing the ecological burden that American land-use imposes on the rest of the world's population. □

NOTES

1. Robert Burchell, Anthony Downs, Barbara McCann, and Sahan Mukherji, *Sprawl Costs: Economic Impact of Unchecked Development* (Washington, DC: Island Press, 2005).
2. Eric Belsky, "Why We Need Immigrants," *Big Builder*, August 1, 2006, <www.bigbuilderonline.com/industry-news.asp?sectionID=381&articleID=353272>.
3. Architecture for Humanity, *Design Like You Give a Damn: Architectural Responses to Humanitarian Crises* (New York: Metropolis Books, 2006).
4. Andrew Ross, *Fast Boat to China: Corporate Flight and the Consequences of Free Trade—Lessons from Shanghai* (New York: Pantheon, 2006).
5. *Rental Housing in California*, Joseph DiMento and LeRoy Graymer, eds. (Boston: Lincoln Institute of Land Policy, 1987), cited in David Diaz, *Barrio Urbanism: Chicano, Planning and American Cities* (New York: Routledge, 2005), 95.
6. Mike Davis, *Planet of Slums* (New York: Verso, 2006).
7. Devon Pena, "Toward a Critical Political Ecology of Latino/a Urbanism," forthcoming in *Latinos and Urbanism: Planning, Politics, and Social Movements*, David R. Diaz, ed. (New Brunswick: Rutgers University Press: 2007).
8. David Diaz, *Barrio Urbanism: Chicanos, Planning and American Cities*; Michael Mendez, "Latino Lifestyle & the New Urbanism: Synergy Against Sprawl," MIT, Master's thesis, 2002; and "Latino New Urbanism: Building on Cultural Preferences," *Opolis* 1, no. 1, 2005.
9. Robert Bruegmann, *Sprawl: A Compact History* (Chicago: University of Chicago Press, 2005).
10. According to the American Community Survey of the U.S. Census Bureau. See Janny Scott and Randal Archibold, "Housing Costs in U.S. Are Straining Income," *New York Times*, October 3, 2006.
11. U.S. Census Bureau, 2007, <www.census.gov/PressRelease/www/releases/archives/population/009756.html>.
12. Joe Arpaio and Len Sherman, *America's Toughest Sheriff: How We Can Win the War Against Crime* (Ottawa, Canada: Summit Publishing Group, 1996).
13. "Manassas's War on Immigrants," editorial, *Washington Post*, December 30, 2005; Patrik Jonsson, "To Curb Illegal Immigration, South Cracks Down on Housing Codes," *Christian Science Monitor*, January 18, 2006.
14. Amy Silverman, "Outing Infill," *Phoenix New Times*, September 21, 1995.
15. Carol Heim, "Leapfrogging, Urban Sprawl, and Growth Management: Phoenix, 1950–2000," *American Journal of Economics and Sociology*, January 2001, 1.
16. National Wildlife Federation, "Sprawl Endangers Hundreds of Nation's Imperiled Species," NWF, January 12, 2005, <www.smartgrowthamerica.org/EBSPR.pdf>.
17. Heim, 11.
18. Personal interview with Teddy Cruz, New York, May 2007.
19. Teddy Cruz, "Urban Acupuncture," *Residential Architect*, January 2005.
20. John Turner, "Housing Is a Verb," *Freedom to Build: Dweller Control of the Housing Process*, John F. C. Turner and R. Fichter, eds. (New York: MacMillan, 1972).
21. *Good Deeds, Good Design: Community Service through Architecture*, Brian Bell, ed. (New York: Princeton Architectural Press, 2003).
22. A pioneer model was the series of studios set up under the University of Washington's BASIC initiative (Global Community Studio, Housing Solutions Studio, and the Local Neighborhood Studio). See Sergio Palleroni (in collaboration with Christina Eichbaum-Merkelbach), *Studio at Large: Architecture in Service of Global Communities* (Seattle: University of Washington Press, 2004).
23. Housing First!, "Housing New York's Future: Community Development and Homes for All New Yorkers," July 2006, <www.housingfirst.net/pdfs/State_Platform_0706.pdf>; "A Home for All New Yorkers: Housing First! 2005 Policy Update," August 2005, <http://www.housingfirst.net/8-05_report.html>.
24. Sam Roberts, "Immigrants Swell Numbers Near New York," *New York Times*, August 15, 2006.
25. Martha Galvez and Frank Braconi, "New York's Underground Housing," *The Urban Prospect* 9, no. 2, 2003.
26. Juan Flores, "Salvacion Casita" and "Postscript: None of the Above" in *From Bomba to Hip-Hop: Puerto Rican Culture and Latino Identity* (New York: Columbia University Press, 2000), 63–77.
27. Yolanda Garcia, Eddie Bautista, and Barbara Olshansky, "Melrose Commons: A Case Study for Sustainable Community Design," 1996 Planners Network Conference, <www.plannersnetwork.org/resources/melrose.htm>.
28. Community gardens are not just symbolic ventures. Under forceful circumstances, this model can be turned into an economy of scale. In the early 1990s during Cuba's "Special Period," for example, when the collapse of Soviet support resulted in a drastic loss of cheap fuel supplies, the authorities initiated an extensive urban farming program in fallow lots all over Havana. By 2002, these small gardens were supplying 90% of the city's fresh produce. Eliza Barclay, "Gardens Renew Cuba's Urban Core," *Metropolis*, August 15, 2003.

An Open Letter to Rem Koolhaas

by **GEORGE BAIRD**, *June 21, 2007*

Dear Rem,

Before our recent encounter in Montreal, it had been many years since you and I had spent time together. The prior occasion was the very public "conversation" in the auditorium of Harvard's GSD, convened in connection with the publication of *SMLXL*.

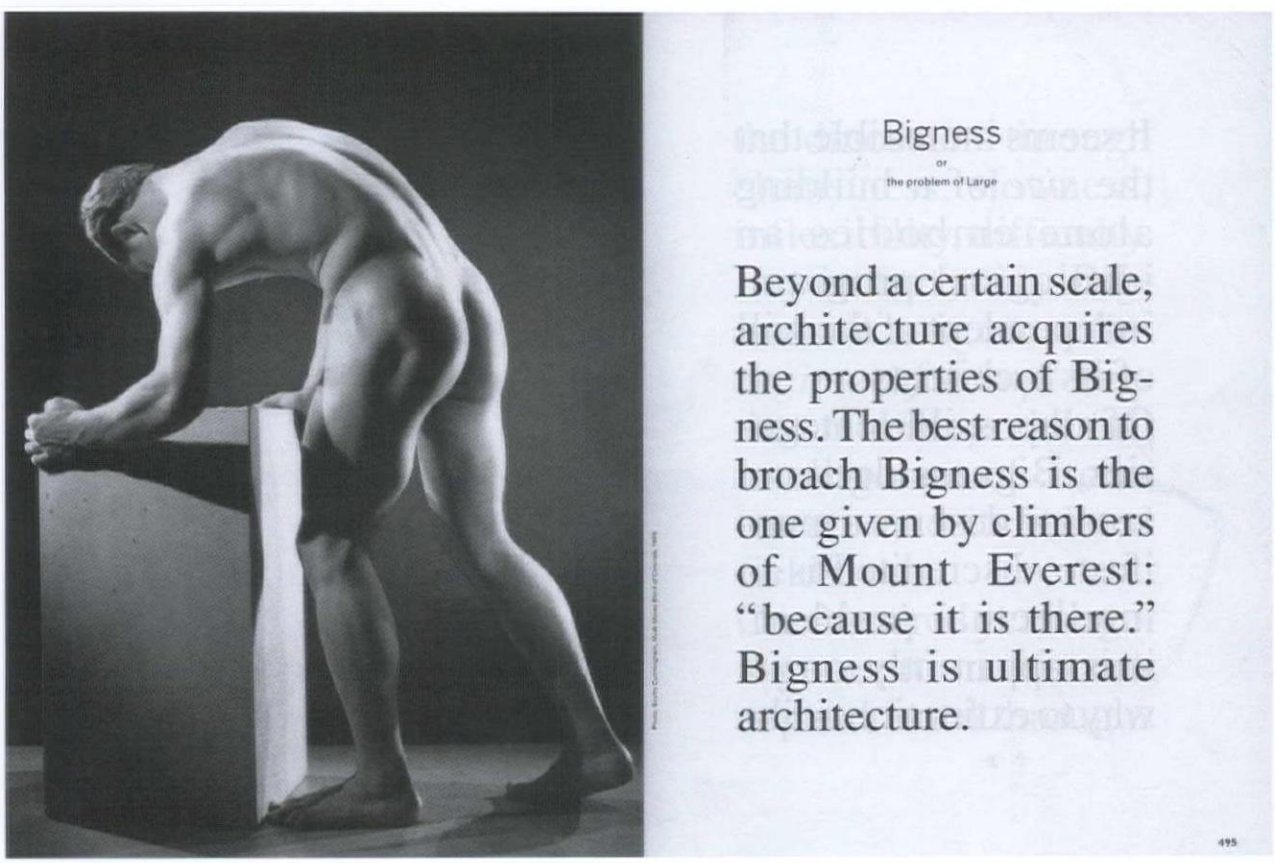
As far as I could tell, you didn't enjoy that "conversation" any more than I did. Indeed, the event led me to conclude that I had ceased to be a productive interlocutor with you, somehow being simultaneously too close to you and too far away from you to be able to precipitate fruitful dialogue. What is more, sometime after the event, I learned from a mutual colleague that you thought the view of your thinking I outlined in the text I published in *Perspecta* 32 was accurate only up until 1990, at which point you claimed to have undertaken a major change of direction.

Given such circumstances, I largely abandoned my efforts to keep up with you. It seemed that my earlier insights into the beginning of your career no longer held any relevance to your theoretical position — indeed, to the extent that I continued to pay any attention to your statements, I have to say that they made me uneasy. For example, I found the trajectory of your published polemics from "Atlanta" to "Bigness" too tendentious and too complicit in the evident "flows of global capital" to be intellectually or ethically defensible. It was as though that long-standing obsession of yours with sheer professional "efficacy" — which I had attempted to articulate in my *Perspecta* text — had finally unmoored you altogether from the stubbornly independent integrity I associated with your early career.

But of course your fame and influence with students of architecture nonetheless kept growing, and I found myself continuing to encounter second-hand versions of striking statements you had made on many topics in innumerable architectural academic settings. What is more, not only were these statements usually very challenging ones (what else would one expect?) but sometimes even — at least to my ear — contradictory. So a puzzled curiosity about your thinking began to grow again in my mind.

Then came the publication of Bob Somol and Sarah Whiting's "Doppler Effect" text in *Perspecta* 33, with its arguments for a

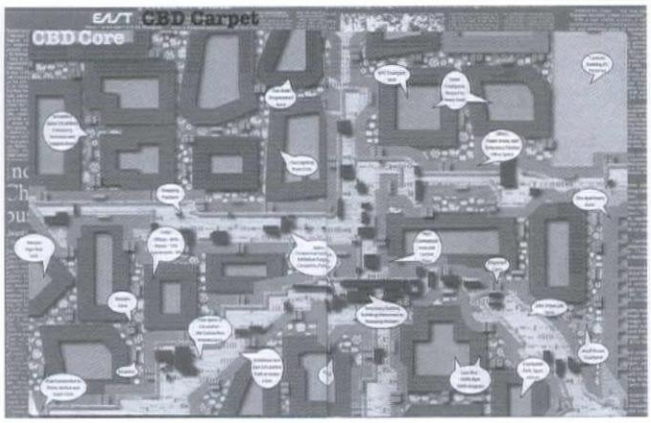
***Nude Moves Block of Concrete*, 1996, "Bigness" page spread from Rem Koolhaas, OMA, and Bruce Mau, *X,M,L,XL*, 494–495.** Copyright, The Monacelli Press/Photo, left, Scotty Cunningham



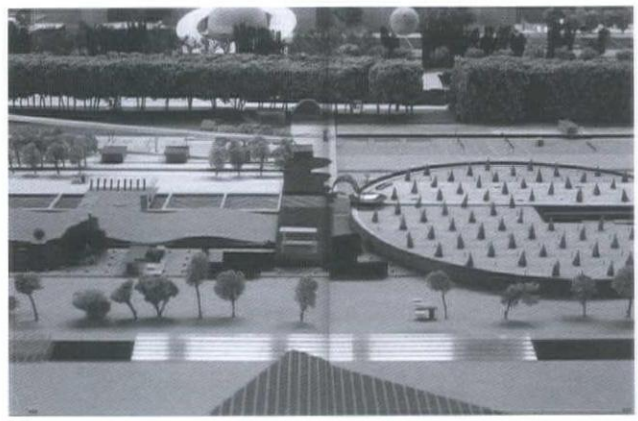
Bigness
or
the problem of Large

Beyond a certain scale, architecture acquires the properties of Bigness. The best reason to broach Bigness is the one given by climbers of Mount Everest: "because it is there." Bigness is ultimate architecture.

495



***CBD Carpet*, from *Content*/AMOMA, Rem Koolhaas, ed., 478–479.** Copyright, Taschen



Rem Koolhaas/OMA, *Parc de la Villette*, model, Paris, France, competition, 1982, from, *X, M, L, XL*, pages 908–909. Copyright, The Monacelli Press.

newly "projective" architecture to replace the "critical" architecture that, in their view, had by then run its historical course. And of course, there you were in their text, presented as a prominent exemplar of the "projective" architecture they were advocating. I had already noted with some interest how you had declined to align yourself with Joan Ockman's arguments for a "new pragmatism" in architecture. I began to suspect that you might not be all that comfortable in the role of an exemplar of the "projective" either. In a Fall 2004/Winter 2005 *Harvard Design Magazine* text entitled "Criticality and Its Discontents," I responded that, like Manfredo Tafuri and Dave Hickey — two other theorists cited in "The Doppler Effect" — you held a much more complex position in regard to the "critical" than the authors of that text had allowed.

Then, as it happens, two circumstances converged in a way that led me to think I should take another, closer look at your theoretical writings. First, my "criticality" text precipitated much more public discussion and response than I had anticipated, and second, Toshiko Mori invited me to hold post-GSD-retirement theory seminars at Harvard. The result was a series of classes entitled "Carefully Reading Koolhaas" that I conducted there between 2005 and 2007. Given your prominence in the world of contemporary architecture, it is probably not surprising that the seminar attracted an intellectually impressive group of students.

Our method was simple: We read the texts that we deemed to be among your most important, and we attempted to identify within them consequential continuities and discontinuities, relationships (where they could be perceived) between texts and design proposals, and last but not least, evidence of any major shifts of position on your part, declared or undeclared. (I continued to be sensitive to your claim that my *Perspecta* account was valid only until 1990.)

One of our first discoveries was that your position did change around 1990, and you have yourself acknowledged this in an ironic *mea culpa* in "How Modern is Dutch Architecture?" Indeed, the trajectory from the first version of "Atlanta" (1987) to the final one (1994) demonstrates this. And the fact that in addition to that final version, two other key texts, "The Generic City" and "Bigness," were also published in 1994 reinforces the significance of this period in your turning away from the neo-modernism of the 1980s in a search for a form of architecture and urbanism that would — as you saw it — be more original and transformative.

Then too, our seminar's examination of this same trajectory brought home to us again the central importance in your thinking of the need to undertake the difficult task of understanding the actual phenomena of the contemporary world before adopting an intellectual or moral judgment about their legitimacy or desirability. One example of this "task of understanding" that we followed with interest was your enumeration of the key features of bigness that you had first discovered in John Portman's projects in Atlanta, and then found in many other parts of the contemporary world, especially Asia:

— the *ensemble* of autonomous parts brought together in a circumstantial whole;
— the operative necessity of the use of the elevator;
— the end of the role of the facade as a register of internal programmatic organization;
— the establishment of the urban impact of building independently of architectural quality;
— and last but not least, the notable directive "Fuck context."

And we could not deny that we found this characterization of a historic new building type as compelling as your admirers around the world did.

Yet upon close reading of the 1994 texts, we found that our view of your position in this matter was not altogether straightforward: We had difficulty reconciling your injunction to understand phenomena before judging them with the application of these same design principles to those projects that you yourself have authored. It seemed apparent to us that from the *Zeebrugge Ferry Terminal* to the *Zentrum für Kunst und Medientechnologie* in Karlsruhe to the *Très Grand Bibliotheque* — perhaps even to *CCTV* — the principles of "bigness" were being more or less adopted and exemplified by OMA. We could even understand that the first three of the five principles you had enumerated could be considered to be nonjudgementally applicable both to projects in the world that you have analyzed and to those you have designed.

But the last two principles seemed to us more problematic.

Were we really intended to imagine that OMA's own "big" projects were meant to demonstrate "architectural quality" only secondarily? This did not seem to us likely, nor did it seem to be the case for the projects as designed. It seemed to us instead that in this regard we needed to distinguish between this principle of "bigness" as an identified contemporary vernacular condition in the world and an enhanced one operative in the analogous work of OMA. And then, of course, when we got to "Fuck context," the situation was more complex still, since it was hard in this case not to see the new position of OMA as ambiguous, insofar as the question addressed in the firm's work did not seem to be as distanced from the vernacular version of "Fuck context" as the principle respecting architectural quality did. To this extent, then, it seemed that the distinction between understanding and judging was not entirely clear after all, even in your own hands.

Then there was the fact that "bigness" did not appear to be the only primary theoretical framework for design being employed by OMA over the years. As I saw it, a whole series of "mat" or —to use the term you seem to prefer— "carpet" projects also loomed large in the oeuvre. To be sure, many of these— *Parc de la Villette*, the plan for Melun-Senart, *Nexus Housing* in Fukuoka —are early projects, but it has been interesting to me to see you return to the formal tropes of "mats" and "bands" in your recent proposals for preservation in Beijing. The "barcode of preservation," as you call it in "Found in Translation" evokes compelling echoes of the bands of your proposal for the *Parc de la Villette* two and a half decades ago. (And is it not noteworthy that unlike the megabuildings typified by "bigness," buildings that are "mats" or "carpets" do not tend so strongly to isolate themselves from their surroundings but rather bind heterogeneous urban phenomena sociably together?).

This having been said, our group was unable to find the "mat" or "carpet" projects theorized in your writings to nearly the same extent that the projects exemplifying "bigness" were. And not only that, we were not even able to determine what relationship (if any) these two typologies have to one another in your thinking overall —let alone how much importance the mat still holds for you.

But if such ambiguities as these lingered in our minds over the span of our sessions, we found another one easier to deal with. This is your supposed propensity for contradiction. Take the case of the conclusions of two of your texts written in the same year: "The Generic City" and "Whatever Happened to Urbanism?" The former ends with the statement: "The city is no longer" and the latter with "More than ever, the city is all we have." It would be possible to cite many other examples of such contradiction. Indeed, we came to the conclusion that two of your major texts —"The Generic City" in *SMLXL* and "Junkspace" in *Content* —have to be seen as a dialectical pair. They deal with many of the same contemporary urban phenomena, but do so in such very different tones of voice that the latter text reads almost as a refutation of the former.

In fact I, at least, concluded that the explanation is something like this: Your pleasure in the construction of rhetorical prose exceeds your commitment to the descriptive accuracy of the phenomena under examination. (Should I see this evidence of the one-time movie script writer at work?) After all, it is surely a fact that your authorial skill with rhetoric surpasses that of any other current writer in our field. Examples abound. To take only two: the piano with only half a keyboard in "How Modern is Dutch Architecture?" and the summations of Derrida ("We cannot be Whole"), Baudrillard ("We cannot be Real"), and Virilio ("We cannot be There") in "Whatever Happened to Urbanism?" These never fail to dazzle me.

I speculate that your method of writing is one in which you are as influenced by the momentum of the prose gradually appearing on the paper or computer screen as the prose appearing there is influenced by you, its author. In this sense, I have concluded, your prose has to be seen to have much in common with improvisational jazz or rap. Its tone and momentum are as important as its semantic content. So I suppose that the opposed claims about the city that end the two major texts are not so much definite statements of position as they are provisional constructs of exhortation, both to yourself and to others.

I FOUND THE TRAJECTORY OF YOUR PUBLISHED POLEMICS FROM "ATLANTA" TO "BIGNESS" TOO TENDENTIOUS AND TOO COMPLICIT IN THE EVIDENT "FLOWS OF GLOBAL CAPITAL" TO BE INTELLECTUALLY OR ETHICALLY DEFENSIBLE. IT WAS AS THOUGH THAT LONGSTANDING OBSESSION OF YOURS WITH SHEER PROFESSIONAL "EFFICACY" — WHICH I HAD ATTEMPTED TO ARTICULATE IN MY *PERSPECTA* TEXT — HAD FINALLY UNMOORED YOU ALTOGETHER FROM THE STUBBORNLY INDEPENDENT INTEGRITY I ASSOCIATED WITH YOUR EARLY CAREER.

Yet while I think that these observations on your rhetoric and prose are sound, it is also my view that they do not exhaust the significance of a careful comparison between "The Generic City" and "Junkspace," for the first of these texts surely falls into the category of one of your bold efforts to understand contemporary phenomena before judging them. Its (relatively) measured tone and its systematic sequences of description seem meant to present us with a compelling and plausible depiction of a hitherto unconsidered urban reality. And for me, the argument is quite successful in achieving these aims.

"Junkspace," on the other hand, is neither measured in tone nor systematic —indeed, in our seminar, we came to call it a "rant." Despite the commonality of subject material between the two texts, the tone could not be more different. Where "The Generic City" seeks to be dispassionate and detached, "Junkspace" is unrelievedly intense and personal. Where "The Generic City" is observant, realist (and perhaps even a little stoic) in its

sober confrontation with contemporary urban reality, "Junkspace" is bitter and disillusioned. To me, it is as though there came a moment for you when you could no longer sustain the studied, measured equipoise that had hitherto characterized your interpretations of generic modernity. That poise was shattered, and a much less guarded, much more intimate side of you was revealed. Indeed, so distinct, so unique and so atypically self-revelatory among your writings is "Junkspace" that it is still not clear to me why you published it or what ultimate place it will occupy in your critical oeuvre. What does seem clear to me about it is that it is surely evidence of another significant shift in your thinking after that in the early '90s you have described so much more explicitly. But more on that later.

WHERE "THE GENERIC CITY" SEEKS TO BE DISPASSIONATE AND DETACHED, "JUNKSPACE" IS UNRELIEVEDLY INTENSE AND PERSONAL. WHERE "THE GENERIC CITY" IS OBSERVANT, REALIST (AND PERHAPS EVEN A LITTLE STOIC) IN ITS SOBER CONFRONTATION WITH CONTEMPORARY URBAN REALITY, "JUNKSPACE" IS BITTER AND DISILLUSIONED. TO ME, IT IS AS THOUGH THERE CAME A MOMENT FOR YOU WHEN YOU COULD NO LONGER SUSTAIN THE STUDIED, MEASURED EQUIPOISE THAT HAD HITHERTO CHARACTERIZED YOUR INTERPRETATIONS OF GENERIC MODERNITY.

For the moment, having so insistently emphasized the differences between the two texts, I want now to comment on the fascinating extent of their commonalities, for I have come to believe that they are both remarkable commentaries on the profound extent of the reification of reality (as the Frankfurt School would have it) in the contemporary world. Not only that: One of the key ambitions of your own theorizing has been to identify that reification, and in your own design production, to avoid it, presenting instead a new reality that is, as far as possible, unmediated.

Clearly, one of the aspects of the "generic" that attracted you in the first place is its indifference to blatantly expressed modes of iconic reference. Your comparisons of Paris and London (the former supposedly too explicitly symbolic of itself; the latter agreeably indifferent—as you see it—to its urban self-image); your mocking of "historic" urban districts in "Lipservice"; your scorn of contemporary modes of "theming"—all these are instances of a deep and acute aversion to varied contemporary modes of pre-constituted reality.

Yet even if these corrupted modes of contemporary experience are to be set aside, "Junkspace" seems to say that it turns out that the procedures of modernization that have produced the generic city are also problematic. "Junkspace" claims that the result is the "residue," the "fallout," or the "meltdown" of the procedures of modernization. For you, in your dystopic mode of authorship, this state of affairs is characterized by "impaired vision," limited expectations," and "reduced earnestness."

In fact, I can say that my growing confidence in my interpretation of the parallelism of the two seemingly opposed texts was strongly reinforced in a poignant moment in your discussion in Montreal with Peter Eisenman and Phyllis Lambert. Demurring at a number of your colleagues' observations on contemporary urban reality and attempting to counter them with references to a number of intriguing contemporary developments in Asia, you disarmingly, ironically, diffidently asked aloud "Dare I use the word *authenticity*"?

Dare you indeed! To be sure, the fateful word does not show up in either "The Generic City" or "Junkspace," and you are, of course, right to be cautious about employing it, since its polemical use—as Theodor Adorno pointed out long ago—is so especially susceptible to corruption. Still, it seems to me that a search for forms of architecture and urbanism that resist overly explicit iconicity and that seek to embody an unmediated new vision could hardly be more important for architects today.

In Montreal you also reiterated your dismay at the effect of the star system on our profession and argued that in opposition to its current architectural effects, OMA was returning to an exploration of the potential of the generic—this time not in urbanism but in architectural form itself. Is it possible that the "mat" itself might rekindle your curiosity?

These various recent developments also persuade me that I am right to discern a further significant change of direction in your recent thinking. As I argued in my "criticality" text, while you are from time to time conflicted about it, you have not abandoned the "critical" dimension of architecture at all. Indeed, I have come to understand, I think, that in your (heroic) efforts to revive the professional efficacy of architects, while at the same time urging the maintenance of their rigorous critical independence of action, your own polemic struggle has to be seen as being at the point of its greatest conceptual stress. While I have from time to time been troubled by what seemed to me a too strong argument on one or the other side of this contest in your own psyche, I have now come to understand and appreciate the remarkable feat of reconciliation you are attempting.

So I can say that making this recent effort to read you again carefully and having had the opportunity to meet again with you in Montreal have been most gratifying for me.

Yours, in old affection and admiration,

George Baird □

Renzo Piano and the *Res Publica*

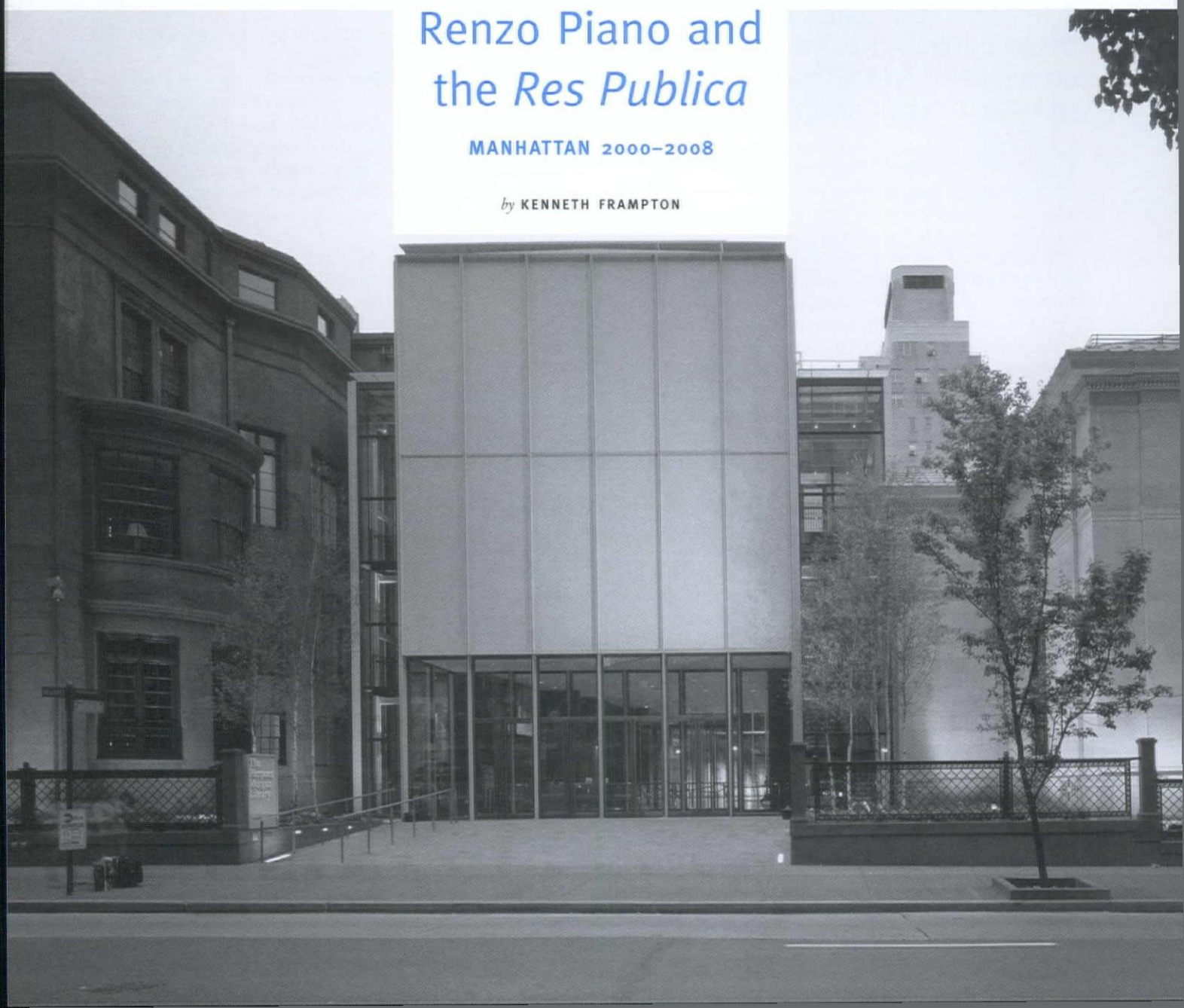
MANHATTAN 2000–2008

by **KENNETH FRAMPTON**

Although Renzo Piano was first active in North America in1981, when he began to work on *The Menil Collection* museum in Houston, he has only now come into his own in the United States with the completion of his extension to the *High Museum* in Atlanta in 2005 and with two works in Manhattan: *The Morgan Library & Museum* expansion (2000–2006) and the fifty-two-story *New York Times Building* scheduled for completion in late 2007.

The Renzo Piano Building Workshop (RPBW) extension and refurbishment of the *Morgan* in the Murray Hill district is a small miracle inasmuch as few architects have been able to take a rather hermetic historic landmark and transform it into a major public institution without significantly disrupting the context in which it is situated. Taking the pre-existing, neo-Renaissance, 19th-century fabric of the *Morgan*, Piano has succeeded in doubling the total space of the institution in a way that by today's standards should be considered self-effacing. He has been able to achieve that subtle state of "banality" that for Auguste Perret was the highest value that an architect could bestow upon a building, namely, the feeling that it had always existed. In the case of the *Morgan*, Piano has so succeeded in this that one comes upon its understated steel and glass frontings with considerable surprise, such is the subtlety with which it has been inserted between the 1853 Morgan family mansion and *Morgan Library* (built by McKim, Mead, and White in 1906) and the subsequent annex.

By persuading the trustees to meet most of their new space requirements by excavating the site, Piano was able to dovetail a seven-story matrix into the narrow residual space between existing buildings. Thus he could transform a some-



Renzo Piano Building Workshop, *Morgan Library and Museum* expansion, New York City, 2006. Photo, Paul Rafferty/VIEW

what nondescript space into an enclosed piazza, weatherproofed and naturally lit by clerestories left and right and by the vestige of a garden implanted within the block. This internal civic realm is amplified spatially by the main stair and by twin elevators set to either side of the central axis. The feeling of civic expansiveness stems partially from the fact that the cabins of the hydraulic elevators are totally glazed and that the treads of the open stair are of glass. Despite its immateriality, the atmosphere of this space recalls that of a 19th-century rail terminus without the accompanying bustle.

The café terrace set to one side of the piazza and the restaurant and shop ingeniously housed within the shell of the Morgan mansion compete the sense of a "city-in-miniature" in which human needs, both scholarly and creaturely, may be conveniently met. This sense of being in a new public realm going well beyond its former museological identity is consummated by the new temporary exhibition space and by the 299-seat concert hall accessed from the lower ground floor. In the same steel-plate syntax a partially freestanding cubic gallery to the south is poised between McKim's library and the annex. This is the inner sanctum, as it were, that protects and displays the masterpieces of the collection.

As always in Piano's work, apart from the refinement of the detailing and the precision of the craftsmanship—nothing short of exceptional in this hard-scrabble city—there is the singular and highly effective use of a number of unusual materials, above all the steel plate revetment, welded in place, with seams ground smooth and painted off-white to match the stone of the existing buildings. This cool membrane is relieved within by the warm highlights of an exposed timber roof.

Not since the 1938 microcosmos of the *Rockefeller Center* has any serious attempt been made to render the high-rise office building a space of public appearance, and it is this aura, aside from the numerous other attributes it may possess, that will surely confer on Piano's *New York Times Building* the acclaim it will indubitably deserve. Apart from the various breakthroughs that may be attributed to this work—the first exposed steel-frame high-rise in the U.S., the first skyscraper to be shielded from the sun by ceramic louvers—the *New York Times Building* will also valued for inserting into the agitated skyline of New York a calm and articulate profile. Like Norman Foster's *Hong Kong and Shanghai Bank*, it is a discreet work that enters into the stalactitic panorama of Manhattan without indulging in the spectacular competitiveness of our time, save for appearing as a mirage at dawn or at sunset, when the reflective luminosity of the ceramic louvers will be highlighted by the rays of the sun.

Because of its proportions, we may think of this building as "the tall office building horizontally considered" by virtue of the fact that the lateral dimension is emphasized at every floor, maintaining the sense of spatial expansiveness initiated by the podium that occupies the entire site for the first five floors. Taking a contrary approach to the issue of height, as we find this in the verticality of the Gothic Revival skyscraper or its *moderne* successor the Art Deco high-rise, Piano has handled the *New York Times Building* as if it were a tropical structure covered with jalousies, thereby assuring the horizontal dimension that prevails throughout its height, including a subtle change of rhythm in the pattern of the louvers as they open up at every floor to permit views out. Meanwhile the vertical unity of the whole is assured by the exposed steel frame at the four reentrant corners of the tower.

***Morgan Library and Museum* lobby.** Photo, Paul Raferty/VIEW

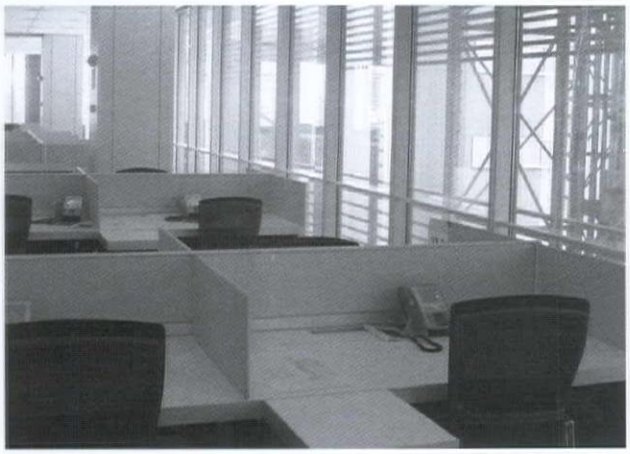
Extending eastward on its 42nd and 41st Street frontages, the building accommodates the journalistic offices on its top three floors, grouped around a top-lit 20 x 40-foot newsroom for the upper two tiers. This "patio" sequence is linked back into the twenty-eight floors of the newspaper's editorial offices that occupy the lower half of the tower. Immediately below we find a 380-seat auditorium encased in concrete,

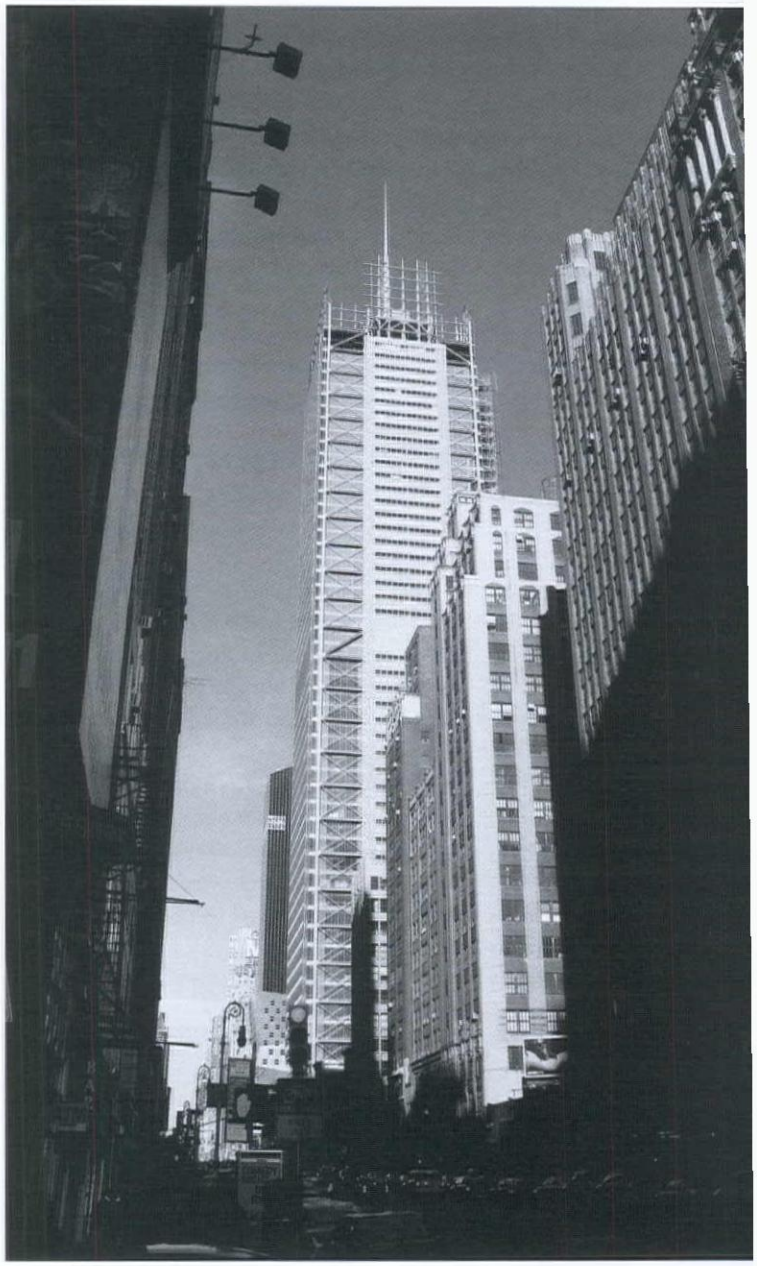
with a multipurpose room beneath that descends into the basement. These two spaces embody the cultural heart of the complex, which, when entered from 42nd street, will presumably be made available to the public at large on a regular basis. Double-height rental commercial spaces, flanking 42nd and 41st Streets, serve to tie the podium back into the cruciform footprint of the tower at its base and at the same time enclose the north/south foyer of the tower around the core of a five-story garden court that backs onto the auditorium.

THE *NEW YORK TIMES BUILDING* WILL ALSO BE VALUED FOR INSERTING INTO THE AGITATED SKYLINE OF NEW YORK A CALM AND ARTICULATE PROFILE. LIKE NORMAN FOSTER'S *HONG KONG AND SHANGHAI BANK*, IT IS A DISCREET WORK THAT ENTERS INTO THE STALACTITIC PANORAMA OF MANHATTAN WITHOUT INDULGING IN THE SPECTACULAR COMPETITIVENESS OF OUR TIME.

The *res publica* of the podium at different levels will be complemented by the three separate pedestrian entries to the two-story foyer of the tower at grade, an axial approach from 8th Avenue, and a north/south cross-axis feeding the public into the tower foyer from the side streets. Corner commercial units frame the 8th-Avenue entrance leading into the elevator banks, which extend for the full height of the tower. Herein, computerized sorting will direct passengers to their floors via the designated destinations for each car, according to a constantly changing pattern of distribution, thereby optimizing the speed and efficiency of each trip. This rationalized flow into the building will also be security-screened with consummate subtlety.

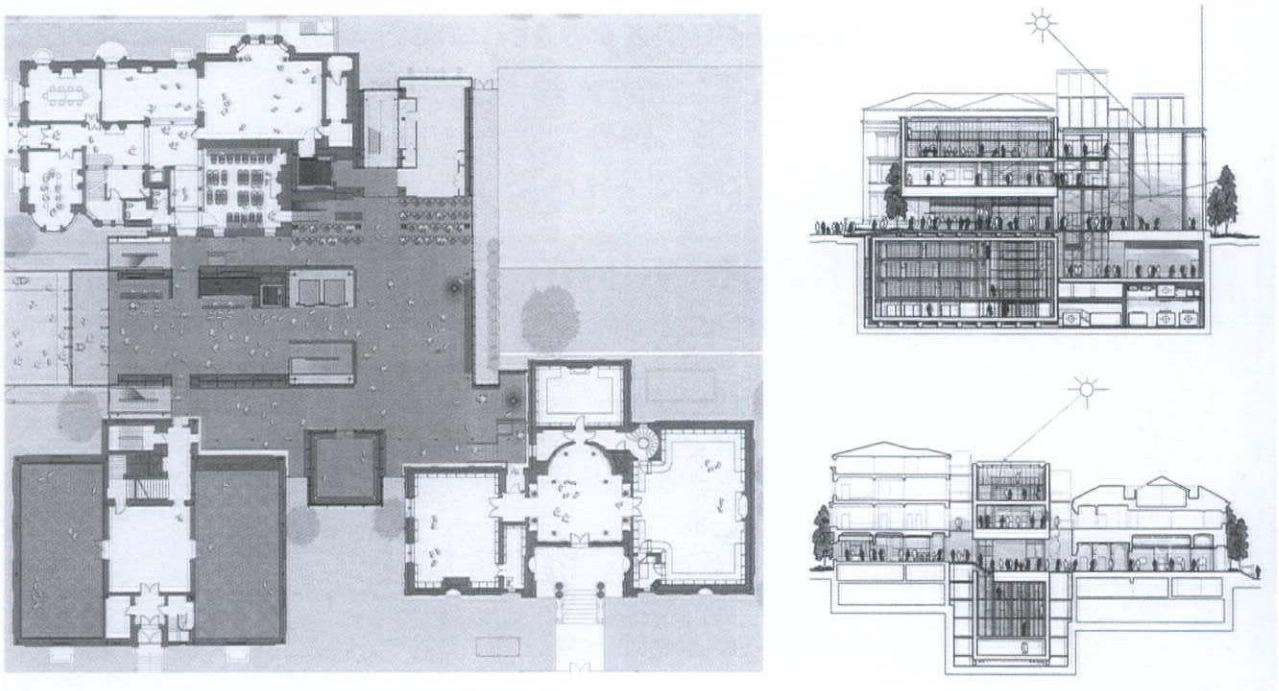
Renzo Piano Building Workshop, *New York Times Building*, interior, New York City, 2007. Photo, Thomas Farley





Renzo Piano Building Workshop, *New York Times Building*. Photo, Jim Striebich

One cannot conclude this appraisal without noting the expansive planning of the office space on each floor, which testifies to the presence of an extremely generous client who allowed the architect to arrange the space unconventionally: the open office landscape occupies the perimeter of the building, while the directorial offices are set back close to the core. In this way the workforce is not only afforded the privilege of enjoying the panoramic view but is also placed on view itself, particularly at the corners, where stairs provide direct contact from one floor to the next without recourse to the elevators.

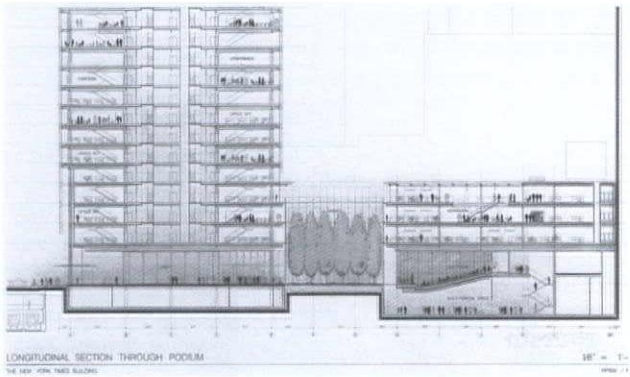


Renzo Piano Building Workshop, *Morgan Library and Museum*, sections and plan of first floor. Courtesy, Renzo Piano Building Workshop

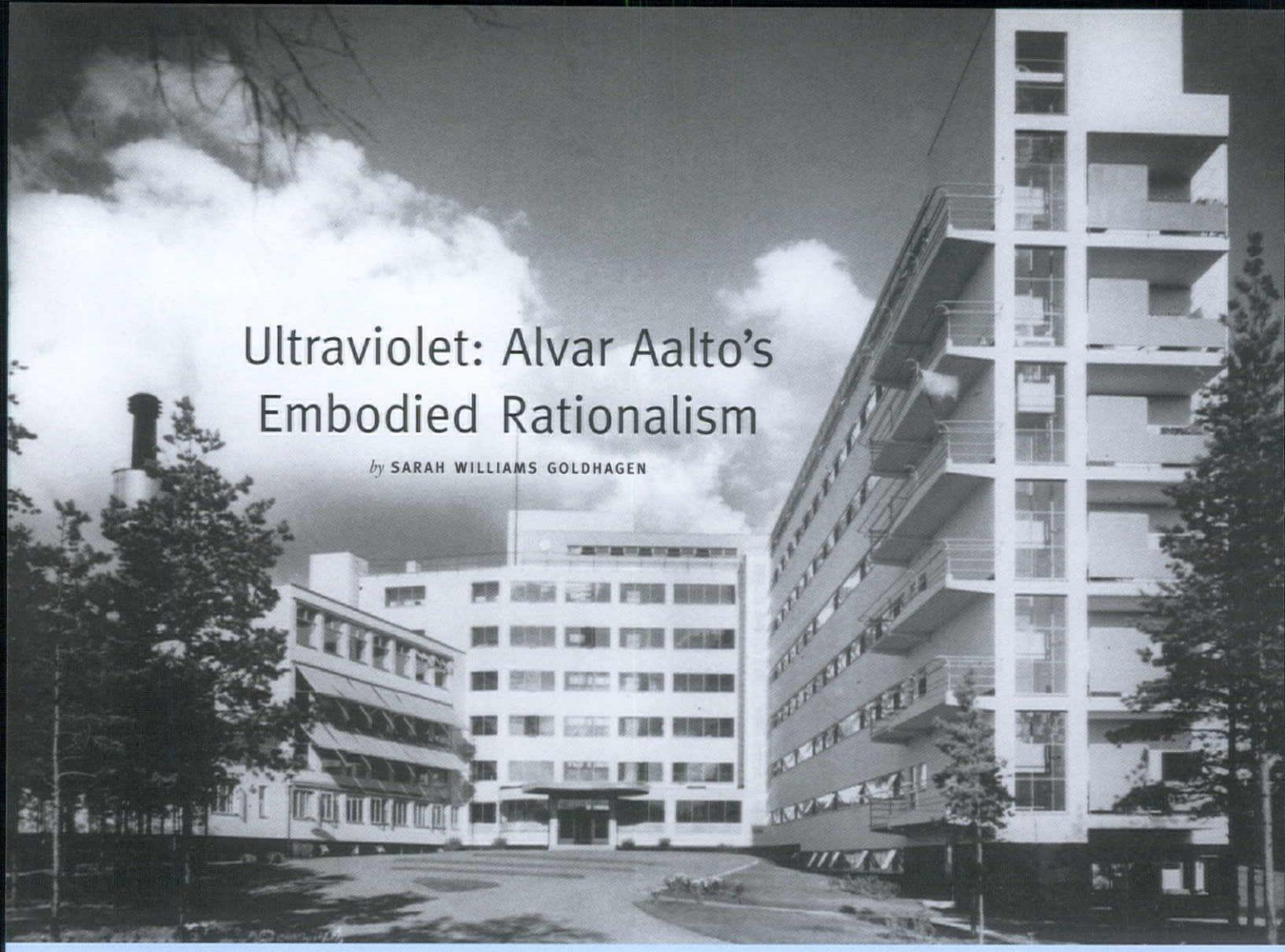
The renowned RPBW attitude toward problem formulation and resolution is evident throughout, from the provision of fusible-link shutters across the corner stairways to the fire-proofing of the steelwork with intumescent paint, a finish first perfected in the fireproofing of oil rigs. Another material appropriated from industry would prove to be equally essential to the conception and appearance of the tower, namely the cylindrical ceramic louvers adapted from rollers used in industrial kilns. This penchant for ceramics is a spinoff from Piano's revival of terracotta cladding that first appeared in his 1991 *Rue de Meaux Housing*.

Otherwise the tower exemplifies the hi-tech practice of a raised floor and a suspended ceiling providing for the input and output of conditioned air. Both of these well-tempered devices provide for convenient access to the services, a provision that the developer of the upper twenty-four stories has elected to forgo. With fixed glazing and standard air-conditioning, the building is not sustainable at the highest "green" level, even though the louvered layer surely provides for something of a micro-climate. As in the *Morgan* what is truly compelling in this work is the capacity to use welded steel plate as a cladding material over fairly extensive areas, with all the welds ground flat and the entire surface filled and polished in a way not unlike that used in auto body repairs.

Renzo Piano Building Workshop, *New York Times Building*, longitudinal section through podium. Courtesy, Renzo Piano Building Workshop



One may count on one hand the number of architects, either American or otherwise, who have made such a cultural contribution to the city of New York: Frank Lloyd Wright, of course, with his *Guggenheim Museum*, and Mies with his *Seagram Building*, both works dating from 1959. Thereafter, despite a vast amount of building, precious little of truly significant civic character has been achieved. Against this backdrop it may be claimed that with the *Morgan* and the *New York Times Tower* Piano has demonstrated, with the aid of a highly cultivated clientelle, that civic spaces of outstanding quality may still be inserted within the anonymous, gridded fabric of this crystalline, value-free city, surrounded by water on every side, then as now a citadel of global consequence. □



Ultraviolet: Alvar Aalto's Embodied Rationalism

by **SARAH WILLIAMS GOLDHAGEN**

In the story of Modernism, told and retold, interpreted and reinterpreted, Alvar Aalto is often treated as the most important early Modernist who doesn't fit. The mainstream, nearly filmic narrative begins with the work of Frank Lloyd Wright, and then, in a series of cuts, presents a central cast of characters in which Le Corbusier, Ludwig Mies van der Rohe, J. J. P. Oud (sometimes), and Walter Gropius play leading roles. Afterwards, separately, comes the short on Aalto. The story of a northern outlier, lauded throughout his career and to this day by a small if devoted coterie of architects, scholars, and theorists, remains an interlude played in some ancillary off-Modernist theater.

Puzzling out Aalto's uneasy exclusion from mainstream Modernist practice is not difficult. Many of his design methods contravene the precepts by which Modernism is typically conceived. If Modernism was concerned with standardization, Aalto often complained that the *Neue Sachlichkeit*'s approach to standardization bulldozed through and leveled human particularity, and he advocated and practiced instead what he called a flexible standardization of a building's parts but never of the architectural whole, which he insisted should be planned and constructed with attention to a site's climate, topography, and the needs of users.

If Modernism was concerned with mass production, Aalto almost defiantly celebrated the irregularities and idiosyncracies of handicraft. If Modernism aspired to universalism, Aalto—putatively, at least—practiced particularism. If Modernists embraced structural rationalism, or at least the pretense of it, Aalto exhibited an only occasional interest in exhibiting the structure of his buildings. Aalto refused to bend over backwards to integrate structure with form and masked hybrid structural solutions freely: load-bearing masonry here, steel beams, or poured concrete there.[1] If Modernism insisted upon the symbolic importance and pragmatic superiority of new materials, Aalto liberally mixed old with new—wood; stucco; reinforced, poured, and prefabricated concrete; steel; brick. If Modernism suffered a deep ambivalence toward typology and historic precedent, Aalto freely drew from Eric Gunnar Asplund's *Stockholm Public Library*, Le Corbusier's *Villa Savoye*, the Vesnin Brothers' project for *Pravda*, Italian Renaissance palazzi, Finnish country churches, Karelian courtyard farmhouses, Roman amphitheaters, and more. If Modernism mandated a functional approach to planning and consequently a formal abstraction, Aalto's buildings pulsate with figuration and symbols.[2] If Modernism redefined architecture as space, Aalto celebrated objectness. If Modernism whispered or shouted transparency, Aalto's buildings revel in their long passages of opacity.

At times Aalto opportunistically encouraged his partial heretical status within the field and, to be sure, seeing his architecture in this way has borne fruit.[3] The canonical view of his relationship to Modernism has nurtured architectural practices, critical questions, and scholarly interpretations about the chronological

Alvar Aalto, *Paimio Sanatorium*, driveway and main entry, Paimio, Finland, 1932. Photo, Gustav Welin/ Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum

development of Modernism and the complexity of Modernist attitudes to regionalism, standardization, and functionalism that continue to influence contemporary architectural practice and historical understanding. Still, the basic paradox remains. Aalto's canonically un-Modernist work is indisputably Modernist. How is that possible?

To answer this question—a question, after all, about the work of a single architect, dead for three decades—is not the apparently straightforward undertaking it might seem. Doing so requires unpacking a number of tightly boxed assumptions about how we as users and makers of buildings look at and comprehend our built world. These precepts include how we understand human cognition, the philosophical concept of rationalism, and rationalism's role in the construction of Modernism in architecture.

Central to understanding Aalto's Modernism, and how that Modernism *is* Modernism, are two of his central notions, rationalism and humanism. Here I conceptualize these notions not only from within the internal discourse of Modernism in architecture but also from two other overlapping vantage points: a contemporaneous discourse on human culture in which Aalto participated and recent scientific findings, especially in neuroscience and linguistics, that dramatically reconfigure our understanding of human cognition.

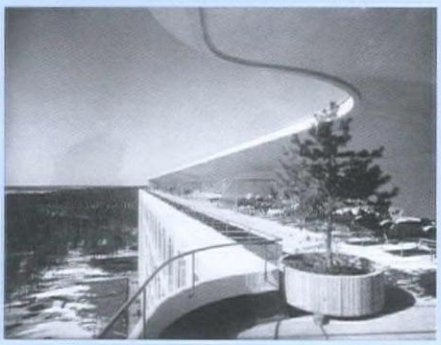
For Aalto, rationalism and humanism intermeshed so much that the concepts were practically coterminous. Even if this makes for a somewhat counterintuitive notion of rationalism, Aalto's rationalism better describes the cognitive realities of human experience than did the multifarious rationalisms advanced by his contemporaneous Modernist colleagues. Aalto's conflation of rationalism with humanism makes historical and intellectual sense if we reflect each term through the prism of phenomenology, which has taken various disciplinary forms, from early 20th-century scientific (*wissenschaftliche)* psychology to mid-20th-century phenomenological philosophy to contemporary cognitive linguistics and neuroscience. Aalto developed his singular and lasting approach to Modernism in architecture partly by learning and partly by intuiting a model of human cognition and reason grounded in phenomenology.[4]

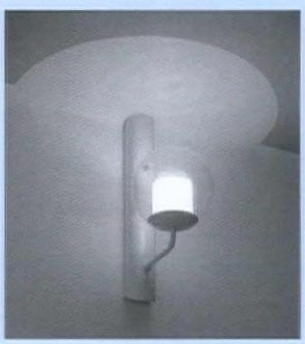
Understanding Aalto's rationalism, then, requires traveling through a dense forest on what may at times seem a crooked path. First, his commitment to rationalism must be explored. Then these several intertwined philosophical and architectural traditions of rationalism must be untangled to properly articulate Aalto's conception of rationalism and place it within these long-standing intellectual traditions. Only then can the alternative notion of rationalism, which I call embodied rationalism, be both explicated and shown to be the cognitive and historical datum from which Aalto in fact developed his architecture. This in turn clears the ground for revisiting Aalto's two great, early buildings, the *Sanatorium* in Paimio (1929–1932) and the *Municipal Library* in Viipuri (1927–1935). Both have been commonly understood to exemplify Aalto's putative discovery of continental Modernism in the late 1920s, thus predating his supposed maturation toward the more particularistic, regionalist practice embodied in the *Villa Mairea* (1938–1939). Yet Aalto repeatedly insisted that both these earlier buildings were foundational to his later work.

When Aalto's notions of rationalism and humanism, and the architecture that he built out of those ideas, is seen from these multiple, overlapping vantage points, the importance of these buildings for contemporary architectural theory and practice emerges. Aalto's extravasation from the central discourse of Modernism also disappears, and a more theoretically adequate and historically accurate conception of Modernism and Aalto's critical architectural project within it emerges.

Throughout his career, Aalto broadcast and rebroadcast his commitments to Modernism and rationalism. He contended that Modernists (by which he largely meant his colleagues in the Congrès internationaux d'architects modernes, CIAM) had "no reason" to dispense with the pursuit of rationalism because rationalism itself was "not wrong."[5] But he gently suggested that the way in which Modernists conceptualized reason and rationalism was shallow, even wrong-headed. Equating rationalism with the rationalization of the building process or with structural or mathematical logic, these architects violated basic human needs. Rationalism, Aalto declared, "has not gone deep enough." In a barely veiled reference to Le Corbusier, who declared his pavilions for the Weissenhofsiedlung "as efficient as a railway car," Aalto wrote, "by the word 'economical' I do not mean the economy that prevailed in the early days in the railway cars of the Pullman Company."[6] Pullman cars, he averred, were "said to be practical and economical, but the wise traveler was quick to point out that their practicality and economy provided significant advantages only to the Pullman company, not to the passengers." Similarly, his colleagues' attempt (surely he referred to the lighting designs emerging from the Bauhaus work-

Left to right: **Alvar Aalto, *Paimio Sanatorium*, sun deck, 1932.** Photo, Gustav Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; **open plan foyer and reading room in the upper part of the dining hall.** Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; **lighting example from a patient's room.** Photo, Maija Holma/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum





shops) to "rationalize" lighting "has introduced little else but blindingly white porcelain spheres or opal cubes" — again, reaping profits for the manufacturer but visiting upon the consumer little more than headaches and hotspots.[7]

Modernist architects needed to expand their definition of rationalism. They needed to analyze, he wrote, "more of the qualities" intrinsic to the architecture they designed. Comparing the array of human needs architecture accommodates to hues on a color spectrum, Aalto contended that architects needed to consider not only architecture's "visible" colors — program, economy, technology, hygiene, site — but also its invisible "ultraviolet band." There only the "purely human questions" lurk. Buildings should serve everyday needs. Early in his career, he effusively imagined a new house in which the visitor, standing in the entrance foyer, would catch glimpses of its less formal upper story "with its bedrooms, children's rooms, and a line with drying articles of clothing on it, hanging there as a somewhat careless piece of evidence of the chores of everyday life."[8] Architectural environments must at once accommodate users and slow them down, forcing them to appreciate "the value of the fleeting moment."[9] He acknowledged that architectural methods do "sometimes resemble scientific ones." An analytical, rational approach to the multiplicity of human needs and a "process of research, such as science employs, can be adopted also in architecture." Nevertheless, "Always there will be more of instinct and art" in this process — intuition, he asserted elsewhere, "can be astonishingly rational."[10]

AALTO CONTENDED THAT ARCHITECTS NEEDED TO CONSIDER NOT ONLY ARCHITECTURE'S "VISIBLE" COLORS — PROGRAM, ECONOMY, TECHNOLOGY, HYGIENE, SITE — BUT ALSO ITS INVISIBLE "ULTRAVIOLET BAND." THERE ONLY THE "PURELY HUMAN QUESTIONS" LURK. BUILDINGS SHOULD SERVE EVERYDAY NEEDS.

Whatever Aalto meant by rationalism, his notion of it certainly differed in both degree and kind from that of his many colleagues. These worlds of difference become comprehensible only if we take ten steps backwards to examine the term *rationalism* in Modern architecture and modern philosophy, because it is on philosophical notions of rationalism that the best-known strains of early Modernist rationalism largely rest.

When invoked in discussions of Modern architecture, the word *rationalism* elicits a fairly standard set of meanings.[11] Twentieth-century rationalism, often riddled with contradiction in individual practices, is the intertwined theoretical legacy of two 19th-century pedagogical traditions: the structural rationalism of Eugène-Emmanuel Viollet-le-Duc and his successor, Auguste Choisy, and the typological functionalism of Jean-Nicholas Durand.[12]

The best known Modernists of the 1920s in the techno-rational strain, such as Le Corbusier, Gropius, and Mies, conjoined structural rationalism and typological functionalism into a set of guiding principles that they applied in such sundry combinations that rationalism became nearly topological, a single lump of theoretical clay ever-transforming into a multiplicity of forms. Mies, for example, became the supposedly unschooled successor to 19th-century structural rationalism while rejecting typological functionalism as unsuited to the psychic and locational needs of ever-transitory modern man.[13] Le Corbusier and Gropius insisted on pressing new technologies into what they claimed were architecture's logical structural, functional, and aesthetic ends. A sometimes-adjunct to this latter strain of rationalism mandated that architectural design should be developed according to the dictates of the anticipated construction process, a conviction that developed under the influence of Frederick Winslow Taylor's theory of scientific management and intensified after the publication in Europe of an autobiography by Henry Ford.[14]

The formal incarnation of techno-rationalism is most famously represented by projects such as Mies's for a *Concrete Office Block* (1922), Le Corbusier's *Maison Dom-Ino* (1914–1915), and Gropius' *Bauhaus* at Dessau (1926). Each is shaped by a species of Euclidean geometry that formally became the symbolic language of rationalist design. A cube, a cone, a sphere, a cylinder, and a pyramid appear above a bird's eye view of ancient Rome in Le Corbusier's *Vers une architecture*; in *Urbanisme*, he amusingly and famously incarnates modernity itself in the straight line. For Gropius, Durand's geometrically neutral grid figuratively supplied the graph paper on which one could design buildings with an eye toward their eventual mass production. Many of the best known Modernist buildings discursively engage the grid in plan and elevation, even if they occasionally violate its unforgivingly orthogonal dictates, sneaking, as Le Corbusier did in the Villa Savoye, non-geometrically-derived curves on top or within.

For some of the techno-rationalists' contemporaries such as Hugo Häring and Hans Scharoun, rationalism in design did not begin from a building's formal disposition but from how the architect handles the human social functions that nearly any edifice accommodates. Often called organic functionalists, these architects owed to Durand their insistence that a building's shape and plan suit its projected use. They rejected typology, however, because they believed it so saturated in historical precedent that it prohibited individuated solutions to architectural design, thereby violating the Modernist dictum that a new architecture need serve *modern* life. For the organic functionalists, a building's design emerged from the specifics of program and site.

Most architects and critics of the 1920s (along with many today) considered these two best-known theoretical strains of Modernist practice, techno-rationalism and organic functionalism, diametrically opposed.[15] And not without reason. Techno-rationalists began from the object, organic functionalists from its users. Techno-rationalists employed (or purported to employ) mathematical systems of geometry or physics; organic functionalists shunned such abstractions (even as they occasionally used them) in favor of the contingencies of site and the patterns of human social interaction. Techno-rationalism revered systematic, parsed-out logic while organic functionalism preferred pragmatic analysis of the empirical world. Techno-rationalism chose straight lines, organic functionalism curves.

Early Modernist theory's binary opposition of these two

approaches indicates the loose affiliation of each with an epistemological tradition that itself has been historically opposed to the other: the intellectualism of Descartes on the one hand and the empiricism of Burke and Locke on the other.[16] This philosophical debate on rationalism *vs.* empiricism is longstanding, and all its complexity need not be examined here. Suffice it to say that the debate revolves around the extent to which people gain knowledge by way of information acquired through the senses. Descartes' "I think, therefore I am" famously epitomizes the intellectualist position: the mind at all times knows its own ideas; human thought is wholly conscious; the structure of the mind is directly accessible to itself; certain forms of human knowledge are constructed without input from sensory experience.[17] The empiricist tradition rests on most of these same premises, but differs in its contention that *only* from data acquired through sensory experience can human knowledge emerge.

In early 20th-century architectural discourse, the parallels between these two dominant strains of Modernism and their philosophical analogues — intellectualism and techno-rationalism on the one hand, empiricism and organic functionalism on the other — are not exact. Still, they are suggestive. The techno-rationalists propounded formal, rule-bound, abstract systems of logic and analysis that bore the stamp of Cartesian intellectualism. The organic functionalists asserted that design should begin with the architect's study of the empirical world, with *data*, data gathered from the projected users' sensory experiences, patterns of social interaction, and experience of the site.

Predictably, the tendency of early Modernist architects and critics to oppose techno-rationalism to organic functionalism blinded them to effective continuities between the two, as is also true in the case of their philosophical cousins. The design methods of both techno-rationalists and organic functionalists indicate their assumption that the mind can know or excavate its own ideas, that human thought is largely conscious, and that the mind's structure is accessible to itself. Both employ a logic-driven approach, differing mainly in their beliefs on *what kind* of data is offered up to human cognition. Both insist that architecture reflect and serve the conditions of modern life. In such convictions, techno-rationalists and organic functionalists shared the view that the makers and users of buildings are thinking subjects capable of cognitions dispassionately constructed from rational analysis. Both approaches presume that this thinking human subject is categorically distinct from the object-world of other people and of buildings, cities, and nature.

Techno-rationalists and organic functionalists also joined in their dislike of Surrealism, an artistic movement that celebrated personal self-expression and the irrational. Surrealism, led by Hans Arp, André Breton, Giorgio de Chirico, Max Ernst, and others, established rapid currency among avant-garde intellectuals in the same years that techno-rationalism and organic functionalism earned widespread recognition.[18] Surrealist artists, and their occasional architect-friends — Berthold Lubetkin, Frederich Kiesler, Paul Nelson, and Le Corbusier come to mind — impudently assembled a here-and-there aesthetic that they believed expressed, and even provoked, primal human drives. Analysis, logic, and empirical data were shunned. Surrealist work celebrated the poetic, the associative, and the uncanny.

Surrealism was the godchild of Freud's Id, that shadowy

Alvar Aalto, *Paimio Sanatorium*, rear of patient wing. Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum

Alvar Aalto, *Paimio Sanatorium*, foyer. Photo, M. Kapanen/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; **stairwell.** Photo, M. Kapanen/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; **hallway in the patient wing naturally lit by pivot windows.** Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum

subconscious force that the Viennese psychoanalyst contended is twinned to and navigated by necessary judgments and restraints of the prudential Ego. Like his philosophical confederates, Freud presumed the thinking subject and the objective world split, with the Id militating against grounded interpretations of empirically verifiable realities. Reason's "other," the Id lurks, a ghost ever threatening the smooth operation of the human machine, perverting one's cognitions of and interactions with the objective world. The cognitive style of the Id is everything that its putative opposite is not: organic, primal, ecstatic, symbolic.

Throughout the 20th century and even today, this three-point philosophical description of human cognition — intellection, empiricism, and irrationalism — governs much scientific as well as humanistic thought, art and architecture included. Popularly, it is taken as commonsensical. Yet in truth it is a triangle of unstable dimensions: ever tottering, but yet to meet its inevitable collapse.

The foundation of this triangulated model of human cognition is the assumption that cognition and reason are the collaborative product of successively executed faculties. George Lakoff, a cognitive linguist, and Mark Johnson, a philosopher, dub this model of cognition the Society of Mind.[19] Input is processed bottom up. Both rationalism and empiricism posit that each of five human senses — sight, touch, taste, smell, hearing — receives bits of information that they hand up to Perception, the brain's preliminary synthetic faculty. Perception registers the information and then transmits it to its "higher" (and more sophisticated) processor, Imagination, at which point the mind forms a preliminary interpretation of the data received.

Imagination, however, is inevitably colored by Feeling — undisciplined, irrational, and out of control: an unruly child or a threateningly emotive woman. In cognitive pursuit of "true" understanding, the brain's higher-level function, Reason, remains dissatisfied with interpretations that rely solely on putatively lower-level processes such as Sensation, Perception, Imagination, and Feeling. Searching for a more solid foundation on which to rest its conclusions, the brain hands its preliminary interpretation up to its preexisting databank of received wisdom — Memory. Yet Memory too distorts. So this already highly processed cognition is once more handed upward, this time to the mind's most sophisticated arbiter, Reason. Reason is unlike in kind to the mind's lower-caste members: it is unflinchingly guided by discipline, logic, and analysis. Bound by rules and clear-sighted, Reason plays the man of cool systematization.

Recent research (including that by Lakoff and Johnson) in a number of overlapping but professionally distinct disciplines such as language acquisition, cognitive linguistics, gesture analyses, historical linguistics, and cognitive neuroscience, falsifies both the triangulated description of human (intellection, empiricism, unreason) and the Society of Mind paradigm of cognition on which it rests. Facilitated in part by developments in biotechnology such as computerized data analysis, PET scans and functional Magnetic Resonance Imaging, this research determines that the machinations of the human mind do not concord with any part of the "common sense" three-point model of cognition. Cartesian intellectualism does not exist. The presumption it shares with empiricism — that a divide separates thinking subjects from their perceived world, is misconceived. Consequently, accepted notions of the irrational as the "other" of rationalism need to be toppled as well.

A 21ST CENTURY MODEL OF HUMAN COGNITION IS EARNING EVER-WIDER ACCEPTANCE IN THE SCIENCES AND SOCIAL SCIENCES, AND IT DETERMINES THAT COGNITION IS APPROXIMATELY 90% *UN*CONSCIOUS. IT DEMONSTRATES THAT COGNITION — AND THEREFORE, HUMAN REASON AND KNOWLEDGE — IS INTRICATELY STRUCTURED IN DETERMINATIVE PATTERNS BY THE REALITY OF A PERSON'S BODILY INHABITATION OF THE WORLD.

A 21st century model of human cognition is earning ever-wider acceptance in the sciences and social sciences, and it determines that cognition is approximately 90% *un*conscious. It demonstrates that cognition — and therefore, human reason and knowledge — is intricately structured in determinative patterns

by the reality of a person's bodily inhabitation of the world.[20] *Contra* the Society of Mind, cognition is not the progressive analytic synthesis of information received from the external world via the senses. Everyday and "higher" cognitions typically emerge unconsciously and intersensorily; they are unavoidably imaginative and emotion-driven. How I interpret what I see is intermeshed with what I have seen and what I anticipate seeing, with what I hear, have heard, and anticipate hearing, and with what I touch, have touched, and anticipate touching.

A simple but powerful falsifier of the triangulated description of human cognition lies in the global, cross-cultural universality of body-based metaphors used to describe everyday human experience.[21] In every known language, spoken and non-spoken, humans employ, and as far as scholars know, always have employed, the same or an extremely similar set of metaphors to characterize emotional and intellectual states and to describe how they attain knowledge about the world. Exemplifying this phenomenon is the so-called primary metaphor that equates human affection with physical warmth.[22] This metaphor is probably forged during infancy, in what linguists and neurologists call a "cross-domain association": Newborns conflate the psychological experience of affection with the physical warmth they experience in the close embrace of their caretaker's body. "Affection equals warmth" becomes "neurally instantiated" in the brain, a cognitive schema. From then on, "We are not free to think just anything."[23]

Some cognitive scientists point out that infants in all cultures begin to employ primary metaphors in the same developmental sequence, which indicates their neurological basis. A host of other such metaphors reveal additional cognitive schemas, all hung upon the scaffolding of human embodiment. An expression commonly used to describe one's emotional and/or intellectual state is something like "I'm in a bad place" — a disequilibriated emotional or intellectual state is equated with a disequilibriated physical one. By contrast, "I feel at home there" conflates the psychological feeling of secure well-being with the physical experience of inhabiting a familiar building. Such familiar phrases constitute only a few of a vast and fluid body of primary metaphors common in aggregate to every culture, framing intellectual and emotional cognitive states around the blunt fact of human embodiment. Users and listeners comprehend these metaphors — despite their patent illogic — precisely because the cognitions each describes are born of our irreducible physiological constitution as human beings.

The cognitive framing of emotional states often refers to bodily movement through space and time. In day-to-day physio-perceptual experience, moments abound in which people routinely orient themselves emotionally with respect to other people, other objects, and other containers. Cognitive orientation schemas are instantiated in such primary metaphors as "change is motion," which are exemplified in familiar phrases such as "I'm getting to a better place," whereby a change in an emotional or intellectual state becomes the metaphorical equivalent of a change in physical location. In everyday discourse, many primary metaphors are so clichéd that their tropic qualities are nearly indiscernible. When people say "I'm getting there" or "I'm making progress," they equate psychic or intellectual advancement with forward, and sometimes upward, movement toward a psychologically preestablished if literally amorphous destination. Acquiring knowledge is walking from the unseeing state of darkness into vision and light. In this instance, too, the brain's neurological architecture likely underlies the consistency and the universality of these metaphors: Neuroscientists now believe that the brain's locus of reason also manages perception and motor control.

The diachronic and synchronic persistence of primary metaphors confirms that our minds develop in total integration with our bodily experience. A theory of bodily cognition and reason — embodied rationalism — does not belie that human consciousness is profoundly inflected by the political, economic, scientific, social, and cultural phenomena of its time. Nor does embodied rationalism fail to recognize the wide variability across cultures and over time in how people interpret the primary metaphors and cognitive schemas they employ. Yet the facts on the ground remain: The space of the world is not, and could never be, exterior to the space of the bodily self. In terms of how we inhabit the world as thinking subjects, the self is, as Maurice Merleau-Ponty wrote, "the zero degree of spatiality."[24] The simple antonymic relationship of "here" (within or of our body) to "there" (outside it) says so. No throne elevates reason above sensory experience, as the Society of Mind model of cognition suggests. Rationality is "imbued with a sensibility, and vice versa."[25] Reason is unconscious and intuitive; it is simultaneously "rational" and "irrational," analytical and poetic, systematic and associative, logical and metaphoric.[26] It is embodied.

Among early and mid-20th-century intellectuals who accepted the existence of a rational human faculty, only phenomenological philosophers, phenomenologically oriented experimental psychologists, and those in other fields who drew on these bodies of thought, rejected in all or part the substantive premises of the three-point model of human cognition. In certain instances, the insights of these thinkers foreshadow contemporary findings on the embodied mind — or, conversely, this recent research attests to the validity of phenomenology's fundamental principles. Aalto's early intellectual biography and projects strongly indicate that he might be counted among this group. As Eeva-Liisa Pelkonen has shown, from his student days he knew the basic precepts if not the specifics of proto-phenomenological experimental psychology. Certainly by the late 1920s he was extremely familiar with its central ideas, as both his lectures and designs for buildings attest.[27]

Founded in mid-19th-century Germany by the physicist Gustav Fechner and greatly elaborated upon and popularized by his pupil Wilhelm Wundt, scientific or experimental psychology was broadly defined to include adjacent fields such as phonetics, linguistics, aesthetics, philosophy, and the study of culture.[28] By the 1910s, Wundt had established a laboratory of experimental psychology at the University of Leipzig that had become the leading center and model for psychological research in the world, replicated throughout Europe and in India, Japan and the United States. In Leipzig, Wundt and his students conducted systematic, controlled scientific investigations of a vast constellation of human cognitive processes such as reaction times in muscular sensations and reflexes, the experience of binocular vision, and the visual perception of color.[29] Through these experiments,

they established many of scientific psychology's paradigmatic precepts: that human perception is an act of creative synthesis, that emotion is a determining factor in any and all mental processes, and that no split divides human consciousness (the subject) from the physical world (the object).

These ideas coursed through many domains of German intellectual life: Wundt himself taught for over forty-five years and was enormously popular among students.[30] During his tenure at Leipzig, he hired like-minded and widely influential scholars, including the art historian August Schmarsow (1853–1936), Chair of the Department of Art History from 1893 to 1919.

After 1900 experimental psychology developed two estuaries, equally wide, one more philosophical and phenomenologically oriented, represented in the work of Wundt and Schmarsow, and one more scientifically-oriented, propounded most prominently by Theodor Lipps (1851–1914), whose Psychological Institute in Munich was founded in 1894 and quickly became the main institutional enclave in competition with Wundt's in Leipzig. Despite significant differences in their orientations and research agendas, both insisted on the centrality of human embodiment to an understanding of cognition and reason.

Schmarsow, in numerous art-historical and psychological articles, criticized a psychology overly driven by the scientific study of physiology, calling instead for what he specifically described, in reference to Kant, as a more phenomenological approach to the interpretation of artistic intention and experience.[31] Criticizing Alois Riegl's *Spätrömische Kunstindustrie* as too narrowly focused on the optical to the exclusion of the other senses, Schmarsow believed that experimental psychology, in taking a strictly scientific approach, was on "the wrong track": it unrealistically abstracted human consciousness, he wrote, "from all the contingencies of the earthly scene."[32]

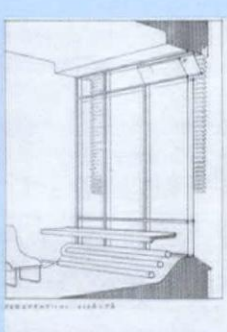
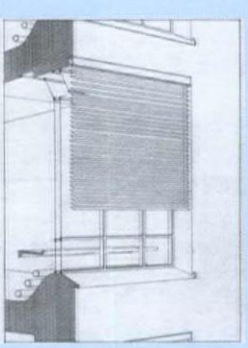
Schmarsow contended that cognition encompassed the whole body in its worldly environment, including an awareness of that body. Any notion of reason must encompass the imagination and the "play of associative factors."[33] Foreshadowing the phenomenology of Merleau-Ponty, Schmarsow posited the human body as degree zero in the human perception of space and time, writing that our cognitive understanding of verticality drew from our phenomenological experience of standing, and that our cognitive understanding of measure from "the reach of our arms" and from a person's projected or actual position in and movement through space.

IF WE REVISIT AALTO'S INTELLECTUAL DEVELOPMENT IN THIS LIGHT, MANY OF HIS STATEMENTS AND DESIGN PRACTICES THAT AT FIRST BLUSH APPEAR TO VIOLATE THE BASIC PREMISES OF CANONICAL MODERNISM BECOME PART OF A TRANSPARENT ATTEMPT TO ARTICULATE A MORE ADEQUATE MODERNISM, A NEW ARCHITECTURE THAT TAKES ADVANTAGE OF THE OPPORTUNITIES MODERNITY PRESENTS, AMELIORATES THE PSYCHIC CASUALTIES IT LEAVES IN ITS WAKE, AND SPRINGS FROM THE ESSENTIALLY EMBODIED NATURE OF COGNITION AND REASON.

By the early 20th century, then, many prominent psychologists and aestheticians held that human cognition and reason is fundamentally embodied, fundamentally intersensory, and fundamentally creative; that emotion, memory, and imagination are integral to human reason, and that the commonly accepted gulf dividing subject from object does not exist. This German scholarship in psychology, philosophy, and aesthetics was premised on positions that contemporary science, with its vastly more refined research tools, has confirmed and built upon to create its revolutionary findings on the nature of human cognition. Contemporary research has established that most human thought is unconscious (a position with which at least some early experimental psychologists, such as Lipps, would have taken issue) and has identified a more or less stable set of cognitive schemas and primary metaphors that underlie the operations of human cognition and reason.

How might this knowledge of early 20th-century experimental psychology or mid-century phenomenology or contemporary cognitive neuroscience and linguistics change or develop our understanding of Aalto's Modernism? If we revisit Aalto's intellectual development in this light, many of his statements and design practices that at first blush appear to violate the basic

Left to right: **Alvar Aalto, *Paimio Sanatorium*, patient room.** Courtesy of the author; **Diagram showing use of sun blinds and ceiling-mounted radiant heating system.** Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; **Lecture hall.** Photo, Gustav Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum




Left to right: **Alvar Aalto, *Viipuri Library*, lower left, aerial model, Viipuri, Finland, 1935.** Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; ***Viipuri Library.*** Photo, Gustaf Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; ***Viipuri Library.*** Photo, Sergei Kravchenko

premises of canonical Modernism become part of a transparent attempt to articulate a more adequate Modernism, a new architecture that takes advantage of the opportunities modernity presents, ameliorates the psychic casualties it leaves in its wake, and springs from the essentially embodied nature of cognition and reason. Aalto drew upon primary metaphors and cognitive schemas even in his earliest published writings on architecture, which he conceptualized with the somewhat blunt instruments that he had at hand: the contemporaneous language of experimental psychology.

From 1900 to 1921, the years of Aalto's childhood, basic education at the *lyceum* in Jyväskylä, and architectural training in Helsinki, European intellectuals in the sciences, the arts, philosophy, and culture were schooled in the basic insights and findings of proto-phenomenological experimental psychology. Although the field was centered in Germany, interest in its findings extended into Germanophile countries, including Finland.[34] By 1902 a major psychology laboratory was established in Sweden at Uppsala University, and by 1917 a member of the Department of Pedagogy at the University in Jyväskylä, where Aalto grew up, was publicly lobbying for the founding of a laboratory of experimental psychology.[35]

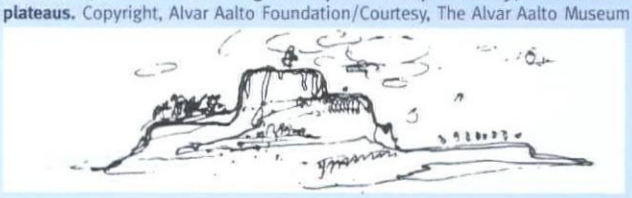
Aalto read German fluently and closely followed intellectual currents in Europe, and he subscribed to over thirty architectural publications from various countries. He was exposed to empathy theory, and probably also to the basic precepts of experimental psychology, during his basic training in Jyväskylä.[36] As a young man he sketched mainly in perspective, an embodied (if still artificially constructed) point of view, and throughout his career rarely drew in axonometric—the language of disembodied, mathematically abstracted spatial depiction. His writing from very early on is saturated with the precepts of embodied rationalism: At twenty-six he wrote that the beauty of a hilltop town in Tuscany (which he saw on his honeymoon in 1924) was most apparent "when seen from the level of the human eye, that is, from the ground level," because only from this perspective was "a vision the senses receive whole and undisrupted, adapted to human size and limitations."[37]

Proposing a sauna for a hilltop ridge in Jyväskylä that would serve as a national monument to Finnish culture, Aalto described his "Roman bath—a Finnish sauna" as a building "caress[ing] the senses," sparking deep memories and profound emotions. Swimming in the language of the sensorium, he evokes his imagined sauna's smells, textures, and sights: the aroma of burning spruce and juniper twigs, the warmth of "a stove with a crackling fire of choice logs," the soft, warm light emitting from a colored lamp, the textures of "changing rooms covered with beautiful Nordic woven fabrics."[38] Such early writings and projects suggest that as a young architect Aalto partly intuited, partly conceptualized philosophical and psychological concepts that today's scholarship lays bare: the intersensory and often unconscious nature of cognition and the deep enmeshment of reason with emotion and bodily experience.

When earning his architectural degree at the Polytechnic Institute in Helsinki in the years 1916 to 1921, Aalto worked closely with Selim Lindqvist, one of his professors, who was far more attentive to architectural trends in Europe than to the National Romantic movement that predominated in Finland at the time, and who was especially interested in the *Jugendstil* movement that had been so deeply influenced by the ideas of Lipps.[39] In 1927, when Aalto moved to Turku, he had chosen a coastal city where intellectual, economic, and social exchange with Stockholm and the rest of Europe dominated local culture. He became still more deeply involved in European architectural discourse and was further exposed to proto-phenomenological experimental psychology during his trips to Germany and other parts of Europe in 1928, 1929, and 1930, during which he became familiar with the work of early Modernist artists such as Hans Arp, Paul Klee, Oskar Schlemmer, and most importantly, László Moholy-Nagy, the last of whom became Aalto's lifelong friend.[40] Moholy-Nagy's interest in experimental psychology is well documented; he described his artistic project as the "psycho-biological" experience of man, by which he meant the sentient person's intersubjective relationship with space, time, and light.[41]

From the mid-1920s on, Aalto felt his way toward a formal idiom equal to and shaped by his sense of the embodied nature of human cognition. His writings are steeped in the language of experimental psychology: He argued that "the rationalist working method" must encompass "psychological

Alvar Aalto, sketch for the design concept of the *Viipuri Library*, a mountain of plateaus. Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum



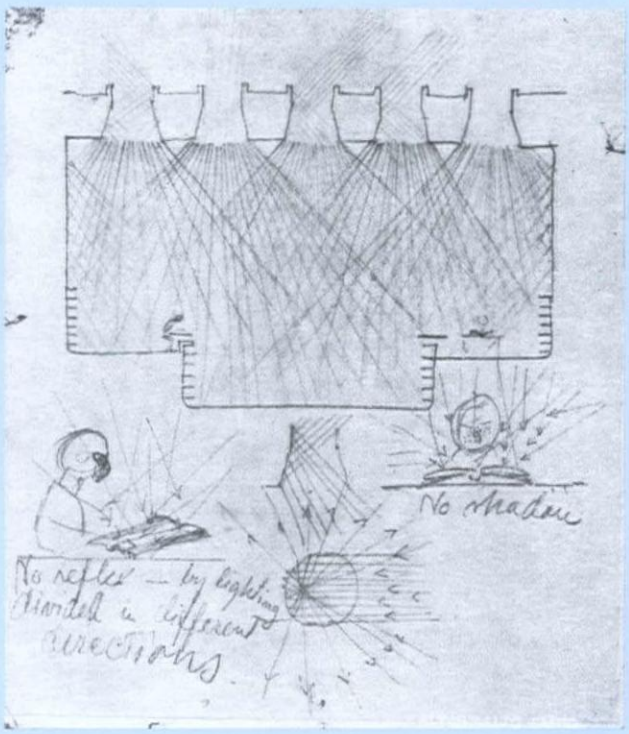
requirements" such as neurophysiology and the "general physiological properties" of human beings.[42] "My aim," he averred, "was to show that real rationalism means dealing with all questions related to the object. . . . [The architect must] take a rational attitude also to demands that are often dismissed as vague issues of individual taste, but are shown by more detailed analysis to be derived partly from neurophysiology, and partly from psychology." Once architects adopt such an approach, he continued, "we will have extended the rationalist working method enough to make it easier to prevent inhuman results." Rationalism "should be extended to the psychological domain," he insisted. "Only one book has not yet been published anywhere in the world, *The Physiological Home.*"[43]

Repeatedly, Aalto spoke of how humans appropriate architecture through the entanglement of its forms with sensory perception and intellectual cognition. His blackened theater interior proposed in his essay a "Rational Cinema" was premised on his observations about modernity and vision: "Modern man's retina is beleaguered with images (photographs, printed matter, street advertisements, cinema) from morning 'til night."[44] He explained that the designer of a successful cinema must peel this particularly new, quintessentially modern program away from the apparently similar typology of the auditorium or theater. When a person watches a film, he observed, lighting is "crucial. . . . The clarity of the picture depends on absolute darkness."[45] He explained that when shown in current cinemas, films typically project a great deal of light back into the viewers' eyes, greatly compromising their perception of image quality. His proposed solution was to blacken the cinema's interior completely and to install a washboard-like arrangement of raised vertical slats in which the sides facing the screen were painted with a matte, light-absorbing black.

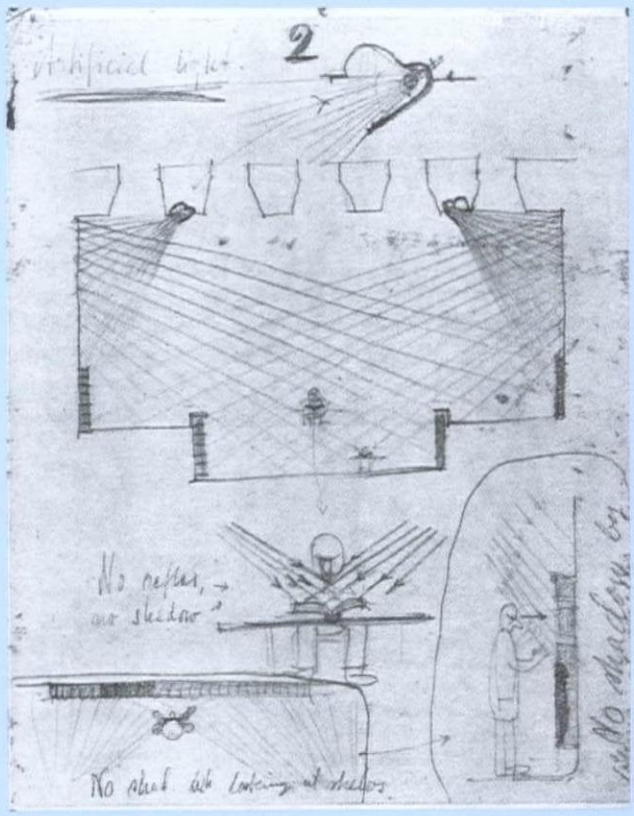
Throughout his career, Aalto repeatedly invoked the word "human," asserting that architecture should "serve human life" or that it must "humanize" a world overwrought by the conditions of modernity. These vague, repeated incantations to humanism — the word appears no less than thirty-two times in a single article — can be and sometimes have been misleading.[46] They allude not, as some writers have assumed, to a kinder, gentler Modernism or to the European classical tradition or to a cozily familiar woody regionalism. Aalto's "humanism" was an inexpertly articulated call for Modernists to create a rationalist architecture of the *human being*: a physiological, perceiving, thinking creature.

In the 1920s, medical research had not yet identified bacterial infection as the cause of tuberculosis. Treatment for patients suffering from this deadly disease prescribed removing them from the enervations of modern life and the unhealthful effects of urban waste and pollution. Only rest, plentiful sunlight, and fresh air offered hope for rehabilitation. This treatment regimen pointed to an architectural program specifically attuned to physical and psychic health. Aalto won the commission for a sanatorium complex in Paimio, Finland, in a state-sponsored competition in 1929 and completed the project in 1932. It proved a challenge perfectly suited to the humanly rational, phenomenologically oriented, architecturally Modernist young architect.

In his description of the *Paimio Sanatorium*, published in



Alvar Aalto, *Viipuri Library*, sketches illustrating use of natural light. Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum



1940 as "The Humanizing of Architecture," Aalto rejects extra-phenomenological compositional systems such as the grid, then popular among his Modernist colleagues. Such undifferentiated, mathematically regularized notions of space were and are wholly antithetical to the premises of embodied rationalism. Aalto designed *Paimio* (as well as the *Viipuri Library*, which he discussed in the same article) around the rhythms and patterns of daily life. Spaces emanated from the body, degree zero of human cognitive experience. In conception and final form, these buildings are shaped around the human mind's fundamentally intersensory and metaphoric apprehension of the world. By describing the principles that underlie these projects' designs, he hoped that they might inspire his colleagues to partly reconceptualize and thereby redirect Modernism, which he believed was a right-thinking movement gone astray.

Aalto explains that the *Paimio* design emerged only after he conducted "experiments" examining his projected users' daily rituals and routines, their psychological reactions to room forms, to shades and degrees of colors, and to types and intensities of light. Echoing experimental psychology's research experiments conducted in Leipzig and Munich, he recounts analyzing the impact on patients of variations in temperature, types or degrees of ventilation, and levels of noise. From these "experiments," he concluded that the sanatorium's design needed to address an intertwined array of physiognomic, phenomenological, and cognitive phenomena particular to its afflicted users' needs.

The organizing spatial principle for patients' rooms therefore differed from that of ordinary rooms. In a perhaps direct, perhaps unconscious, and perhaps completely unrelated allusion to one of Schmarsow's best-known premises — that spatial experience depends on a vertically aligned, ambulatory, embodied subject — Aalto wrote that although most interior architectural spaces accommodate an ambulatory person whose body is oriented along a vertical axis, *Paimio*'s patients would be lying down. Hence this project's spatial organization needed to dissimilate the ordinary room in that it should be designed not around a vertical axis in motion but around a stationary, low-slung, horizontal one.[47]

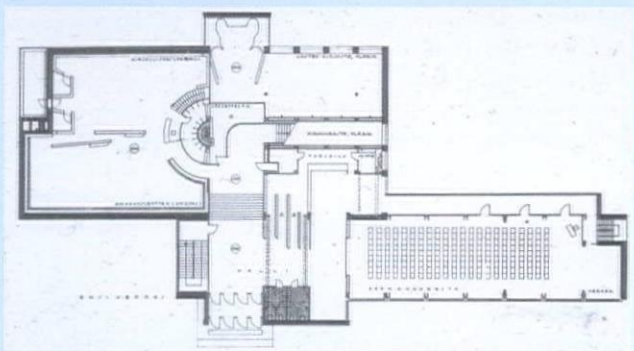
One consequence, he discovered, would be that ceilings, which architects typically overlook, took on an unusually prominent role in the design. Aalto thought through how his infirm users would respond, visually and perceptually, to different ceiling colors and illumination schemes. He oriented their bedrooms south-southeast, an orientation that, he explained, offered the most variable natural light, basking resting invalids in the morning's softer rays while shading their eyes from the sharp glare of the afternoon sun. He painted some walls to reflect light and others to absorb it, depending upon how much sun each would receive in different seasons and at different times of day. In the interest of visual variety, he exaggerated tonal variation in the ceilings with a dark hued, highly saturated (and therefore perceptually variable) bluish-green, close to the "hospital green" that environmental psychologists now confirm is most restful to the human eye. No overhead fixtures cast light into the resting patient's eyes: Aalto explains that his scheme for artificial lighting, combined with the room's dark tonal values, would greatly reduce eye-stressing glare.

Aalto recounts the many ways his analysis of his prospective users' auditory, sensorimotor, tactile, and psychological experiences guided the project's design. Quiet reigned. He placed access panels to plumbing fixtures in the hallways outside invalids' bedrooms so that pipes could be serviced without disturbing their rest. He packed one wall in each room with sound-absorbing materials. Most famously, he specially designed "noiseless sinks," reconfiguring the conventional sink basin to reduce the auditory disruption of tap water splashing at right angles onto an impermeable porcelain surface.

Attention to ambulatory spatial experience and its potential to elicit metaphorical associations, such as the primary metaphor "I'm getting to a better place," also shaped *Paimio*'s design. Entrants exit their automobiles at the turnabout and first come upon a low, somewhat dark space only to be diagonally deflected toward a large, light-flooded staircase backed wall-to-wall, floor-to-ceiling, by a multistoried window. Aalto exaggerated this carefully constructed darkness-into-light sequence with the staircase floors of highly saturated bright yellow. Although the staircase's banister is metal — a signifier for modernity, efficiency, and hygiene — its handrail is wood, which he preferred because it is so much warmer to the touch. In a critique of Marcel Breuer's chair designs written at about the same time, Aalto wrote that any object which comes "into close touch with the skin must not be made of a material that is an effective heat [and cold] conductor."[48]

The patients' experience of entering the space of the sanatorium metaphorically reenacts the experience of redemptive healing: They leave the automobile, icon of modernity, and walk

Left to right: **Alvar Aalto, *Viipuri Library*, plan.** Courtesy of the author; **entrance foyer, from left: Aarne Ervi, Alvar Aalto, Aino Aalto.** Photo, Gustaf Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum



toward the sun, looking out onto the vast lucid stillness of wooded nature. The floor plans in the patients' bedrooms reinforce these associations of warmth, brightness, and tranquility. The rooms are arranged so that patients can move easily from bed to wall-length desk. Once seated, they again look out wall-to-wall windows into the surrounding forest, an omnipresent reminder of their needed escape from urban life. In between the double-glazed windows, Aalto threaded a heating element, warming the glass, a material as highly sensitive to variations in temperature as the metal of Breuer's chairs. Ensconced at their desks, patients could read, write, or just look, resting their feet on the curving footrest protruding from that typically extruded moment in a room where floor meets wall.

Aalto contended that the design principles he established in *Paimio* offered Modernists a "deeper" rationalism, configured neither around abstract, mathematically bound systems (as did the techno-rationalists), nor around an analysis of a specific individual's or family's particular needs and the idiosyncrasies of that building's site (as might the organic functionalists), nor around the protean Id seething beneath the socially adept ego (as might a surrealist-inspired architecture). The rationalism of *Paimio* accommodates the full experiential spectrum of embodied cognitions, the common property of human life.

Aalto's plan for the sanatorium complex, its relationship to its site, its spatial sequences, the patients' rooms, the built-in and freestanding furniture, the heating and plumbing systems, the materials, the colors all sprang from Aalto's imagined projection of an embodied user hearing, seeing, and prospecting; touching windows, doors, hand rails, and sink handles; resting, walking, or being wheeled on a stretcher; consciously or unconsciously remembering past visual, tactile, and auditory cognitions. His explicitly detailed imaginings of how patients would experience the building physiologically and perceptually demonstrates his profound assimilation of the principles of German experimental psychology, and his intuitive — "astonishingly rational" — sense that the conventional models of rationalism in architecture made no sense. The sanatorium at Paimio interweaves the cognitive experience of the human sensorium with mnemonic associations, cognitive schemes, and primary metaphors to create a lived experience of peaceful comfort and calm.

ALTHOUGH THE STAIRCASE'S BANISTER IS METAL — A SIGNIFIER FOR MODERNITY, EFFICIENCY, AND HYGIENE — ITS HANDRAIL IS WOOD, WHICH HE PREFERRED BECAUSE IT IS SO MUCH WARMER TO THE TOUCH. IN A CRITIQUE OF MARCEL BREUER'S CHAIR DESIGNS WRITTEN AT ABOUT THE SAME TIME, AALTO WROTE THAT ANY OBJECT WHICH COMES "INTO CLOSE TOUCH WITH THE SKIN MUST NOT BE MADE OF A MATERIAL THAT IS AN EFFECTIVE HEAT [AND COLD] CONDUCTOR."

In a competition in 1927, Aalto won the commission for a library in Viipuri, Finland, yet the project underwent many design iterations and a site change before the building's completion in 1935. Meant to be, as Aalto described it, "the soul of the town's cultural life," the library sits adjacent to a major 19th-century church in a formal park. One of the program's stipulations specified that the new building should provide the park a better sense of enclosure. In its final iteration, the library faces both this park and an informal woodland beyond.[49]

Interpretations of the *Viipuri Library* typically begin with the project's stylistic evolution from the initial competition drawings of 1927 to the final design of 1933–1934. The competition-winning scheme depicts an Asplundian Neoclassicism consistent with Aalto's design for the *Muurame Church* of 1927–1929, complete with an overscaled doorway that alludes directly to Asplund's *Stockholm Public Library*. The monumental opacity of a single white prism was to be relieved by a sculpted frieze of figures in apparently classical garb. After the four-year delay, when he took up designing the final, executed scheme, Aalto instead composed two rectangles joined on their long dimension, with the smaller slid off the larger's line of symmetry. A foyer, near the corner of the smaller, single-story block, contained a dogleg staircase backed floor-to-ceiling with plate glass. All figurative ornament was gone. Undoubtedly, the built project's style echoes the formal language he saw in the work of his European colleagues in CIAM, which he joined in 1928.

Aalto's idiom had changed, yet he insisted that from the first to the final schemes the library's central concept held: "When I designed the city library at Viipuri," he wrote, "I pursued the solution with the help of primitive sketches from some kind of fantastic mountain landscapes with cliffs lit up by suns in different positions." Aalto never really explained the meaning of this image, which he implied had come upon him spontaneously. But from this vision, he "gradually arrived at the [architectural] concept for the library building.[50] The compositional transformation of the *Library* project's idiom, he insisted, owed more to the particularities of its resiting: Because the final site was less formal than the first, he sought a less symmetrical, less historicizing composition.[51]

Taking Aalto at his word and delving instead into the meaning of those initial, "primitive" sketches — not into the project's stylistic transformations — clarifies his guiding concept for the building and its continuity throughout its conception and execution. His sketchy imaginings elicit a raft of primary metaphors steering the central compositional features of the design. To adduce only examples discussed above, the idea of ascending a fantastic mountainscape alludes to the primary metaphors, "knowledge is light," "the acquisition of knowledge is ascent up a path toward a pregiven destination," and "thinking is seeing." Contemplating mountaintop views as light and shadows change with the day's passing, anticipating the monumental isolation and psychic clarity of the summit: These metaphors constitute the *Viipuri Library*'s central organizational trope.

Giving architectural form to this vision of ascent inspired Aalto to employ a sectional approach. For the primary spatial sequence he exaggerated, with even greater success than he had

Left to right: **Alvar Aalto, *Viipuri Library*, internal stairwell.** Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; **internal stairwell from foyer.** Photo, Gustaf Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum

at *Paimio*, the user's procession from the distracting cacophony and visual "bombardment" of everyday life to an internalized, silent world. From one secondary entrance, that closest to the street, the user enters a periodical reading room below the main reading room and filled with rows of shoulder-height reading stands. The room evokes the transitory hustle and bustle of modern life: One imagines a user pulling onto the curb, running inside to scan the day's headlines, and running back out without even sitting down.

By contrast, from the main entrance foyer (which also leads to the auditorium), users on their way to the main reading room walk on axis toward a monumental staircase and slowly ascend into a large, double-height, single-span, multilevel room that falls away from the access desk at its apex-like cliffs from a mountain summit. *I'm making progress. I'm getting there. Knowledge is light.* The reading room, Aalto wrote, needed "a conserving and externally closed character." No views opened up to the distractions of the world. Aalto packed the brick walls with sound-absorbing materials and made them "exceptionally strong." An otherworldly realm of silence, the reading room's visual, auditory, tactile, and spatial features focus users on the central purpose of their destination. Here, as Aalto put it, is the place where books and people meet. Vertically, bookshelves line the room; horizontally, large communal reading tables offer surfaces on which to lay out work. Another part of the room is filled with rows of individual carrels furnished with bentwood storage units to facilitate readers' use of space without inhibiting views of the roomscape, of other cliffs, and of other people.

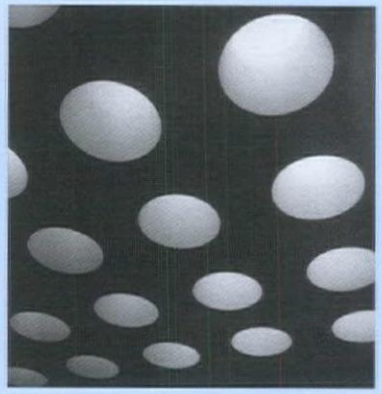
In designing the reading room, Aalto wrote, he was principally concerned with the interrelationship of the reader, the book, and light. He determined that physiologically, a reader needs even, indirect light for two reasons: so that distracting shadows would not fall upon one's open book and so that bright light would not reflect from the white page back into the reader's eyes. The architectural solution is provided by the library's fifty-seven conical concrete skylights, each nearly four feet wide and six feet deep. The shape of the cones was determined by the angle the summer sun reaches at its highest possible point. Each skylight also contains retractable spotlights that can be switched on and off to compensate for glare or shadows as the sun moves. This system, Aalto explained, made it possible, as at the top of a mountain, for light to come at every moment of the day from "millions of directions."[52]

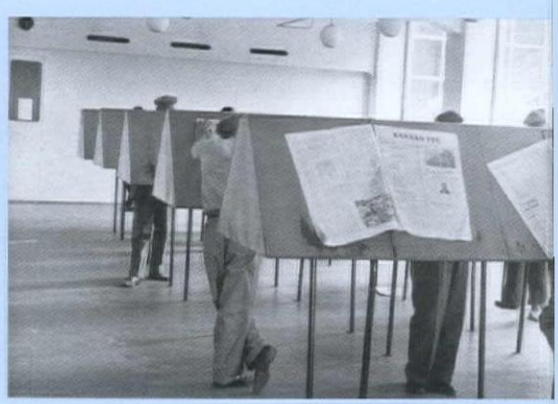
These skylights fulfill the physiologically determined program Aalto set for himself in the library project: reader, book, light. Together with the room's multileveled, horizontally and vertically expansive form, they also comprise the room's central compositional trope: a fantastic mountain landscape lit by many suns. This is a reading room replete with accommodations to the bodily basis of human cognitive experience, to its reliance on cognitive schemas and primary metaphors; a room where light both literally and figuratively allows the reader to see; a room to which its user has literally and figuratively processed to attain a goal; a room designed around the users' bodily being when they are engaged in different pursuits: researchers standing and moving about or readers quietly sitting in imaginative thought.

By settling on a kit-of-parts organization for the plan that explicitly differentiated — programmatically, architecturally, and experientially — between what Aalto called the "social" block and the block in which the reading room is housed, he draws upon the specific primary metaphor: emotional states are physical containers. The larger block contains mainly the multileveled reading room; the smaller, single-story block houses offices, the periodical and children's reading rooms, and most famously, the auditorium with a wavy ceiling. The principal entrance to this social block, adjacent to the woodland park, begins in a foyer bathed in the filtered light of layered transparency, a space of transition from nature and urbanity to the sheltered world of social interchange and private scholarly pursuit. Aalto, symbolically emphasizing the liminality of the foyer, trained vines to grow inside the floor-to-ceiling windows.

Aalto continues this theme of filtered layers of transparency in other parts of the social block, containing the activities within while offering his users the chance to imaginatively project their escape into a quieter world. Such a compositional strategy is especially evident in his design of the auditorium, where he reinforces users' peripheral awareness of the informal woodland park beyond by butting the wavy ceiling against the rectangular plate-glass windows. The windows look out into the forest canopy, as uneven and fluid as the ceiling inside. Aalto echoes this intermeshing of his projected users' fluid and multidirectional experience of the space of the world and their axial and directional experience of space of the *Library* in the corridor walls leading to the auditorium: At one moment, an apparently load-bearing wall breaks into a trunk-like pair of columns; at another, these walls break into curves that arc this way then that, gently shepherding people inside.

Aalto explained how he had decided upon the famously wavy ceiling of the long, narrow auditorium by considering the acoustical experience of both listeners and lecturers. Although





Left to right: **Alvar Aalto, *Viipuri Library*, main room.** Photo, Gustaf Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; **skylights in reading room.** Photo, Gustaf Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum; **periodical reading room with shoulder-height stands.** Photo, Gustaf Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum

he spoke of the social block as the "block for the ear," his theoretical declarations and compositional gestures indicate that he referred to the ear not only in its biological sense: "I conceive acoustic questions mainly as physiological and psychological questions," he wrote. "Purely mechanical solutions are not justifiable." He imagined a lecture hall without a lecture; rather, the room is filled with participants in a discussion, sound waves traveling forwards and backwards. Revealing his socially democratic ideals, Aalto wrote that even in the design of a lecture hall, "general discussions should be just as important as individual performances."

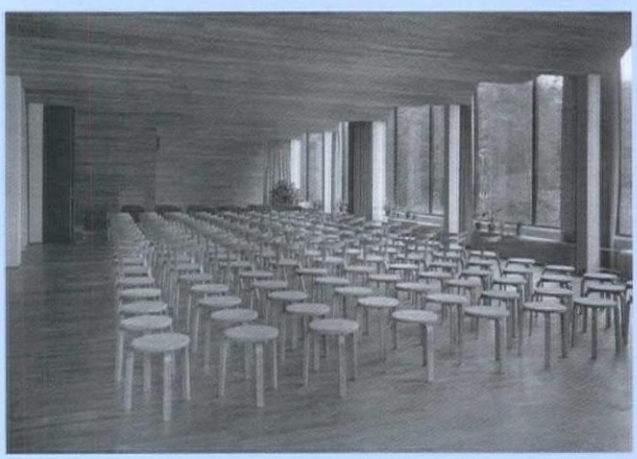
As in the *Viipuri* reading room, Aalto's physiognomically derived solution becomes the compositional datum for the auditorium space, which formally instantiates the back-and-forth movement of conversation that it technically facilitates. (At the same time, it breaks up the linearity of what would otherwise perhaps be an excessively long and narrow room.) Finally, the dropped ceiling (which hides both the room's mechanical equipment and its structural armature) brings the room's vertical scale more into line with that of the human body.

Throughout the building, architectural details offer rich and highly variable tactile, visual, auditory, and experiential moments. It contains stucco walls, rubber flooring, plate glass, steel, and a wide variety of woods—sycamore, oak, birch, red beech, and teak—each of which is placed according to its color, grain, and tactile qualities, and the level of wear Aalto anticipated that it would receive. The midsections of many interior columns are wrapped with wooden slats, offering extra stimulus and proprioceptive markers to passing hands. Woven wastebaskets are furnished with a rectangular shelf placed above their circular apertures, offering users a surface so that they might shuffle through collected papers, separating wanted from unwanted. Here, as in the *Paimio Sanatorium*, Aalto detailed and furnished the building by thinking through the often overlooked, sometimes invisible everyday needs of ordinary users.

Aalto's use of organic curves, careful attention to natural light, embodiment of allusions to the forms of nature (and in other instances also to local vernacular traditions), frequent use of wood, and more, are often gathered under the rubric of his putative regionalism. Very often his work exhibits an extraordinary sensitivity to the inflections, nuances, and character of a particular site or locale. Yet Aalto's regionalism, if we must employ that term, constitutes part of his larger agenda: to create an architecture of embodied rationalism. The *Viipuri Library* and a number of his subsequent works are "regionalist" in that a sensitivity to site, season, place, and memory inevitably, naturally, figures into a phenomenologically grounded Modernist architecture. After all, perceiving, thinking subjects situate themselves in real places and times.

In both the *Viipuri Library* and the *Paimio Sanatorium*, Aalto offers a model of rationalism based on the phenomenological principles of embodied cognition: To paraphrase his own words, he had extended the rationalist working method to prevent inhuman (and therefore instead to effectuate "humanist") results. Aalto's embodied rationalism, developed early in his career, guided his approach to design throughout his life, imbuing his architecture with a distinctive Modernist idiom that resulted in a host of iconic projects, many of which justly hold their place as some of the 20th century's greatest buildings. Such projects include the *Town Hall* and *Library* at Säynätsalo, the *Cultural Center* in Wolfsburg, the *Baker Dormitory* in Cambridge, and the *House of Culture* and the *National Pensions Institute* in Helsinki. In each, Aalto developed a quiet, nuanced, phenomenologically dense architecture that remains unsurpassed in the history of Modernism.

Alvar Aalto, *Viipuri Library*, auditorium. Photo, Gustaf Welin/Copyright, Alvar Aalto Foundation/Courtesy, The Alvar Aalto Museum



Aalto identified with and embraced the conditions of modern life and believed that Western culture was in the midst of an all-encompassing break with the past. With childlike enthusiasm, he consumed products that became the emblems of 20th-century modernity: the automobile, the cinema, the phonograph. As an artist he moved in the society of Modernism and befriended many of its most vigorous proponents. As an architect, he insisted on and incorporated the central tenets of the new architectural credo that he believed would advance a new architecture. This included incorporating new technologies when appropriate to the task at hand — *Paimio*'s elevator was one of the earliest glass elevators in Finland, and his flexible standardization of building parts for low-cost housing along with his furniture designs relied heavily upon the techniques of mass production that simply were not possible before the technological innovations of the 20th century.

Aalto practiced what are indisputably the core tenets of Modernism: Architecture must be radically reevaluated in light of the conditions of modernity; a new architecture must be devised that is appropriate to the conditions of modern life; this new architecture must express the conundrums and ameliorate the ills visited upon humanity by modernity; it must accommodate not just the powerful but also the less powerful or even the disempowered; it must create more than monuments; it must create architectural spaces in the service of an ordinary life richly and fully, symbolically, intellectually and intuitively well lived.

Although Aalto arguably gave embodied rationalism its fullest, first architectural manifestation, other well-known avant-garde architects of his generation — including J. J. P. Oud, Bruno Taut, Hans Scharoun, El Lissitzky, and the Vesnin brothers — also explored embodied rationalism's compositional and intellectual principles, albeit in what may initially appear to be a misleadingly dizzying multiplicity of forms. But when one sees form not as the foundation of Modernism but rather as the final expression of Modernists' positioning within a multi-streamed and multi-dimensional Modernist discourse, then the coherence of this phenomenologically oriented strain of embodied rationalism becomes manifest.[53] Why this strain of embodied rationalism remains so inadequately explored is a topic for another essay. What is clear is that an unrecognized form of rationalism coursed, and perhaps continues to course, through the history of Modernism, which the work of Alvar Aalto can help us to see, not only with our eyes and through our bodies but also with our minds. □

I am greatly indebted to and would like to thank the following people for their gracious and helpful comments, many of which improved this essay: Daniel Abramson, Stanford Anderson, Gail Fenske, Daniel Goldhagen, William Saunders, and Dell Upton. This essay is drawn from one chapter of my book in progress, "Rethinking Modernism in Architecture"; a version will be published in *Aalto and America*, edited by Stanford Anderson, Gail Fenske, and David Fischer.

NOTES

1. In *The Details of Modern Architecture, Vol. 2: 1928–1988* (Cambridge, MA: MIT Press, 1996), Edward R. Ford writes that each of the *Paimio Sanatorium*'s four wings has a different structural system, a variation that not evident from its external appearance (121). He adds that in the *Viipuri Library*, structure is "seldom exposed" (122).

2. See, for example, Richard Weston's "Between Nature and Culture: Reflections on the Villa Mairea," in *Alvar Aalto: Toward a Human Modernism*, Winfried Nerdinger, ed. (New York: Prestel, 1999), 61–76.

3. Eeva-Liisa Pelkonen discusses Aalto's opportunistic reconfiguring of his persona in her "Empathetic Affinities: Alvar Aalto and his Architectural Milieus," Ph.D. dissertation, Columbia University, 2003. Her *Alvar Aalto: The Geopolitics of Architecture* is forthcoming.

4. In the architectural history and theory of 20th-century Modernism, phenomenology is often associated with the mystical, antimodern phenomenology of Martin Heidegger. For examples, see many of the essays in *Body and Building: Essays on the Changing Relation of Body and Architecture*, George Dodds and Robert Tavernor, eds. (Cambridge: MIT Press, 2002); Karsten Harries, *The Ethical Function of Architecture* (Cambridge: MIT Press, 1998); Steven Holl, Juhani Pallasmaa, and Alberto Pérez-Goméz, *Questions of Perception: Phenomenology of Architecture* (San Francisco: William K. Stout Publisher; 2007); Alberto Pérez-Goméz, *Architecture and the Crisis of Modern Science* (Cambridge: MIT Press, 1983); and Christian Norberg-Schulz, *Genius Loci: Toward a Phenomenology of Architecture* (New York: Rizzoli, 1983).

Phenomenology's close association with Heideggerian philosophy — with all its mystical, anti-modern and even quasi-fascistic implications — has, in the discourse of the history and theory of Modernism in architecture, either provoked hostility or simply been ignored by the two other dominant strains in the field: Marxist and post-Marxist studies influenced by the Frankfurt School and psychoanalytically oriented studies influenced by Sigmund Freud and his followers. For examples of how a phenomenological approach to architecture is approached with a mixture of fascination and hostility, see Jorge Otero-Pailos, "Theorizing the Anti-Avant Garde: Invocations of Phenomenology in Architectural Discourse, 1945–1989 (Ph.D. dissertation, MIT, 2002); Mark Jarzombek, *The Psychologizing of Modernity: Art, Architecture, and History* (New York: Cambridge University Press, 2000), and his "Joseph August Lux: Werkbund Promoter, Historian of a Lost Modernity," *Journal of Society of Architectural Historians*, June 2004, 202–219; and Mitchell W. Schwarzer, "The Emergence of Architectural Space: August Schmarsow's Theory of *Raumgestaltung*," *Assemblage*, August 1991, 48–61.

Examples of scholarship in the field that touches upon the strain of phenomenology discussed here, in addition to Jarzombek's *Psychologizing* (mentioned above, which does so despite itself) is Sandy Isenstadt, "Richard Neutra and the Psychology of Architectural Consumption," in *Anxious Modernisms: Experimentation in Postwar Architectural Culture*, Sarah Williams Goldhagen and Réjean Legault, eds. (Cambridge: MIT Press, 2001), 97–117, and Dell Upton, "Architecture in Everyday Life," *New Literary History*, Autumn 2002, 707. Juhani Pallasmaa's *The Eyes of the Skin: The Architecture of the Senses* (New York: Wiley, 1996) falls in a category somewhat its own. On the differences between Heideggerian phenomenology and the sort of phenomenology discussed here, most famously propounded by Maurice Merleau-Ponty, see Dermont Moran, *Introduction to Phenomenology* (London: Routledge, 2000), 412 and *passim*.

5. Aalto, "The Humanizing of Architecture" (1940), in Göran Schildt, *Alvar Aalto in His Own Words* (Helsinki: Otava Publishing, 1997), 102. The two subsequent quotations by Aalto are from the same essay.

6. Aalto, "The Housing Problem" (1930), in Schildt, 80. The subsequent quotation by Aalto is from the same essay. Le Corbusier wrote, of the bedrooms in the double house at the Weissenhofseidlung, "by day, the sleeper becomes a parlor car," referring to the transformability of the overnight cubicles on Pullman trains, quoted in Karen Kirsch, *The Weissenhofseidlung: Experimental Housing Built for the Deutscher Werkbund, Stuttgart, 1927* (New York: Rizzoli, 1989).

7. Aalto, "Rationalism and Man" (1935), in Schildt, 91. The subsequent four quotations by Aalto are from the same essay.

8. Aalto, "From Doorstep to Living Room" (1926), in Schildt, 55.

9. Aalto, "The Stockholm Exhibition" (1930), in Schildt, 76.

10. First two quotations are Aalto, "The Humanizing of Architecture," in Schildt.

11. For discussions of rationalism in Modern architecture, see Adrian Forty, *Words and Buildings: A Vocabulary of Modern Architecture* (New York: Thames & Hudson, 2000), 174–195, 276–291; Vittorio Lampugnani, *Encyclopedia of 20th-Century Architecture* (New York: Abrams, 1986), 275–278; Antoine Picon, introduction to Jean-Nicholas-Louis Durand, *Précis of the Lectures on Architecture* (Santa Monica: Getty Publications, 2000), 1–68.

12. Reyner Banham, *Theory and Design in the First Machine Age* (New York: Praeger, 1960), 9–34; Kenneth Frampton, *Modern Architecture: A Critical History*, third ed. (New York: Thames & Hudson, 1992), 12–19 and *passim*; Robin Middleton and David Watkin, *Neoclassical and Nineteenth-Century Architec-*

ture (New York: Rizzoli, 1987), *passim*.
13. See Vittorio Magnago Lampugnani, "Berlin Modernism and the Architecture of the Metropolis," 35–65, and Detlef Mertins, "Architectures of Becoming: Mies van der Rohe and the Avant Garde," 106–133, in *Mies in America*, Terence Riley and Barry Bergdoll, eds. (New York: Museum of Modern Art, 2001).
14. Mary McLeod, "'Architecture or Revolution': Taylorism, Technology, and Social Change," *Art Journal* 43, Summer 1983, 132–147; Fritz Neumeyer, *The Artless Word: Mies van der Rohe on the Building Art* (Cambridge: MIT Press, 1991), 250.
15. For selected examples of this diametric opposition of techno-rationalism and organic functionalism (widely ranging in time), see Adolf Behne, *The Modern Functional Building* (1926; Santa Monica: Getty Publications, 1996); Sigfried Giedion, *Space, Time, and Architecture: The Growth of a New Tradition* (Cambridge: Harvard University Press, 1941); Peter Blundell-Jones, *Hugo Häring: The Organic versus the Geometric* (Stuttgart: Axel Menges, 1999); Colin St. John Wilson, *The Other Tradition of Modern Architecture: The Uncompleted Project* (London: Academy Editions, 1995). Such oppositions do not begin to capture the actual complexity of Modernism in architecture: See Goldhagen, "Something to Talk About: Modernism, Discourse, Style," *Journal of the Society of Architectural Historians*, Summer 2006, 144–167.
16. Peter Markie, "Rationalism vs. Empiricism," *Stanford Encyclopedia of Philosophy*, ‹http://plato.stanford.edu/entries/rationalism-empiricism›.
17. For a discussion of these tenets of Cartesian rationalism, see George Lakoff and Mark Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought* (New York: Basic Books, 1999), 391ff.
18. On the impact of surrealism on architecture, see, for example, John Allen, *Berthold Lubetkin: Architecture and the Tradition of Progress* (London: RIBA Publications, 1992); Romy Golan, *Modernity and Nostalgia: Art and Politics between the Wars* (New Haven: Yale University Press, 1995); Caroline Maniaque, *Le Corbusier et les maisons Jaoul* (Paris: Picard, 2005); *Surrealism and Architecture*, Thomas Michal, ed. (London: Routledge, 2005); Don Quaintance, "Modern Art in a Modern Setting: Frederick Kiesler's Design of Art of This Century," in *Peggy Guggenheim and Frederick Kiesler: The Story of the Art of This Century*, Susan Davidson and Philip Rylands, eds. (New York: Guggenheim Museum Publications, 2004), 207–273; Terence Riley and Joseph Abram, *The Filter of Reason: The World of Paul Nelson* (New York: Rizzoli Publications, 1990); Anthony Vidler, *The Architectural Uncanny: Essays in the Modern Unhomely* (Cambridge: MIT Press, 1992).
19. Lakoff and Johnson, 410–414.
20. Francisco Varela, Evan T. Thompson, and Eleanor Rosch, *The Embodied Mind: Cognitive Science and the Human Experience* (Cambridge: MIT Press, 1991); many of the essays in José Luis Bermúdez, Anthony Marcel, and Naomi Eilan, *The Body and the Self* (Cambridge: MIT Press, 1995); Anthony Dimasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: Avon Books, 1994); George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago, 1980), and their *In the Flesh* as well as Mark L. Johnson, "Embodied Reason," in *Perspectives on Embodiment: The Intersections of Nature and Culture*, Gail Weiss & Honi Fern Haber, eds. (New York: Routledge, 1999), 81–102.
21. Andrew N. Meltzoff and M. Keith Moore, "Infants' Understanding of People and Things: From Body Imitation to Folk Psychology," in *The Body and the Self*, 43–69.
22. Shaun Gallagher, "Body Schema and Intentionality," 225–244 in *The Body and Self*; Maurice Merleau-Ponty, *The Phenomenology of Perception* (London: Routeledge, 1962), 118–119; Merleau-Ponty, "Eye and Mind," in *The Primacy of Perception: And Other Essays on Phenomenological Psychology, The Philosophy of Art, History and Politics* (Evanston, IL: Northwestern University Press, 1964), 159–192; on Merleau-Ponty, see also Moran, 391–434; Hubert L. Dreyfus, "Merleau-Ponty and Recent Cognitive Science," 129–150, and Richard Shusterman, "The Silent, Limping Body of Philosophy," 151–180, in *The Cambridge Companion to Merleau-Ponty*, Taylor Carman and Mark B.N. Hansen, eds. (New York: Cambridge University Press, 2005).
23. Lakoff and Johnson. The discussion of primary metaphors and complex primary metaphors in the two subsequent paragraphs is based on Lakoff and Johnson, 30–38 and 45–94.
24. Merleau-Ponty writes in *Phenomenology*, 100: "The word 'here' applied to my body does not refer to a determinate position in relation to other positions or to external co-ordinates, but the laying down of first co-ordinates."
25. Moran, 423.
26. Mark Johnson's "Embodied Reason," in *Perspectives on Embodiment*, *passim*., and Lakoff and Johnson, 122–137.
27. Pelkonen first brought to light Aalto's exposure to empathy theory in his student days, and later to scientific psychology, in her "Emphathetic Affinities," although she takes her analysis of Aalto's work and ideas in a very different (and extremely fruitful) direction from mine.
28. Duane P. Schultz and Sydney Ellen Schultz, *A History of Modern Psychology*, 8th ed. (Belmont, CA: Wadsworth Publishers, 2004), offers an excellent introduction to the early history of experimental psychology, as do Harry Francis Mallgrave and Eleftherios Ikonomou in the introduction to their edited collection, *Empathy, Form, and Space: Problems in German Aesthetics 1873–1893* (Santa Monica, CA: Getty Publications, 1994), 1–85.
29. Wilhelm Wundt, *Principles of Physiological Psychology*, 1874; see also section on Wundt in Schultze and Schultze, 87–100, and R. I. Watson, Sr., *The Great Psychologists*, 4th ed. (New York: J.B. Lippincott Co, 1978), chapter 12.
30. Enrollment in his lecture classes sometimes exceeded 600, and in his lifetime he granted more doctorates in psychology than any other scientist in Germany.
31. The use of the term phenomenology in the sense discussed here was introduced by Immanuel Kant in the *Critique of Pure Reason*, in which Kant writes that the space and forms of the world are "less an image corresponding to an external reality and more a mode" by which we actively "arrange the objects of our perception." Quoted in Mallgrave and Ikonomou, 5–6. On Schmarsow, see Mallgrave and Ikonomou, 60–66.
32. On Schmarsow, see his "The Essence of Architectural Creation" (1893), in Mallgrave and Ikonomou, 281–297 (the "earthly scene" phrase appears on page 291); see also Michael Podro, *The Critical Historians of Art* (New Haven: Yale University Press, 1982), 143–149; and Schwarzer.
33. Schmarsow, 283.
34. Ritva Wäre, "National Romanticism in Finnish Architecture," ‹www.broehan-museum.de›.
35. Jyväskylä Department of Psychology website, ‹www.jyu.fi/indexeng›. Experimental psychology within the academy became institutionalized as a separate discipline only in the 1940s; Schultze and Schulze, 100. For background information, see also Jarzombek.
36. Pelkonen.
37. Aalto, "The Hilltop Town," 49.
38. Aalto, "Temple Baths on Jyväskylä Ridge," 18–19.
39. "Alvar Aalto," *Grove Art Online*, ‹www.groveart.com›.
40. Paul Klee's interest in phenomenology is discussed in Victoria Salley, "The Master Years," in *Paul Klee: Selected by Genius, 1917–1933*, Roland Doschka, ed. (New York: Prestel, 2001), 12–14; Schildt discusses Aalto's friendship with Moholy-Nagy in *Alvar Aalto: The Decisive Years* (New York: Rizzoli, 1986), 70–78.
41. See, for example, László Moholy-Nagy, *Vom Material zu Architektur* (Munich: Lagen, 1929).
42. Aalto, "Rationalism and Man," *In His Own Words*, 92. The subsequent two quotations by Aalto are from the same essay.
43. Aalto, "The Housing Problem," *In His Own Words*, 83.
44. Aalto, "An Independence Monument in Helsinki — The Olympic Stadium," *In His Own Words*, Schildt, ed., 64–66.
45. Aalto, "The Rational Cinema," *In His Own Words*, 66–71.
46. Aalto, "The Humanizing of Architecture," *In His Own Words*.
47. Schmarsow, 289; also, in Mallgrave and Ikonomou, *Empathy*, 15. Note that Pelkonen's appendix to her doctoral dissertation, listing the contents of Aalto's library, does not include any works by Schmarsow.
48. Aalto, "Rationalism and Man," *In His Own Words*, 90.
49. Aalto, "Municipal Library in Viipuri: Description of the Building's Construction," *Municipal Library, Viipuri* (Jyväskylä: Alvar Aalto Museum, 1997), unpaginated. On the design process of the library, see also Michael Spens's *Vipurii Library: Alvar Aalto 1927–1935* (London: Academy of Editions, 1994).
50. Aalto, quoted in Spens, *Viipuri*, 36.
51. Aalto, "Municipal Library." The information on Aalto's design intentions for the Viipuri Library in the subsequent two paragraphs is based on this source.
52. Aalto, "The Humanizing of Architecture," *In His Own Words*, 105–107.
53. On the complexity of Modernism and its many under- or unexplored strains, see Goldhagen, "Coda: Reconceptualizing the Modern," in Goldhagen and Legault, 301–323; and Goldhagen, "Something to Talk About."

Losing Faith in Architecture

by **LUIS FERNÁNDEZ-GALIANO**

"Modern Architecture" offered us a credo, but we lost faith in it forty years ago. Part of highbrow culture, Architecture with a capital A was a religion that provided some comfort. This worked for a while. But what happens when this refuge for shipwrecked sailors of modernity is wiped out by the storms of history, and we are left awash on the desolate beach of sprawl and spectacle? **What happens when we are no longer entertained by the glitter of the stars, the waves of fashion, the high gossip of competitions or prizes? What happens when we lose faith in architecture itself, when we perceive it in the end as no more than a gentlemanly sport for educated minds and well-trained eyes?**

One answer may be found in *San Manuel Bueno, Mártir*, a short novel by the Spanish philosopher Miguel de Unamuno, which describes the predicament of a rural priest who has lost faith in God and the afterlife, but who hides his tragic conclusion from the simple-minded members of his parish community, convinced that their religious fictions provide a source of spiritual comfort, a sweet shelter he has no right to take away. Who but the most hardened soul would remove painkillers from an ailing body, who but the most insensitive shepherd would deny consolation to those who experience life as suffering?

The story was a favorite of Mircea Eliade, and it blends well with his own position as a historian of religions who is bound to breed more than a scrap of skepticism, but who at the same time is deeply aware of the stubborn roots of faith, the resilience of the spiritual experience, and the wealth hidden under the veil of the sacred. In the Western world, the barren landscape of market democracy is leaving a gaping hole in hearts and minds that long for non-material values, and this absence is filled by the archaic theocracies and dumb credos that deliver spiritual merchandise or by the comforting pleasures of simulacra and e-fiction.

What is then the role of us, the non-believing priests of architecture, in a post-religious world? Must we still perform our routines, praise our gods, invoke their protection? Or perhaps these hollow ceremonies are inevitably going to be perceived as an absurd theater of shadows, no more than smoke and mirrors on a long vacated stage? Empty-handed and empty-minded, we stand in front of a vanishing audience, after squandering our little winning streak, and we stay still. When performing plays in school, we were told that nothing was more dramatic than immobility and silence. If there is an open mike, it will not catch a word, or even a whisper. □

A Billion Slum Dwellers and Counting

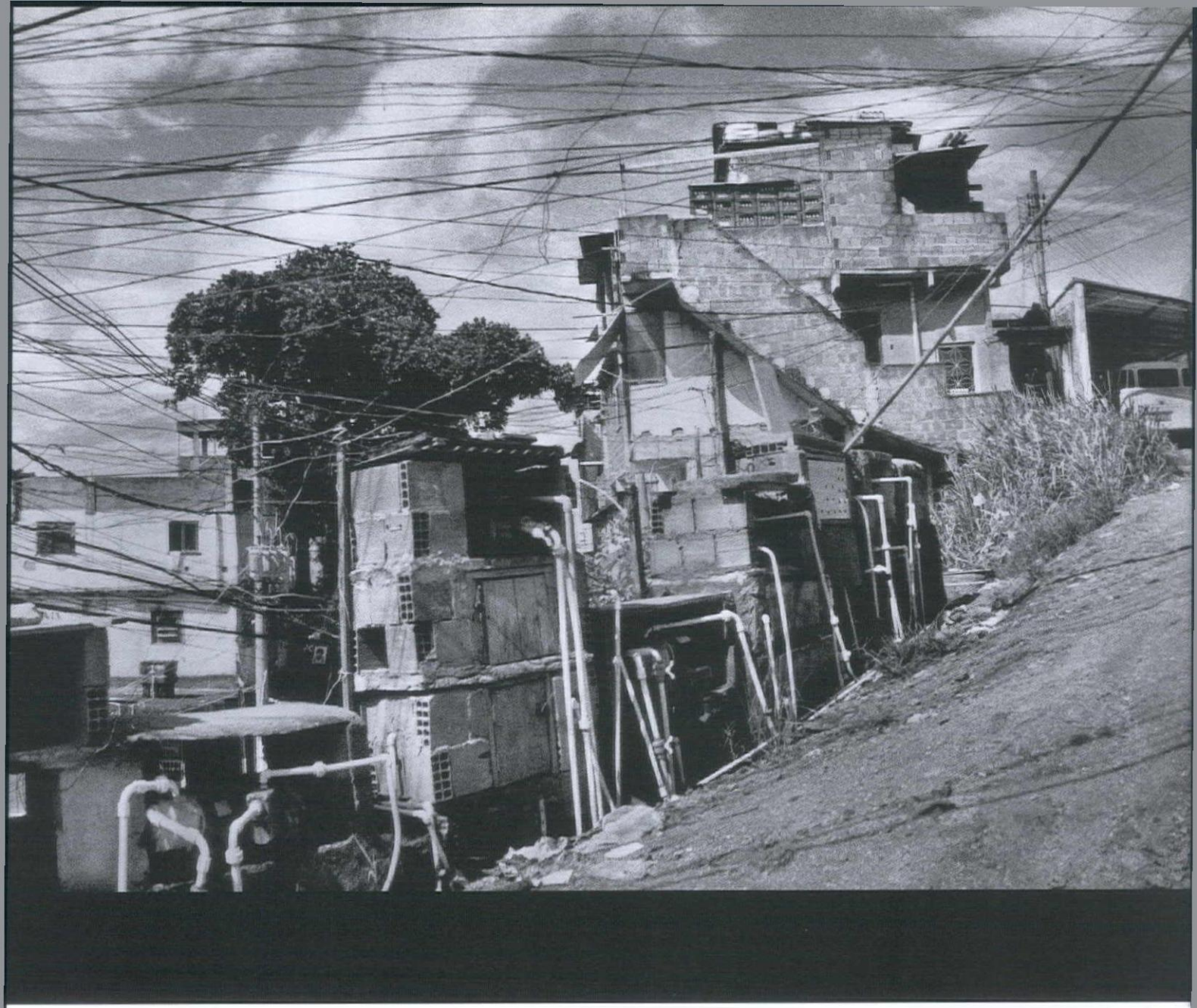
by JOHN BEARDSLEY

Editor's note: Learning from and trying to be helpful to slums will be a focus in the next Harvard Design Magazine. *In addition, the GSD will hold an exhibition and conference on landscape and design interventions in Latin American non-formal cities during the spring of 2008.*

Books discussed:
Mike Davis, *Planet of Slums* (London, New York: Verso, 2006)
Robert Neuwirth, *Shadow Cities: A Billion Squatters, A New Urban World* (New York: Routledge, 2006)
Informal City: Caracas Case, Alfredo Brillembourg, Kristin Feireiss, and Hubert Klumpner, eds. (Munich: Prestel, 2005)

In 2003, the United Nations Human Settlements Program issued an alarming report on the status of the world's urban poor. Called *The Challenge of Slums*, it concluded that nearly a billion people, primarily in the developing countries of the global South, live in circumstances that fit the classic definition of slums, circumstances characterized by overcrowding, substandard and/or informal housing, inadequate access to clean water and sanitation, and insecure tenure. The megacities of Asia, Africa, and Latin America lead the world in sheer numbers of squatters and tenement-dwellers: Mumbai (India), Mexico City, and Dhaka (Bangladesh) have about ten million apiece, followed by Lagos (Nigeria), Cairo, Karachi (Pakistan), Kinshasa-Brazzaville (Congo), São Paulo, Shanghai, and Delhi, with between six and eight million each. Upwards of 90% of urban residents in some places—Ethiopia, Chad, Afghanistan, and Nepal, for instance—live in slum conditions, while slum-dwellers constitute over 37% of the urban population in China, 55% in India, 79% in Nigeria, and 84% in Bangladesh. The number of slum-dwellers is expected to double by 2030; slums are now the dominant form of urban land use in much of the developing world. Globalization, it seems, is intensifying economic inequality, producing archipelagos of wealth in oceans of poverty—with potentially catastrophic consequences.

Rocinha Favela, Rio de Janeiro, Brazil, 1999. Photo, Andre Cypriano



Mike Davis describes his sober and intelligent book, *Planet of Slums*, as an "appendix" to the UN report; his aim, he says, was to generate "a new global understanding" of current slum conditions and the historical circumstances that generated them. He argues that the current explosive growth of cities is taking place at a time of shrinking urban economies: In many places, agricultural deregulation, drought, falling commodity prices, disease, and war are continuing to drive people away from rural areas even as urban wages are falling, industries are downsizing or collapsing, and unemployment and prices are rising. This is a recipe for the mass production of slums; indeed, the growth of squatter settlements and shantytowns in many parts of the developing world outpaces urbanization itself. Cities, Davis insists, are becoming the dumping ground for a "surplus" of humanity.

Like the UN report before him, Davis assigns much of the responsibility for the recent surge in slum growth to the retreat of the state, occasioned largely by neoliberal structural adjustment policies mandated in the 1980s and 1990s by the International Monetary Fund and the World Bank. These policies required governments in developing countries to institute a variety of draconian measures—among them privatizing state industries, devaluing currencies, eliminating import controls and food subsidies, and slashing public spending—in exchange for continued access to loans.

But Davis digs deeper than this. In a chapter called "The Treason of the State," he examines watersheds in the urbanization of poverty, notably the mass country-to-city migrations of the mid-20th century, a period of import-substitution industrialization,[1] colonial counterinsurgency, and independence. In most places, government efforts to accommodate urban migrants fell far short of their goals—if they *had* any goals. Bad situations were worsened in a process Davis describes as "Haussmann in the tropics": massive slum clearance and forced relocation of residents, often to

distant locations far from employment and social services.

While Davis sometimes treats his subject a little generically, he is usually attentive to distinctions among slums: They vary widely in size, age, and level of political and social organization; some are in the centers of cities while others spring up on the peripheries; and though most occupy hazardous lands, these might be steep slopes, flood plains, or toxic dumps. Housing ranges from relatively consolidated to entirely provisional; some of it is hand-me-down, some is built specifically for the poor, and some is opportunistic (like tarps on sidewalks or under bridges and shanties in landfills or cemeteries).

Davis is equally attentive to the different ways that such settlements are established: While squatting might once have been the primary mechanism, a process that is less illegal than "extra-legal" is overtaking it. Davis describes this as "pirate urbanization": settlements built without conformance to zoning or service regulations and enabled by bribes, populist governments, or property speculators who hope for eventual regularization and compensation for their investment. Whether illegal or extralegal, however, these settlements share certain desperate circumstances. In an excellent chapter called "Slum Ecology," Davis examines the ways that poverty exaggerates the hazards of topography and climate—landslides, floods, and fires, for instance—and the pathological connections among density, inadequate sanitation, proximity to toxic industry, and disease.

Rocinha Favela, Rio de Janeiro, Brazil, 1999. Photo, Andre Cypriano

Davis reaches two especially provocative conclusions. First he says that many of the classic urban safety valves no longer work; in particular, squatting no longer represents a free frontier for surplus urban populations. Urban land is less readily available than it was half a century ago, and much is privatized. Many slum dwellers have been forced to become renters, paying exorbitant fees to exploitative landlords. Indeed, the distinction between squatting and renting represents a fundamental social division in low-income contexts—squatters have potential access to equity through land-titling programs, while renters remain the poorest of the poor.

Second, Davis finds that informal economies, which provide most of the new jobs for urban migrants, are under increasing strain. Employment in the informal sector is not generated primarily through new initiatives but by dividing existing jobs and incomes; in stagnant or shrinking economies, more people are competing for diminishing amounts of work. Moreover, informal activity is not a guaranteed path into the formal economy, and it places a particular burden on women and children, since it lacks the protections and benefits of formal employment. Then too, Davis argues that increasing competition in the informal sector dissolves networks of self-help and begets racial or ethno-religious violence.

Davis sees the informal sector becoming increasingly desperate, preyed upon by militias and charismatic religious groups. In a bleak epilogue, he laments the absence of any "official scenario for reincorporating this vast mass of surplus labor into the mainstream of the world economy." Only the military, he suggests, anticipating widespread urban insurgency, is contemplating the geopolitical implications of a "planet of slums."

Many readers will find Davis's perspectives excessively gloomy. Almost anything anyone has ever thought to try to help the urban poor is criticized, from the "sites and services" projects initiated by John Turner with the support of World Bank President Robert McNamara in the 1970s—a strategy of providing a building site with water and sewer hookups and leaving residents to build their own shelters—to the micro-entrepreneurial solutions advocated by Hernando de Soto in the 1990s. Even the non-governmental organizations

Jorge Mario Jáuregui Architects, *The Favela-Bairro Project*, new walkway with existing housing contrasting with relocation housing, Salgueiro, Brazil, 1999–. Photo, Jason Schmidt/Courtesy, Harvard Graduate School of Design. From, ed. Machado, Rodolfo, *Favela-Bairro Project*.

(NGOs) that operate in slums are characterized as imposing a "soft imperialism" that bureaucratizes and de-radicalizes urban social movements. As a reviewer in *Salon* wryly noted, "reading Davis can be a bit like sitting down at a bar next to a guy who starts out lambasting the president and then proceeds to ridicule the opposition, leaving one with the impression that he doesn't actually vote."[2]

While many of Davis's criticisms are valid, they can be lopsided. Sure, granting tenure helps squatters at the expense of renters, but isn't half a loaf better than none? And no, not all sites and services projects worked out, but

THE NUMBER OF SLUM-DWELLERS IS EXPECTED TO DOUBLE BY 2030; SLUMS ARE NOW THE DOMINANT FORM OF URBAN LAND USE IN MUCH OF THE DEVELOPING WORLD. GLOBALIZATION, IT SEEMS, IS INTENSIFYING ECONOMIC INEQUALITY, PRODUCING ARCHIPELAGOS OF WEALTH IN OCEANS OF POVERTY — WITH POTENTIALLY CATASTROPHIC CONSEQUENCES.

recent studies by Harvard students of settlements in Lima like Villa El Salvador suggest that at least some of them have matured into habitable places.[3] Indeed, there may be cause for hope—at least for some settlements in certain economic and political circumstances. For instance, one of the oldest and largest of such extra-legal developments in Mexico City—Neza, home to some two million people—has developed over forty years from shantytown to a neighborhood with paved streets, sidewalks, and services. The possibility of this progression is likewise the theory of the Favela-Bairro (Slum-to-Neighborhood) Program in Rio,[4] one of the world's best-known slum upgrading schemes, which has had some success integrating squatter settlements with the formal city through improvements in circulation, transportation, sanitation, and public facilities including schools, sports centers, and community kitchens and laundries —the latter two intended both for the use of residents and for income generation.

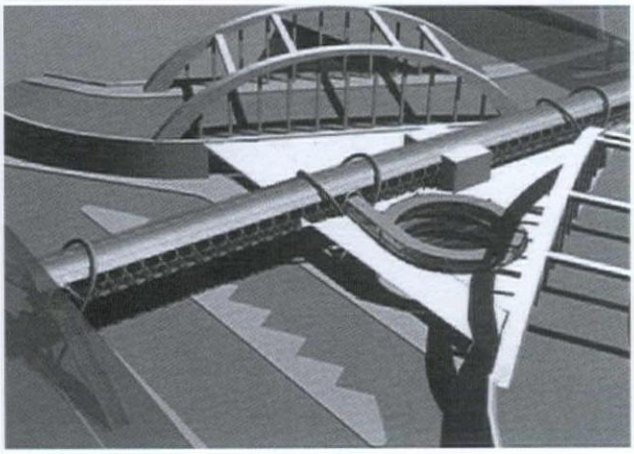
Another problem with Davis's argument is that it is based on an exposure to thousands of books and articles but very little first-hand experience. As a consequence, he is unable to convey much sense of the everyday lives of slum-dwellers. This is where Robert Neuwirth's book *Shadow Cities* comes in handy—you should read the two together. What Neuwirth's book lacks in trenchant social analysis or substantive policy understanding it more than makes up for in a close reading of what life is like in four settlements around the world: Rocinha, the largest favela in Rio de Janeiro; Kibera, a mud- and corrugated-metal-hut settlement of half a million in Nairobi; Dharavi, a vast squatter community in

Mumbai; and Sultanbeyli, an extra-legal settlement in Istanbul with apartment houses, shops, mosques, and a seven-story squatter city hall. Neuwirth lived for a time in each and found they were not that similar—they manifest vastly differing levels of physical consolidation, social organization, and economic activity. They also reveal differing levels of official sufferance: In Nairobi, public authorities effectively prevent any improvement to what is essentially a rent plantation; in Istanbul, by comparison, laws guarantee at least some legal and political standing to squatters, insuring far better living conditions.

CAN WE IN FACT DEFINE A SET OF BEST PRACTICES FOR SLUMS, OR ARE THEY SIMPLY TOO DISPERSED AND TOO DIVERSE TO BE SUSCEPTIBLE TO THIS SORT OF ANALYSIS? ENTHUSIASM IS GROWING FOR ON-SITE UPGRADING OVER SLUM CLEARANCE AND RELOCATION. BUILDING RIGHT IN THE FIRST PLACE, HOWEVER, IS TYPICALLY MORE COST-EFFECTIVE THAN RETROFITTING EXISTING SETTLEMENTS. BUT RELOCATION ENTAILS A SOCIAL COST.

In all instances, however, Neuwirth finds evidence that people are adapting: They are demonstrating survival strategies that make life not only bearable but in some places and in some respects quite manageable. He conveys an optimism based to some degree on precedents: He provides ample evidence that—far from being a problem just of the developing world or the global South—slums are ubiquitous throughout history. Neuwirth's most useful contribution might be his examination of the histories of European and American squatter communities. He finds them everywhere, from medieval London to 19th-century New York. This gives him reason to think that the same evolutionary processes that transformed slums into formal cities in the First and Second Worlds will also operate in the Third, although he is as skeptical as Davis when it comes to both slum-clearance projects and land-titling schemes (the latter, he thinks, will just turn squatters into speculators). Where titling is possible and social networks are strong, he favors the establishment of cooperative associations to hold and manage land.

UrbanThinkTank, first intermunicipal pedestrian bridge over the Guaire River, Caracas, Venezuela, 2003. From, Brillembourg, Alfredo, Kristin Feireiss, and Hubert Klumpner, *Informal City: Caracas Case*. New York: Prestel, 2005.



While Neuwirth's historical analysis is useful, his optimism might be based on wishful thinking. As Davis makes clear, urban economies today are not growing as robustly as they were—if they are growing at all. Moreover, the settlements that Neuwirth chose to study are all exceptional in some way and thus more susceptible to optimistic narratives. Rocinha is one of Rio's oldest and most established favelas, close to work and transportation, while Mumbai's Dharavi is even more unusual. Slum dwellers generally have to go to the formal city to find employment, but Dharavi generates many of its own jobs, from leather and ceramics work to food production and even the manufacturing of medical devices.

In neither Davis's book nor Neuwirth's is there much sense of what might be done to improve life for slum dwellers. For this, turn to *Informal City: Caracas Case*, an anthology that brings together several short analytical texts on squatter settlements with proposals generated by a group called Urban Think Tank.[5] The editors—Alfredo Brillembourg, Kristin Feireiss, and Hubert Klumpner—speculate that Caracas might be a model of urban evolution in the 21st century, with planned and unplanned, legal and extra-legal cities growing side-by-side, separate and unequal. They refer to their subject as the "informal city" because it is unofficial or outside the prescribed order. But they do not find it either disorderly or formless; indeed, they are at pains to describe the improvisational, self-organizing strategies that make these settlements work. (They deliberately avoid the term *slum*, which they consider too freighted with pejorative connotations.)

The ambition of Brillembourg, Feireiss, and Klumpner is to find a framework for best practices for upgrading informal settlements in Caracas, a framework that might be used in comparable situations elsewhere. Given the limitations of current monetary policy, they focus on low-cost, small-scale projects that create connections between the formal and the informal cities, a strategy they describe as "urban acupuncture." Urban Think Tank pursues a more entrepreneurial practice than most design firms—they raise their own seed money, which is then supplemented by public funding—for projects like pedestrian bridges, stairs, and gymnasiums. Their notion is that small improvements will beget larger ones, that both residents and public authorities

will be incited to make investments if someone takes the initiative. Such urban acupuncture is a very partial measure: Slope stabilization, new circulation, composting toilets, public spaces, and recreation facilities, however laudable, aren't going to remake these communities entirely. Such measures have to be paired with massive upgrades to sanitation, transportation, and employment infrastructures, which can only be orchestrated at the national and international levels.

Informal City: Caracas Case is a valuable book, especially for the thoroughness of its analysis and its effort to think beyond housing to the provision of a habitable and economically viable environment. But it raises a host of questions. Are current, small-scale upgrading schemes complicit in neo-liberal policies that favor micro-enterprise and market-based solutions over more ambitious, state-sponsored macro strategies that might have a larger impact? Still more, can upgrading achieve significant permanent improvements or will it merely perpetuate social and spatial inequalities, with large percentages of the population packed into disproportionately small areas and cut off from basic services? Does the theory that small upgrades beget larger ones hold true in shantytowns? There is ample evidence that it works in the formal city, but will it work in slums?

Collectively, these books raise a larger set of issues. First, can we in fact define a set of best practices for slums, or are they simply too dispersed and too diverse to be susceptible to this sort of analysis? Enthusiasm is growing for on-site upgrading over slum clearance and relocation. Building right in the first place, however, is typically more cost-effective than retrofitting existing settlements. But relocation entails a social cost that needs to be factored in, and there is limited land available and little enthusiasm for the expenditures required for entirely new communities. So some combination of upgrades and selective, nearby relocations may represent an approximation of best practices—provided that relocations take culturally appropriate forms and allow for the mix of employment and housing that typifies squatter communities.

Second, how do low-income contexts affect design processes? Centrally planned interventions are generally dismissed as "top-down," while community participation is celebrated as "bottom up." But are these distinctions based on such clearly contrasting realities, and is it unambiguous that one is always better than the other? We have a lot to learn from squatter communities—about making do with less, about efficient uses of materials and space. But designers can bring a great deal of expertise to the alleviation of slum conditions, mediating among various interested parties and giving spatial form to their ambitions. In particular, they might be able to facilitate the transformation of vernacular slum typologies directly into 21st-century sustainable communities, with on-site energy generation, storm water collection, and sewage treatment wetlands.

So a rigid division between "top down" and "bottom up" may be counterproductive. Nonetheless, community participation in design can surely be improved. An inventive process, especially one that recognizes and develops local narratives, can facilitate or even inspire design outcomes. Are there inventive new strategies in the making? And who should take the lead in orchestrating community participation? Community organizations? Designers? NGOs? Is there a role for faith-based groups, or are they too polarizing?

WE HAVE A LOT TO LEARN FROM SQUATTER COMMUNITIES—ABOUT MAKING DO WITH LESS, ABOUT EFFICIENT USES OF MATERIALS AND SPACE. BUT DESIGNERS CAN BRING A GREAT DEAL OF EXPERTISE TO THE ALLEVIATION OF SLUM CONDITIONS, MEDIATING AMONG VARIOUS INTERESTED PARTIES AND GIVING SPATIAL FORM TO THEIR AMBITIONS. IN PARTICULAR, THEY MIGHT BE ABLE TO FACILITATE THE TRANSFORMATION OF VERNACULAR SLUM TYPOLOGIES DIRECTLY INTO 21ST-CENTURY SUSTAINABLE COMMUNITIES, WITH ON-SITE ENERGY GENERATION, STORM WATER COLLECTION, AND SEWAGE TREATMENT WETLANDS.

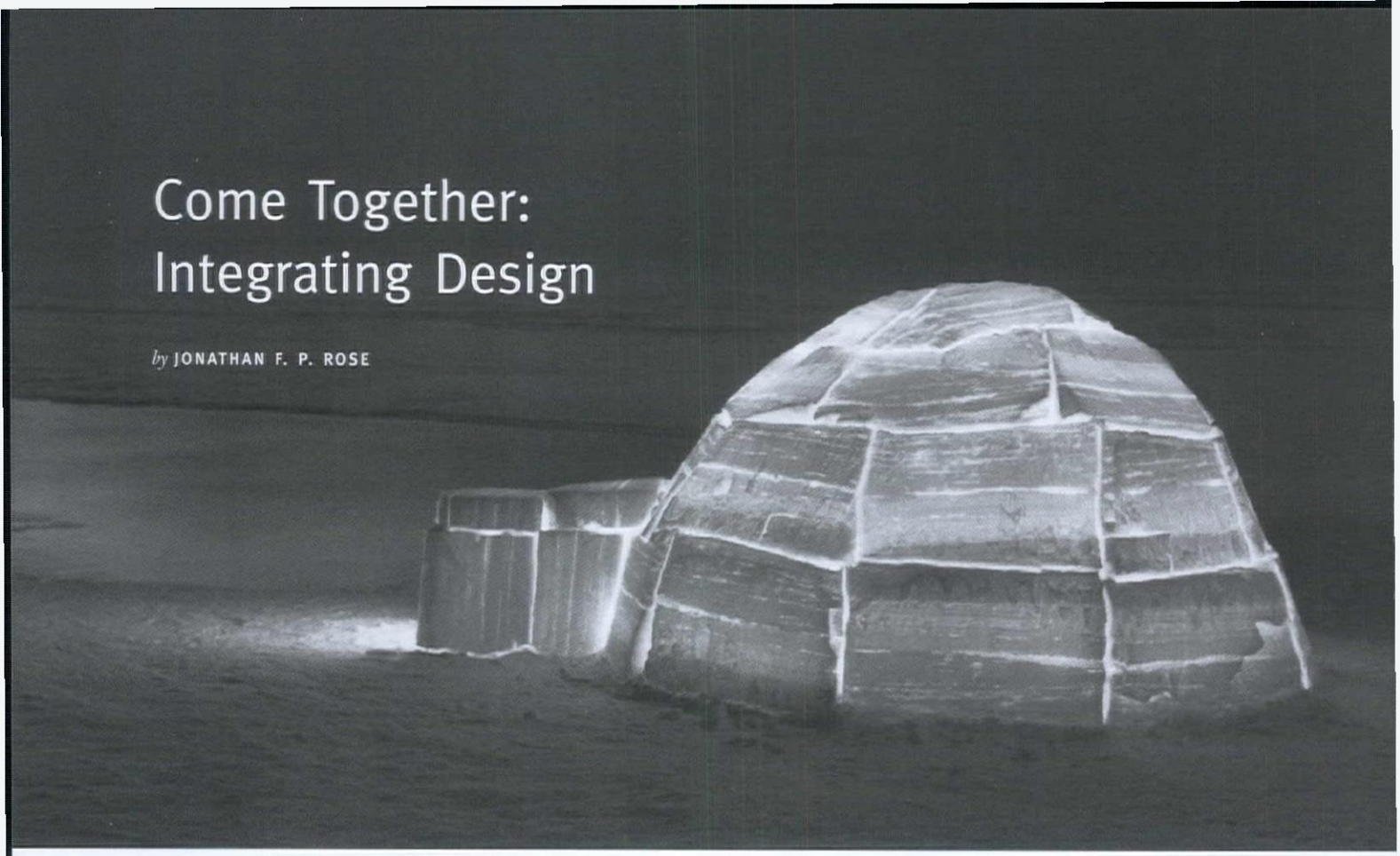
Apart from climate change, there may be no more pressing challenge to planetary health and security than the fate of slum dwellers. Helping to improve the quality of life in slums is not rocket science, yet every indication is that we are falling farther and farther behind. The failures are probably more political than logistical or conceptual, and that might be the sorriest part of the whole story. □

NOTES

1. Import substitution industrialization is a trade and economic policy based on the premise that a country should attempt to substitute products that it imports, mostly finished goods, with locally produced products.
2. Matt Steinglass, "A Swiftly Crumbling Planet," <www.salon.com/books/review/2006/03/14/davis/index.html>.
3. See the spring 2007 GSD studio course "Urban Desert: Pampas de San Bartolo," taught by Alexia Leon: <www.gsd.harvard.edu/cgi-bin/courses/details.cgi?section_id=9034&term=s2007>.
4. <http://www.fau.ufrj.br/prourb/cidades/favela/progfavbtIN.html>.
5. On Urban Think Tank, see Wouter Vanstiphout and Michelle Provoost, "'Facts on the Ground': Urbanism from Mid-Road to Ditch," *Harvard Design Magazine* 25, Fall 2006/Spring 2007.

Come Together: Integrating Design

by JONATHAN F. P. ROSE



Illuminated Igloo. Photo, Beat Glanzmann/zefa/CORBIS

In 1821, sculptor Horatio Greenough began his studies of art at Harvard. Although best known for his controversial statue of George Washington cast for the Capital rotunda, Greenough was the first writer to formulate the phrase "form follows function." The phrase became much more well known when it was used by Louis Sullivan. But while Sullivan is usually credited with it as an expression of utilitarianism, in fact he meant it as a way of communicating a deeply felt sense of an integration of the human and the natural, as when he wrote:

> It is the pervading law of all things organic
> and inorganic,
> Of all things physical and metaphysical,
> Of all things human and all things super-human,
> Of all true manifestations of the head,
> Of the heart, of the soul,
> That the life is recognizable in its expression,
> That form ever follows function. This is the law.[1]

The re-emerging practice of integrated design draws deeply from the well of Sullivan, but it begins with what Bernard Rudofsky called "architecture without architects."

Consider the igloo, a white building of extraordinary greenness. It is not green just because it is made of natural materials or because, when it is no longer used, it disappears into the landscape. It is green because it is a superb example of integrated design.

The Inuit peoples' main source of food is blubber. The coldest temperature at which one can refrigerate blubber and not have it freeze is thirty-four degrees Fahrenheit. Over many years, the Inuit learned how to design igloos so that their snow-packed walls are thick enough to capture sufficient body heat to maintain a constant indoor temperature just above freezing. In the center of the igloo is a circular sleeping area lined with warming animal skins. When it is minus thirty degrees outside, the igloo seems warm. Its dome shape optimizes the ratio between the area of the skin and the area to be sheltered. The long entry tunnel keeps wind and snow out and warmth in. The form fits the function.

This wall design integrates architecture, structure, temperature control systems, culture, and materials in one simple elegant form. If we are to achieve environmentally responsible design, we must practice integrated design in this way. How do we get there? We begin by tightly connecting the design process, the program, and the construction process.

Until the Second World War, most buildings were designed through a process in which program, architecture, structure, tempering, and construction were integrated. Many of the resulting buildings have a deeply satisfying wholeness that resonates across time and cultures. Le Corbusier based his architectural practice on explicit collaborations with structural engineers, experimenting with what at the time were new concepts for the use of reinforced concrete. Walter Gropius and the Bauhaus based their work on the collaboration of architects with craftsmen, artists, graphic designers, and engineers, with the goal of integrating all these into the making of buildings. Each was deeply dedicated, in his own, way to creating buildings that respond to the needs of

their occupants. The results can approach the grace and elegance of supremely integrated buildings like *Westminster Abbey* in London and the *Blue Mosque* in Istanbul.

Think of the ugliest architect-designed building you know. It was probably designed in the second half of the 20th century. The architect most likely designed it and then had a structural engineer lay in the structure and a mechanical engineer thread in the mechanical systems. This leads to unintegrated thinking, unintegrated buildings, and buildings that waste materials and energy. After the Second World War, the socialist-inspired economy of Modernist designers was disaggregated from humanist-inspired integration, and the soulless International Style evolved. Mediocre architects designed many office buildings of the time: Cheap, poorly insulating facades were hung on inexpensive orthogonal structures. Grand civic buildings were no better and often Brutalist in style, integrating architecture and structure with facade, but with little regard for the human uses of the building inside or out. A Google search for lists of "ugliest architecture" city by city turns up buildings whose facades seem stuck onto the building without a sense of integration, or whose overall design seems brutal. For example, the winner of ugliest building in New York is Philip Johnson's *AT&T Building*, excoriated for its Chippendale top, and the winner in London is the Brutalist *Barbican Center*.

The practice of integrated design is returning. It is being driven by three factors: the increase in demand for complex cultural, scientific, and educational buildings; the green building market; and the emergence of digital design systems that make design integration and coordination much easier.

With grand visions and grand architecture, public, cultural, and academic projects are competing for donor dollars. But the complexity of these projects requires the integration of many disciplines. For example, although the visual design of Jazz at Lincoln Center's new home was very much the creation of Raphael Viñoly and his firm, the acoustic and theater design came from a collaboration with Russell Johnson and his firm Artec Consultants, which led to, among other things, the movable seating towers that shape the performing space. Rem Koolhaas declared, in a *New Yorker* article on structural engineer Cecil Balmond, "I would say without any hesitation that part of the character of our firm is determined by the collaboration [with Balmond], and that the collaboration has enabled us to think about architecture in a different way. Our best work is kind of a hybrid between architecture and engineering."[2]

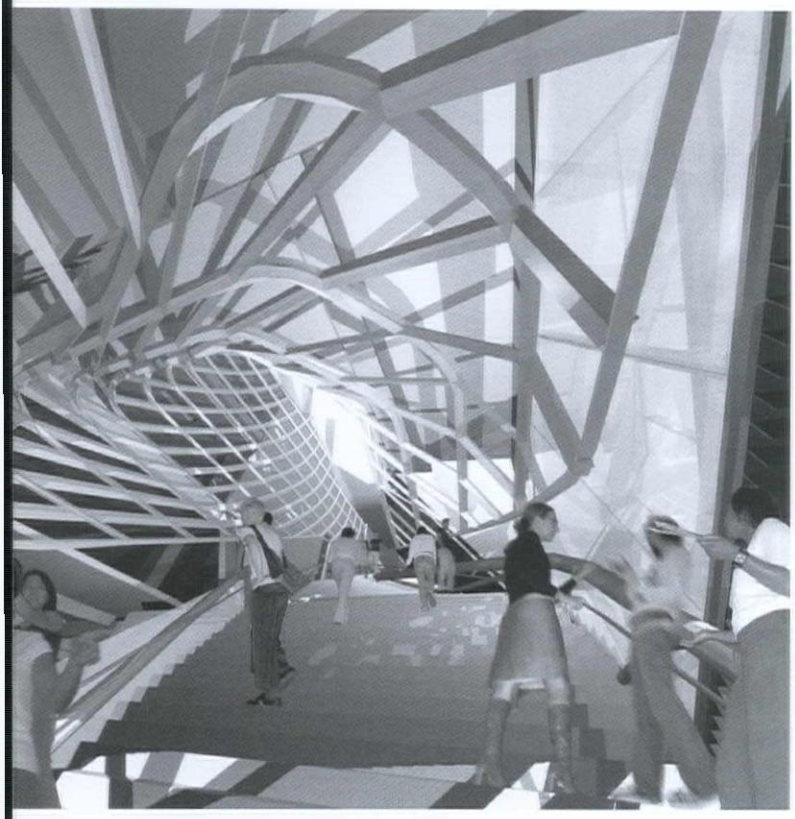
The Federal General Services Administration (GSA), which is the client for approximately about 1% of all buildings now constructed in America, is requiring many of its new projects to be built to US Green Building Council (USGBC) LEED (Leadership in Energy and Environmental Design) standards. The USGBC's LEED program essentially requires proof of an integrated design process for LEED certification; clients that seek certification are requiring their design teams to function accordingly.

As clients seek more expressive buildings with increasingly complex programs, design teams are using computational modeling as a platform to support collaboration. These programs support the designs of buildings that are more responsive to their climates and are vehicles for exploring in the digital realm the constructability and maintenance of complex designs so that the details are worked out, often with the design assistance of key subcontractors, prior to the completion of construction drawings.

Integrated design begins with an integrated team. The Phipps Rose Dattner Grimshaw team, which recently won the New Housing New York Competition to develop the city's next generation of green affordable housing on a site in the South Bronx, committed to an integrated design process as they came together. The team is comprised of Phipps Houses, a not-for-profit affordable housing developer; the current writer's green, for-profit planning and development firm, Jonathan Rose Companies; and two distinctive architecture firms, Richard Dattner Architects and Grimshaw Architects. Each firm has a strong culture and strongly held views.

Phipps Rose Dattner Grimshaw submitted qualifications in a Request for Quotation phase and was selected to be one of the five finalists to submit a detailed building plan, green strategy, detailed proforma with financing strategy, and implementation plan. At the team's first meeting, the group decided that the project would be developed by consensus. With passionate judgments flying from everyone's lips, a process was developed to support their careful expression and then integration into the project. To symbolize the primacy of the *team*, the group selected a name made of the initials of both the architects and the developers in alphabetical order. The design process included landscape designer Lee Weintraub, mechanical consultant Ettinger Engineering Associates, structural consultant Robert Silman Associates, energy consultant Buro Happold, and a construction contractor, Latirre Construction, that had worked with both developers and one of the architects.

With a tight competition timetable, the first step was to define the project's program and general principles for the project. The collaborators agreed that its axis would follow the north/south alignment of the site and that the building would rise as it moved northward to increase its access to sunlight. Although this simple organizing principle seemed obvious to all members of the team, no other competitor used it. The group also quickly determined the most cost-effective structural systems: steel for the high-rise tower, precast concrete plank for the mid-rise, and block and structural steel studs for the townhouse elements. This early selection of the structural systems clarified issues such as



Thom Mayne, mOrphosis, *Cooper Union New Academic Building*, interior rendering, forthcoming 2009. Courtesy, mOrphosis

support-free spans and criteria for facades. (Finding the Pareto optimal solutions for the mechanical systems required more detailed analysis of alternatives.)

After the initial meeting, the two architecture firms separately developed plans to accommodate the program and schema. Meanwhile the two developers also began refining the program, seeking to push the envelope of housing unit typologies while making the project fundable under existing affordable housing subsidy programs. Each of the architect's plans had strengths; each plan approached issues differently. Areas of difference included approaches to the open spaces and courtyards on the ground plane and to the way the building progressed from low to high. Building management was brought in to evaluate the very earliest plans from the operations, marketing, and security points of view. Elements common to both plans were recognized and affirmed; contrasting elements gave rise to new thoughts or preferences for particular approaches.

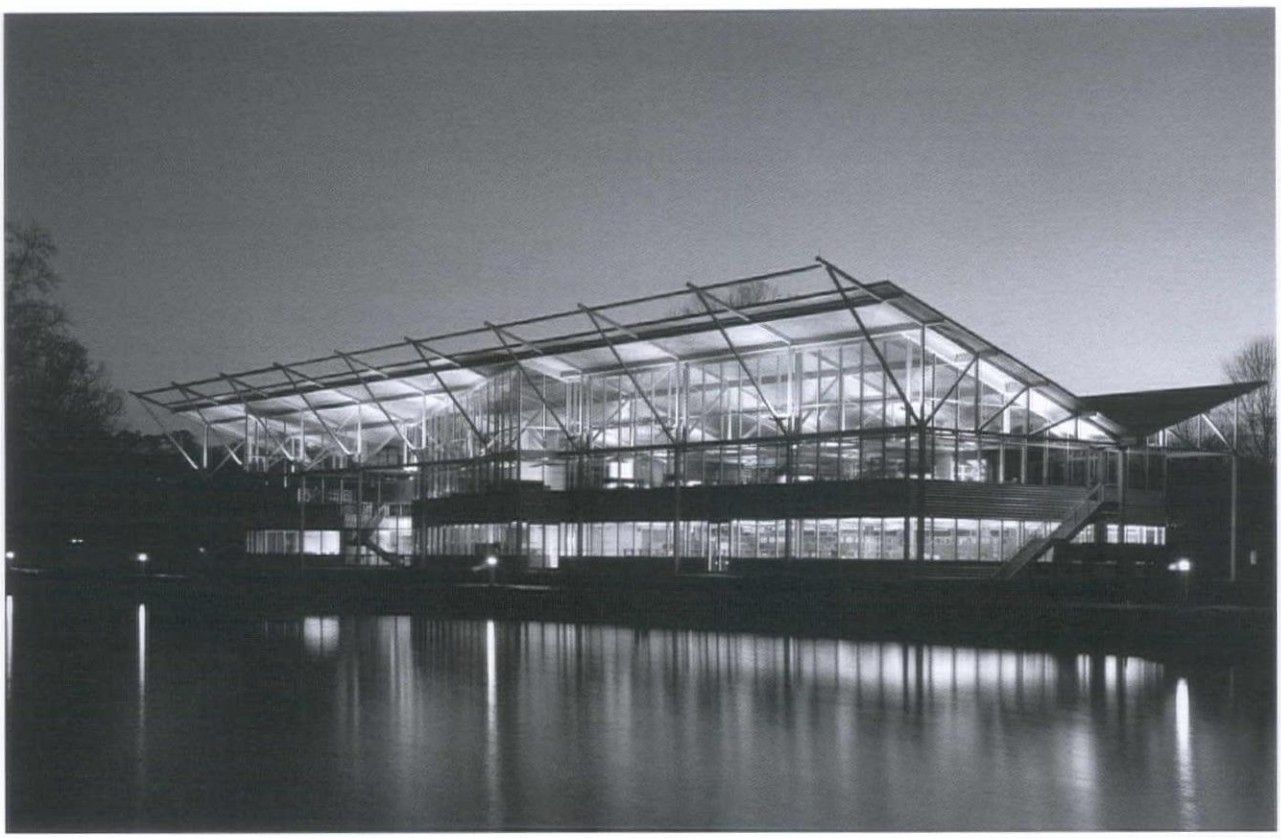
The construction contractor, engineers, and energy consultants provided input; the developers gave guidance on the programmatic implications of different designs and made critical choices when the architects presented alternatives. In some cases, the developers picked qualities from each scheme and suggested ways in which they could be combined. For example, one architect proposed an open, flowing courtyard that tied together all the ground floor, while the other proposed a separate courtyard for the townhouses to create a sense of community for residents—the architects went back to their offices to develop new iterations. As each firm's work informed and inspired the other's, the two schemes rapidly coalesced. Without assignments, one firm sometimes focused more on facade, the other on structure, one on solar access, the other on cross-ventilation. Early in the process, the developers asked the design team to create a progression of public spaces that at one end were quite private and contemplative and at the other end quite public and ceremonial. The landscape architect was a key contributor to fleshing out this concept, both on the ground plane and in the programming of the descending roofs. But in almost all cases, the major design decisions were made collectively.

The result is a long north/south plan designed to respond to sun and wind conditions, wrapped in gardens, and maximizing cross ventilation. The community had expressed interest in a building that would foster good health, so the project, activating the ground floor, features a community health facility and an organic food coop. The stairs were pushed to the outside walls to bring daylight in and to encourage walking, and community gardens were placed on the roofs. Unit designs were rethought to accommodate larger and often extended immigrant families (for example, studio apartments for grandparents were placed across the hall from large multi-bedroom apartments) and to affordably integrate green building systems.

Barbara Batsholom, Executive Director of the Green Roundtable in Cambridge, Massachusetts, has written: "You know you're doing integrated design when: No single person or professional makes decisions about the project. You are asked to contribute topics outside of your expertise. You are pushed out of your comfort zone. There is a spirit of creativity and fun. Clear goals and specific performance targets are established. Innovative solutions are encouraged. Everyone is interdependent—other people's work depends on you. The steps in the process, responsibilities, and timeline are clear. Someone is dedicated to facilitating the process."[4] All of these attributes were present in the New Housing New York design process.

The best designs emerge from an integrative program, which achieves a maximum efficiency and benefit to the client/users by synthesizing and interconnecting the building's functions. For example, the atrium in the Cooper Union's *New Academic Building*, designed by Morphosis, integrates many program objectives into a single iconic public space.

Pedestrian environments enrich universities. However, Cooper Union controls very little of the exterior space of its urban campus, and thus the atrium of this new building was designed to be both a central circulation space and a



HOK, *Winrock Foundation*, Little Rock, Arkansas, 2004. Photo, Craig Dugall/HedrichBlessing/Courtesy of the author

place for pedestrians' socialization. The building's main elevators were designed to stop only at the sub-cellar, cellar, and ground, fifth, and eighth floors, supporting socializing by encouraging students, faculty, staff, and visitors to use the stairs. (Accessible and freight elevators service all floors.) The atrium brings daylight into the interior. Its southern wall is made of photovoltaic glass, which will generate power to offset the atrium's nighttime lighting needs. The space also serves as a ventilation plenum. This iconic room not only integrates these elements but also improves the ratio of the building's net usable space to its gross space.

The Winrock Foundation in Little Rock, Arkansas, wanted to develop a LEED Gold headquarters building to make a point to developers in the area: When the project was conceived, there were very few green buildings in the region: The goal was to demonstrate that green buildings could be both affordable and architecturally better. The only way for HOK, the architect, to achieve this was to design a simple, elegant shell that integrated as many programmatic objectives as possible.

The design began by addressing the warm, humid climate. The large overhangs are set at an angle appropriate to providing sun shading in the summer while still daylighting the interior. The inverted roof collects rainwater, channeling it into a nearby pond where it is used as a heat and coolness sink for the building's water-source heat-pump system. The underside of the composite roof system provides the interior ceiling finish, eliminating the additional cost and material of a hung ceiling.

The raised floor system provides tempered air to each desk. A simple iconic building form, like that of the igloo, is the essence of the building. Sheetrock was used only to enclose the fire stairs and restrooms. The cost of the raised floor was covered by eliminating sheetrock walls and hung ceilings. The building operates with only task electric lighting during the day.

IN AN INTEGRATED CONSTRUCTION PROCESS, THE BOUNDARY LINE BETWEEN THE DESIGN PHASE AND THE CONSTRUCTION PHASE MORPHS. CONSTRUCTION KNOWLEDGE IS BROUGHT INTO THE DESIGN PHASE, AND THE DESIGN OF NEW OR COMPLEX ITEMS EVOLVES ITERATIVELY, BASED ON FEEDBACK FROM RELEVANT SUBCONTRACTORS.

Phipps Rose Dattner Grimshaw, *Via Verde*, New Housing New York Legacy Project, composite rendering of the view from the tower of *Via Verde*, Bronx, New York, forthcoming 2008. Courtesy of the author

As simple and obvious as this design solution now seems, it required much thought and many iterations. Each was subjected to computer modeling, which examined sun angles and building energy issues. The process was enhanced by HOK's extensive experience with green design and the deep commitment of Nabholz, the construction manager, to make the project meet its goals. Working together and with the client and Jonathan Rose Companies as owner's representative, Nabholz and HOK were pushed by the program and budget discipline to continually strip the project down to its essence and to make many aspects perform multiple functions.

In an integrated construction process, the boundary line between the design phase and the construction phase morphs. Construction knowledge is brought into the design phase, and the design of new or complex items evolves iteratively, based on feedback from relevant subcontractors. For example, the Cooper Union building has an extremely complex facade with over a thousand moving parts that adjust it in response to the movements of the sun. The facade was developed through a "design assist" process that included the architect, a facade consultant, the structural engineer, the construction manager, and a pre-selected facade contractor. In fact, Morphosis generated draft construction document level-facade drawings while the rest of the project was still in the schematic phase. These drawings were then sent to the team, and feedback, particularly from the facade subcontractor, guided the development of the details. Sections of the facade were then built as mockups to provide better understanding of how the complex parts might come together. This helped simplify the design and attune it to the actual construction process. The facade mock-up was observed through both winter and summer conditions prior to construction, and the design was adjusted from the knowledge that emerged.

The Cooper Union also integrated the design and construction process into its pedagogy. Students have followed the design in great detail and now are interning for Sciame, the project's construction manager. Design, project management, and construction professionals have brought the project to the classroom, students monitored the facade mock-up, and faculty as well as students have had input into designing measurement and verification systems so that the building will be an ongoing learning tool.

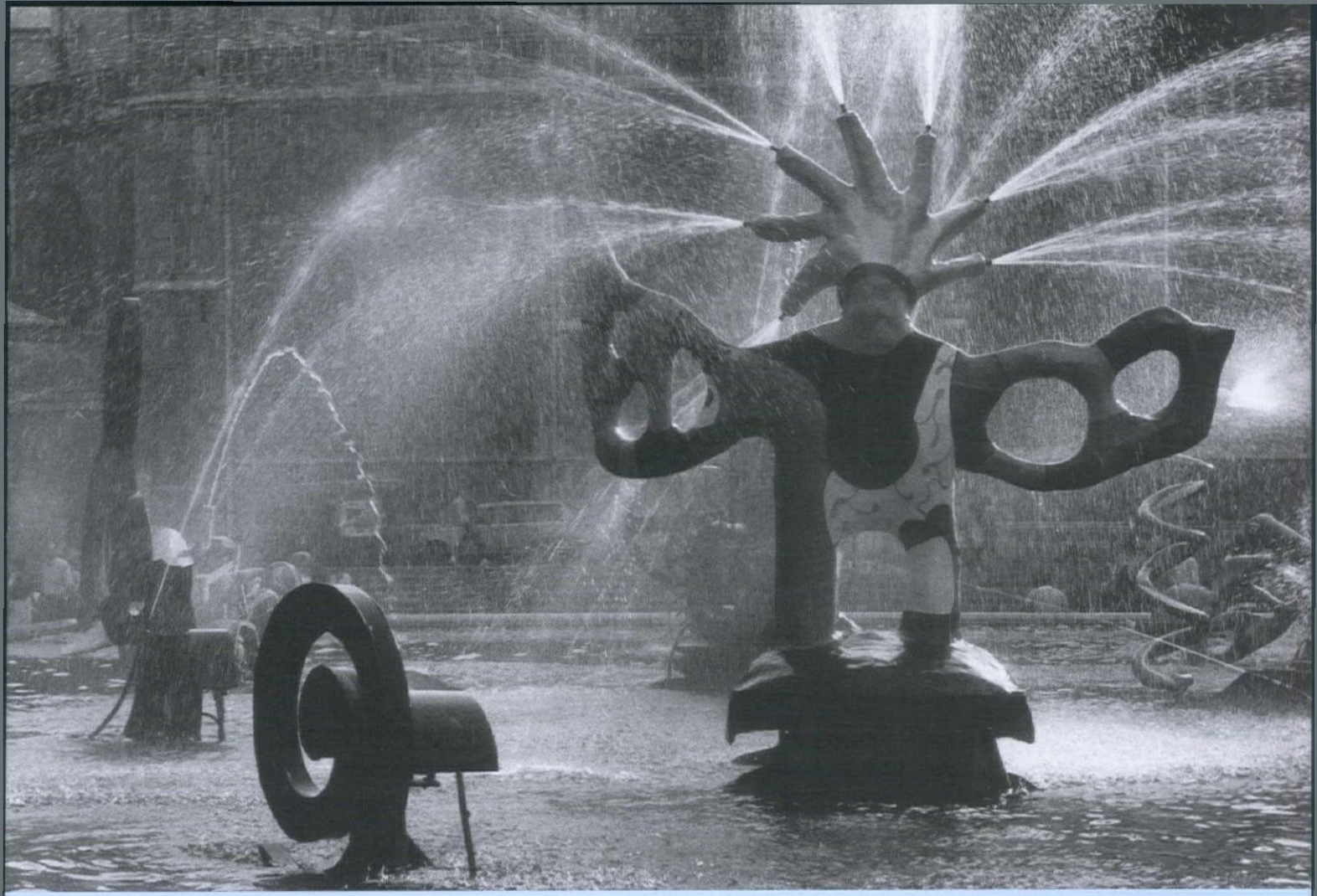
The goal of integrative design is to create an integrated product. *David and Joyce Dinkins Gardens*, under construction in Harlem, New York, will provide housing for youth aging out of foster care and for low-income families. Designed by Richard Dattner Architects, the project has a concrete block and plank structural system, the most affordable such system for this kind of urban building. Using a method pioneered by architect Chris Benedict and mechanical consultant Henry Gifford, the plan turns the planks so that they are set lengthwise, their ends facing the exterior of the building.

Fresh air is drawn into each unit via trickle vents under the windows; stale air is exhausted from the kitchens and bathrooms via fans that send it into the voids between the planks to the building exterior. This eliminates all ductwork and thus noise and odors between apartments as well as pathways for rodents and insects. Pesticide use in the building is minimal—better, of course, for occupants' health. Capital costs are reduced by the absence of ductwork, which also increases the net-to-gross ratio of rentable space, further improving the building's economics. As the tempered air passes through the plank, its heat or coolness is absorbed by the thermal mass of the plank, which becomes a passive radiator. So this solution is cheaper, quieter, more space efficient, more energy efficient, and better for indoor air quality. This design was developed not only by the architects, drawing on the generous advice of Benedict and Gifford, but also the mechanical and structural engineers and the plank and window manufacturers.

Integrating design, program, and process gives rise to a deeply satisfying creative work culture, one that encourages constant open-minded thinking and learning. It enables cross-disciplinary experimentation, environmental responsibility, and economic efficiency. Perhaps professional schools of design might probe how to integrate design program, process, and production into their pedagogy. □

NOTES

1. "The Tall Office Building Artistically Considered," *Lippincott's Magazine*, March 1896.
2. David Owen, "The Anti-Gravity Men," *The New Yorker*, June 25, 2007, 72.
4. Courtesy of Barbara Batshalom, Executive Director, The Green Roundtable; presentation given at Enterprise Community Partners' Green Communities Initiative Training, September 12, 2006, Los Angeles.



Niki de Saint Phalle and Jean Tinguely, *Fontaine Igor Stravinsky*, Paris, France, 1985. Photo, Peter Turnley/CORBIS

More Irrational Exuberance, Please

PLAYGROUNDS AS PUBLIC SPACE IN THE BROKEN-UP CITY

by LIANE LEFAIVRE

In design worlds, irrational exuberance is in the air: More than ever, architecture, landscape architecture, and product design have gone wild. Among the most felicitous spin-offs of these high spirits is the boom in the number of new outstanding playgrounds in cities. Many of these have made news in the *New York Times* in the last few months. Here in Holland there is talk of a "playground renaissance."

This should be celebrated not only because of its creative energy but also for its social value. Since young children are, during play, almost entirely without impulses to reject one another because of their race, ethnicity, or class, and since parents often accompany the youngest children to playgrounds, playgrounds are probably those places that foster social integration and tolerance more than any others. (Many readers will have memories of neighborhood playgrounds in Paris in which affectionate, relaxed social mixing seemed the norm.)

Artists tend to be the first harbingers of things to come. Among the ones who have managed to preempt architects and urban designers by building playgrounds in real urban environments are Dan Graham and Jeff Wall with their *Children's Pavilion* (1989), Nils Norman with *Adventure Playgrounds* for the City of London (2004), Carsten Höller with his gigantic slide, *Test Site*, for the Tate Modern (2006), Pipilotti Rist with the red plastic *City Lounge* in St. Gallen, Switzerland (2005), Vito Acconci with his playground in *Island in the Mur* in Graz (2003), and Erwin Wurm with his designs for the *MAK* garden in Vienna (2004).

The roots of their ludic spirit are firmly planted in the soil of Dada's own cult of irrational exuberance, which emerged in Marcel Duchamp's work after the First World War. Alexander Calder's miniature playgrounds embodied in his delightfully absurd animated *Circus* of the 1920's, Jean Tinguely and Niki de Saint Phalle's gigantic playground

created around *La Fontaine Stravinsky* in Paris (1981); and *Poles*, a playground that Robert Wilson designed in 1967—all these owe much to Dada. Outside this movement but equally playful are Isamu Noguchi's many playground designs in Japan during the 1930s and Jean Dubuffet's *Jardin d'email* of the 1970s in The Netherlands.

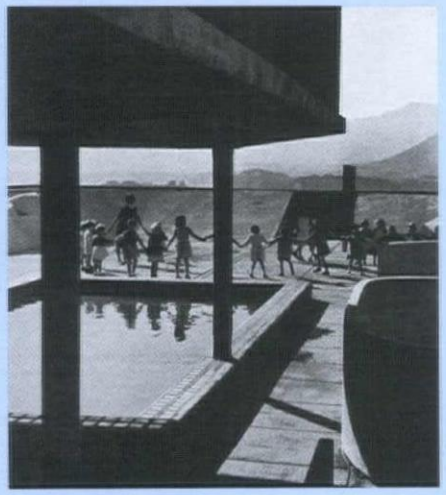
Architects have only recently jumped on the bandwagon, most notably Frank Gehry with his plan for a playground in New York's *Battery Park*. This doesn't mean that architects are by nature more dour than artists. In fact there was a time when great architects designed great playgrounds. When Luis Barragan designed a playground in the *Parque de la Revolución* in Guadalajara in the 1930s, he was an exception. But in the wake of the post-Second World War Baby Boom, when children suddenly emerged as a potentially huge constituency, Le Corbusier designed his *Unité d'Habitation* with its famous rooftop playground, and Pierre Jeanneret put playgrounds among Chandigarh buildings. Although the Smithsons never designed for playing children, they did incorporate Nigel Henderson's photographs of English working-class children street games into their presentations at the post-war CIAM meetings. Dimitri Pikionis designed his playground in the neighborhood of Psychiko, Greece, in the 1950s. Louis Kahn teamed up with Isamu Noguchi and designed a (sadly unbuilt) playground for Riverside Drive in 1964. As for Cedric Price's *Fun Palace*, it was conceived as a huge playground, this time for adults. Moreover, the Museum of Modern Art got carried away in the general wave of playground euphoria: In 1953, as Susan Solomon points out in her excellent *American Playgrounds*, it organized a playground competition and exhibited the results in the museum itself.

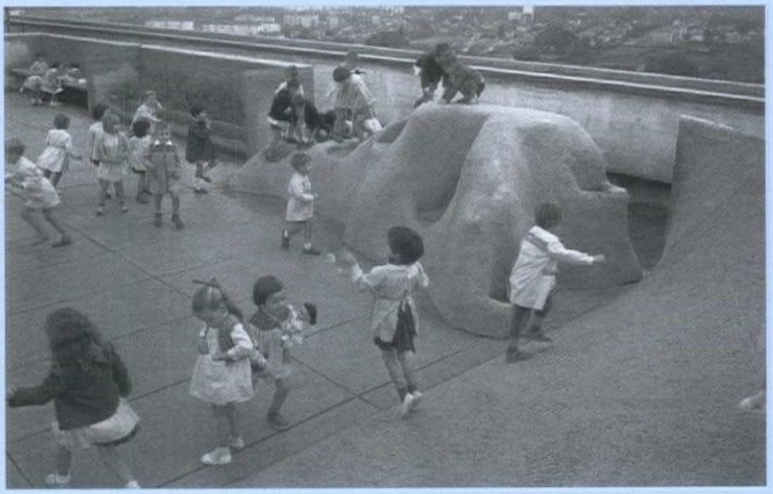
But no architects or urban designers ever infused as much energy and invention into playground design as Aldo van Eyck, Cornelis van Eesteren, and Jacoba Mulder from 1945 to the mid-'60s in Amsterdam. There were twenty-nine playgrounds in that city at the end of the war; thanks to those three people, by the 1960s there were no fewer than one thousand. Although more modest and economical than the playgrounds by other architects mentioned above, these are still highly beloved by the people of Amsterdam. (Playground design, as many have recognized, needs to leave room for children's imaginative creativity and avoid predetermining their responses: A sand pit offers endless options that a toy submarine could not.)

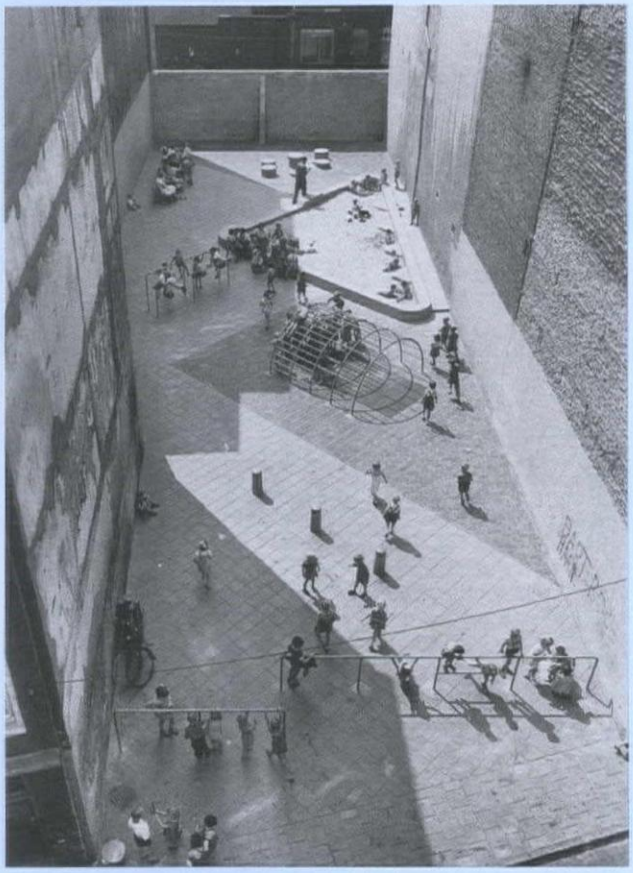
PLAYGROUNDS ARE POPULAR WITH THE PUBLIC. THEY GET CHILDREN MOMENTARILY AWAY FROM VIOLENT, ISOLATING COMPUTER AND VIDEO GAMES AND GET THEM TO EXERCISE THEIR PHYSICAL AND SOCIAL SKILLS. SECOND AND LESS OBVIOUSLY PERHAPS, THEY OFFER THE ONLY ALTERNATIVE TO THAT PUBLIC SPACE OFFERED BY THE PHANTASMAGORIC, RETAIL-DRIVEN "SOCIETY OF THE SPECTACLE."

The big difference between the Amsterdam playgrounds and all other playgrounds is what I have called the *PIP Principle*. PIP stands for Polycentric, Interstitial, and Participatory. Because they were set out polycentrically, like a net of intersecting lines, the playgrounds created a dispersed public space made of tiny, tightly knit nodes. Because they were interstitial, they could be fitted into in-between places

Left: **Le Corbusier, *Unité d'habitation*, rooftop playground, Marseille, France, 1946.** Photo, USIS Services Americains d'information/Courtesy of the author
Right: **Same location, 1959.** Photo, Rene Buri/MAGNUM







Above: **Aldo Van Eyck, *Dijkstraat Playground*, Amsterdam, Netherlands, ca. 1950s.** Photo, Municipal Archives, Amsterdam/Courtesy of the author

Below, left: **End of the war, children celebrating on the Oudezijds Achterburgwal, 1945.** Photo, Emmy Andriesse/Leiden University Library

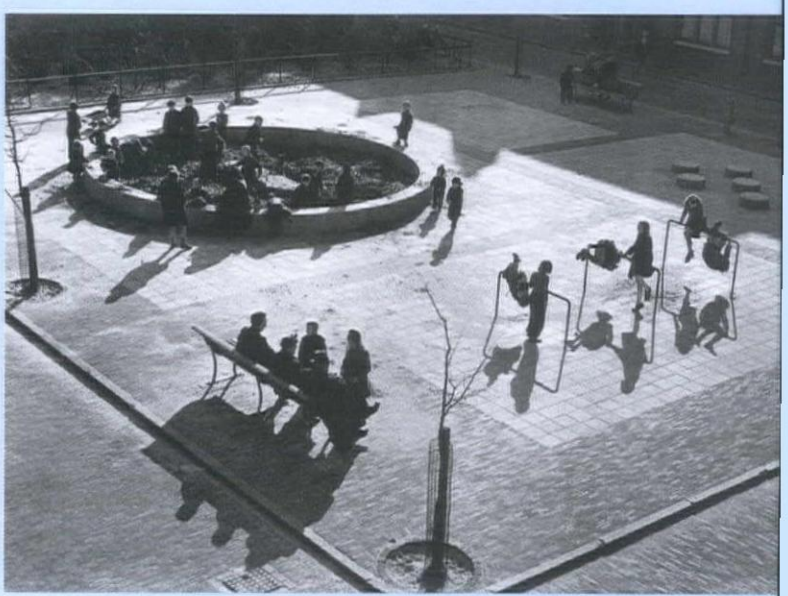
Below, right: **Aldo Van Eyck, playground, Amsterdam, Netherlands, ca. 1950s.** Photo, Municipal Archives, Amsterdam/Courtesy of the author

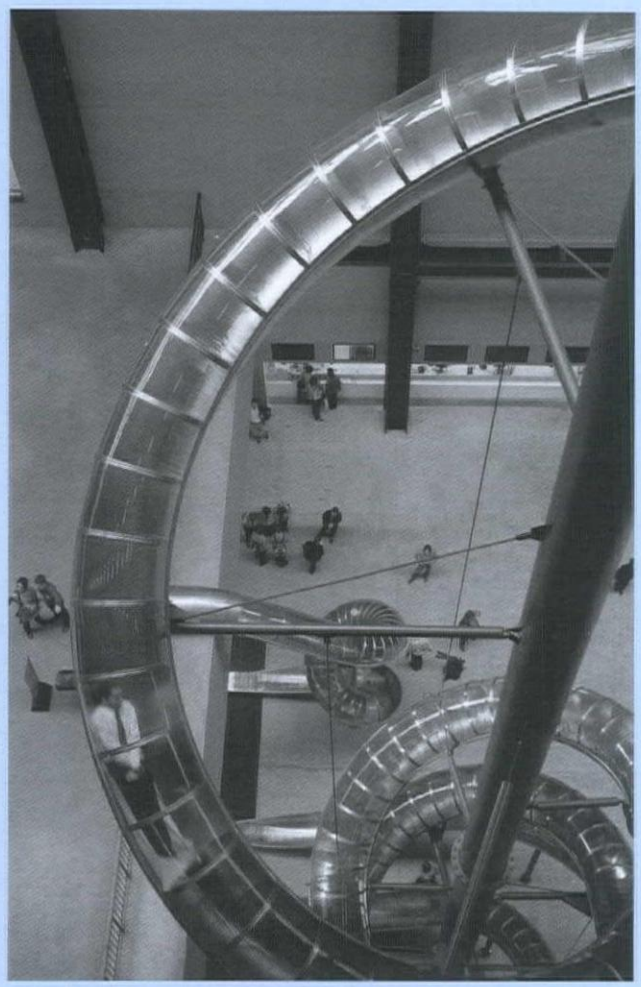
at very low relative cost. And because the process of acquiring a playground was participatory—citizens had to make a special request to the city to get one—they were also well cared for. As a result the children were safe in a familiar environment, surrounded by people they knew closely. This also means that they formed a second, ludic city and that a strong, broadly based community of mini-communities thrived within the everyday city.

Whatever the reasons that architects and urban designers turned away from playfulness between the '60s and the end of the '90s, the fact is that children and child's play are back on the agenda. It is not hard to see why. Playgrounds are popular with the public. They get children momentarily away from violent, isolating computer and video games and get them to exercise their physical and social skills. Second and less obviously perhaps, they offer the only alternative to that public space offered by the phantasmagoric, retail-driven "society of the spectacle." Children are our finest social integrators; in their presence, adults share amusement and affection. Playgrounds are therefore good not only for children but also for parents, cities, and society as a whole.

But here comes my gripe. All the good playgrounds are concentrated among the people of Richistan. The playgrounds being built serve the privileged people in the Together City who gather close to museums, shopping zones, leafy streets and avenues, and lovely well-kept parks. This is unfortunate. They are also needed in the Not-So-Richistan, the inner-city and inner-suburban multi-cultural neighborhoods, the *banlieues* on the periphery of French cities, the slums in Brazil and India, and the new towns in China. In other words, the Broken-Up City.

Gripe number two: The recent playgrounds are conceived as one-offs, treasure islands surrounded by a sea of unloved





Above: **Carsten Holler, *Test Site*, installation, *Tate Modern*, London, England, October 2006. Made of five slide chutes that could be used by the public.** Photo, Lindsey Parnaby/epa/CORBIS

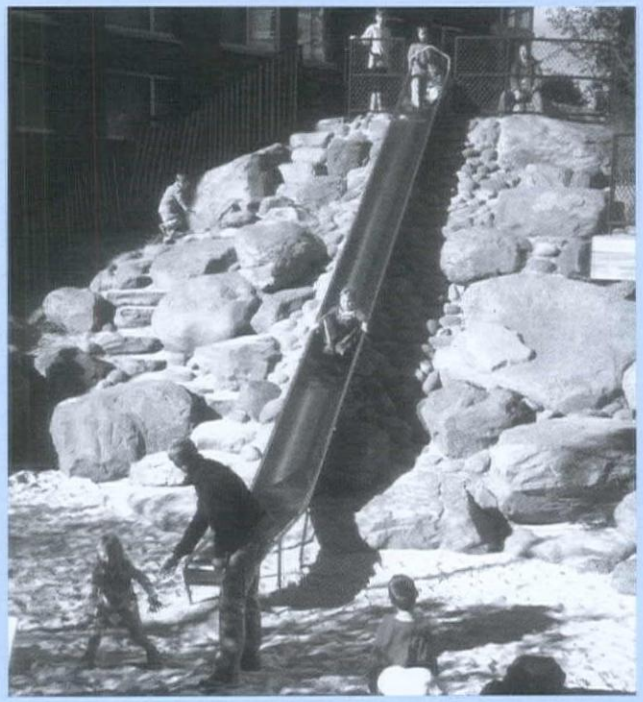
SINCE YOUNG CHILDREN ARE, DURING PLAY, ALMOST ENTIRELY WITHOUT IMPULSES TO REJECT ONE ANOTHER BECAUSE OF THEIR RACE, ETHNICITY, OR CLASS, AND SINCE PARENTS OFTEN ACCOMPANY THE YOUNGEST CHILDREN TO PLAYGROUNDS, PLAYGROUNDS ARE PROBABLY THOSE PLACES THAT FOSTER SOCIAL INTEGRATION AND TOLERANCE MORE THAN ANY OTHERS.

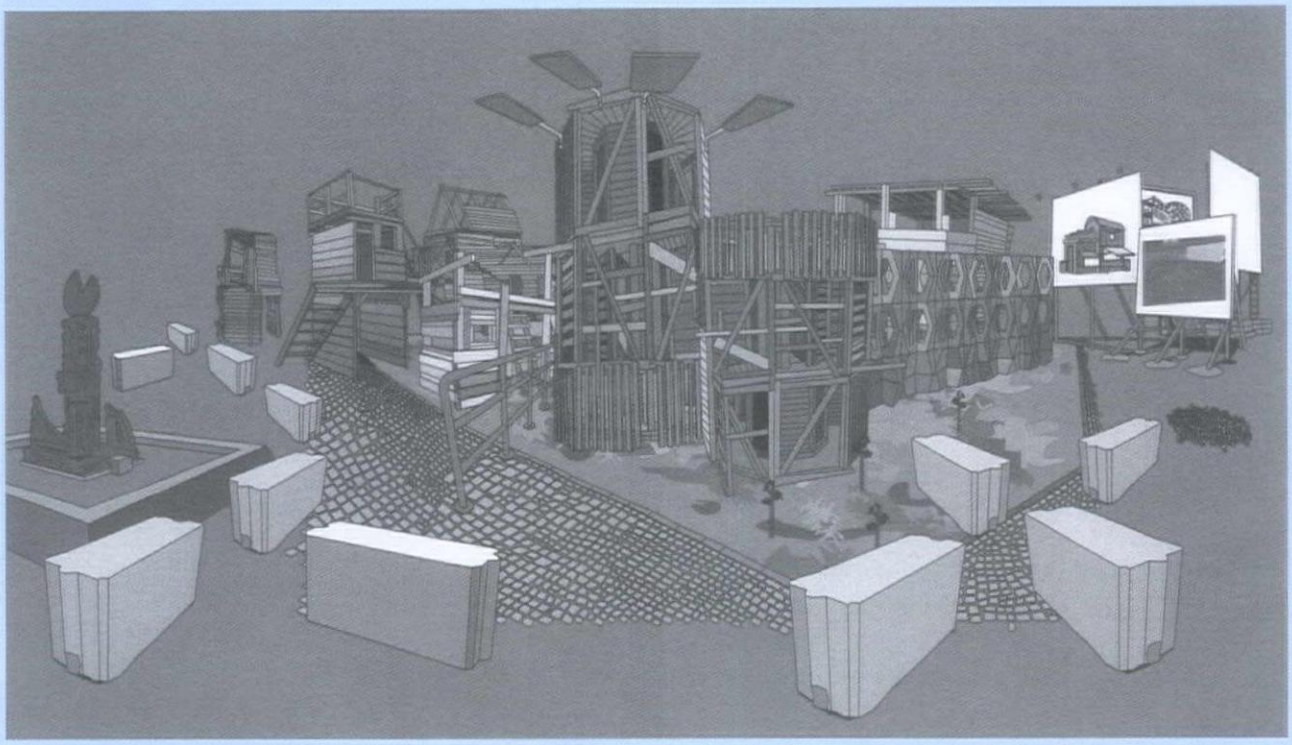
urban placelessness. They are not seen as forming a distributed, polycentered public space. They lack a coherent urban design concept. They are not carried out according to the PIP Principle.

My biggest gripe has been brought on by a surprising increase of xenophobia in the Netherlands over the last five years. I decided to go to a newly established architectural office in Rotterdam called Dollab to help me test the PIP Principle in a rough, multi-cultural, inner-city neighborhood of Rotterdam. I felt that it had a potential to integrate the neighborhood into the city and country as a whole. The city administration suggested that the test take place in Oude Westen ("Old West").

Bottom, left: **Dan Graham with Jakob+MacFarlane, *The Children's Pavilion*, aluminium, plexiglass, glass and plywood, Gent, Belgium, 1986.** Photo, Maranzane

Bottom, right: **Michael Van Valkenburgh, *Teardrop Park*, jungle jim slide, Battery Park, Manhattan, New York, 2004.** Courtesy, Michael Van Valkenburgh Associates





Nils Norman, *Monster Adventure Playground* for SKOR, Hoogvliet, Netherlands, 2004. This project was made possible by SKOR. Courtesy, SKOR

The 19th-century neighborhood Oude Westen is a broken part of the city. Located in the epicenter of Rotterdam across the street from the central train station, it houses 10,000 people. According to the Central Bureau of Statistics of Rotterdam, Oude Westen, with around 25% of the population under nineteen years of age, is the neighborhood with by far the most children. Three quarters of the population are immigrants, with Turkish, Moroccan, and Surinamese roots in particular. In Dutch terms, the Oude Westen is poor. In 2000, one third of residents lived under the official poverty line, and many families currently depend on charity food packages. Only 8% of the housing stock of the largely prewar quarter is owner-occupied, compared to the Rotterdam average of 23%. Crime is concentrated in and around the shops and catering establishments along the shopping streets. Tramps and junkies who have been forced out of former drugs locations now enter the neighborhood via the adjoining shopping street, contributing to a sense of insecurity.

Pipilotti Rist and Carlos Martinez, *City Lounge at St. Gallen*, Switzerland, 2005. Courtesy, ThomasMayerArchive.com

These figures do not tell the whole truth. Oude Westen is a lively working-class quarter valued by many as a pleasant living environment with strong social cohesion. Many social services are in place to deal with problems and bring residents of different backgrounds together. In fact, the main problem. I believe, is not integration within the various groups of the neighborhood but the integration of the ghettoized neighborhood within the bigger social whole. Children are the smallest stitch in the urban fabric. Insuring that a city is caringly attentive to their special needs has a great potential for the good of all. This is the lesson of the playgrounds of postwar Amsterdam.

I have just published the results of my playground study in *Ground-Up City: Play as a Design Tool*. The next phase of the project is to get the playgrounds built. I hear that Flavio Janches, an Argentinian architect, is applying my PIP idea in a poor inner-city poor neighborhood called Villa Tranquilla in Buenos Aires. Much remains to be done. □

Planning and the Just City

by SUSAN S. FAINSTEIN

The profession of urban planning was born of a vision of the good city. Its roots lie in the 19th-century radicalism of Ebenezer Howard and his associates, in Baron Haussmann's conception of creative destruction, and in the more conventional ideas of the urban progressives in the United States and their technocratic European counterparts. While the three approaches differed in their orientation toward democracy, their content, and their distributional outcomes, they all started in revulsion at the chaotic and unhealthful character of the industrial city. Their common purpose was to achieve efficiency, order, and beauty through the imposition of reason.

Today planning is usually characterized by modesty. Despite some exceptions, most planners and academic commentators argue that visionaries should not impose their views upon the public.[1] Moreover, skepticism reigns over whether it is even possible to identify a model of a good city. Attacks on the visionary approach have come from across the ideological spectrum. The Left has attacked planning for its class bias, for its anti-democratic character, and for its failure to take account of social diversity, particularly in relation to the needs of minority groups. The Right sees planning as denying freedom and producing inefficiency; it regards markets as the appropriate allocators of urban space. Centrists consider comprehensive planning inherently undemocratic and unattainable; they see the Modernists' efforts to redesign cities as destructive of the urban fabric and indifferent to people's comfort and desires.[2]

The history of planning practice seems to validate the critics. After World War II, when Modernist planning reached its apogee, American urban renewal and highway building programs destroyed neighborhoods, while European affordable housing development produced unattractive, socially homogeneous projects. Now the emphasis on economic competitiveness that tops every city's list of objectives makes planning give priority to growth over all other values, operates on an opportunistic project-by-project basis, and reinforces critics who see planning as serving developer interests at the expense of everyone else.

Aerial view of *Yankee Stadium* showing neighboring parks, Bronx, New York, ca. 1960. Photo, Charles E. Rotkin/CORBIS

Still, despite the theoretical critique, practical difficulties of implementation, and inequitable outcomes so far, the goal of using planning to attain a revitalized, cosmopolitan, just, and democratic city endures. Even while this vision seems forever chimerical, it underlies progressive critiques. Its content is rarely specified, but it is the measure against which practice is found wanting. Thus, while the critical literature attacks planning in practice, it assumes that we know good and bad when we see them and implies that planning could do better.

PROGRESSIVE VALUES

It is usually easier to expose injustice than to show cases of just policies, which is perhaps why so much of the urban literature focuses on bad examples. Scrutiny of "great planning disasters," however, can potentially result in the formulation of criteria that then lead to better urban policies.[3] Thus, for instance, Jane Jacobs, after castigating Moses-style urban renewal in New York, came up with standards for making cities lively and attractive. Likewise the New Urbanists, after condemning contemporary urban development practices, spell out their criteria for creating pedestrian-oriented, communal, sustainable designs. The popularity of both Jacobs and the New Urbanists stems mainly from their enthusiasm for alternative strategies—they offer paths toward improving development, not just dismissing it.[4]

Those criticizing urban planning for its injustices, in contrast, largely fail to offer either a program or a rationale for a just city. For the most part, empirical analysis, policy development, and theoretical formulation have proceeded on separate tracks. I can, however, rattle off a list of characteristics that urbanists generally regard as bad or good but without spelling out their reasoning:

1. **public space**
   bad: lack of access, homogeneity
   good: heterogeneity
2. **quality of built environment**
   bad: inauthenticity, conformist architecture
   good: authenticity; cutting-edge architecture
3. **planning**
   bad: rule of experts
   good: citizen participation
4. **social control**
   bad: order/domination
   good: resistance/conflict
5. **housing**
   bad: luxury dwellings
   good: affordable units
6. **segregation**
   bad: exclusion
   good: mixing, even if conflictual
7. **mega-projects**
   bad: large, top-down planned
   good: popular, incremental, preserving worthy urban fabric
8. **social services**
   bad: privatization, individualization
   good: public provision; communal facilities
9. **economic development**
   bad: government subsidies to property developers, large corporations
   good: small business, cooperatives
10. **environment**
    bad: laissez-faire
    good: regulation; green development

When subjected to close examination, however, few of these approaches deserve unmitigated praise or damnation. Yet urbanists tend to take them for granted when they should be problematized.

In contrast, philosophers do spend their time developing and elaborating their ideas concerning justice, but they rarely direct their attention to urban issues.[5] Still, contemporary discussions of justice within philosophy concern themselves with questions of central importance to urban development and can therefore be extended to evaluating urban policy. Foremost are *equality*, *democracy*, and *difference*.

PHILOSOPHICAL APPROACHES

The work of John Rawls constitutes the usual starting point for discussions of equality.[6] Rawls begins by positing an original position where individuals, behind a veil of ignorance, do not know their social status. Rawls's first principle is liberty and his second, subsidiary principle is "difference." His argument is that free individuals, acting rationally, will choose a roughly equal distribution of primary goods to assure that they will not end up in an inferior position; inequality is tolerable only to the extent that it benefits the worst off. Rawls's influence is so enormous because he is able to justify equality without resorting to natural law, theology, altruism, Marxist teleology, or a diagnosis of human nature. Rather he presents a logical argument within a vocabulary acceptable to proponents of rational choice.

Feminists, multiculturalists, and communitarians accuse Rawls of paying insufficient attention to values other than the possession of primary goods, of an insensitivity to social differences resulting from nonmaterial causes, and of a neglect of the value of community. Yet, even if these criticisms are at least partially accurate, we can still take away from Rawls his justification of equality as a rational approach to organizing a well-ordered city.

Amartya Sen and Martha Nussbaum's "capabilities" approach offers a further avenue for establishing values crucial to the just city.[7] The term does not describe how people actually behave but rather what they have the opportunity to

***Yankee Stadium*, aerial view showing proposed development over existing neighborhood elements, Bronx, New York.** From, onNYTurf.com

***Yankee Stadium*, aerial view showing proposed development, Bronx, New York.** From, onNYTurf.com

do and be. There is a threshold level of opportunity beneath which human functioning is not possible. One may choose not to exercise one's capabilities (e.g., one can become a monk), but the opportunity must be available, and people must understand the value of these capabilities—in other words, fatalistic acceptance of servitude should not be taken as what people would desire if they were aware of other possibilities. According to this reasoning, each person must be treated as an end. For example, even if it could be demonstrated that evicting tenants from public housing would produce the greatest good for the greatest number, their loss could not be justified if they suffered a decline in their housing conditions or a loss of emotional security. Similarly, communities desperate for an economic base should not have to accept toxic waste sites because they lack any other form of productive enterprise. The capabilities approach would protect urban residents from having to sacrifice quality of life for financial gain.

Nussbaum further argues that preferences are shaped, not simply there to be discovered. Thus, the welfare economics criterion of maximizing choice becomes undermined if people are deluded in their preferences. To draw on an example of development policy prevalent in many American cities: one place after another invests large sums of public money in sports stadiums. Yet many studies have shown that costs to the public treasury invariably outweigh revenues, that the surroundings of stadiums are dead spaces when no games are being played, and that the overall economic payback to the city is negligible. Politicians and much of the public nonetheless accept the argument that cities benefit economically from the presence of major league teams. Thus, for example, New York City and State recently committed themselves to investing $276 million in a new Yankee Stadium (now under construction); they show no concern for the fact that the rebuilt stadium will occupy what had been public park land. The "justification" is that the stadium will contribute to the economic development of the Bronx. In fact, however, the new structure will not contain more seats and thus will not contribute to more visitor spending in the area. A more credible motive is that the replacement stadium, because it would provide many corporate skyboxes, would be much more profitable for the Yankees. Despite local protest over the loss of park land, there has been no major opposition to this expenditure of public funds in the face of much more obvious needs in this impoverished borough.

In addition to Rawls, Sen, and Nussbaum, Jürgen Habermas and Henri Lefebvre have also addressed problems germane to urban planning. A number of planning theorists have drawn on Habermas's work to develop a model of the planning process.[8] Their normative framework builds on his concepts of the ideal speech situation, in which participants reason with each other to produce decisions, and of deliberative democracy, in which ongoing, broad-based discussion rather than a simple vote shapes policy. In the Yankee Stadium case it would prescribe meaningful participation by the park users in decision making. Lefebvre, unlike the other philosophers discussed so far, explicitly concerns himself with urbanism. His argument for "the right to the city" supports in particular the fight against the privatization of public space and the maintenance of heterogeneity within metropolitan areas.[9] As applied to the Bronx, it would condemn the taking of public parks for a new Yankee Stadium. Although the thought of both Habermas and Lefebvre applies to urban planning issues, neither is wholly satisfactory. Habermas,

while offering criteria for evaluating the decision-making process, does not (as do Sen and Nussbaum) provide a metric for evaluating policy outcomes. Furthermore, he does not deal realistically with the unequal power of participants. Lefebvre's "right to the city" takes outcomes into account by emphasizing the quality of urban life but lacks specificity both in terms of what is included in that right and what is meant by the city.

Thus philosophers do offer a route for considering planning actions by identifying their contributions to individual self-realization, establishing process norms for democratic participation, and providing criteria for evaluating policy. The fairly glaring weakness of their arguments as practical tools is their lack of concern for the methods of achieving their ends, their absence of a formula for dealing with entrenched power, and their indifference to the costs and trade-offs that might be incurred by actually seeking to produce social justice. Nussbaum contends that it is unacceptable to trade capabilities against each other—all must be achieved. This, however, may not be possible. Planners, policy makers, and political activists cannot wipe out history and act as if they started from scratch—they have to be contextualists. While utopian ideals provide goals toward which to aspire and inspiration by which to mobilize a constituency, they do not offer a strategy for transition within given historical circumstances. As Marx reminded us, people make their own history but not under circumstances of their own making. Original positions, desired capabilities, undistorted speech, and the right to the city seem remote from the actualities of the Bronx.

THE BRONX FAMILIES WHO PICNICKED IN THE PARKS ADJACENT TO THE PRESENT YANKEE STADIUM DID NOT JUST LOSE THE MATERIAL AND EMOTIONAL BENEFITS OF PARK SPACE, THEY ALSO SUFFERED THE HUMILIATION OF NOT RECEIVING THE SAME DEFERENCE AS THE OWNERS OF THE NEW YORK YANKEES.

PRACTICALITIES

All these attempts to provide a normative framework need to be examined in relation to practical realities of regime formation, social exclusion, and the bases of conflict; they also ought to take into account the variation among places. Each philosophical line of attack presents serious problems. Rawls justifies the value of equality by arguing that if people did not know their ultimate social position, each individual would choose equality for fear of being subordinate. We are, however, never in the situation that Rawls calls the original position (ignorance of one's social status), and equality of primary goods, which is Rawls criterion of justice, does not compensate for physical incapacity or disrespect. The Bronx families who picnicked in the parks adjacent to the present Yankee Stadium did not just lose the material and emotional benefits of park space, they also suffered the humiliation of not receiving the same deference as the owners of the New York Yankees.[10]

Rawls's theory does not illuminate reductions in the quality of life caused by certain kinds of planning decisions. Within rational choice theory, it is always possible to compensate an individual for loss. In law, for instance, this outlook is codified in the payment of damages—you lose an arm in an industrial accident, and you receive X amount of dollars according to a Workman's Compensation schedule. But we know that an arm is not really equivalent to any amount of money. The creation of job opportunities through the promotion of growth without accompanying social and transportation services causes poor people to face unenviable choices between gaining employment, incurring difficult commutes, and caring for family members. Planning involves not just consideration of the financial impacts of particular policies but also the effects on people's well-being: Do a policy's benefits make up for the humiliations of a demeaning job? Does replacement of lost park land by an equal amount of other, less accessible space make up for the loss?

Concern for justice should lead planners to examine a broad range of considerations—for instance, the impacts of environmentally degraded facilities on different social groups; the availability of access to public space and the purposes for which public space can be used; the desirability of maintaining community networks and proximity to social services for low-income central city residents. The criterion of justice requires investigation of the impacts of public policies on social groups rather than simply an analysis of overall material gains and losses. By examining these differential outcomes, we avoid utilitarian cost-benefit analyses that focus on aggregates, and we also gain a grasp of power relations and social structures. From this point of view, we can fruitfully apply the capabilities approach to urban issues. Although it is undeveloped for urban institutions and programs, it can be extended to provide a more sensitive form of analysis than utilitarianism. Investigating who benefits and assessing what outputs each group in the population receives then allows us to opt for the alternative that benefits most the least well off.

Acknowledgement of the coherence of groups and their relationships to each other leads to two opposite social issues of redistribution: how not to worsen the lives of those already disadvantaged but also how to avoid producing counterproductive backlash. How much social conflict is an acceptable price to pay for greater justice? What circumstances allow

the diminution of control (political and material) of those who have a disproportionate amount? Redistribution is necessary to achieve greater justice; at the same time, for it to be attained without serious costs to everyone requires acquiescence on the part of those from whom the excess is taken.

A recent debate on a sociologists' listserv about current development strategies in Chicago has centered on whether the creation of a lively city with attractive amenities has widespread benefits or whether it is pertinent only to bourgeois consumers.[11] Participants in this particular discussion seemed to assume that poor people do not care about these amenities. In other words, they implied that city beautification matters only to urban elites while working class people concern themselves exclusively with material benefits. Once when I was teaching in New Brunswick, New Jersey, I asked a local minister whether his congregation, which resided mainly in public housing, resented the transformation of downtown by brick sidewalks and street furniture. Did he feel that their space was being taken away from them for the benefit of young urban professionals? "Are you serious?" he replied. "Do you think they don't like to be somewhere that looks nice?" The right to the city ought to refer to more than mere inclusion—it needs to encompass access to an appealing city for everyone. Reaction against gentrification often seems to have devolved into thinking that low-income people feel comfortable only in disagreeable places. Focus on concentrated poverty has led to directing investment toward impoverished places solely for the purpose of stimulating upward mobility rather than aiming at making lives pleasanter for people where they live.

Philosophers have had to take account of the postmodernist/poststructuralist emphasis on the situatedness of the speaker and its assault on the existence of a unitary ethic. Current developments in the welfare states of Northern Europe—where income support for unemployed citizens from mainly immigrant backgrounds does not succeed in quelling their anger at their situation—validate the argument that material redistribution alone is insufficient to overcome bias against groups identified by ethnicity. The fact that economic disadvantage coincides with ethnic and religious difference does not mean that simply equalizing primary goods will overcome issues arising from lack of what philosophers term "recognition."[12]

Rawls opts for either a "property-owning democracy" (i.e., widely distributed ownership of productive assets) or liberal socialism as the basis for a "well-ordered society." Questions come up again: How do we get there? What argument can make people accept redistribution if they already know that they are in an advantaged position? It cannot be simply how it would feel to be in the other person's place if we already know we are not. This is a particularly acute problem if those who are advantaged identify the disadvantaged as "other" in ethnicity, religion, or color. Needed is an argument based on collective good—social rationality—rather than individual rationality, even though it need not be strictly utilitarian. And, in practical terms, it must be backed by the force of a social movement or a supportive elite.

Is it feasible to move toward this desired state (of property-owning democracy or liberal socialism) at the urban level? It would be easier if more goods controlled at the local level were publicly provided. For example, in London the Labour government has eliminated entrance and user fees for publicly owned facilities; in the United States we take the public library for granted—why shouldn't other entertainment and educational providers also offer free or very inexpensive services? (New York City is going in the opposite direction, having just introduced fees into formerly free recreation centers, and during the 1975 fiscal crisis it ended free tuition at the City University.) The more that the whole society has a stake in collective goods, the more politically popular they will be.[13]

Under the property-owning democracy formulation, home ownership becomes a desirable goal and the "taking" of private homes for economic development purposes is wrong.[14] Widespread home ownership makes available greater use values in housing for people, but it has the drawback of introducing a speculative financial element into the enjoyment of shelter as well as being inappropriate for households that do not have the resources to cope with major repairs or even routine maintenance.[15] We can, however, look to the examples of Amsterdam and Stockholm, where public ownership of land does not inhibit private development of structures but retains increases in land value for the public and makes renting a good choice for many. Even in New York City, the World Trade Center and Battery Park City sites are publicly owned, and the owners of structures pay land rent.

GROWTH, EQUITY, AND DIVERSITY

The most politicized urban issues usually revolve around a conflict between the goals of growth and equity. Critics of redevelopment programs tend to regard growth as a negative aim—ecologically damaging, with its benefits going to the already affluent. But the benefits of growth would be more widely distributed if ownership were less concentrated, as in Rawls's property-owning democracy model.

I. M. Young's analysis starts with social institutions rather than individuals. In *Inclusion and Democracy*, she takes the position that more democracy will produce more equality, but she considers deliberative democracy, as it is usually framed, impractical in mass societies—it is too time-consuming and requires face-to-face interaction. She contends that her approach, which allows for mobilized protest movements, creates pressure for egalitarian outcomes. Her viewpoint is historically accurate in accepting that change toward greater equality usually happens in response to pressure rather than

calm deliberation. At the same time, hers represents an approach that risks retrogressive backlash and depends on the existence of protesters whose goals transcend narrow self-interest.

Young argues for "differentiated solidarity" rather than integration—i.e., porous geographical enclaves of people sharing cultural affinities.[16] Here she identifies a realistic approach to multiculturalism that is somewhat at odds with Lefebvre's "right to the city" and the criterion that urban spaces should be highly heterogeneous. Efforts to force residential integration have too frequently been counter-productive—not just by producing backlash but also by depriving groups of mechanisms for mutual support. Residential differentiation does not necessarily imply lack of mixing elsewhere—in public spaces, at work, in recreational areas, and at school. Cities need to be diverse at a macro scale but not necessarily at a micro scale. New York's Battery Park City is criticized as being a virtual gated community, yet anyone can in fact gain access to its open spaces (unlike the Bronx Zoo, which charges a steep admission fee). A greater danger than public spaces with iconography interpreted as forbidding by some are homogeneous municipalities of rich, poor, and middle on the periphery. These are far more exclusionary than separation within the city itself, as long as internal boundaries are porous. Every public space need not be used by a full range of inhabitants, but neither should it keep people out. Concern for the just city requires that low-income residents be able to enjoy a high-quality built environment.

Conservative values of order and efficiency may clash with those of equality and diversity. The Left dismisses the former as supportive of privilege and legitimated through propaganda.[17] But these are values that enjoy wide popular support and are essential to the functioning of society. Hobbes's argument that maintenance of personal safety is the first duty of the sovereign cannot be dismissed as simply a rationalization for authoritarian rule. We need to find out how to interpret these conservative values in humanitarian ways so that they do not suppress dissent, produce sterile environments, or benefit only the rich. We cannot simply disregard them.

In past work I have portrayed Amsterdam as providing a model of social justice.[18] Recently its success has been questioned as a result of contraction in the Dutch welfare state, ethnic friction, and the tightening of rules for immigration.[19] Still, Amsterdam continues to support a great deal of social and political equality, diversity and integration, planning and economic growth. Moreover, the most recent Dutch elections have repudiated the politicians who base their program on antipathy to immigrants, suggesting that the spirit of tolerance is deeply rooted in the Netherlands. What this resilience also shows, however, is that while the criteria of social justice may transcend particular social contexts, its implementation requires that elements of realization be already present. Achievement of the just is a circular process in which the preexistence of equity begets sentiments in its favor, democratic habits produce popular participation, and diversity increases tolerance.

PROCESS AND OUTCOME

When we think about planning for cities, we must realize that substance and procedure are inseparable. Open processes do not necessarily produce just outcomes. Moving from a situation lacking in supportive values to a more enlightened state presents baffling strategic problems because mobilizing a force sufficient to overcome barriers to change demands a messianism that contravenes undistorted speech and can provoke fierce reaction. But just as substance and procedure must be contemplated simultaneously, so must desirable end states and the forces to achieve them.

IN LONDON THE LABOUR GOVERNMENT HAS ELIMINATED ENTRANCE AND USER FEES FOR PUBLICLY OWNED FACILITIES; IN THE UNITED STATES WE TAKE THE PUBLIC LIBRARY FOR GRANTED — WHY SHOULDN'T OTHER ENTERTAINMENT AND EDUCATIONAL PROVIDERS ALSO OFFER FREE OR VERY INEXPENSIVE SERVICES? (NEW YORK CITY IS GOING IN THE OPPOSITE DIRECTION, HAVING JUST INTRODUCED FEES INTO FORMERLY FREE RECREATION CENTERS.)

In the United States, distributional issues are especially salient because the level of income security guaranteed by the European welfare state has not been achieved. Justice in the U.S. thus requires dampening of sentiments based on group identity, greater commitment to common ends, and identification of institutions and policies that offer widely distributed (and therefore politically popular) benefits. No broad-based media exist to communicate alternative approaches to questions raised by urban economic development, metropolitan inequalities, and environmental preservation. The inherently divisive character of identity politics cuts against the building of such institutions and therefore is largely self-defeating.

Historically, the most effective approach to urban political transformation in the United States built on group identity to bolster unity in pursuit of ends greater than symbolic recognition. During the 1960s, successful movements emerged from groups that shared racial, territorial, and client statuses.[20] This neighborhood base, with community control as its objective, has, however, lost its force as a consequence of immigration, gentrification, and racial integration of the

civil service. In the new century, effectiveness probably means organizing around issues like work status (as in living wage movements) that engage broad coalitions. The changing nature of work calls for unionization of temporary laborers, household workers, and the self-employed rather than traditional organizing around the workplace. Such unions would have to emphasize their service role: job training and placement; establishment of benefit pools and portability of benefits; provision of legal services; and credit unions and mortgage assistance. This also means continued organizing around affordable housing, but to be successful such programs would have to recognize the housing needs of the middle class, not simply call for assistance to the poorest. Narrowly targeted policies, however efficient, lack a sufficient constituency and seem unjust to those not benefiting.

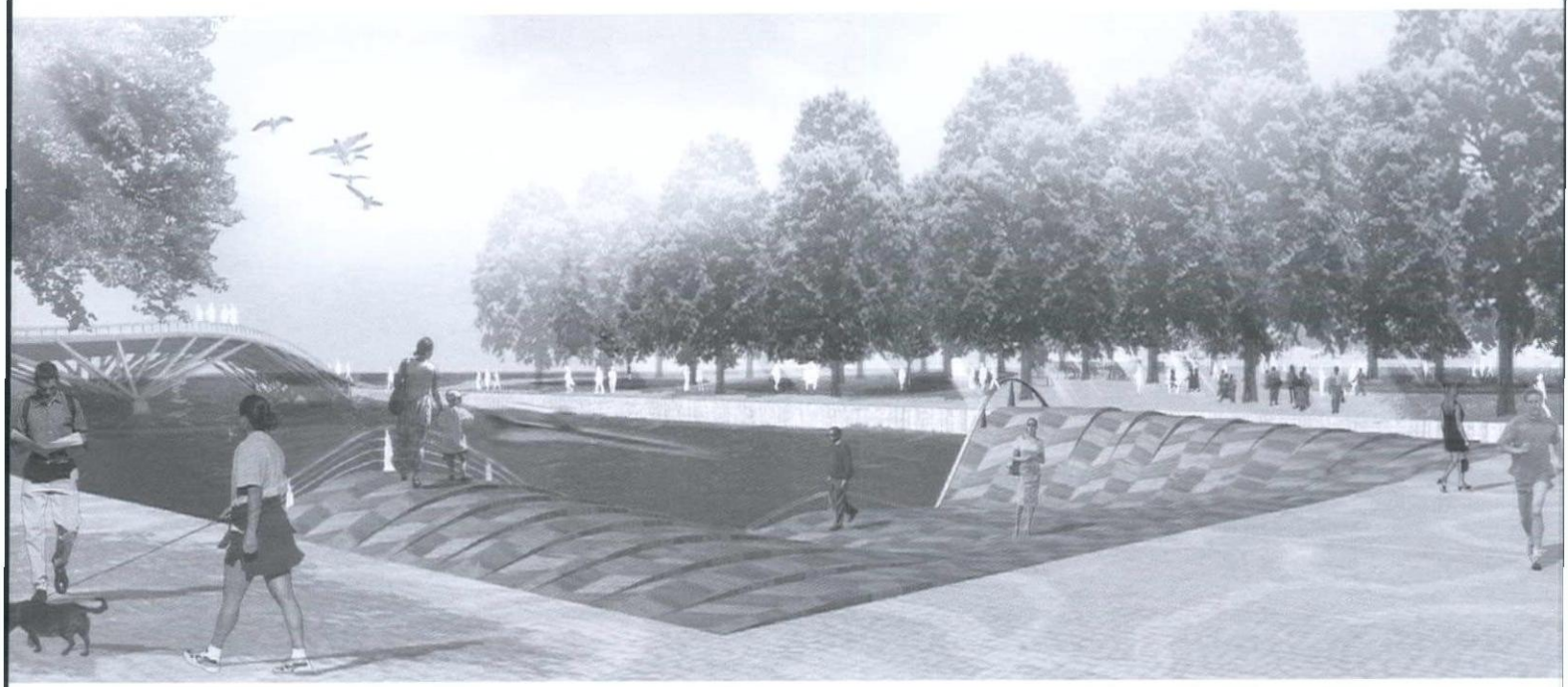
Citizen participation's importance also varies with context. In most European cities, no absolute material need exists on the American scale. Especially in France and Germany, countries with strong bureaucratic traditions, the plea for citizen participation, negotiation, and a less authoritative government makes sense. Within this context a more transactional approach represents reform. In the U.S., where most cities are dominated ideologically and politically not by bureaucrats and experts but by business-led regimes and homeowner groups, citizen participation alone will not provide a path to social transformation even though it can block destructive projects. Urban citizen participation mainly involves participants demanding marginal changes in the status quo or benefits that respond to their narrowly defined interests.

The movement toward a normative vision of the city requires the development of counter-institutions capable of reframing issues in broad terms and of mobilizing organizational and financial resources to fight for their aims. Manuel Castells, in the conclusion of his influential work on the network society, doubts the usefulness of abstract conceptions of justice; he fears that visionary projects lead only to grief.[21] But there is a need to persuade people to transcend their narrow self-interest and realize that there are gains to be had from the collective enterprise. Such a mobilization depends on a widely felt sense of justice, a program of measures for achieving it, and sufficient threat from the bottom to induce redistribution as a rational response. For peaceful change to occur, enough of the upper social strata needs to accept a moral code so that they do not resist and will even support redistributional measures.

Thus, when thinking about just cities, we must simultaneously consider means and ends, social movement strategies and goals, as well as appropriate public policy. In the past, moves toward progressive ends have arisen from both popular demands and insulated bureaucracies. We cannot know, *ex ante*, what will be the most fruitful source of change, but by continuing to discuss justice, we can make it central to the activity of planning. The very act of naming has power. If we constantly reiterate the call for a just city (as conservative forces forever mention economic competitiveness), we change popular discourse and enlarge the boundaries of action. Changing the dialogue so that demands for equity are no longer marginalized would constitute a first step toward reversing the current tendency that excludes social justice from the aims of urban policy. □

NOTES

1. Current plans for London's Thames Gateway and New York City's PLANYC 2030, released by Mayor Bloomberg in 2007, are unusual in the scope of their ambition.
2. See, for instance, Alan Altshuler, *The City Planning Process* (Ithaca, NY: Cornell University Press, 1965).
3. *Great Planning Disasters* (Berkeley: University of California Press, 1980) is the title of a book by Peter Hall.
4. Jane Jacobs, *Death and Life of Great American Cities* (New York: Vintage, 1961); *Charter of the New Urbanism* (New York: McGraw Hill, 2000).
5. Iris Marion Young, in *Justice and the Politics of Difference* (Princeton, NJ: Princeton University Press, 1990) and *Inclusion and Democracy* (Oxford: Oxford University Press, 2000), along with Henri Lefebvre (see below), is the principal exception.
6. John Rawls, *A Theory of Justice* (Cambridge: Harvard University Press, 1971).
7. Amartya Sen, *Development as Freedom* (New York: Anchor, 1999); Martha Nussbaum, *Women and Human Development: The Capabilities Approach* (Cambridge: Cambridge University Press, 2000).
8. See John Forester, *Critical Theory, Public Policy, and Planning Practice: Toward a Critical Pragmatism* (Albany: State University of New York Press, 1993); Patsy Healey, *Collaborative Planning: Shaping Places in Fragmented Societies*, 2nd edition (New York: Palgrave Macmillan, 2006).
9. Henri Lefebvre, *Writings on Cities*, Eleonore Kofman and Elizabeth Lebas, ed. and trans. (Cambridge: Blackwell, 1996).
10. Members of the Community Board who opposed the Mayor's plan were ousted.
11. The debate occurred on the listserv of the urban sociology section of the American Sociological Association in Spring 2006 (comurb_r21@email.rutgers.edu).
12. Nancy Fraser and Axel Honneth, *Redistribution or Recognition?*, Joel Golb, James Ingram, and Christiane Wilke, trans. (London: Verso, 2003).
13. Albert O. Hirschman, *Exit, Voice, and Loyalty* (Cambridge, MA: Harvard University Press, 1970).
14. The U.S. Supreme Court ruled in the case of *Kelo v. New London* (June 23, 2005) that municipalities could use the power of eminent domain to take private property and turn it over to another private party to further economic development.
15. The U.S. government's emphasis on home ownership and its subsidization through the tax code are generally repudiated by progressives. But ownership increases people's feelings of autonomy and protects them from exploitation by landlords. Limits on the size and use of the tax deduction, however, are justified.
16. Young, *Inclusion and Democracy*, 235.
17. See, e.g., Richard Sennett, *The Uses of Disorder* (New York: W.W. Norton, 1992) and Mike Davis, *City of Quartz* (London: Verso, 1990).
18. Susan S. Fainstein, "The Egalitarian City: The Restructuring of Amsterdam," *International Planning Studies* 2, no.3, 1997, 295–314; "Can We Make the Cities We Want?" in *The Urban Moment*, Sophie Body-Gendrot and Robert Beauregard, eds. (Thousand Oaks: Sage, 1999), 249–272.
19. Jane Kramer, "Letter from Europe. The Dutch Model: Holland Faces Its Radical Muslims," *The New Yorker*, April 3, 2006, 60–67.
20. Susan S. Fainstein and Norman I. Fainstein, *Urban Political Movements* (Englewood Cliffs, NJ: Prentice-Hall, 1974).
21. Manuel Castells, *End of Millennium*, 2nd edition (Oxford: Blackwell, 2000), 390.



Landscapes as Complex Adaptive Systems

VITAL NEW TERRITORIES FOR DESIGN AND PLANNING *by* JOE BROWN

The era of thinking about bridges, buildings, pipes, parks, streetscapes, or restored river courses as separate things is decisively over. Like any bounded site, the earth and its systems is what is known in complexity science as a *complex adaptive system* comprised of many interconnected elements and having the ability to change and grow. Any design practice that wishes to involve itself in this forward-moving system —and perhaps more importantly to create change within it —must now be similarly complex and adaptive. There's no going back.

The sustainable city and landscape will emerge from a groundswell of landscape urbanism-inspired design, fused and cohesive, integrative, and adaptive because continuously growing and learning. Astonishingly, economic thinking is getting in synch with environmental reality. People like Amory Lovins and Bill Browning, his former colleague of Rocky Mountain Institute, an environmental think tank, have been influencing large companies with the argument that sustainability makes good economic sense. "From materials and construction to lighting, heating, and cooling, the building industry accounts for roughly 40% of all the energy used in the United States. High-performance buildings and communities . . . are less expensive to build (or retrofit), more profitable to operate, easier to lease, and healthier and more comfortable to occupy—plus, they boost worker productivity."[1]

When this is applied to community and landscape creation, it can represent a huge step forward in the evolution of our stewardship of place. The planning and design professions would be wise to embrace this convergence and use it to propel their practices forward.

To truly address contemporary urbanism and sustainability, design leaders are reinventing the very sensibility from which idea-making emerges. Prior categories and labels are becoming outmoded—boutique firms are becoming more national, corporate, and global, while international, corporate firms are becoming more local, with small studios inside them. This has been recently most true of architecture and engineering firms—think of OMA and Rem Koolhaas, or Parsons Brinckerhoff and PB PlaceMaking[2]—but landscape architecture is beginning to follow the same model. My firm, EDAW, provides a clear example: The client's portal to services may appear to be an individual or a boutique, but behind that is a breadth of corporate services and skills. Conversely, the client may approach EDAW knowing that it is a big, diverse, international firm but thereby gain access, within its overarching structure, to specific individuals' or studios' tight-knit creative processes, concentrated production, and ability to show up anywhere in the world.

This large/small integration is apparent not only in the structure of firms themselves but also in their services and where they're delivered. As clients go global, the professions

Adriaan Geuze, West 8, Toronto's Central Waterfront Proposal, head of slip, rendering, 2007. Courtesy, West 8

that serve them must adapt. Firms like SOM, HOK, or EDAW, with offices on several continents, aren't truly American any more than they are European, Australian, or Chinese. The continuum is *local-global-local*: Ideas are learned and transported globally, find local expression, and cross language and cultural barriers. In landscape architecture, EDAW is experimenting with this approach, neither paralyzed by local tradition nor over-motivated by exotic inventiveness. *Parc Diagonal Mar* in Barcelona, Spain, for example features planters suspended from the ironwork that are ornamented with a contemporary interpretation of Antoni Gaudí's famous tiles. At *Piccadilly Gardens* in Manchester, England, Japanese architect Tadao Ando contributed a striking concrete wall illuminated from below by lights under the pavement, while an elliptical water feature provides an unusual contrast to the traditional facades flanking the park.

A more recent example may be found at *Tokyo Midtown*, the new mixed-used development in Japan for which EDAW designed a ten-acre public park. The landscape there is neither stereotypically Japanese nor stereotypically Western—instead, the designers approached *wa*, or Japaneseness, through a non-Japanese lens. The entire landscape is meant to invite active use, a definite departure from the contemplative gardens more often associated with Japan. However, *wa* elements—such as the paving, which derives from the patterns of tatami mats but also reflects the strong lines of the site's architecture—provide vivid cues to local context. In addition, while individual landscape moments are not designed as static tableaux, the design does reflect the traditionally Japanese treatment of landscape as a series of narratives, with zones that play on the site's topography and natural features.

rewards equal to those associated with major professions like law, medicine, and business.

Engineering is being rediscovered by designers as a leading and critical component in the achievement of sustainability. Urban landscape is becoming infused with inspired engineering systems design in a rare kind of synergy, creating connections and networks that never existed before and from which vast possibility is generated. Consider Dongtan, Ove Arup + Partners' integrated plan and design for a sustainable city in China, in which urban design, planning, sustainable energy management, waste management, renewable energy process implementation, economic and business planning, sustainable building design, architecture, infrastructure, and even the planning of communities and social structures are intertwined. Or Trinity River in Dallas, where the city is pairing urban redevelopment with a rethinking of the levy system (a civic project akin to the scale of Boston's Big Dig). And we can always think of the plan that never was for New Orleans.

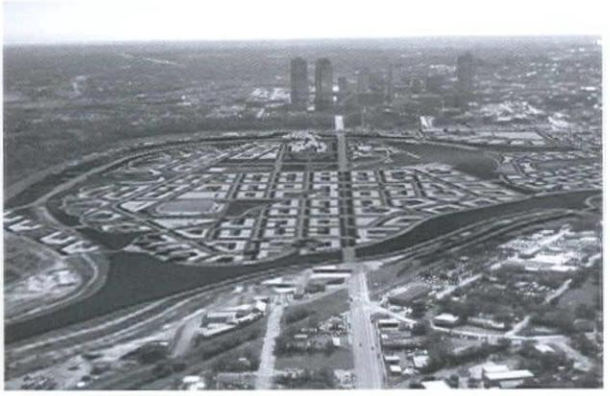
This is the crux of landscape urbanism, in which landscape is viewed as part of infrastructure of all kinds, but especially green infrastructure. Landscape urbanism goes beyond adding recreational or aesthetic value, contributing also to environmental health, human health, cultural expression, and economic worth. Some engineering firms, like Ecological Engineering (in Melbourne, Sydney, and Brisbane) or The Bioengineering Group, Inc. (with offices in four U.S. cities), are departing from the "concrete and drain" approach, where engineered solutions are conceived of as independent from the natural world. Instead, in partnership with landscape architects, engineers are thinking about how to work from a "greenprint" (rather than a blueprint) to intervene in site ecology with a much lighter touch.

PRIOR CATEGORIES AND LABELS ARE BECOMING OUTMODED—BOUTIQUE FIRMS ARE BECOMING MORE NATIONAL, CORPORATE, AND GLOBAL, WHILE INTERNATIONAL, CORPORATE FIRMS ARE BECOMING MORE LOCAL, WITH SMALL STUDIOS INSIDE THEM. THIS HAS BEEN RECENTLY MOST TRUE OF ARCHITECTURE AND ENGINEERING FIRMS—THINK OF OMA AND REM KOOLHAAS, OR PARSONS BRINCKERHOFF AND PB PLACEMAKING—BUT LANDSCAPE ARCHITECTURE IS BEGINNING TO FOLLOW THE SAME MODEL.

In parallel with the world it is attempting to affect, landscape architecture is beginning to operate as a complex adaptive system driven by expansive learning and feedback generated from that learning. It is an increasingly visible part of changes taking place in the world's major cities. All the old pigeonholes are disappearing. Landscape architecture is beginning to be written up in newspaper business pages. Some large professional services firms that include landscape architecture, like URS and AECOM, are experimenting with such radical moves as initial public stock offerings, giving rise to rewards for practitioners equal to the value the profession creates in the environment it shapes, economic

Landscape architects have the potential to be the most compelling voices in this conversation. In collaboration with engineers and environmental scientists, they can offer a richer, more differentiated landscape urbanism than has been seen before, one that responds to human need while serving as, say, part of habitat preservation or a storm-water management system. Our discipline is at the nexus of the many voices and perspectives that create a rounded picture of sustainable place-making.

John Henry Holland, a complex system and nonlinear



Left: **Trinity River Vision Authority, Trinity River Bypass Channel,** before, **Fort Worth, Texas, 2003.** Copyright, Trinity River Vision Authority

Right: **Trinity River Vision Authority, Trinity River Bypass Channel rendering,** after, **Fort Worth, Texas, 2003.** Copyright, Trinity River Vision Authority

science researcher whose insights into "genetic algorithms" have been extrapolated into fields from cosmology to economics, defines a complex adaptive system as a dynamic network of many agents (e.g., cells, species, individuals, firms, nations) constantly acting and reacting to what the other agents are doing.[3] In this thinking, water may be considered an emergent property of hydrogen and oxygen atoms. More to the point, consciousness—the mind and even ideas—may be considered an emergent property of the action of neurons. The push and pull is part of the "neural net" that makes a fully functioning mind.

Holland's adaptive system comes close to defining landscape architecture as a practice, an entity, and a set of ideas and principles. In regenerating an urban site or restoring an environment, individual agents (designers, offices, firms, or families groups of firms working in concert) are thinking and acting in the context of the larger complex adaptive system in which they operate: the built, natural, and social environments. Atelier Dreiseitl and their work on *Potsdamer Platz* in Berlin is another well-known example, fusing building and landscape beautifully while reusing water.

Much of landscape architecture is now bold and iconoclastic. Consider, for instance, the work of James Corner of Field Operations, Walter Hood of Hood Design in Oakland, Steve Hanson of EDAW, Chris Reed of StoSS landscape urbanism in Boston, Marcel Wilson of Hargreaves Associates, and Adriaan Geuze of West 8 in Rotterdam, among others. To be potent in the academic, professional, local, or global communities in which we work, we must be vocal. But we must also be silent, absorbing what people are telling us. This is part of adaptability: the ability to be self-critical, and to listen without fear. It implies not only our assimilation of new ideas but also our acceptance of the interaction of those ideas with our deeply held assumptions. If catalysis occurs, new feedback loops are created, and these loops are the fuel on which the complex adaptive system of planning design runs.

By their nature, complex adaptive systems are not static. They continue to grow, deepen, and become ever more complex. At times the process requires more than just internal and external interaction. On the most fundamental level, it also requires *cooperation* with other systems, both larger and smaller. Within overarching systems, planners, designers, and their firms carry out independent operations that are still interconnected and cooperating with the greater context. The number and variety of individual interactions is increased, making the emergent properties—and the change we generate in the world—farther-reaching than ever before.

For at least a decade landscape urbanism, sustainability, and social and environmental justice have pointed the way forward for the land-based professions. Individually and in concert, they comprise a means of comprehending and addressing the increasing complexity and mutability of environment and community. As John Henry Holland discovered, the overall behavior of the system is the result of competition and cooperation between many individual agents, each of whose decisions is driven by prediction and feedback.[4]

As planners and designers, we'd better be elbow-deep in the decision-making process; it is our responsibility to make sure those decisions support the complex adaptive system as a whole. This is the thinking, the calling, the ambition that is shaping meaning within an ever more global and diverse landscape practice and beyond, in related professions' growing and adapting practices, disciplines, and companies. □

NOTES

1. See <http://www/rmi.org/sitepages/pid75.php>.
2. See <http://www.pbworld.com/pbplacemaking/>.
3. M. Mitchell Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos* (New York: Simon & Schuster, 1992), 145.
4. Ibid., 177–185.

"What Can I Learn from *You*?"

A CASE FOR INCREASING CROSS-DISCIPLINARY ENGAGEMENT IN (THE GSD'S) DESIGN EDUCATION

by **ALEX KRIEGER**

One of my favorite descriptions of architecture is by Joseph Hudnut who called it "the outward frame and envelope of a communal life." Among the reasons for its appeal is its equal applicability to urban planning and landscape architecture. With Hudnut as its first dean, a graduate school under the catchword *design* consolidated three long-standing Harvard departments. So in the formation of the Graduate School of Design (GSD), the autonomy of each discipline was slightly subordinated to an idea about what might link them: the responsibility to shape the outward frame and envelope of a communal life.

Three quarters of a century later, considering what links us at the GSD seems just as important. Trends elsewhere in society herald the benefits of cooperation among related and even diverse disciplines. Yet the nature of professional education at times limits collaboration as the challenge of mastering a discipline compels immersion rather than openness to diverse interests and collaborators. Such pressure to focus, however, need not be an impediment to the benefits available from interdisciplinary experiences, experiences not forced on students but provided at key stages of a studio-based education.

As society increases in complexity, the usefulness of increased specialization is obvious, and enormous commitment is required merely to stay abreast of one's own discipline. Still, this more complex world demonstrates an increased intertwining of bodies of knowledge. Around Harvard animated discussions are occurring about the dawning of an era of renewed interdisciplinary intellectual efforts.

The University is investing upwards of a billion dollars to construct *just the first phase* of a science complex in Allston dedicated to interdisciplinary life science research. Anticipating remarkable breakthroughs in advancing human health, scientists are eager to emerge from separate cubicles to build on each other's work. One of the motivating premises for the broader Allston campus is to assemble divisions of the university long separated by geography and pedagogic method to enable these to creatively engage one another. Many expect substantial synergy from having the graduate schools of education, public health, and business in proximity to one another and near the life-science research center. While proximity does not guarantee collaboration, it can facilitate it among willing participants. Indeed, new forms of research are anticipated to combine aspects of traditional scientific research, product development, management of systems of care, and education about preventative health services. Within some intellectual circles today, crossing disciplinary boundaries clearly carries a certain cachet.

Other pertinent examples: Faculty at the School of Public Health have made several recent overtures to GSD counterparts because their research points to design and community planning being significant factors in determining health-related behavior (such as sedentary lifestyles and resulting obesity). The Law School faculty, generally thought insular, requested the creation of a joint degree with the GSD's planning program, citing the obvious intellectual overlaps between planning, regulatory law, and municipal governance. And given increased focus at Harvard on environment and engineering, it is easy to envision linkages to the Design School.

Meanwhile, while ostensibly sharing common values, we at the GSD seem to be languishing in (if not fortifying) our separate departmental domains, more inclined to protect turf than to find ways of profiting from one another's presence. The recent conversations about whether urban planning belongs to, should grow, or is becoming too prominent at the school exemplifies such an attitude and is but one indicator of either interdepartmental intolerance or insecurity or both. Curiously, as we imagine platforms for collaborating across the University, we underplay the potential benefits of collaborating with each other.

Echoing Hudnut, the second dean of the GSD, José Luis Sert, also foresaw increased collaboration, predicting "an agreement" among city planners, landscape architects, and architects. What has impeded the advance of this agreement, so logical for the school's early leaders but generally illusive since? Why do we seem suspicious, indifferent, and even disdainful of those out-

side our turf rather than show interest in how the insights of other disciplines can enhance our achievements? To practice "in the world" *is* to collaborate. It is often a necessity for success. How should it then be introduced in design education?

A not particularly successful approach to collaboration dates to the early years of my own education and teaching. During the late 1960s and throughout the 1970s, as designers and planners were being challenged by a new emphasis on the social sciences, a belief in the value of a common core program flourished. Such a belief had existed in the GSD's early years, had waned, but had reemerged in popularity nationally. All beginning design students, the theory went, should be introduced to issues affecting the built environment in the broadest possible way. All should have a "talking knowledge" about design, natural systems, urbanization, and social forces. Only then could a specific design discipline be studied in earnest.

This still has the ring of conventional wisdom about it, but in fact proved unproductive, leading to some sloppy and too general first-year curricula. In such curricula students became understandably impatient, especially at the graduate level to which professional design and planning education has substantially shifted. Students wanted to get right to the material that had attracted them to a discipline, not slog through rudimentary design or "Environment and Society 101" courses.

WHILE OSTENSIBLY SHARING COMMON VALUES, WE AT THE GSD SEEM TO BE LANGUISHING IN (IF NOT FORTIFYING) OUR SEPARATE DEPARTMENTAL DOMAINS, MORE INCLINED TO PROTECT TURF THAN TO FIND WAYS OF PROFITING FROM ONE ANOTHER'S PRESENCE. THE RECENT CONVERSATIONS ABOUT WHETHER URBAN PLANNING BELONGS TO, SHOULD GROW, OR IS BECOMING TOO PROMINENT AT THE SCHOOL EXEMPLIFIES SUCH AN ATTITUDE AND IS BUT ONE INDICATOR OF EITHER INTERDEPARTMENTAL INTOLERANCE OR INSECURITY OR BOTH.

Gerald McCue, the fourth dean of the GSD, explored reinstituting a common core but soon realized its liabilities and instead sought out collaborative opportunities at later stages of professional education. Among McCue's innovations was the creation of the Master of Design and Doctor of Design programs, mid-career study independent of the three departments, one of whose goals being to advance research in specialized fields *and* across disciplines. Productive interdisciplinary study, he logically concluded, was more likely to occur with advanced students whose professional experience already made them anticipate the fruits of creative collaboration.

In the training of a designer, early exposure to the methods and practices of a specific design discipline enables passion and competence to blossom or interest to subside in the face of unexpected difficulties. Beginning students want to dive in, not roam at the margins. So it is quite natural for those first studying architecture, for example, to immerse themselves in architecture alone rather than in more general design studies. Likewise, landscape architects and urban planners must commit to the specifics of their own disciplines. The core programs of each of the first professional degree programs are designed to do this and generally succeed admirably. It is also natural for those immersed in a new body of knowledge to remain so absorbed, refraining from intellectual pursuits that may distract them.

But at some point another common designer's instinct — curiosity — needs to be nurtured. Neither initial immersion nor continued passion requires (or predicts) disdain or indifference toward related disciplines. Here I risk collegial ire in pointing out that such indifference is more often exhibited by GSD faculty than by GSD students, and it adversely influences some of our students as they continue their studies. Those engaged in creative work tend to be clannish, understandably so, seeking out others whose insights and mindsets match their own creative tendencies. Like-minded colleagues enjoy and depend on one another for reassurance against a broader world not always responsive to design sensibilities. But creative problem-solving relies on responding to powerful curiosity. A student should think, "In establishing a design direction based on my own knowledge, I want all the constructive critical input I can get from other sources." This takes self-confidence and support of faculty. Students tend to seek reward in pursuing each class's inevitably circumscribed and unique sense of excellence, but the best students intuitively break this mold. More students need to believe that in seeking an expanded knowledge base for their work they will be supported by their instructors.

Designers take particular pride in being able to consider, juggle, and combine multiple variables into new wholes. Why would an architecture student not be curious about landscape or urban form, or, even if less often, public policy pertaining to the built world? Of course they are. Shouldn't their education, therefore, facilitate such natural curiosity and enable them to appreciate the insights that come from kindred disciplines? Shouldn't they come to seek out and learn from the work of the best practitioners in related design fields? What their education should *not* do is make them believe that the knowledge gained from their own discipline is all they need to succeed, or worse, come to believe that their acquired knowledge and design methods are superior to those in other disciplines.

The architect may believe that the revival of the City of Bilbao is entirely due to Gehry's *Guggenheim*, underestimating the importance of rather brilliant regional economic re-positioning, excellent riverfront public space design, bold investment in transportation improvements, and careful development planning, among other contributors. Building confidence among our students is essential, but challenging misplaced expressions of design omnipotence is equally worthwhile. And while I use the example of the architecture student, I would make the same point about the training of the landscape architect and the urban planner. The planner who concludes that policy considerations always precede design vision is equally hampered. Confidence in one's own expertise should not lead to either complacency

or dismissal of the expertise of others, especially in the complex tasks of constructing a better and more equitable world. As Louis Menand, cochair of the task force revamping Harvard's Core Curriculum, wrote in the May 21, 2007, *New Yorker*: "We want to give graduates confidence to face the world, but we also want to protect the world a little from their confidence. Humility is good."

I don't want to exaggerate cross-disciplinary indifference or imply an absence of either collegial regard or interdepartmental communication at the GSD. But I do wish that as a faculty of design we sought *more* common ground, took *better* advantage of each other's strengths, and continue to improve the curricula of each of the degree programs, especially beyond their respective cores.

What might such common ground be? Several examples easily come to mind. No one doubts that environmental stewardship will continue to gain importance in the coming decades. But is it enough for the urban planner to critique the unsustainability of suburban sprawl? . . . for the landscape architect to become acquainted with how plants absorb pollutants? . . . for the architect to learn about the energy coefficient of a new material or building envelope? None alone is sufficient, even assuming that these *are* sufficiently stressed in our programs. A more comprehensive understanding of how we might tread more lightly on the planet is essential so that we may in fact do so.

One can imagine studios whose point of departure is environmental stewardship. Their success would depend on each of the disciplines contributing its respective environmental know-how and, more important, learning that it is *in combination* that factors such as curtailed energy use in buildings, wiser site planning, minimizing impervious ground surfaces, achieving density and overlap of uses, increasing choices in mobility, avoiding redundancy, and numerous other measures will lead to more sustainable ways of living. I do not know of such a studio being held at the GSD, but I would bet that more than a studio worth of students would rank it high in the next studio lottery.

Consider issues of urbanization. Nearly every option studio addresses some aspect of urban life. The world is rapidly urbanizing in diverse ways, and this motivates much of what designers are asked to do. Leaving aside for a moment the intriguing idea of "landscape urbanism," placing architects and planners on equal footing in an urban-centered studio will lead to greater insights about contemporary urbanism than formal investigations or analysis of demographic data alone. Here I, of course, purposely caricature the common outcomes of an city-focused studio populated only by architecture students or an urban planning studio without substantial architectural input.

That many studio experiences emphasize the value of urban form while others the value of urban management or policy is wonderful. I'm merely asking for a few more pedagogic moments when such different values collide creatively and with mutual curiosity. This is different from the common situation in which one or two planning students land in an architecture studio and find themselves ill-equipped to contribute to that studio's discourse or conversely when an architecture student lands in an urban design or planning studio and is frustrated that design as they have come to know it seems to play a less prominent role. But design as each has come to know it is not the only means to design our world. And to bring the landscape architect back into the equation, there are very few contemporary urban conditions where the sensibilities of the landscape architect would not be valuable, unlike in figure-ground urbanism in which there is only the black of buildings and the white indicating their absence.

A useful cross-disciplinary experience would be to encounter exchanges of design methods. It would be fruitful to explore similarities in the design of a building, a landscape, a public place, an urban district, or even a regional growth management system. It would furthermore be useful to appreciate where such similarities end. This would require a give-and-take among students across the degree programs curious about a different technique or looking for an exchange of insights. Yet, often with insufficient council, we ask architecture students to illustrate urbanism or expect planning students and landscape students to render buildings, only to expose the naiveté in the results. Landscape architecture subjects, in particular, offer great possibilities for engaging across disciplinary boundaries. As they involve matters of setting, the need for a concurrent concern for landscape, buildings, and social context seems evident.

What about approaching design as several modes of thinking leading to innovation? In a studio I recently taught that focused on Tyson's Corner in northern Virginia, America's most infamous Edge City, the creative response of the architect, the landscape architect, and the urban planner were equally valuable. Indeed, no single architectural or landscape or planning solution sufficiently transforms an area such as Tyson's. Representing the three departments at the GSD, the students argued extensively about whether certain instances first called for new outstanding buildings, wiser land management, different programming, better public spaces, changes in zoning, mobilizing community awareness, and so forth. Such conversations were exhilarating. Students did not abandon their own areas of interest or talent, but neither did they automatically revert to answers driven exclusively by the conventions of their disciplines.

It sometimes seems as if we avoid the kind of design topics that best reveal the complementarity of the design disciplines, for example, on matters of suburbanization. We seem more eager to articulate the shortcomings of homogenized suburban development, privatization, real estate theming, or New Urbanism than to postulate plausible alternative models. Arriving at these would require collaboration across disciplines. As we critique sprawl and imagine that existing urban centers will repopulate with aging Baby Boomers, empty-nesters, and young cosmopolitans, 90% of all new development continues to occur at the periphery of existing cities. Having disdain for "conventional" problems makes it too easy to avoid posing imaginative alternatives for them.

Another collaborative example: Many years ago a joint landscape/architecture studio on a corporate headquarters in an exurban setting was co-taught by Laurie Olin and Michael McKinnell. The landscape and architecture students, in equal number, battled mightily over issues of site design, orientation, placement, architectural and landscape symbolism, the need for supporting programmatic components, impacts on the land, and overall cultural meaning. And so did their two equally distinguished and articulate instructors. No one involved in that stu-

dio, including guest critics, left without some new insight about how to approach or conceptualize such a problem. At the very least, the importance of integrating land planning, with site and building design was established.

The Development Studio is another useful collaborative model, begun at the GSD in the 1970s and intermittently offered since. Here teams comprising designers and students from law, government, or business must devise a program, produce a design, and present an economic proforma. The economic analysis may at times be rudimentary, and the formal resolution may lack exceptional refinement. Yet the studio provides the instructive experience of having to somehow connect design and aesthetic vision to economic value, hardly an inconsequential connection to ponder.

Some fifteen years ago Peter Rowe, the fifth dean of the GSD and another supporter of interdisciplinary engagement, instituted the universal studio lottery. This enabled those having completed their core programs to sign up for studios offered by any of the departments. It was a radical but useful idea, though initially met with much skepticism about its utility among those who believed that disciplinary integrity would be lost in mixing students. Some 15 to 20% of eligible students began to opt for a studio outside of their department in a typical semester, sometimes just because the studio sounded more enticing or the critic's approach promised to be exceptional. While selecting such a path, the possibility of encountering a different mode of design speculation and of incorporating and sharing techniques outside of one's discipline is a necessary first step.

Over time some critics, preferring more narrowly focused problems or talent, have discouraged students outside their discipline from opting into their studio. This, too, has proven useful, as it has sharpened distinctions among studio offerings, allowing greater clarity of choice for the students. There is great value in focusing on the design of a single work of architecture or even a specific conceptual approach to a building's design. This has been and should remain one of the strengths of GSD pedagogy. And there is great value in a studio making use of multiple skill sets, whether across the disciplines at the GSD or incorporating techniques of industrial and product design, building technology, or environmental engineering. So I suggest a further diversification of option studios to include more jointly taught studios.

If during extensive core programs students focus on their own discipline, their post-core study should more frequently offer the option of cross-departmental studios in which studio critics *of equal stature in their respective fields* collaborate on presenting a problem that overlaps disciplinary boundaries. In such a joint studio the students would not necessarily simulate professional divisions of labor. Rather, as in the Olin/McKinnell example above (and there have been others), students would initially put forth solutions based on their own training, but then be challenged and respond to colleagues' solutions based on different training. This is quite different from twelve architects believing that they have incorporated urban design or landscape ideas in their work but having only each other to critique their merit.

The examples above deal primarily with the nature of studio education. Non-studio courses, ranging broadly in subject matter, commonly attract students from various disciplines, exposing them to different modes of thought. Such courses, however, normally offer less intensive opportunities for students to interact through their own work, since more of the content is being *received* than *produced* by those enrolled. It is in the studio, in which so much depends on the enterprise of the individual, that periodic contact with those who think differently would be most useful, enabling spirited discussion about multiple points of departure to a problem.

STUDENTS TEND TO SEEK REWARD IN PURSUING EACH CLASS'S INEVITABLY CIRCUMSCRIBED AND UNIQUE SENSE OF EXCELLENCE, BUT THE BEST STUDENTS INTUITIVELY BREAK THIS MOLD. MORE STUDENTS NEED TO BELIEVE THAT IN SEEKING AN EXPANDED KNOWLEDGE BASE FOR THEIR WORK THEY WILL BE SUPPORTED BY THEIR INSTRUCTORS.

Without abandoning any of the specific foci or enthusiasms of the three departments (though pondering some long term realignment of the major academic divisions of the GSD), it is possible to conceive creative, enlightened cross-disciplinary experiences in both studio and classroom format. Among the consequences would be increased collegiality among the faculty. This too would serve the school and our students well.

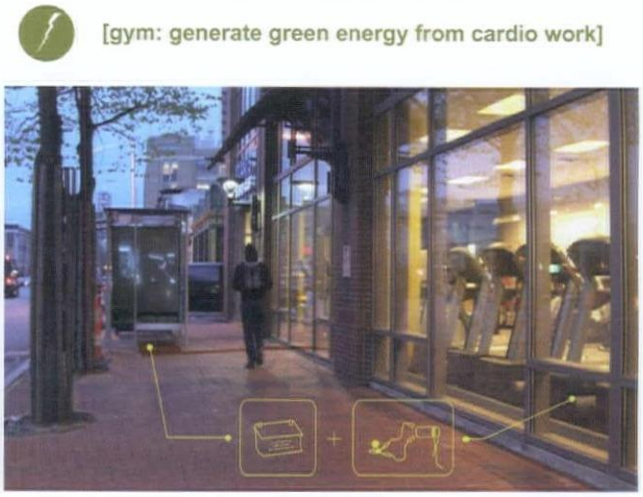
Lastly, operating across a range of architectural, landscape, and urban planning problems is challenging and enriching but must be pursued with humility, not the dubious brio of a "heroic" designer who at a moment's notice tackles problems of any type and scale. This is what interdisciplinary engagement helps keep in check. What we should take from the ancient Albertian dictum—*a large house is like a small city, a small city like a large house*—is not that it is all the same, but that the design of the part (a building or landscape) should be informed by understanding its larger whole (a neighborhood or city). And vice versa: Conceptualizing at a large scale depends on careful consideration of "building blocks," the elements that establish human scale and delight. The primary lesson from cross-disciplinary engagement is that better architecture and better planning—with only rare exceptions in some works of eccentric genius—will result when they are nourished by insights from other scales and modes of design.

What can I learn from *you*? □

101 Urban Salvations

ONE CLASS'S PERFORMANCE OF EVERYDAY URBANISM

by MARGARET CRAWFORD



The premise of this urban planning studio was simple: "Cambridge could be a better place to live if . . . ." The idea came from two sources. The first was my interest in developing a design theory I call Everyday Urbanism, which emphasizes the importance of lived experience in creating urbanity.[1] The second is my experience as a Cambridge resident. In spite of its obvious advantages, such as having two of the world's greatest universities, a high density of resident intellectuals (including architects), a manageable size, a small-scale, fine-grained urban fabric, and good public transportation, I found daily life in Cambridge surprisingly mediocre. Since the city's planning and community development departments are very competent, this suggested to me that conventional planning techniques are unable to address the experiential aspects of urban life.

So the "urban salvations" approach started at the other end of the plan, with the individual experiences of residents. Students would examine the problems and possibilities of many different Cambridge lives as the basis for making all types of urban changes. Organized as a list, the number 101 acknowledges the multiplicity and variety of these experiences without imposing the usual hierarchies and categories of planning practice. The word "salvation" suggests the redemptive qualities I hoped these proposals would include.

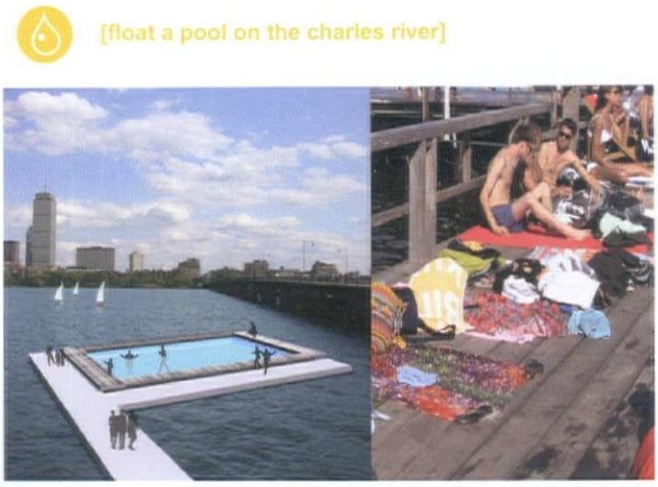
To communicate these concepts to potential students, I presented a re-edited version of the famous R.E.M. music video, *Stand.* at the GSD's studio lottery. Leah Murphy, a planning student who joined the studio, edited the video, juxtaposing the original dancers with shots of a broad range of Cambridge places and people, ending up outside the GSD. This and the lyrics clearly summarized the studio's attitude:

> Stand in the place where you live . . .
> Think about the place where you live
> Wonder why you haven't before . . .
> Now stand in the place where you work
> Your feet are going to be on the ground
> Your head is there to move you around.

The title (taking off from Disney's *101 Dalmatians*) and the video demonstrated the studio's primary method: *détournement*. This collage technique involves removing preexisting elements from one context, then inserting them into another setting. This produces new and completely different meanings. This technique also lends itself to rapid execution—an important issue in producing such a large number of projects. Using Photoshop, students could insert their design ideas into photographs of existing places, transforming them into convincingly rendered visions of possible futures.[2]

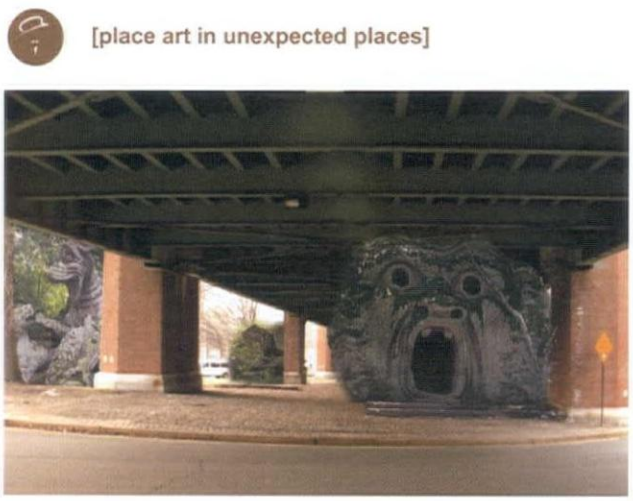
In spite of there being competing studios, many taught by famous architects and offering trips to various exotic places worldwide locations, eleven students from the urban planning, landscape architecture, and architecture programs signed up.[3] Attempting to reimagine life in Cambridge, our somewhat paradoxical goal was to produce innovative and visionary proposals while remaining grounded in the realities of urban experience.

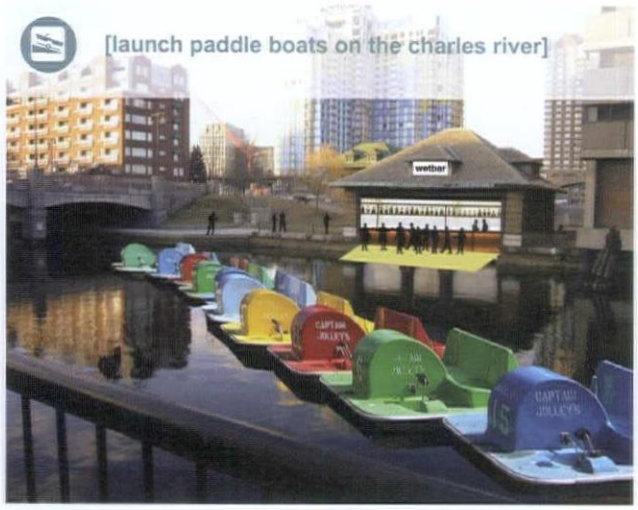
We began by engaging intensely with Cambridge residents and workers. Students canvassed the city, interviewing as many different types of people as possible. Our final list included city officials, elected officials, university faculty, school children, parents, cab drivers, baristas, community advocates, local business owners, priests, school officials, homeless people, real estate agents, teenagers, and university students. Our conversations were illuminating and occasionally inspiring: many people were concerned about housing affordability; MIT students complained about a lack of night life; fifth graders yearned for more beauty and living things in the city.



Yet in the end, these comments provided only raw material and required significant interpretation before they could be distilled and transformed into plausible proposals. Since all the students were also Cambridge residents, each bringing their personal urban experiences and professional ideologies to the table, our class discussions were unusually rich and revealed an urban texture of great complexity and unexpected differences. As the students developed their proposals, we also conducted extensive research to locate existing projects or proposals addressing similar situations. These precedents provided the projects with another guarantee of plausibility.

Producing 107 proposals for improving life in Cambridge, the students exceeded the goal of 101. As anticipated, the "salvations" encompass a diverse range of topics; they propose physical, social, environmental, political, and aesthetic changes. These range from one-liners to complex propositions. Some propose or encourage new physical forms, while others focus on restructuring existing organizations or policies. In some cases, reality required only minor tweaking, such as adding composting bins to curbside recycling. In others, several projects along the Charles River are part of a larger plan for transforming the entire riverside. A final proposal, necessary to make all of the others happen, demands a genuinely dramatic change in Cambridge's city government structure. Inspired by other cities active local democracies, we suggest charter reform to replace Cambridge's existing city manager and at-large council system with a strong mayor and council districts. But even in the absence of a new system of governance, many of our suggestions could easily be implemented. Each is directed to a civic or institutional authority with the power to change things. Although our



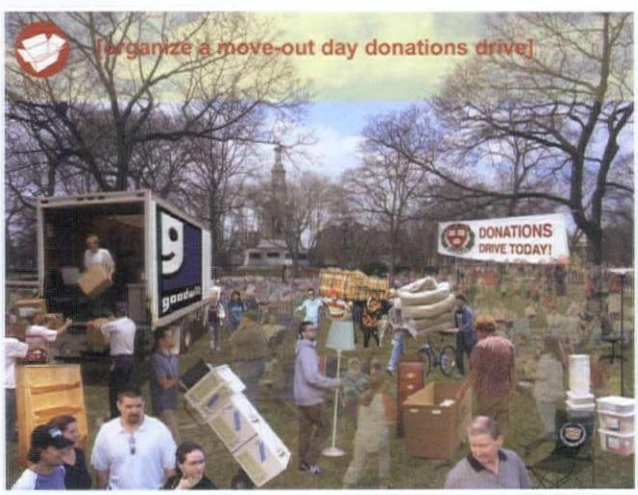


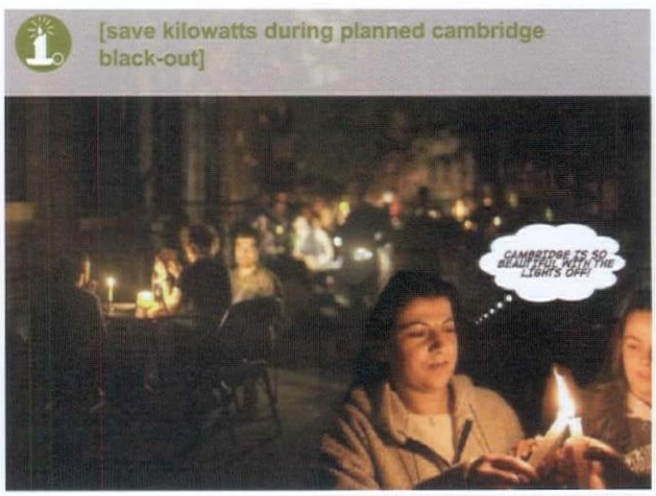
suggestions come from the bottom up, clearly they require top-down action.

Is this a new form of planning? Perhaps. The studio intentionally avoided the abstract tools typically used by planners: statistical information and maps of urban zones and land uses or traffic engineering. Instead, we focused on the more uncertain realm of subjective experience. Yet at the end of the day, many of the changes we felt would improve Cambridge's living experiences could fall under the heading of urban planning. It is easy to imagine this approach working alongside or after other types of planning. Since the studio started in Cambridge, outside of the GSD, we ended it with a public presentation of the "salvations." The first day of studio, at the students' urging, I bought the domain name "101urbansalvations.com." All 107 projects are now available online at this web site. We're waiting to hear what the public thinks. □

NOTES

1. I borrowed this title from Norman Millar, now chair of the Architecture Program at Woodbury University in Los Angeles, who coined it for a studio we co-taught at SCI-Arc in 1998.
2. This is explained further in Margaret Crawford and John Kaliski, *Everyday Urbanism*, John Chase, ed. (New York: Monacelli, 1990) and *Everyday Urbanism: Margaret Crawford vs. Michael Speaks*, Rahul Mehotra, ed. (Ann Arbor: Taubman School of Architecture and Planning, 2005).
3. Zheng Chang, Hady El-Shafei, Matthew Gillen, Briana Hensold, Sandy Hussain, Tyler Johnston, Dharshini Joseph, Leah Murphy, Ruth Silver, Ingo Suh, and José Terrasa-Soler.





On the Streets Where They Live

by ROBERT A. BEAUREGARD

Photographs by CAMILO JOSÉ VERGARA


When African-Americans in New York City were displaced from the area around Union Square in the first two decades of the 20th century, they went north to Harlem. A real estate boom had produced an oversupply of apartments, and owners were desperate for tenants. From that moment, Harlem and black America became inseparable in the American psyche. And because the stigma of being black trumped the positive attributes of the neighborhood and its residents, Harlem was devalued in the eyes of the white majority. Briefly celebrated during the Harlem Renaissance of the 1920s, after World War II it became the country's quintessential ghetto. Poverty deepened, unemployment soared, racial tensions surfaced, real estate values fell, and buildings were abandoned, demolished, poorly maintained, or over-crowded.

In recent years, Harlem has been revalued. Black middle-income households have become more of a presence, gentrifiers have renovated brownstones, and developers have constructed new apartment buildings. National retailers have moved in and small shopping malls and multi-screen movie theaters have opened. Tourists now visit the jazz clubs and The Apollo, eat at the neighborhood's famed restaurants, and drop in on semi-commercialized big-church services (at places like the Abyssinian Baptist Church). The neighborhood feels safer. Yet like all neighborhoods once severely decayed and now sites of reinvestment, the physical improvements are spatially uneven. Neither overrun by white gentrifiers nor invaded by droves of middle-class shoppers and tourists, much of Harlem's landscape still shows evidence of prior disinvestment.

Camilo José Vergara's photographs bring us into this changing neighborhood. Once there, though, we are discouraged from imagining that we can touch this wall mural or peer into that alleyway. Rather, we are always positioned farther back. We gaze on subjects from afar. The photographs are taken from across the street or from high on a roof; they widen our vision so that we might see laterally as well as vertically. This visual distancing protects the middle-class viewer from an unfamiliar world and the precariousness of life there.

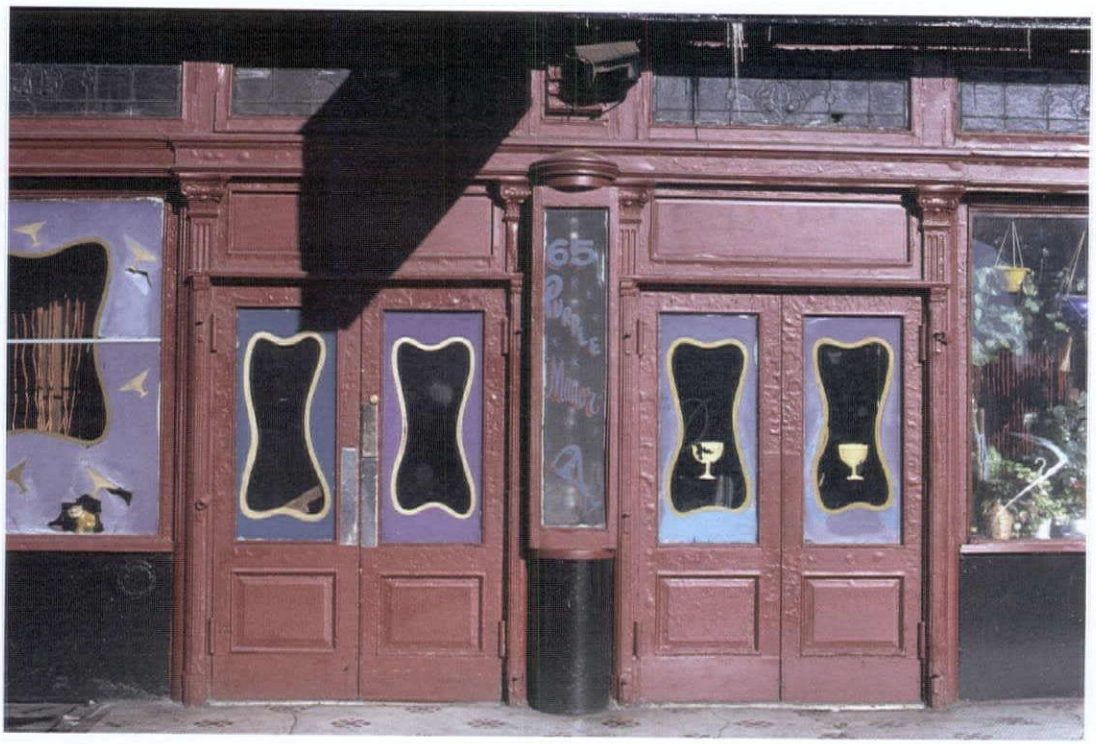
Above a sign for a mattress store is chiseled the name of the building's original owner. The upper floors are empty; some windows are boarded up and others missing. Faded lettering on a second-story sign indicates that an insurance agent once did business there. As we look to our left, we see a closed security gate, seemingly unopened for years, that had once protected a hairdresser from thieves. On the other side is a take-out stand selling fried chicken. A bit farther away, on the corner, is a drugstore recently opened by a national chain. The layering of facades, the remnants of signs, and the juxtaposition of uses—existing and defunct—are reminders of the incessant change undergone by Harlem over the last forty years.

Vergara does more than widen our gaze. He extends it historically through images of the same place taken years apart. At 65 East 125th Street, a hairdressing salon has become a store selling beauty supplies and displaying sunglasses on the sidewalk, thus signaling a less distrustful owner if not a safer public space. As time passes, the beauty supply store is replaced by a clothing boutique, perhaps a sign of gentrification. A corner apartment building is gutted and then torn down; its lot is being used for car repairs. Later, condominium apartments for an affluent clientele take over the site; on the street, a median strip is planted with trees. The neighborhood is evolving, and the direction seems obvious.

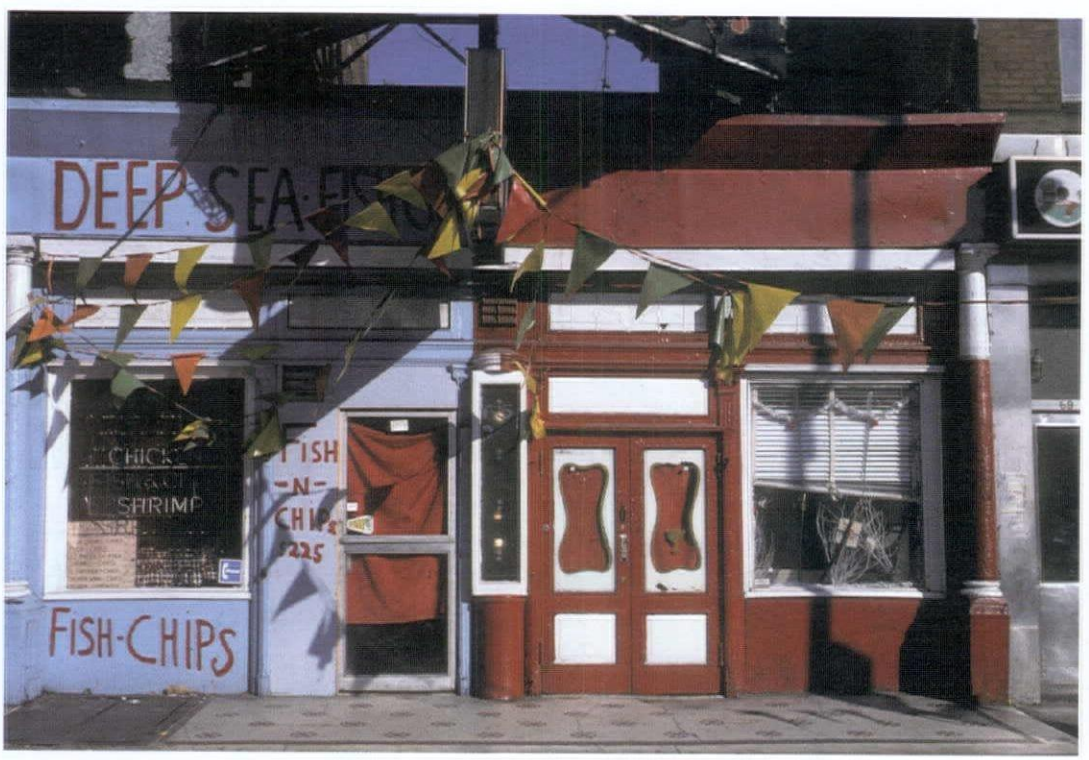
Vergara's project is an act of documentation. His images are meant to be

continued on page 93

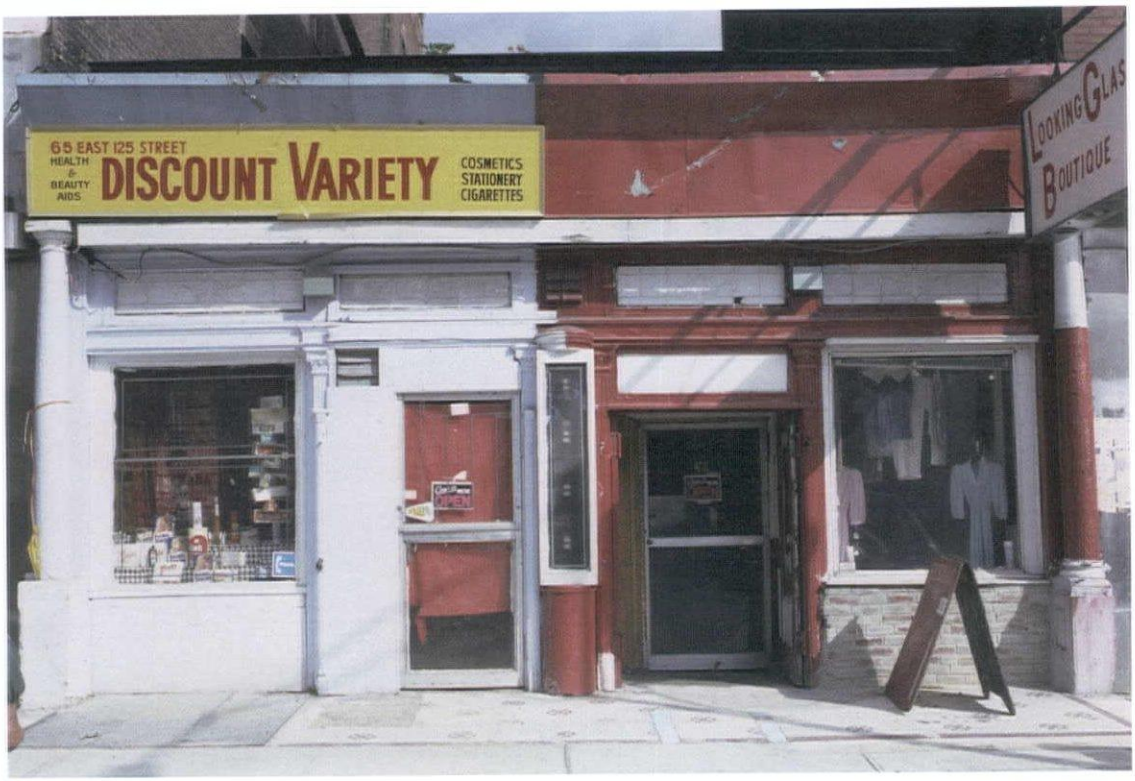

On Place



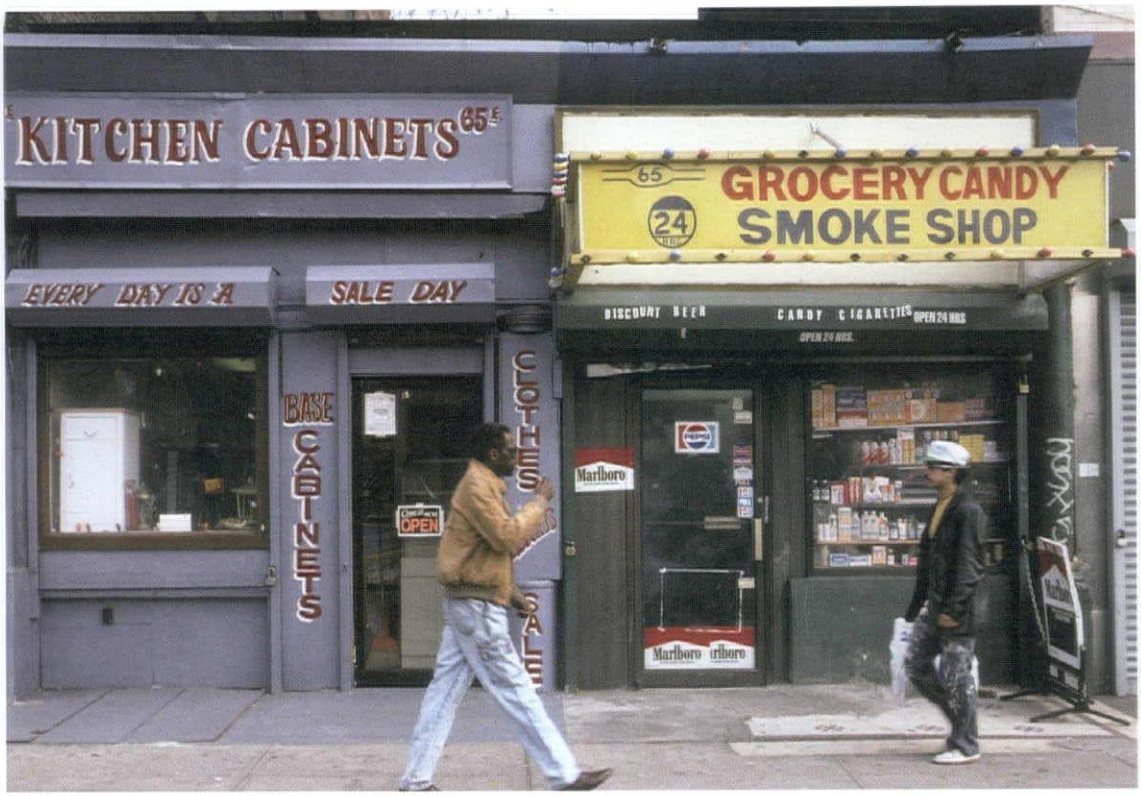
65 East 125th Street, Harlem, New York, 1977.



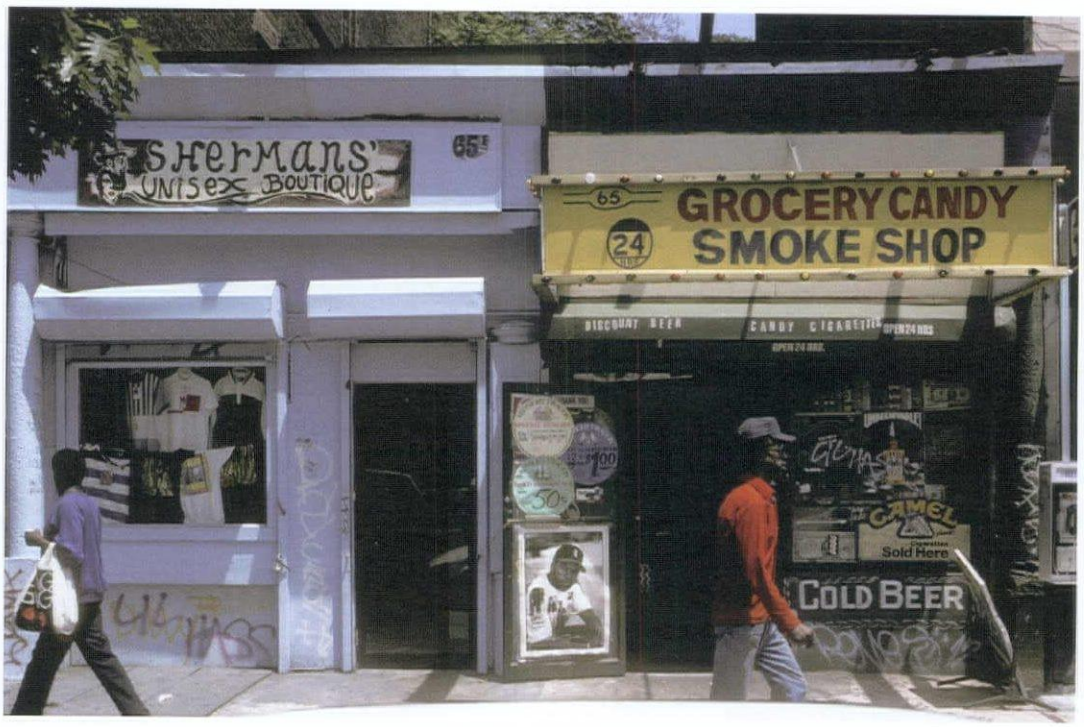
65 East 125th Street, Harlem, 1980.



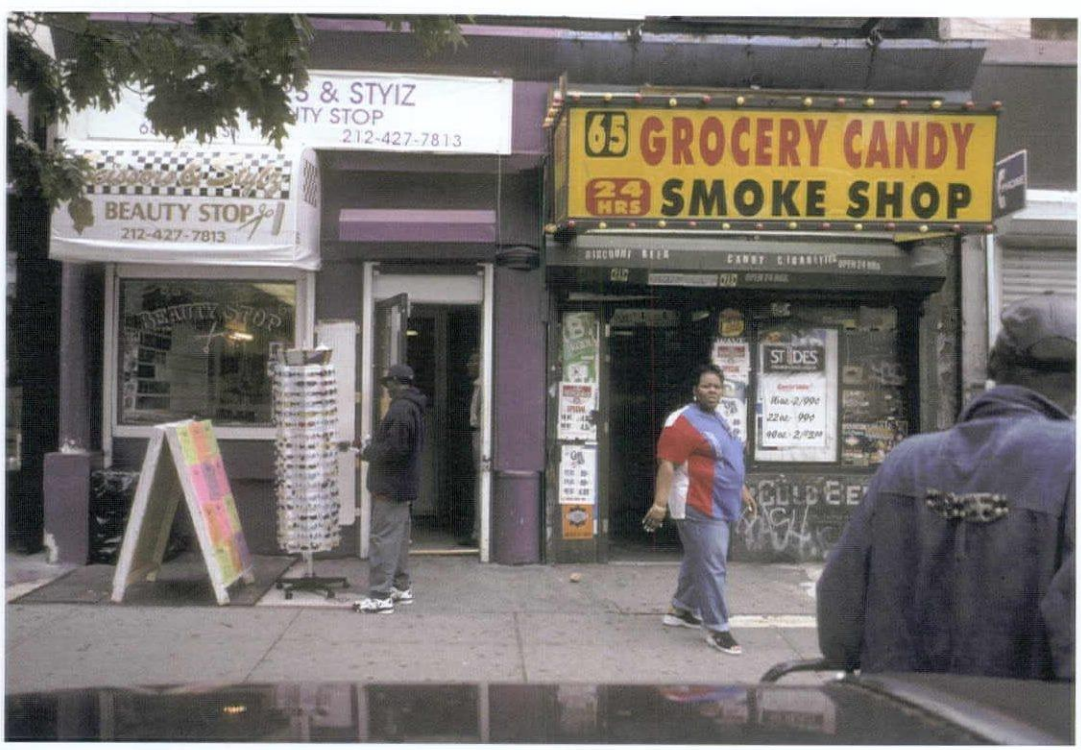
65 East 125th Street, 1981.



65 East 125th Street, 1990.



65 East 125th Street, 1992.

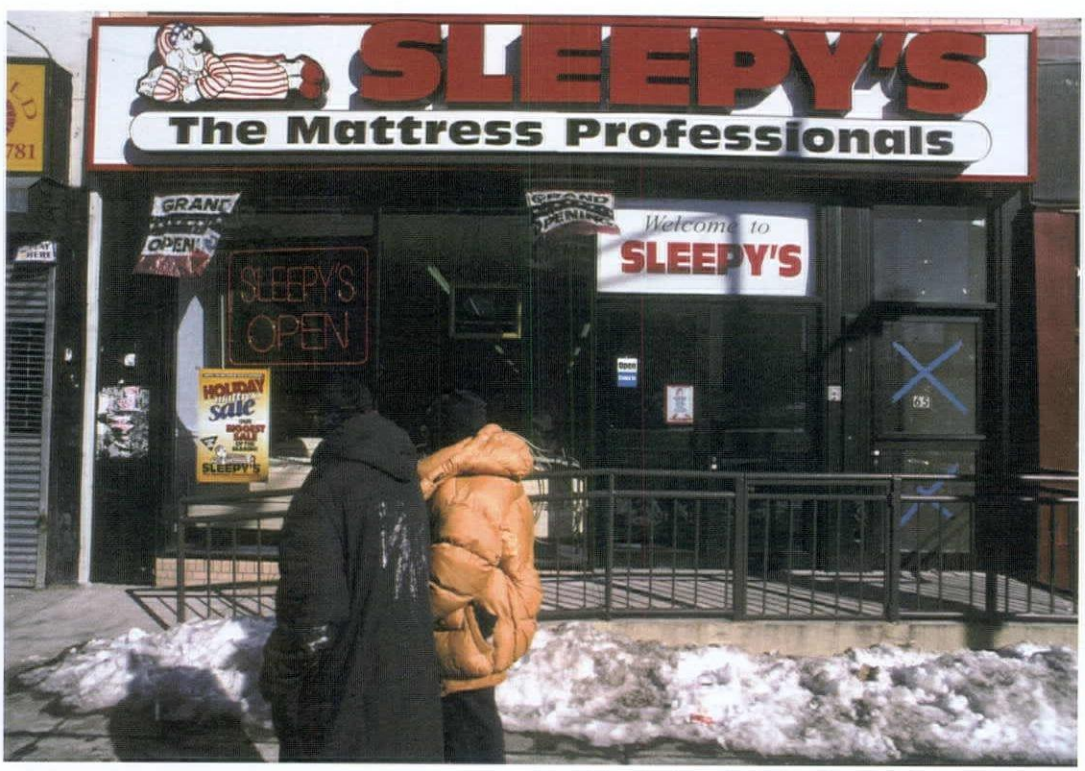


65 East 125th Street, 1998.

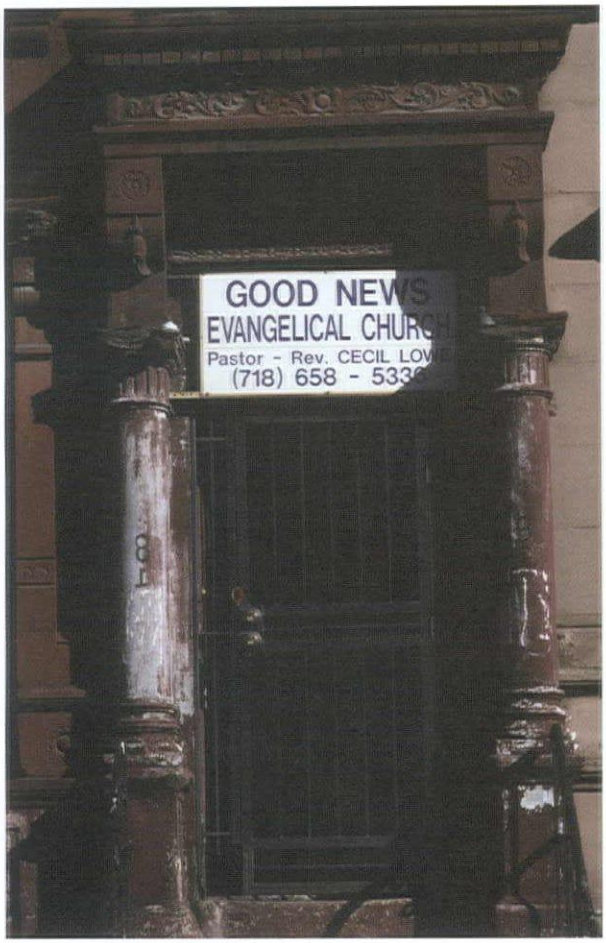
65 East 125th Street, 1998.

65 East 125th Street, 1999.

65 East 125th Street, August 2001.



65 East 125th Street 2004.



81 West 118th Street, Harlem, 1998.

Brenda, 81 West 118th Street, Harlem, 2007.

tools rather than aesthetic objects. They are to be used; they are evidence. But of what?

None but the incurious, I suspect, can look at these photographs and not imagine a story. Vergara, though, denies us the easy response of imagining individuals struggling in the face of adversity. People are rarely his subjects. Instead, he provokes us to find more enduring meaning in the streets and buildings of Harlem. His images are evidence of how neighborhoods are spatially organized and altering. They speak to the restlessness of entrepreneurial impulses, the changing composition of neighborhood activities (for example, from down-home cooking to fast-food restaurants), the ebb and flow of racial groups, the ways that retailing mirrors the needs and desires of those who live nearby, and the resilience of residents in the face of threats to body and property.

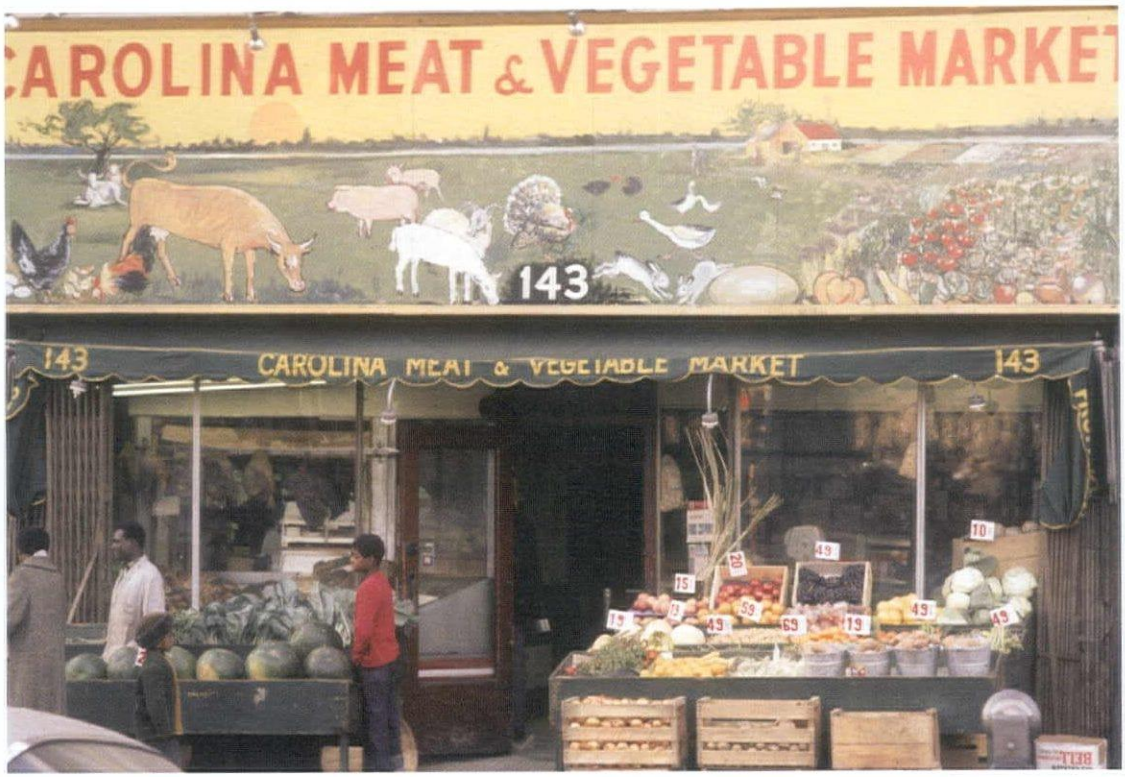
His photographs capture the spatial rhythms of investment and disinvestment. We literally see the government's indifference to the plight of the poor and its support for developers intent on extending the frontiers of affluence. Buildings, sidewalks, signs, walls, and empty lots evoke the neighborhood's changing value and identity. Layers and sequences are revealing; additions and erasures are unavoidable. The visual evidence augments the understandings that we, as professionals, derive from census data, interviews, computerized mapping, and surveys.

Most importantly, these photographs uncover the fraught racial history of the United States. Silently but forcefully, Vergara compels us to remember how such neighborhoods have been devalued, their people oppressed and marginalized, and their physical fabric damaged and exploited. Now, however, Harlem is more integrated, more affluent, and less dangerous. Since it is no longer a ghetto, will investment there be so extensive that it diminishes its new diversity?

Vergara has produced a rich source of evidence for understanding what Harlem was and how it came to be what it is today. From its built form can be read much about what it was and is like to live there. That we know in advance that these photographs are of Harlem means that race is central to the stories crafted from them. We begin to understand what it means to be poor, black, and segregated in America. Vergara powerfully evokes how race and place, once joined, figure in the daily lives of those who have made Harlem their home. □

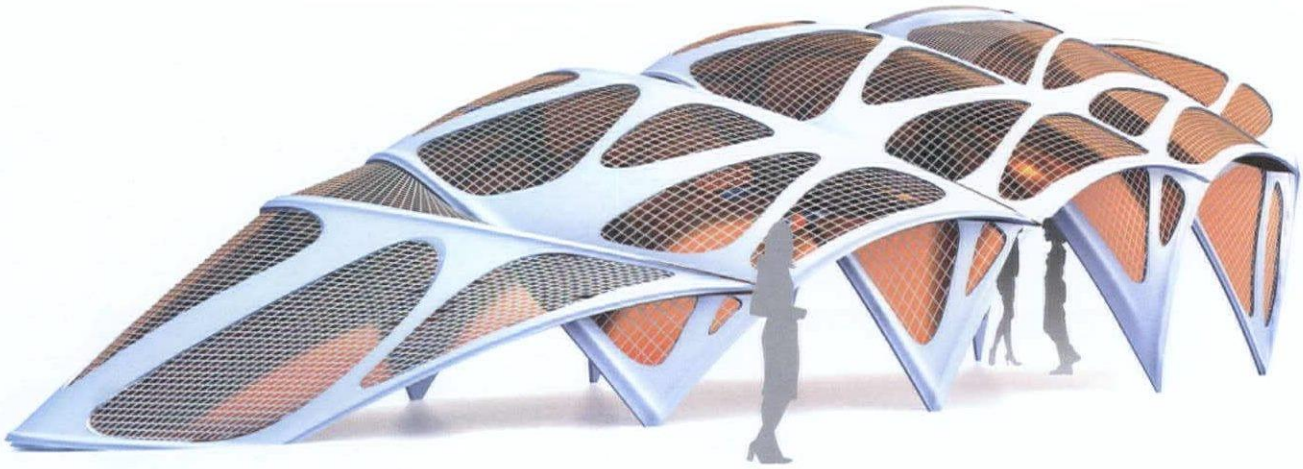
131 East 125th Street, Harlem, 1980.

135 East 125th Street, 2002.



143 Malcolm X Avenue, Harlem, 1970.

20 West 125th Street, Harlem, 2007.



Observations about Contemporary Design Pedagogy

THE GSD STUDIOSCOPE CONFERENCE

by TIM LOVE

Is the design studio still the most relevant and successful way to teach design? Richard Sommer, Associate Professor of Architecture and Urban Design, organized Studioscope, an April 2007 conference at the Harvard University Graduate School of Design (GSD) to address this perennial question from the contested territory between the academy and practice.

Unlike previous efforts to grapple with this issue, these presentations and discussions had more punch based on a new difference: Mainstream practice has completely embraced digital representation, while the academy still includes hand drawing in its foundation curriculum. The digital revolution is complete mostly because of the ubiquity of SketchUp as the favored tool for conceptual design in offices. Now that SketchUp is compatible with AutoCAD, and AutoCAD is compatible with Revit (the most popular Building Information Modeling program), a software hegemony exists in architecture that rivals the dominance of Microsoft in the rest of our lives. Pity the poor GSD student who can create complex three-dimensional curves after several years spent developing a proficiency in Rhino only to learn that very few offices find the program an effective design tool.

Although the digital revolution was relevant to almost every aspect of the symposium, it was not addressed directly. This lack of speculation is partly the result of topic-fatigue, but perhaps too much theorizing happened before the fact: More interesting questions are important now that the digital revolution has taken over even the smallest office.

A PEDAGOGY OF SPEED (OR SLOWNESS)

Against this background, the handmade and labor-intensive student projects presented by Marlon Blackwell, a professor at the University of Arkansas, seem downright medieval. Highly crafted renderings and exquisite physical models can be produced only in a monastery-like environment far outside our SketchUp-paced culture. In fact, speed as a pedagogical issue in design was theorized here for perhaps the very first time. Both Marlon Blackwell and Thomas Lyon Mills, Professor of Foundation Studies at the Rhode Island School of Design, extolled the virtues of their respective design methodologies as a way to get students to *slow down*.

In Blackwell's case, the slowing down was achieved in two ways. The first resulted from a multi-step process that began with the student selecting a "muse" (a pre-approved cactus or bug). Then, through drawings and models, students found (partly by intention and partly by chance) a compositional strategy for an elaborate three-dimensional skin. The process was modeled mostly on the classic John Hejduk methodology, but in this case natural

Nora Graw, *Adopted Shell*, rendering, student project under Greg Lynn for marketing pavilion for Red Bull, 2007. Courtesy, Greg Lynn:Form

On Education

forms like bugs and pinecones had replaced the medical and musical instruments of Hejduk's Cooper Union studios. The second slowing down stemmed from the level of craft put into each step. The red in a Prismacolor rendering of one of the student's muses alone required "ten different colors of pencil," according to Blackwell, and rivaled the nuanced shade and shadow and meticulous detail of the Dürer grasshopper that Blackwell showed as a point of reference.

In stark contrast, Ed Mitchell from Yale presented student urban design projects that had the same graphic qualities as the provisional diagrams and plans that need to be cranked out in professional practices. Partly owing to the graphics of Bruce Mau and OMA, but with less self-conscious artfulness, the digitally generated diagrams from Mitchell's studio could not be farther from the ethos embodied by the renderings of the Arkansas students. The difference has partly to do with the conception of the final result of design. Mitchell's diagram-centric proposals were more about organization than composition, strategies rather than specific proposals. For Blackwell and his students, the beautiful renderings and models are the final product, conceived as precious things themselves, rather than the provisional and notational evidence of design thinking. Is a six-week exercise to make an exquisite Prismacolor rendering of a cactus the most efficient way to learn the principles of design and/or an efficacious design methodology?

EPISTEMOLOGY OR NOT

Beyond the differences in attitude about craft and perhaps embedded in the modes of production themselves are two very different worldviews about the role of design in the culture-at-large. For Blackwell, design is an epistemology—a way of knowing the world—and thus the process of design should not be encumbered with the rationales, explanations, and logics of language. In this sense, design just *is* and thus has a value as both an authentic act of making and the evidence of that process. Mark Wigley, dean of the Columbia University Graduate School of Architecture, Planning, and Preservation, indirectly supported this position when he implored the panelists and gathered academics not to look too closely at the mysterious mechanics of the design process as they unfold within the studio. While he would never say it with such clichéd clarity, Wigley was implying that design should be a journey, not a means to an end.

In opposition to this are those instructors, architects, and critics who embrace the notion that an idea is a way of acting in the world. As a result, the act of design is burdened with the responsibility to solve problems and/or proffer critical positions, whether technical, societal, or cultural. In this case, a certain self-consciousness about a priori intentions is necessary to establish an appropriately critical agenda. As opposed to the open-ended speculation of the epistemological model, a design strategy that looks for efficacious situations is not about groping around (at least too much).

Perhaps the best demonstration of this design discourse is in Denise Scott Brown, Steven Izenour, and Robert Venturi's *Learning from Las Vegas* (first a Yale studio and then a book) and Rem Koolhaas's Harvard *Shopping* studio and publication. The musings in both cases were not personal and formal but rather aimed at revealing latent contemporary social and cultural conditions to generate rationales for innovative design proposals—a strategy akin to that of *Freakonomics* and other popular books by economists looking to data to discover deeply embedded, unexpected, and enlightening facts. Ed Mitchell offered the lone example of this pedagogical position at the conference.

Within my perhaps overly schematic picture, the personalities and positions of the participants can be sorted out, potentially shedding light on where design pedagogy might be headed. Interestingly, the epistemologists—such as Marlon Blackwell, Greg Lynn, the GSD's Scott Cohen, and Thomas Mills from Rhode Island School of Design—seemed to be the most charismatic pedagogues (at least at the conference). Part of their influence may be due to their wide-eyed belief in their personal approaches. This artistic ecology encourages hard-working disciples, valuable both as contributors and as the building blocks of a mutually reinforcing culture that allows the creative programs of the progenitor to flourish like hot-house flowers. This faith-based approach to design education is (ironically) highly efficacious for foundation studios because of the students' devotion (in time and personal effort) and the way it can engender a strong school-wide ethos that can be reinvented for each entering class.

The disciple-making value of this approach can also extend the culture of the school beyond its originators, with students becoming teaching assistants and then instructors with their own teaching assistants channeling the pedagogical obsessions of their masters. In this regard, the institutional evolution of Cooper Union beginning in the late 1960s can certainly be seen as the apotheosis of John Hejduk's original and evolving obsessions. The residue of his approach can be found in architecture schools around the country where Hejduk's former students (and students of those students) are teaching design methodologies that closely follow the script of the original.

THE RETURN OF THE CHARISMATIC AND INFLUENTIAL PEDAGOGUE

Importantly, the personal pedagogical approaches of Cohen, Lynn, and to a lesser extent Blackwell may be the first manifestations of strong pedagogies not precisely derivative of the last generation of long-shadow-casting mentors of which Hejduk, Peter Eisenman, and Colin Rowe may have been most influential. I suspect that in the cases of Cohen, Lynn, and Blackwell, creative ecologies have already been set in motion that may generate the kind of broad culture that Hejduk engendered. Blackwell's pedagogy may be derivative

of Hejduk in its use of source material and multi-step recombinatory model-making and drawing, but the difference is the use to which the process is put: Blackwell's finally gets to complexly patterned three-dimensional exo-skeleton cladding—an opportunistic marriage of the Cooper Union process and the alligator skins of Herzog & DeMeuron and Office dA. Blackwell has found a way, within the culture of the academy, to have it all, since he gets his students through the happy accidents of the muse-inspired process to end up with complex patterns rendered with Swiss precision.

Like Blackwell, Greg Lynn, professor at UCLA and visiting professor at the University of Applied Arts Vienna, talked about the open-ended formal experiments of his multi-year apprentices with assuring confidence, while the cultural relevance or realism of his methodology was never clear. One cannot help but be impressed with the complex forms, both solid and spatial, that Lynn and his students are able to coax out of digital software. Equally important is the precise language Lynn has developed to explain both operational techniques and final results. The design-as-freedom-to-play position (albeit with very sophisticated toys and rules) was brought to unsatisfying conclusion when Lynn presented a sponsored student project for a marketing pavilion for Red Bull, "Austria's best-selling soft drink." All of the formal virtuosity demonstrated in the digital projects of his studios had been reduced to a lumpen and symmetrical pneumatic structure that had the scale discordance of a pavilion at a miniature golf course, all the result of the incremental burden of economic, structural, and programmatic constraints. So much for epistemological purity when architecture needs to be built.

For these reasons, one aspect of Scott Cohen's own personal compositional obsessions may be more "useful," given both their wider bandwidth and their "charge" of larger syntactical and/or programmatic logics. I am not referring to the complex objects and spaces generated from the angled and triangulated planes in Cohen's descriptive geometry class.[1] This formal preoccupation and pedagogy is very close to Lynn's, just with different recipes and resulting shapes. Much more interesting and unique are the more subtle Venturi's-Mother's-House operations that are the centerpiece of Cohen's studio exercises, perhaps most brilliantly explored in a project that asks that a "disruptive elevator" be placed within an otherwise almost symmetrical building. No other studio exercise discussed at the symposium captured the way that design agendas seem to bubble up out of the contingencies of the problem-at-hand of everyday architectural production.

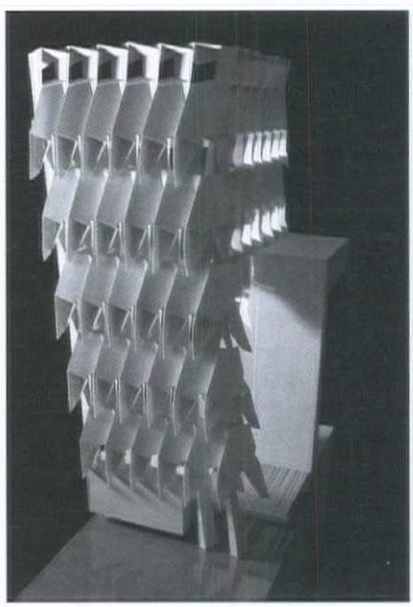
QUESTIONS OF BUILDING PROGRAM AND "MEANING"

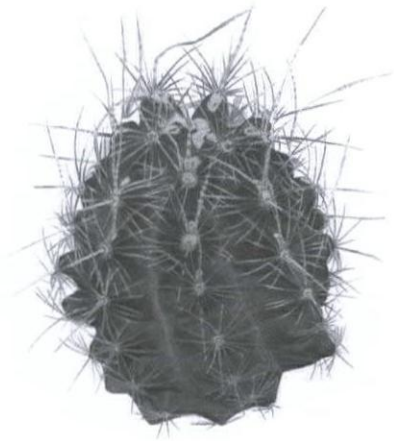
Although most studio projects—even the exercises of Cohen, Lynn, and Blackwell—are framed as buildings to be designed, the appropriate programmatic content for studio exercises was not directly addressed during the conference. Latent in the presentations and too brief discussions that followed was a tension between the epistemologists who downplay the function of their building assignments and the champions of studio exercises that address broader cultural and social issues, from the seemingly mundane world of regulatory codes to the cause-focused issues of global warming, globalization in Africa and China, and the like. For the first camp, the programmatic content of the studio exercise is mostly an excuse for formal investigation, although the program may be themed to spark poetic and/or linguistic analogies. Lynn's Red Bull assignment was perhaps the most extreme example.

Harvard's Professor Jorge Silvetti, on the other hand, bemoaned the current overemphasis on social, technical, and environmental issues in architectural education, much of it learned in non-studio courses. Silvetti made a convincing claim that these agendas have overwhelmed studio culture, resulting in projects that are superficial illustrations of non-architectural issues and concerns. Robert Levit from the University of Toronto pointed out that sustainable design and the ubiquitous green roof have become *du jour* components of student projects and too often a substitute for real critical thinking. Perhaps the green roof is to the second half of this decade what glass block was to students of the late 1970s.

In the same vein, Levit asked about the choice of form itself: Why all the curves in the work of Blackwell and Lynn (among others)? Referencing Blackwell's pedagogy and the initial choice of naturalistic muses, Levit made an astute observation that the organic curves favored by the operators of Rhino, that most tech-savvy of software, were creating latent symbols of the natural world with all of its code-dependent processes and, by extension, also to the ethos of the sustainable design movement. Levit was strongly opposed to the implied moralism of this position and made it clear that he championed the implicit artificiality of architecture and metropolitan culture in general.

Chris M. Baribeau, *Spatial Edge Model*, basswood and plexiglass, University School of Architecture, Marlon Blackwell's Comprehensive Design Studio, Fall 2002. Copyright, Chris Baribeau/Marlon Blackwell Architect





Chris M. Baribeau, *Echinocatus Scheeri*, prismacolor and pencil rendering, University School of Architecture, Marlon Blackwell's Comprehensive Design Studio, Fall 2002. Copyright, Chris Baribeau/Marlon Blackwell Architect

The question that was never quite answered was "What to do now?" It was clear after the first half-day of presentations that studio culture is in no danger of radical reform. Toshiko Mori, Mark Wigley, and Adele Santos, the program heads of the GSD, Columbia, and MIT, came out strongly in favor of studio as the primary vehicle for training the next generation of designers. It was surprising, given the historical and symbolic importance of Santos and Mori as woman leaders of esteemed Ivy League programs, that some of the social, psychological, and cultural pathologies of the studio and jury review system were not raised. Many programs, including that of Northeastern University (where I teach), are experimenting with collaborative design studios as the model and not the exception. In addition, digital technology may enable rethinking of the overtly hierarchical and often adversarial relationship between student presenter, review jury, and studio class during final reviews. The prevalence of slide show presentations rather than drawings in some programs has already encouraged experimentation in presentation format. Some of the change in dynamic is the result of the additional control the student-presenter has in the trajectory of the presentation and discussion, empowering both the presenter and, in subtle ways, other students in the audience.

Adele Santos and GSD professor Farshid Moussavi talked about the structure of the curriculum as a possible territory for tinkering. Santos discussed the overly complex category of degree program choices in and around the MIT School of Architecture and Planning. She articulated the virtues and challenges of the current system. Reading between the lines of her talk, one may surmise that the existence of so many options has as much to do with fiefdoms as with any governing idea about interdisciplinary learning. Perhaps Santos was hired partly to streamline some of the redundancies. Moussavi's presentation had more of the logic of a coherent recommendation. She championed a single foundation design program for architecture, landscape architecture, and urban design/planning, with students declaring a concentration *after* their first option studio. In Moussavi's vision, option studios should be much more diverse and interdisciplinary, reflecting a trend toward interdisciplinary approaches in innovative practices such as her own.[2] Her prescription would allow for both very focused fabrication studios and highly ambitious interdisciplinary urban design studios.

What was missing from both the Santos and Moussavi presentations, and what was only implied by the other participants, was *what* should be taught in studios. Certainly for the epistemologists and Mark Wigley, this is a question that should *not* be asked, but for the heads of programs within research universities, it needs to be the central question.

If we accept the Moussavi recommendation for curricular reform as a workable premise for the new world order, then the upper-level studios will take care of themselves, given the current trend and market demand for disciplinary nimbleness. More important to consider is the future content of the core foundation studios, whether combined into an über-core or not.

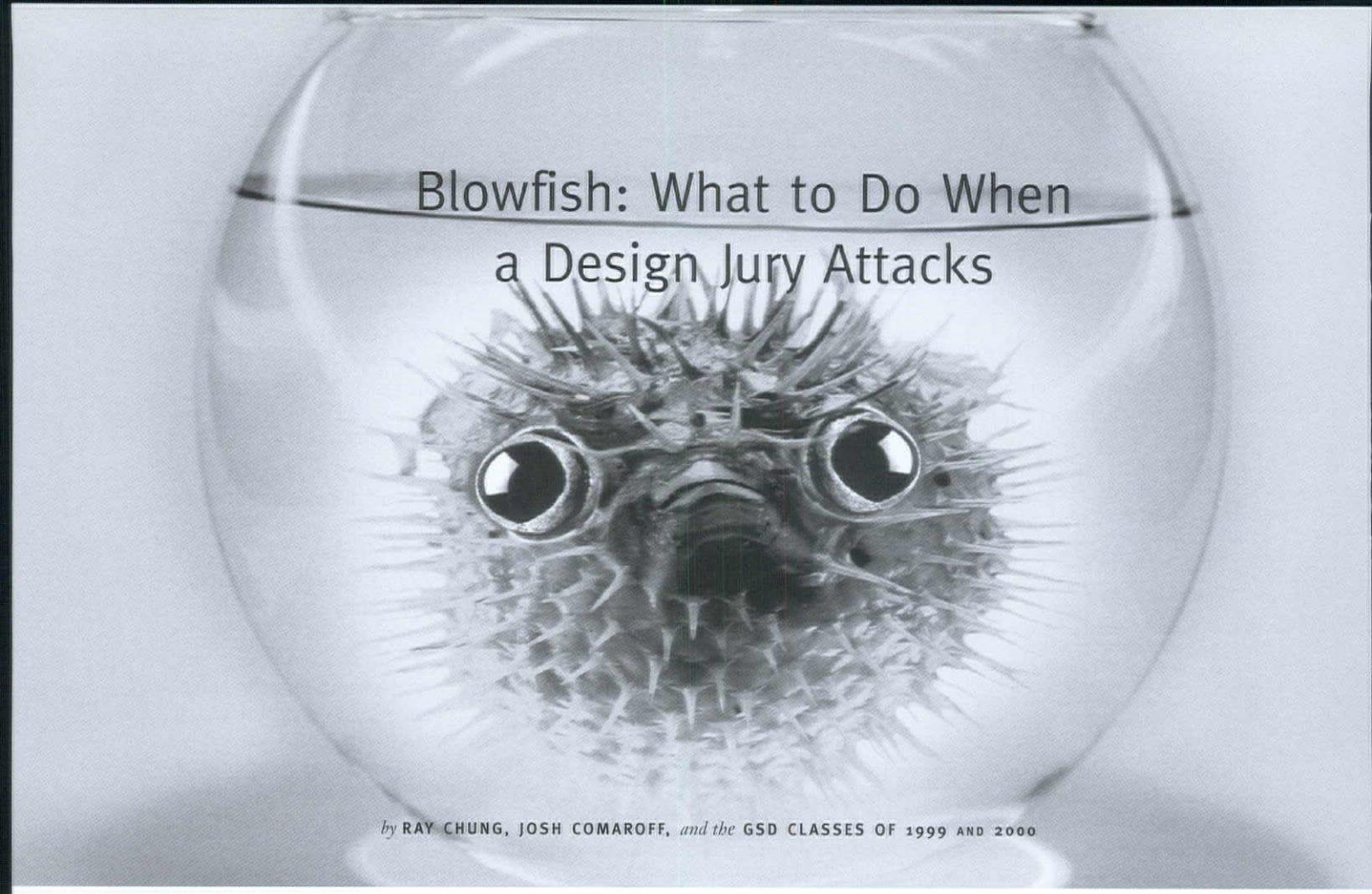
The difficulty with the core problem is not the charismatic single-mindedness of the instructors in evidence during the core panel at the symposium but rather the way that design methodology is taught. What is common among the prescribed methodologies of Blackwell, Lynn, and some of the approaches of Cohen is the notion that specific design operations can be set in motion *before* the establishment of fundamental *reasons for design to be necessary in the first place.* This is an important qualification to make, because the development of a project-specific design agenda in practice typically requires very different strategies and tactics. A project burdened with programmatic and regulatory complexity cannot be *about* the compositional operation; rather the need for a compositional operation should bubble up from the contingencies of the unfolding problem-solving process.

Unfortunately, operational and compositional preoccupations have been dislocated from more productive places within the prescribed methodologies of the studios of Blackwell and Lynn (among many other studios in architecture programs). Scott Cohen's "disruptive elevator" problem is a much more thought-provoking foundation studio problem. Perhaps the GSD should begin its curricular reform by rewriting its foundation studio with this kind of specific-problem-to-specific-operation exercise in mind. That is the only way to avoid empty formalism on the one hand and too easy illustrations of non-architectural ideas on the other. □

NOTES

1. The descriptive geometry class at the GSD is an example of an attempt to translate the highly idiosyncratic personal obsessions of an architect/critic into a "school" (à la Hejduk).
2. Farshid Moussavi is a Director of Foreign Office Architects in London.

Blowfish: What to Do When a Design Jury Attacks



by RAY CHUNG, JOSH COMAROFF, *and the* GSD CLASSES OF 1999 AND 2000

Note: *Blowfish* were first developed at the GSD by the classes of 1999 and 2000, especially Ray Chung and Josh Comaroff, as a way of making fun of the pretensions and relieving the stresses students face when they present their architecture, landscape architecture, or urban design final work to a "jury" of five to ten prestigious professionals. Here is a selection:

1. Blowfish
Puff out your cheeks and point your fingers out around your face, like dangerous spikes.

2. Pre-emptive abuse
Slap your head violently and mutter "Stupid, stupid, stupid, I should have thought of that."

3. Misunderstand the criticism
Reply, "Yo mamma."

4. Defense in numbers
Consult with your invisible friend, and then tell him to be quiet and speak later.

5. Alienation
Suddenly lose all English communication skills. Continue presenting seriously, in complete gibberish.

6. Throw down the gauntlet
Gesture aggressively toward the jury and yell, "Ya wanna go? Ya wanna step outside?" For a hockey motif, bear-hug a critic and try to pull his or her shirt up over the head. This renders your opponent both blind and open to your punches.

7. Bunker
Hide behind the nearest chair or pinup board.

8. Narcolepsy
Fall to the ground fast asleep, or if this is inconvenient, gently lean back against the pin-up board and doze off.

9. Camouflage
Prepare in advance and dress in a color similar to the site model or surrounding furniture. Then, in your moment of crisis, stay very still and make no sound.

10. Postmodern simulation
Leaf through your sketchbook and then look up and say, "I'm sorry, that's not in the script. What page are you on?"

11. Distraction
Motion to a location behind the jury and point out the submarine that's lurking in the distance. Timed correctly, this defense will earn you sufficient time to disappear mysteriously.

12. Good humor
Laugh boisterously and acknowledge the critic's witty joke. Then, smiling, proceed to ask for more serious remarks. Continue to giggle at random intervals.

13. Tight scheduling
Immediately look at your watch, gather up your things, and leave the room, apologizing for a previously scheduled appointment.

14. Witty rejoinder
Reword the criticism to incorporate the words "my ass," and then moon the jury, demonstrating where the criticism lies.

15. Sexual tension
Drop into a sultry tone and ask, "What are you doing after this is over?"

16. Lower the standards
Avoid standard terms like "plan," "section," or "elevation." For section, say, "This is what it would look like if you sliced the wall off and looked at it from really, really far away with a zoom lens. In black and white." Instead of "plan" use "strategy" until they correct you.

17. Regression
Cover your ears and start yelling, "La la la la la. . ."

Serious Green Fish. Photo, David Aubrey/CORBIS

18. Determination
Point at any part of your drawing over and over again, insisting, "But that's right here. Right here. It's right here. You're just not getting it. It's right here."

19. Quiet
Make the "shhhh" sound and look up into the distance. After a pause, ask, "Do you hear that?" Keep this up until everyone has forgotten the criticism.

20. Power of suggestion
Wink at the critic and repeat over and over: "You love it. Come on. You loooove it. . . ."

21. Bribery
Say nothing. Hand the critic a cookie.

22. Condescension
Look the critic dead in the eye and say, "Well, well, look at Mr. Fancy-Pants."

23. Scatological
Grab your stomach and run. "Gotta go potty."

24. Euro-advertising
Say nothing. Whip out a roll of Mentos, smile at the critic, and freeze.

25. The Jim Henson
Wear a hand puppet. Have puppet answer all questions. If a particularly negative criticism comes up, sag the puppet's head and say, "Critic make Doinkie feel BAD."

26. The Scarface
Dump a mound of cocaine on the site model. Kneel and bury your face in it.

27. Infantile
Bring stuffed animal. Gently cradle it and weep. Sing a lullaby. Say, "Fluffy is the only one who really understands me."

28. Sociopath
Cover your eyes and scream, "Why don't they leave me alone with my dreams???"

29. The John Wayne
Insist on speaking in a Texas accent. Swagger. Refer to the critic as "Pardner." If the critic asks you a question you can't answer, make your hand look like a pistol and yell "POW."

30. Emergency landing
Calmly sit down, put your head between your knees, and fold your hands over the back of your head. Remain in this position until the captain tells you it's okay to get up.

31. Doppleganger
Quickly repeat verbatim what was just said. Attempt to repeat each word said as soon as it leaves the critic's mouth.

32. Socialism
Whine plaintively, "How come I have to do all the work?" Alternatively, "I don't see you doing anything about it."

33. Ninety-degree rotation
Confidently re-present your plans as your sections and your sections as your plans. See if this helps.

34. Remove the evidence
Ignite your drawings and models, laughing maniacally, "Now you can't hold me for anything!" The local fire department's subsequent actions will naturally assist this defense.

35. Anticipatory emission
Act like you're going to sneeze and remain in that state for some time.

36. Miracle
Look at your hands in amazement, exclaiming, "I can see again!"

37. Rabies
Drool as you respond, twitching occasionally.

38. Pesci
Begin to respond to the criticism but then turn progressively violent, beating the living crap out of the critic, all the while repeating the criticism in a mocking voice. Continue doing this until the critic "cries like a little girl."

39. Taxi Driver
Snear "You talkin' to me?" in your best DeNiro style.

40. Gangsta
If you're wearing a jacket or vest, put your hand under your armpit and ask suspiciously, "You got prob wid dat?"

41. Tag
Run to the nearest unsuspecting person and tag him or her, saying "You're it." Then clear out, or you'll be tagged back.

42. Tickle
Abruptly tickle the critic. Vulnerable areas are the armpit, the belly, and the sides. The word "goochie-goo" may or may not cause more sensitivity in the critic.

43. Focus power (chi)
With a serious manner, straighten your body, look at the critic severely, then explain, "Architecture here!" (tapping on your chest), "No here!" (tapping on the critic's head).

44. Impending doom
Hesitantly respond to the criticism, concentrating on the area of ceiling directly above the critic's head. After a little while, start backing away from the critic slowly.

45. Special interests
Make your rebuttal based on the endangered mystical animals that inhabit the area of the critic's concern. For example, "But unicorns are fatally allergic to exhaust fumes, so there can't be parking anywhere near there."

46. Charades
Entertain the jury by responding in charades. It doesn't matter what you're trying to say. As long as you keep pointing to your nose enthusiastically and nodding your head whenever a critic makes a guess, they'll be happy.

47. Unknown trouble
Search through your pockets with concern, check your watch, then mutter, "Damn. Well, I guess it's going to be too late for that." Appear troubled, and answer all questions with resignation. While answering, keep watching the door as if someone is going to arrive. When a critic asks if you have something you need to do, hastily reply, "Forget it. Just keep talking."

48. Fade away
Begin your response in earnest, and point out something on the drawing or model for the critic to focus on. While the critic is turned away, slowly start walking toward the door without interrupting your sentence. As soon as you reach the door, bolt down the hall and hide in a stairwell.

49. Fashion statement
Treat the area in front of the jury as a fashion show runway. Strut back and forth with flair. Not only will you look glamorous, you'll feel glamorous.

50. Cat
Try to make yourself as tall as possible, raising your arms high above your head, making an offensive noise. The hungry critic will back down and search for less intimidating prey.

51. Bill and Ted
Make the devil sign with your hand, raise it above your head and shout, "San Dimas High School Football Rules!" The audience should cheer loud enough for you to make an exit.

52. Clouds
Play the cloud game. Turn to your drawing in fascination and point out how certain drawings look like faces or dragons.

53. Martyrdom
Drive a pushpin through your hand into the pin-up board, then ask the critic to do your other hand.

54. Yakuza
Take your X-acto and cut your right pinkie finger off. Wrap it in a white cloth and hand it to the critic to prove your commitment and utter shame.

55. Pout
Take a deep breath and hold it until your body twitches in dramatic paroxysms.

56. Junior high
Yell, "I hate you and your stupid rules!" Then stomp to a corner of the room, face the wall and turn up the music really loud. Ignore all calls to come to dinner.

57. Doobage
Spark up a joint and offer it to the critic. Begin philosophizing about life.

58. Cater
Arrange it so that at the moment of your review, a catering crew comes in and sets up a full spread, just for you and the jury. Food warms the soul.

59. Lost childhood
Look sad and mutter, "This is the worst school for show-and-tell I've ever been to."

60. Hostage
Determine quickly which member of the jury means the most to the critic. Then grab that person, hold a knife to his or her throat, and demand that all negative criticisms must end. You might as well ask for a little spending money, too.

61. Pardon
Simply state, "I'm going to pretend you didn't say that."

62. The erotic challenge
Drop your pants and ask, "Don't you think it's time we put the Stud back in Studio?"

63. Little Dee
Put your hands on your hips and say with flare, "Shut yo bitch ass up." If possible, slide your head side to side scoffingly.

64. Koala
Hug the critic fiercely, putting all your weight on his or her arm. Grunt and squawk a lot.

65. Grade
Post a list of the critics next to your drawings. Write a check minus next to the critic's name and say, "See that? That's for you."

66. Bad dog
Roll up a newspaper and whack the critic squarely on the nose. It causes a brief, sharp pain, but no permanent damage is done.

67. Heritage
Confidently answer, "Because that's how we people do it back in the old country."

68. Generality
Say, "Oh sure, I guess if you wanted to be technical about it. I guess I could 'design' it or 'draw' it, if you wanted to be anal." Keep making the quoting gesture with your fingers when you use key words.

69. Secret ink
Answer, "You can't see that because I drew it in lemon juice. You have to hold it above a lamp to read it, but don't tell the bad guys that's how you do it. Shh, it's a secret." Wink.

70. Gift horse
Indignantly say, "Ok, if you don't like it, fine." Then push the pin-up board with all your drawings out the door and charge down the hall, yelling, "I'm going to find someone who does!"

71. Hard worker
Immediately take down your drawings, roll them up, and head out the door. Tell them you'll be back with an answer.

72. Pez
Pull out a Pez dispenser and sheepishly offer the critic Pez, saying "Pez?" When you pull the head back to eject the Pez, giggle. Then become enraptured by the device and keep spitting Pez out until they're all gone.
Then cry.

73. Bladder dysfunction
Have a loaded watergun in your pants beforehand. Put your hands in your pockets as soon as the critic begins speaking. Gradually squirt water into your pants until the critic lets you go clean up.

74. Identification
Respond sarcastically, "What are you, some sort of critic?"

75. Ubiquity
Roll your eyes and sigh, "Everyone's a critic now."

76. Scale
Angrily shout, "There are people starving in the world, countries ravaged by war, and all you can talk about is how this imaginary design project is flawed?"

77. Popularity game
Turn your head and say with sarcasm, "OK, who invited the cool guy?"

78. Conspiracy
Drop your jaw and say with disbelief, "My God, you're one of them, aren't you?" Then look around and accuse the jury, "I bet you're all in on this together. They sent you, didn't they?"

79. Multiplicity
Run into another room, call home, then run back in with the answer. Tell them, "I'm just filling in. The real (your name here) is home sick in bed."

80. Apocalypse Now
Slowly run your hand down your face, mumbling, "The horror, the horror. . ."

81. Godzilla
Suddenly scream like a monster and lumber around the room with your arms straight out. Proceed to crush your models like a small Japanese village.

82. Darth Vader
Breathe heavily while extending your hand toward your critic's throat as if to choke him with the Force. Say, "I find your lack of faith disturbing."

83. Mr. Rogers
Change into a sweater and some sneakers, sit down, and lean toward the critic. "Would you like to be my neighbor?"

84. BA Baracus
In best possible Mr. T accent, respond with "Sucka, I pity the fool who asks me those questions." Gold chains a plus.

85. Reboot Windows
When a point is made, be in complete agreement, explain how this sometimes

DETERMINATION: POINT AT ANY PART OF YOUR DRAWING OVER AND OVER AGAIN, INSISTING, "BUT THAT'S RIGHT HERE. RIGHT HERE. IT'S RIGHT HERE. YOU'RE JUST NOT GETTING IT. IT'S RIGHT HERE."

happens, take down everything and put it back up again. If same point is made, seem puzzled and say, "This usually works on Windows . . . must be a corrupt file."

86. The put-off
When confronted with a question you can't answer, respond with "I can't get into that now, why don't you see me after class," OR "I'll get to that later" (but you never do), OR non-sarcastically, "That is a really good point, I am so glad someone brought that up. Would _____ [pick someone in the crowd] like to take a stab at it?"

87. Macarena
Wait for "el muchacho" to finish his statement and then yell "Hey Macarena" at the top of your lungs. Jump forty-five degrees to your left and proceed to do the Macarena. Macarena your butt out the door.

88. Photo shoot
Bring with you a disposable camera. Make sure there is a flash. At the first sign of trouble begin snapping photos of the crowd. Use phrases like "Pout, baby" and "Yes, the camera loves you." If problems persist, ask the critics to take off their tops. When they refuse, call them amateurs and demand that they leave your studio at once.

89. Wizard of Oz
Pick up your model, cradle it in your arms and pet it, whispering, "Toto, I don't think we're in Kansas anymore."

90. Lick
Impulsively grab the critic's head with both hands and proceed to lick his or her face from chin to forehead in one stroke. Smack your lips, ponder the taste, then say, "I thought so."

91. Wet paint
If there is a portion of your model that is not resolved, cover it with a small placard reading "Wet Paint." If the critic motions toward that area, quickly chide him or her, "Don't touch that, it's wet." A clear varnish or shellac will make this more convincing.

92. Scarface
Ask if the critic would like to say hello to your "little friend."

93. One of them
Do not pin up anything. Dress in black (or in a saturated-blue button-down collared shirt with white buttons) and sit in the front row with the jury. Confidently criticize everyone else's work to make the jury think you are one of them.

94. News anchor
Stick a finger in your ear, as if receiving a bulletin through an earpiece. Haltingly inform the critic: "Wait a minute . . . yes. . . . I'm receiving word that. . . It is indeed as you say, not like it looks here. Again, the latest news is that you are correct, and this drawing is NOT accurate."

95. Hollywood audition
For females, wear a very tight white v-neck shirt. Slightly tilt your body forward with hands at your hips, making sure the cleavage is at eye level to the juror. After the critique, approach one of the jurors individually and ask him how you could improve the project. During the entire conversation stare at him with wide childlike eyes, responding to the critique with "Oooh's" and "Aaah's."

96. Interrupting cow
Start your presentation by saying "Knock, knock." They say "Who's there?" You say "The interrupting cow." They say "The interrupt- " You say "Moo." Then proceed to present your project. When they say "Ineffectual" or "Simplistic" or anything else not particularly nice, you say "Moo" intermittently while they are talking. And laugh each time because it's really, really funny.

97. World cup
At the very first positive comment, throw your hands in the air and run crazy around the room, cheering. Have your classmates lift you on their shoulders. Do a running slide on your knees if you can avoid rugburn.

98. Farmer
Scratch your chin and answer humbly, "I'm just a farmer. I don't know about your fancy angles and smarty mumbo-jumbo." If they insist that you are an architecture student, reply, "Well, I don't know about that. I'm just a farmer."

99. Roberto Duran
Utter the words made famous by Roberto in the first round of his fight with Sugar Ray: "No mas." Then you have your trainer (studio mate or critic) throw the towel onto the model.

100. Sherlock
Reply, "No sh-t, Sherlock," to everything the critic says. See if you can convince the other jurors to join you.

101. Legal drama
Have a colleague stand up and yell, "Objection!" after which another colleague must say sternly, "Sustained." Feel free to look smug.

102. Caffeinated
Cut off every word with "uh-huh."

103. Karate Kid
Assume the crane position. There is no defense.

104. Floss
Begin to floss while audibly agreeing with your critics. Focus on the molars. If they aren't impressed by your project, they might be persuaded by your oral hygiene.

105. Martha Stewart Style
With an apron on, look the questioning juror in the eyes and say, "So, you ask me why I do it this way. Well, as a happy divorcée, I did it like this because I like it." End with a confident and condescending smile.

106. Odor
While listening to critic, begin to twitch nose and frown. Develop this into heavy sniffing and, with a quizzical expression, turn to jury and say, "What is that smell?" Slowly turn back to critic and ask if their tum-tum is hurting, while developing sniffs into a hacking fit.

107. Hollywood exec
As soon as the critics begin to talk, interrupt them rudely and let them know they have to make their pitch in fifteen words or less, otherwise you are "just not interested."

108. Ten-yard penalty
Bring a whistle and a yellow handkerchief to the review. Crouch down, stare at the critics, and be prepared to move quickly out of the way. When the critic uses design techno-jargon, blow the whistle and throw the flag, while yelling "Improper use of the English language. Ten yard penalty!"

109. Jedi mind trick
Raise your hand to the juror and say, "These drawings are the best you've ever seen." Done correctly to the proper authority all other jurors will follow and applaud your efforts. □

REVIEWED BY JIM KENNEDY

Design Like You Give a Damn: Architectural Responses to Humanitarian Crises

edited by Architecture for Humanity

New York: Metropolis Books, 2006

In his introduction to *Design Like You Give a Damn*, Cameron Sinclair, founder of Architecture for Humanity, comments that one of the organization's first competitions to design transitional shelters brought out entries that "ranged from the pragmatic to the provocative." This book, which showcases many of these entries alongside other examples of "architectural responses to humanitarian crises," never manages to jump over the shadow of this false dichotomy, and self-burdened with this choice, the book contains ninety-two different designs, more than thirty of which decidedly veer away from the pragmatic. In doing so, *Design Like You Give a Damn* inadvertently highlights the questions of what an architect's role in a humanitarian crisis should actually be, what "design" might mean in such a context, and fundamentally, what working "like you give a damn" might actually entail.

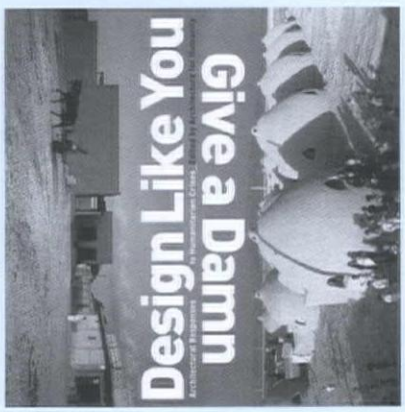
Architecture for Humanity (AFH) was founded in 1999, at the time of the ethnic conflicts in Kosovo, and since that point it has become for many the public face of architects committed to humanitarian endeavors. The various chapter offices now send members to work with NGOs engaged in reconstruction and fund-raising for construction projects worldwide. But it is for the competitions to design shelters and other structures for use in humanitarian response for which AFH first staked its claim to fame and continues to garner the most attention from the non-humanitarian world, and it is the format of a series of competition entry boards that *Design Like You Give a Damn* most closely resembles—double-page, graphics-heavy spreads, waiting for someone to make a critique and put the little red stickers on to indicate the chosen ones.

At first glance, the sheer variety and ingenuity is dazzling. But how can anyone make a choice about which one might actually save lives in sufficient numbers to make a difference? Which of the many would actually provide a solution (for the back cover blurb makes it clear that AFH "provides architectural *solutions* [italics added] to humanitarian crises") when hundreds of thousands of lives and tens of millions of dollars are at stake? A reader might be tempted to gently suggest that the concept of giving a damn might also include a certain amount of drawing a line in the sand and making a commitment of choice.

Over the same period as AFH's existence, roughly from the late 1990s to the present day, the United Nations and many international NGOs have been concentrating their research efforts in the fields of shelter and settlements on prolonged peer-review processes aimed at keeping costs and delivery lag to an absolute minimum through designing and planning on the large scale, while ensuring that the results will be shelters for which the intended beneficiaries can enjoy maximum adaptation to their cultural backgrounds and to the specific circumstances of each disaster. The results have concentrated on the very pragmatic: a framework of minimum standards for material qualities and for physical planning into which localized designs can be placed, a preference for flexible materials over finished structures, and an emphasis on contribution to the ownership by the beneficiaries themselves, all the while insisting that such efforts should come as a systematic program for recovery embedded in a rights-based approach—all this diverges from the methods often applied by AFH and enshrined in *Design Like You Give a Damn*.

The efforts of some of the "major players" are included in *Design Like You Give a Damn*, and in the book's spirit of equivalency, they are given the same two- or four-page spread as the other players. The reader can stumble across a transitional shelter program implemented by Oxfam, an organization that has deployed thousands of shelters across the world, right after the entry for the prototype *139 Shelter*, a giant unfurling umbrella by Future Systems, which has never been (and probably could never be) deployed in the field. But by arraying projects in this way in a book whose title is imperative and provocative, AFH attempts to co-opt the presentations of the pragmatic efforts of the larger organizations and neglects not only to indicate which of the offerings might work and which might be mere pipe dreams but also makes no effort to indicate a line between those efforts that were actual responses to AFH initiatives and those that have been

Book Reviews



developed independently from or even oblivious to AFH, but which the AFH editors have decided to include anyway.

By presenting the works of established organizations as just other efforts in a vast array of exciting choices, *Design Like You Give a Damn* almost smothers long-standing and preexisting critiques of many of the less practical designs—but there they are, for anyone who casts an eye beyond the graphic images: The main sections of *Design Like You Give a Damn* are more or less bookended by the entries for the United Nations High Commissioner for Refugees (UNHCR) and the Sphere Project (the most comprehensive and universally accepted of all the inter-organizational forums to produce minimum standards for humanitarian response), and for those who take the time to read and consider, these contain serious challenges to the organizers and entrants to the AFH competitions.

UNHCR kicks things off in the first paragraph of the mini-text accompanying the photo spread for their tents: "Designers have tried to rethink this basic tent for decades. Everything from prefabricated structures to shipping containers to polyurethane yurts has been suggested or attempted. But as the agency politely points out in its guide to emergency materials, to date none of these systems has proven effective in refugee situations. Most fail because other emergency shelter arrangements will have been made before these systems even arrive. . . . Others are difficult or costly to replicate." And at the other end of the book, contained in the history of Sphere Project's own existence, is a critique not only of the methodology of making finished designs from afar, but also of the very impetus which AFH claims as its *raison d'être*, challenging the claim that giving a damn in itself is sufficient: "At the same time [1996] there was a growing sense of unease among field workers and others about varied and sometimes poor response by some aid groups. As one researcher put it, 'The days of accepting the "good work" of humanitarian agencies were over.'"

It might seem churlish to present harsh criticisms of so many of the projects contained in *Design Like You Give a Damn* (including inevitably, yes, prefabricated structures, polyurethane yurts, and the like), especially in light of the obvious sincerity of the motives of many of the designers and of the fact that many of the designs originated in college design studio projects, and there is, after all, a dire shortage of shelter professionals around the world. However, with the stakes so high, judgments need to be made, first because the alternative is to continue to waste money and potentially damage the course of recoveries through inappropriate responses, and second because the editors of *Design Like You Give a Damn* not only claim that the book "brings the best of humanitarian design to the printed page" but also in a number of instances seem to deliberately blur away the problems in which designs could never meet the stark standards by which those judgments *need* to be decided: whether the design is quickly replicable on a mass-scale of hundreds of thousands, whether it is the most cost-effective solution, whether it is appropriate to the general cultural needs of the beneficiaries and adaptable to the specific needs of each family, and whether it is durable enough to provide shelter with dignity until permanent solutions are found.

The *139 Shelter* is a prime example of a failure to meet those needs. The umbrella structure is designed to be deployed at a cost of $30,000 per unit to give shade to up to 200 people. But to deploy just one of these units, a large truck or airdrop would be needed. In contrast, the self-build shelters designed by the major north-American NGO Cooperative Housing Foundation (CHF), shown a few pages earlier in the book, would house more than 1,600 people for the same cost ($90 per shelter), give each family its own privacy, involve the families in the construction, be constructed from immediately available, low-cost, local materials, and be easily movable when the time came.

Unfortunately, *139 Shelter* is also a prime example of where *Design Like You Give a Damn* plays fast and loose with the credentials of the design. On the world map in the sidebar of the page is a big orange spot to indicate that the design had to do with Ethiopia, and the main page is taken up with a photo of the shelter in the middle of a desert refugee crisis; the text states that the shelter was "one of the few architectural responses to the famine." But under the magnifying glass, the image of the shelter becomes clear as Photoshopped into the disaster setting, and there, in small, bracketed text, is the giveaway:

FEWER THAN 1,000 UNITS OF ALL THE OTHER DESIGNS COMBINED HAVE ACTUALLY BEEN CONSTRUCTED, AND THEN OFTEN AS PROTOTYPES OR ONE-OFF PILOT PROJECTS — ALL IN A WORLD WHERE THERE ARE NOW AN ESTIMATED 35,000,000 PEOPLE WHO CONTINUE TO BE UNDER THE EFFECTS OF FORCED DISPLACEMENT.

"Location_Ethiopia [unbuilt]."

In fact, of all the responses collected in *Design Like You Give a Damn*, a surprisingly large number of the designs remain unbuilt: Once the large-scale items from the UN and large NGOs have been set to one side, fewer than 1,000 units of all the other designs combined have actually been constructed, and then often as prototypes or one-off pilot projects—all in a world where there are now an estimated 35,000,000 people who continue to be under the effects of forced displacement.

THE WATER-PUMP IS DEPENDENT ON THE HUMAN ENERGY FROM A CHILDREN'S PLAYGROUND ROUNDABOUT. (WHAT HAPPENS TO THE COMMUNITY'S WATER SUPPLY ON RAINY DAYS, OR WHEN THE KIDS WANT TO PLAY HIDE AND SEEK INSTEAD?)

Other examples of designs that have at least one fatal flaw include the *Pallet House* by I-Beam Design, for which the same Photoshop sin has been committed. The spot on the sidebar map indicates Sri Lanka and the image caption reads, "The design adapted for use in Sri Lanka after the Indian Ocean tsunami," but closer inspection reveals the image itself is a figment of Photoshop and that the real thing may never have moved further east than the Bronx. The designers gamely suggest that the cost per unit would be $200 with donated pallets, or $1700 if the pallets had to be purchased. But as any humanitarian agency logistics manager will tell you: The pallets need to be purchased, and in the early stages of many humanitarian crises, there are actually shortages of them. And if the pallets were seen by the beneficiaries as being surplus or inappropriate as building materials, they would be burned as cooking fuel—so why not spend the money on five shelters' worth of real building materials instead?

The list of misdirected damn-giving goes on: The hemp cloth balloon house ($1800) into which windows couldn't be cut without damaging the integrity of the structure. The house whose engineering is designed to be resistant to once-in-a-thousand-years tsunamis but which makes it vulnerable to once-every-three-years cyclones. The rollable water containers that refugees designed for themselves years ago. The water-pump, dependent on the human energy from a children's playground roundabout. (What happens to the community's water supply on rainy days, or when the kids want to play hide and seek instead?) The shelter built entirely from used FedEx Paks, a Notable Entry in one of the competitions, no less. (But according to the drawing, each shelter would need over eighty of the Paks—and ignoring for a second the fact that FedEx Paks would last less than one morning in most disaster-zone climates, who would be sending hundreds of thousands of FedEx Paks into a disaster zone in the first two weeks anyway?) A temporary cardboard-box toilet that allows the box to be burned afterwards, but with impermeable liner bags for human waste that would quickly become a mountainous environmental hazard. (Sometimes the best answer, pragmatically speaking, really just is to dig a well-placed hole in the ground.)

And then there are the designs slipped in somewhere but that can hardly be said to be in response to a humanitarian crisis. In this category, we have: the tent prototypes for the Burning Man Festival, the agitprop stepladders to let people look over the walls of gated communities in Los Angeles, the rubber tubes that can turn chain link fencing into sunbeds in Hollywood. All in all, for the designs that got anywhere beyond the drawing board, there are eleven for Africa and twenty-one for the U.S.A.—four and three apiece for L.A. and New York, respectively.

Design Like You Give a Damn has more success in the sections that cover one-off permanent structures—with some examples like Auburn University's *Lucy House* offering inspiration for both prolonged involvement with the community and for clever use of recycled goods on a one-time basis—but even these hardly represent viable options for mass scale-up in recognized humanitarian crises for which the book makes its claims.

It's not as if the NGOs have all the answers—if their responses were effortless and flawless, then the impetus to get AFH off the ground would never have arisen in the first place. Part of what affects the AFH-led efforts also affects the established agencies: a desire to hard-line every aspect of the design rather than relinquish control to those working on the ground. The first drafts of the UNHCR *Handbook for Emergencies* in 1981 had a scheme for camp design that was in effect just a group of circles into which the refugees would choose where to place their shelters; through the entire section on "Site selection, planning and shelter," there were fewer than ten numeric indicators. Twenty years later, there were indicators for everything from how many footballs to how many sticks of school chalk there should be per camp, and the template design for a camp community in the latest edition states exactly how many meters apart each shelter should be.

Maybe the trade-off of folding in the pragmatic with the provocative is as good as can be realistically achieved, and any book that brings images of the work of Shelter Centre or ITDG/Practical Action onto the coffee tables of the urban North ought to be applauded, no matter what the cost.

But for those, particularly architects, who think that there should be better, what then is the answer? Perhaps a relinquishing of the assumed god-like power to damn, an acceptance that the crisis at hand is not the architect's (or the NGO's or the UN's) but the affected community's, and an acceptance that hard-lined design may not be the answer to every problem and that the design that works best in the end may not be the architect's but that of the affected families, for which the architect is merely the custodian of the tools. □

REVIEWED BY SEBASTIAN SCHMALING

Americans and Their Land

by Anne Mackin

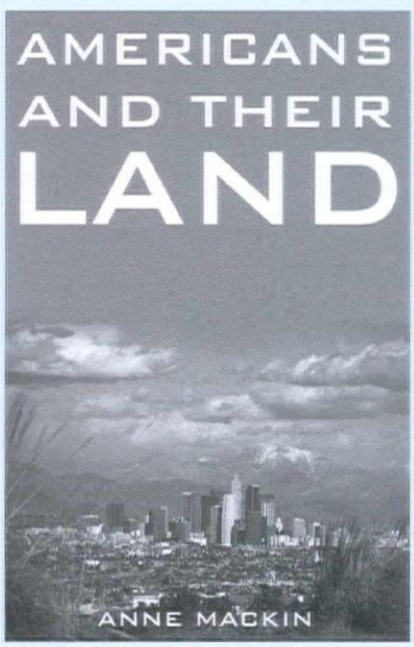
Ann Arbor: The University of Michigan Press, 2006

Life, Liberty, and the Pursuit of Property

The branding of America as the Land of Plenty is perhaps one of the most enduring marketing plots in history. The paradisiacal promise of a continent awash in natural resources and fertile soils triggered an unprecedented and still ongoing global migration, motivating people to risk their lives and overcome geographic barriers, all for a piece of land they might call their own. The importance that land played in the New World's genesis is perhaps not surprising, considering that the American project was a formidable economic and real estate venture first, motivated by raw resources and land speculation rather than divine inspiration. The majority of the Founding Fathers, with all their chatter about an egalitarian society and an Arcadian nation of self-reliant farmers, were themselves large land holders with a keen interest in protecting their wealth —which tempted historian Daniel Friedenberg to suggest, perhaps unfairly, that the "Constitutional Convention was in large part a national real estate convention."[1]

The abundance of land played a principal role in the economic evolution of this country. Land, as a seemingly infinite commodity, was currency and collateral; it paid for soldiers and transportation systems. More importantly, the boundless supply of land became the cornerstone of America's existential philosophy amalgamating the concepts of personal freedom, land ownership, and democracy into a comprehensive set of values that, over the centuries, has become thoroughly embedded in the nation's collective conscience, creating what James Hite called "a society of land speculators."[2] And if it weren't for Thomas Jefferson, the Bill of Rights would have probably included Adam Smith's original motto: "life, liberty, and the pursuit of property." It is clear that a country whose ideological DNA is based on the perceived interchangeability of "property" and "happiness" must have a particular set of attitudes toward its own territory, shaping its landscape and leaving a lasting genetic fingerprint on its culture, community, and body politic. It is these attitudes that Anne Mackin sets out to examine in *Americans and Their Land*.

Mackin, a former planner for the Commonwealth of Massachusetts, carefully traces the evolving relationship of the first European Americans and subsequent generations of immigrants with their New World environment. Starting with the early settlements along the eastern seaboard, Mackin follows the shifting frontier and its relentless westward movement, describing the most pivotal events in this country's development and their ongoing effects on America's geography. As the reader joins her on this tour from New England and Virginia through the vast territory of future fly-over states all the way to California, Mackin describes America's transformation from virgin terrain into an industrialized nation, including the carving up of Ohio, the Dakota fur trade, the building of the railroads, California's emergence as America's cornucopia, and the country's relentless sub- and exurbanization. Rather than treating these events as detached episodes, Mackin successfully positions them within a larger cultural context and shows their historic interdependencies, demonstrating how, over the centuries, shifting political and economic priorities impacted federal policy and public attitudes toward land distribution, housing, and the environment, with profound and lasting consequences on the country's physiognomy.



The book's protagonists include the usual suspects, such as Washington and Jefferson, without whom any musings about the origins of America's centuries-long physical makeover would be incomplete, but Mackin also features more peripheral figures like late 19th-century pioneer Tasker Oddie, a man typical of common people whose lives exemplify the ongoing human effort to conquer land and claim resources. Lured to Nevada by the dreams embodied in the slogan "Go West, Young Man," Oddie started out with nothing but eventually found silver, became rich, and served as Nevada's governor and U.S. Senator.[3] Oddie lives out the rags-to-riches myth central to the American Dream. More importantly, though, his tale describes, perhaps less abstractly than Marxist

critics such as Howard Zinn ever have, the role that personal wealth, most of it originally based on land speculation and the exploitation of natural resources, has played and continues to play in the mechanics of American democracy.

Not surprisingly, the philosophical roots and maturation of democracy in this country are reoccurring themes in this book. Mackin scrutinizes the current state of our democratic institutions, which she sees threatened, now more than ever, by powerful economic interests. She worries about the consequences of "our affluence-based fantasies" corrupting the essence of the American project, and she forcefully denounces the increasingly unmitigated influence that industries and corporations hold over Congress and its elected members, warning us (and quoting Tocqueville) that "materialism is a grave danger in the population of democracy" (209). Of course, the seduction of wealth has always been the driving force in America's economic and territorial expansion and arguably fuels the economic engines of any capitalist society. Furthermore, the suggestion that America's democratic model is in decline implies an unadulterated past in which it was functioning more properly and more purely, a time in which wealth and property were distributed more fairly.

But the American idea has arguably never been about social fairness,[4] and while Mackin points out a "gradual rise in inequality" and studies that show that America's "wealth gap"—a euphemism for the chasm between rich and poor—continues to grow at a record pace,[5] it is worth remembering that even in America's early adolescence, the dispersal of the vast, virgin lands of public domain to private holders was never equitable; it usually favored large speculators over individual settlers. Socially conscious entrepreneur Peter Barnes even charges that "the history of the giveaway of America's public lands constitutes one of the longest ongoing scandals in the annals of modern man."[6] So when Mackin deplores the demise of the family farm, which she illustrates with a story of a husband-wife team of dairy farmers who were gradually driven out of business by vast conglomerates seizing control of the national food chain and setting wholesale prices that please Wall Street but make smaller-scale farming obsolete (196–199), she fails to acknowledge that large landholders and corporate farms have dominated America's agriculture for decades, especially in the western states: Even in 1970, 50% of California's farm land was owned by only forty-five corporations.[7]

AMERICANS AND THEIR LAND IS NOT MEANT TO BE A DEFINITIVE CHRONICLE OR A COMPREHENSIVE HISTORY; RATHER IT IS A CRITICAL ESSAY AND INVALUABLE PRIMER—A CAPTIVATING DIGEST FOR ANYBODY INTERESTED IN THE ORIGINS AND EMERGENCE OF AMERICA'S SETTLEMENT PATTERN.

The issues that the book addresses are so vast and complex and encompass so many fields of study—cultural anthropology, sociology, political science, economics, planning, agriculture, history—that it seems daunting to distill them into 200 pages, as Mackin did, without resorting to platitudes and generalizations that could easily render her work superficial, if not irrelevant.[8] But *Americans and Their Land* is not meant to be a definitive chronicle or a comprehensive history; rather it is a critical essay and invaluable primer—a captivating digest for anybody interested in the origins and emergence of America's settlement patterns. The book contains few primary sources or original research, but Mackin skillfully processes and repackages a wealth of secondary literature, including magazine and newspaper articles, anecdotal subplots and a measured dose of family lore. In fact, she is most insightful when she descends from the lectern and shares with us the personal and often conflicting experiences of Citizen Mackin—the mother driving her kids to the suburban McDonald's drive-through, the government-employed planner witnessing the struggle of community activists against powerful developers, the nostalgic adult describing how development has altered the character of the region where she grew up. Mackin's message is clear: The dramatic environmental changes we are facing are not abstract events triggered by some inevitable force but are caused, experienced—and paradoxically, often abhorred—by all of us.

Other books have been written about America's complex relationship to its landscape, the careless waste of natural resources, and the economic inequities related to the distribution and ownership patterns of land—all of them themes that were as relevant thirty-five years ago as they are today. What sets Mackin's work apart from these books—most dry and overly earnest planning literature turn-offs presumably collecting dust in libraries—is her elegant, readable writing, her engaging story-telling.[9] Avoiding the monotony of a linear storyline that so often dooms books chronicling historic developments, Mackin instead employs a concentric narrative, frequently zooming in and out of her subject—a technique like that of Eric Schlosser in *Fast Food Nation* with its fast-paced investigative journalism that delivers a mix of hardcore facts and soft human-interest stories in easily digestible four-page nuggets.[10] This may bother some die-hard academics, but Mackin clearly aims to engage an audience well beyond the confines of America's ivory towers.

The book's powerful last chapter may have a lasting impact on readers. In it, Mackin changes from casual storyteller into merciless critic of America's laissez-faire economics and fetishized culture of consumption. Sounding very much like journalist and investor Daniel Friedenberg, who concluded that America's relentless pursuit of land produced "a view of land divorced from its function as part of nature, and seen as consumer throw-away product to be abused without regard for the future,"[1] she urges a fundamental reorientation of the way we use the land and treat the environment, warning that "what abundance has set in motion it cannot sustain" (xi). The image of America as El Dorado, as an eternal Garden of Eden, was a fantasy, an opportune mirage instrumental in America's growth into the world's economic powerhouse. As the Land of Plenty is getting more crowded, more people have to share America's limited resources, continuing to harm housing affordability, environmental quality, and social equality.

Without resorting to apocalyptic or alarmist clichés, Mackin points out that America continues to consume a disproportionate amount of global resources to maintain its unsustainable way of life, as the world approaches an ecological collapse. In a voice whose urgency is contagious, she calls for a radical public effort to reclaim America's democratic institutions from the stranglehold of megacorporations, redefine the priorities that govern our daily lives, and ultimately salvage the social, economic, and environmental fortunes of this country. But Mackin's recipes for change are rather vague, which is perhaps not surprising, considering the complexity of the issues and the limited scope of this book. Nevertheless, when she proposes an "educational campaign to restore our understanding of our part in the natural world" (210) and demands that "somehow we must emerge from our affluence-based fantasies" (211), she is at risk of turning off readers with a jargon that seems to echo the insipid sound bites and intellectual ambiguity of campaigning politicians.

Of course, her call for a "collective vision of the best uses for our resources and the best way to share what remains to us" (193) may be read as a veiled appeal for more restrictions on individual property rights, certain to provoke the ire of libertarian advocates and their conservative counterparts for whom any infringement on people's ability to use their property however they want is paramount to treason. But Mackin shows that the American landscape has always been more than merely a giant generator of individual wealth; equally important has been the profound impact its vast expanses have had on the nation's character, psyche, and collective identity. It is here where conservationism suddenly emerges as a civic responsibility, a patriotic duty that turns the debate about future land-use policy upside down, transcending the common notion that this is a systemic struggle between polar opposites, between left and right, between those who want to save America's liberties and those who want to destroy them. If you truly love America, the book's inevitable conclusion is that you have to take care of her land. □

NOTES

1. Daniel Friedenberg, *Life, Liberty, and the Pursuit of Land: The Plunder of Early America* (Buffalo, New York: Prometheus Books, 1992), 322.
2. James Hite, *Room and Situation: The Political Economy of Land-Use Policy* (Chicago: Nelson-Hall, 1979), 18.
3. See also Loren Biggs Chan, *Sagebrush Statesman: Tasker L. Oddie of Nevada* (Reno: University of Nevada Press, 1973).
4. Discussing social inequality and the distribution of wealth in America, Paul Krugman, in a speech at the Economic Policy Institute on February 22, 2007, points out that the emergence of the American middle class is a relatively recent phenomenon: "In the 1920s, we were . . . still in the gilded age. . . . In terms of the actual distribution of income . . . we were still an extremely unequal royalist society. By the time World War II was over, we had become [a] middle-class society." *How to Save the Middle Class from Extinction*, <www.alternet.org/story/ 48988/>.
5. A study by the Economic Policy Institute shows that the chasm between wealthiest households and everyone else has grown more than 50% over the last four decades. See Jeanne Sahadi, *Wealth Gap Widens*; August 29, 2006, <http://money.cnn.com/2006/08/29/news/economy/ wealth_gap/index.htm?postversion=2006082913>.
6. Peter Barnes, *The Sharing of Land and Resources in America*, A *New Republic* Pamphlet, 1974, 3.
7. Ibid, 4.
8. The sheer magnitude of the book's theme explains why Mackin had to focus on a select list of topics while only touching on, or entirely omitting, others. Nevertheless, it is somewhat curious that her account of the changing American landscape starts only with the early New England colonists and not, as one might expect, with the history and ultimate demise of Native Americans. Mackin makes the valid point that the uneasy relationship and the resulting conflicts between Native Americans and European newcomers "are such large topics, and so well covered in other books" that she would cover them only tangentially. Yet it is worth remembering that the very notion of individual land ownership that compelled European Americans to reshape the New World both physically and culturally was virtually unknown among Indians. Marion Clawson, in her book *America's Land and Its Uses*, points out that the "idea of selling land . . . was totally foreign to the Indians. . . . Out of this difference in concepts toward land was to come misunderstanding, bitterness, and conflict in later decades." (Marion Clawson, *America's Land and Its Uses* [Baltimore and London: The Johns Hopkins Press, 1972], 16). Charles Beard points out that the passing of the Constitution had a profound impact on land values, arguing that the "chief obstacle in the way of the rapid land appreciation (in western lands) was the weakness of the national government that prevented the complete subjugation of the Indians, the destruction of old Indian claims, and the orderly settlement of the frontier. Every leading capitalist of the time thoroughly understood the relation of a new constitution to the rise in land values." (Charles Beard, *An Economic Interpretation of the Constitution of the United States* [New York: Macmillan, 1961], 23.)
9. The 1970s saw a surge in land-use related literature, when the general consensus was that "land policy [was] a neglected area of public debate in the United States" and that "for seventy-five years, [there had been] no effective land policy worthy of its name" (Hite, 22–23).
10. Eric Schlosser, *Fast Food Nation: The Dark Side of the All-American Meal* (New York: Perennial, 2002).

Practice Points

MEETING OF THE *HARVARD DESIGN MAGAZINE* PRACTITIONERS' ADVISORY BOARD

Present: **Max Bond, Roger Ferris, Mark Johnson, Scott Johnson, Jonathan Marvel, Hannah Peters** (GSD Associate Dean for External Relations), **Dennis Pieprz, Bill Saunders** (*Harvard Design Magazine* Editor), **Yvonne Szeto, Marilyn Jordan Taylor, Bill Valentine, Bart Voorsanger, Allison Williams**

The *Harvard Design Magazine* Practitioners' Advisory Board expressed these points of view at their June 4, 2007, meeting at the offices of SOM in New York:

Harvard Design Magazine has become increasingly readable but should have more short essays in response to the typical busyness of its readers. Scientist Michelle Addington's essay on green buildings in HDM 26 was particularly refreshing not only for its iconoclasm but also for its grounding in hard facts. More articles on architecture by careful specialists from outside the design disciplines should be sought.

Publication in HDM of more essays with *advanced*, cutting-edge understanding of building sustainability should be attempted. Certain building types—hospitals and research buildings, which are big energy users—have yet to be thoroughly thought through for sustainability. A rethinking of the LEED standards for green buildings should be offered; those standards now fail to differentiate between things that make a big difference and those that make a minor difference in total energy footprints, and they give too little consideration to variations in sites, local climates, and building types.

It is striking how a majority of developers seem to have jumped high onto the "green bandwagon" in the last year, out of a sense that green design both sells and is the right thing for the planet. Yet many clients are thinking of green buildings more as pleasant environments for their employees (with natural lighting and ventilation and amenities like cafés) than as energy savers.

One of the most striking insights in the HDM issue on skyscrapers was that our moment in history has encouraged the production of spectacular and strange tall iconic buildings that often emphasize novelty for its own sake. In that respect these designs are boringly homogeneous. When *everything* is seeking the "Wow" response, then nothing can obtain it. Part of this striving has to do with the pressure to stand out in international design competitions, part with the fact that unprecedented building shapes are enabled by CAD, and part with the presence of huge amounts of capital now looking to make big splashes in real estate. (On the other hand, as Zaero-Polo pointed out in HDM 26, the huge amounts of capital going into buildings as investments also produces risk-aversion that makes the *majority* of new high-rise production conventional and lifeless.)

The renderings of exotic skyscraper exteriors on the inside front cover of HDM 26 are reminders of a disturbing lack of concern for and a disconnect from the quality of *interior* environments. Iconic designs can overlook other important factors: Libeskind's new museum in Denver, for instance, uses unprecedented amounts of steel per square meter. Iconic buildings rarely show any interest in relating to their urban context. Should cities try to cluster or keep far apart such extravagant designs? Will Frank Gehry's *IAC Headquarters* in New York seem diminished when Jean Nouvel's flamboyant condo tower is finished next to it?

On the other hand, this period in architecture is one of unparalleled diversity and creativity. One board member showed the inside front cover renderings of exuberant towers to a group of artists who responded by applauding this work and saying that they thought that architects were now on the leading edge of artistic achievement.

Discussion ensued on the wisdom of having an HDM issue on the process of selection of designs and designers, its strengths and weaknesses, and potential for improvements. How often are designers selected for the wrong reasons and are these errors rectifiable? Especially problematic are competitions, which not only demand extensive unpaid work but which often entail all-too-hasty and arbitrary designer selection. What, for instance, are the inner workings of the General Services Administration's Design Excellence Program? At the same time, the extent to which designers choose clients compatible with their values and goals should not be underestimated. Ideal situations arise when designer and client develop faith in each other and together embrace a process that has an initially unclear outcome. □

A MAJORITY OF DEVELOPERS SEEM TO HAVE JUMPED HIGH ONTO THE "GREEN BANDWAGON" IN THE LAST YEAR, OUT OF A SENSE THAT GREEN DESIGN BOTH SELLS AND IS THE RIGHT THING FOR THE PLANET. YET MANY CLIENTS ARE THINKING OF GREEN BUILDINGS MORE AS PLEASANT ENVIRONMENTS FOR THEIR EMPLOYEES (WITH NATURAL LIGHTING AND VENTILATION AND AMENITIES LIKE CAFÉS) THAN AS ENERGY SAVERS.

Mohsen Mostafavi is named dean of Design School

Mohsen Mostafavi. Photo, Jason Koski

Mohsen Mostafavi, an international figure in the fields of architecture and urbanism, will become the dean of the Faculty of Design beginning in January 2008, Harvard President Drew Faust announced on August 10.

An accomplished academic leader, architect, and scholar, Mostafavi is the dean of Cornell University's College of Architecture, Art, and Planning, where he is also the Arthur L. and Isabel B. Wiesenberger Professor in Architecture. Formerly an associate professor of architecture and director of the Masters of Architecture I program at the GSD, he served for nine years as chairman of the Architectural Association School of Architecture in London before his appointment at Cornell.

"Mohsen Mostafavi has an impressive record of leadership at two distinguished schools of architecture and design, and his intellectual vitality and international outlook promise to serve our Design School well," said Faust. "His interests extend across the GSD's principal domains of architecture, landscape architecture, and urban planning and design, and his leadership style is marked by an openness to new ideas and an instinct for crossing boundaries in creative ways. He is also a highly respected scholar and educator who has longstanding ties to the Design School and who bridges the worlds of theory and practice with unusual aplomb. It will be a pleasure to welcome him back to Harvard and to work with him as he and his colleagues create the brightest possible future for the GSD."

"I am deeply honored and excited by my appointment to the GSD," said Mostafavi. "I look forward to working with the School's extraordinary students, faculty, and staff. To return to Harvard at such a pivotal moment and to have the opportunity to work with President Faust is an incredible privilege. I know she shares my belief in the importance of design as an indispensable part of making the world a better place and the importance of collaboration across the University. It is particularly gratifying to return to Harvard, where I spent many happy years."

Mostafavi will succeed Dean Alan Altshuler, who will serve through the end of December. "I want to thank Alan for his exceptionally thoughtful and devoted service as dean of the GSD these past several years and for his willingness to carry forward his leadership through the fall term," Faust said. "He is a remarkable citizen of the University, whose wisdom and counsel will greatly benefit Mohsen as he prepares to assume the deanship."

As dean of Cornell's College of Architecture, Art and Planning since 2004, Mostafavi has led a school with some 100 faculty members and nearly 800 undergraduate and graduate students from more than thirty countries. The college's programs range from architectural design, history, and theory to urban policy and planning to the visual arts. Mostafavi was also responsible for establishing the college's new educational facility in New York City designed to give students a unique opportunity to live and study in the center of the architecture and art world, where he has been teaching and conducting research related to ecological urbanism. He is credited for the commissioning of Rem Koolhaas and the Office for Metropolitan Architecture as the designers of the College's new *Paul Milstein Hall*. While at Cornell Mostafavi served as a member of the provost's committee of deans, the social science deans committee, as a member of the board of trustees committee on buildings and property, and the university's architecture advisory committee, in addition to representing Cornell in the National Humanities Alliance.

From 1995 to 2004, Mostafavi was chairman of the Architectural Association School of Architecture in London. He is credited with having bolstered the AA's reputation as one of Europe's leading centers of architectural study, while guiding a transformation of the studio experience for students, launching new programs in such fields as landscape urbanism and emergent technologies, and bringing to fruition an array of notable exhibitions and publications.

Born in Iran, Mostafavi received a diploma in architecture from the AA in 1976. He then undertook research on counter-reformation urban history at the University of Essex from 1976 to 1981 and the University of Cambridge from 1981 to 1984. After serving as a design critic at Cambridge and a visiting professor at the Frankfurt Academy of Arts, he taught at the University of Pennsylvania School of Design. He then served at Harvard as associate professor of architecture at the GSD from 1990 to 1995 and directed the Masters of Architecture I program from 1992 to 1995.

As a scholar and educator, Mostafavi is particularly known for his studies of building surfaces and how they change over time, as well as his interest in the interplay of natural and built systems in the design and planning of urban environments. His books include *Surface Architecture* (with David Leatherbarrow), which received the 2003 Bruno Zevi Book Award of the International Committee of Architectural Critics for distinguished contribution to architectural criticism; *Delayed Space* (with Homa Farjadi); and *On Weathering: The Life of Buildings in Time* (with David Leatherbarrow), which won the American Institute of Architects' commendation prize for writing on architectural theory. His research and design projects have been published in numerous leading journals, and he has recently edited and contributed to *Approximations: The Architecture of Peter Märkli*, *Landscape Urbanism: A Manual for the Machinic Landscape* and *Structure as Space* on the work of the innovative Swiss engineer Jürg Conzett.

A member of the Royal Institute of British Architects and the Mies van der Rohe Foundation European Union Prize committee, Mostafavi has served on the Institute's Gold Medal selection committee, the steering committee of the Aga Khan Award for Architecture, the international design committee of the London Development Agency, and chaired the European selection committee for the Holcim Awards for sustainable construction.

Mostafavi maintains a global consulting practice and is married to Homa Fardjadi, a professor in practice of architecture at the University of Pennsylvania who also has a professional practice in London.

GSD Notes

Alan Altshuler to Continue at GSD through the Fall of 2007

Alan A. Altshuler, who announced last fall that he will step down as dean of the Harvard Graduate School of Design (GSD), has agreed to stay on as dean for the fall semester until a new dean is selected. Altshuler was appointed acting dean of the School in July 2004 and assumed the deanship in February 2005. In her recent letter to the GSD faculty, staff and students, President-elect Drew Faust wrote, "Alan Altshuler has my deepest gratitude, as well as that of the faculty advisory group for the search, for his very generous willingness to carry forward."

Faculty Appointments and Promotions

Martha Schwartz Promoted to Tenured Professor of Landscape Architecture

Martha Schwartz has been promoted to Professor in Practice of Landscape Architecture, with tenure, effective July 1, 2007. Since 1987 she has held the positions of Design Critic and Adjunct Professor in the GSD, where she has taught options studios, portions of the landscape architecture core, and seminars. An award-winning landscape architect and artist, Schwartz has a major interest in urban projects and the exploration of new design expression in the landscape that can be raised to a level of fine art. As principal of Martha Schwartz Partners in Cambridge, Massachusetts and London, England, Schwartz has over twenty-five years of experience as a landscape architect and artist on a wide range of projects with a variety of world-renowned architects. She is the recipient of numerous awards and prizes including a fellowship from the Urban Design Institute, several design awards from the American Society of Landscape Architects, visiting residencies at Radcliffe College and the American Academy in Rome, and a recent Honorary Fellowship from the Royal Institute of British Architects in London. She has lectured both nationally and internationally about the landscape, and her work has been featured widely in publications as well as gallery exhibitions. Recent projects include the *Mesa Arts Center* in Mesa, Arizona; the private residence for Sheikh Saud Al-Thani in Doha, Qatar, working in conjunction with Arata Isozaki, Philip Johnson, Santiago Calatrava, and Jean Nouvel; a shopping mall interior and exterior in Frankfurt with MAB Gmbh.; urban reclamation and development projects with Urban Splash Developers and English Partnerships; as well as other projects in Austria, Italy, China, and the U.K.

Martha Schwartz. Courtesy, Martha Schwartz, Inc.

Carl Steinitz to Become Wiley Research Professor of Landscape Planning

Carl Steinitz is retiring and will become the Wiley Research Professor of Landscape Planning. This position will allow him to continue to teach and conduct research. Steinitz has been teaching at the GSD since 1966. His interests are reflected in his teaching and research on landscape change, methods of landscape analysis, visual quality, and landscape planning and design. His courses include Theories and Methods of Landscape Planning, a seminar on the visual landscape, the third semester Core Studio, and annual studio options. He received the Outstanding Educator Award of the Council of Educators in Landscape Architecture and the Distinguished Practitioner Award from the International Association for Landscape Ecology. In 1997 he was chosen by the student body to receive the annual Graduate School of Design Teaching Award.

Jonathan Levi Promoted to Adjunct Professor of Architecture

Jonathan Levi has been promoted to Adjunct Professor of Architecture. Levi has been with the GSD since 1985. Adjunct Associate Professor of Design since 2000, Levi has taught many core lectures and studios, the most recent being on construction technology. In 1994, Levi co-founded Stein/Levi Architects in Boston and later formed his own firm, Jonathan Levi Architects, whose Brookline and May Residences were featured in *Distinctive Home: A Vision of Timeless Design* by Jeremiah Eck. Other selected projects by Levi Architects include the forthcoming *Boston Dental Center* in Brookline, the completed *Harvard University Graduate Student Dining Commons*, the *Harvard University Graduate Student Housing Complex*, and the *Holocaust Memorial* in Charleston, South Carolina. Levi has been a member of the AIA College of Fellows since 2002 and National Peer of the Chief Architect's Office in the General Services Administration since 2004. He has received many honors and awards, among them the ASLA's Honor Award for the *Harvard Graduate School Student Housing Complex*, which was featured in *Architectural Record*, and the Grand Prize Design Award, 21st Century Project Competition, from the Association of College and University Housing Officers for the FlexDorm Design Concept, also featured in *Architectural Record*. Levi received his MArch from the Yale University School of Architecture and his BA from Yale University.

Maryann Thompson Promoted to Adjunct Professor of Architecture

Maryann Thompson has been promoted to Adjunct Professor of Architecture. Thomson has been the Harry S. Shure Professor of Architecture at the School of Architecture, University of Virginia, Visiting Associate Professor at MIT's Department of Architecture, and GSD Design Critic in Architecture. Thompson is a Founding Partner of Thompson and Rose Architects, the recipient of many honors and awards, including the AIA National Design Honor Award for the *Atlantic Center for the Arts* and the AIA National Honor Award for the *Straitsview Barn*. Thompson founded Maryann Thompson Architects, recipient of the AIA New England Design Honor Award for the *Outdoor Classroom* and *Vine Trellises* at Arnold Arboretum, the BSA Honor Award for Design Excellence in the Housing Design category for the *Westport Meadow House*, and the BSA Honor Award for School Design for the *Atrium School*. Her firm won the Brooklyn Bridge Park Competition with Michael Van Valkenburgh Associates. Maryann Thompson Architects' *Geothermal House* was "House of the Month" in *Architectural Record*. She holds a BA in architecture from Princeton University and both an MLA and MArch from the GSD.

Michael Meredith Promoted to Associate Professor of Architecture

Michael Meredith has been promoted to Associate Professor of Architecture. Meredith has been with the GSD since 2003, first as Visiting Design Critic, later as Assistant Professor of Architecture. His publications include a review of the exhibition and book "The Last Works of John Hejduk" in *Artforum*, "Diller + Scofidio" in *A+U*, and the forthcoming "Radical Inclusion" in *Perspecta*. His "Huyghe + Corbusier: Harvard Project" Puppet Theater appeared as "best in category" in *I.D. Magazine*'s Annual Design Review. Prior to working for Richard Gluckman Architects and his residency at The Chianti Foundation, Meredith received his MArch from the GSD and a BArch from Syracuse University.

John Hong Appointed Adjunct Associate Professor of Architecture

John Hong has been appointed Adjunct Asso-

ciate Professor of Architecture. Recently a design critic in architecture at the GSD, Hong has also served as lecturer at Northeastern University. He is co-principal of SINGLE speed Design (SsP), recipient of the AIA Young Architects Award and the AIA/BSA Housing Design Award and AIA/BSA Honor Award for their *Big Dig House*. Hong's work was discussed in an article by Paul Goldberger in *The New Yorker*. Hong has an MArch from the GSD and BS in architecture from the University of Virginia.

Mark Mulligan Promoted to Adjunct Associate Professor of Architecture

Mark Mulligan has been promoted to Adjunct Associate Professor of Architecture. Mulligan has been with the GSD since 1996 and has taught courses including "Innovative Constructions: Cases From Modern Japan" and "Building Technology." Prior to his work with the GSD, Mulligan worked with Maki and Associates in Tokyo, Japan. Mulligan's projects include the *Casa Rudin-Vega* in San José, Costa Rica, and the *Anderson House* in Alexandria, Virginia. Mulligan has authored several articles for *Harvard Design Magazine* and other journals, and the forthcoming books *Nurturing Dreams: Collected Essays on Architecture and the City by Fumihiko Maki* (editor) and *Japanese Modern Architecture: Projects and Itineraries*. Mulligan has a BArch from Yale University and an MArch from the GSD.

Timothy Hyde Appointed Assistant Professor of Architecture

Timothy Hyde has been appointed Assistant Professor of Architecture. A design critic and lecturer at the GSD since 2004, Hyde was named GSD Teacher of the Year in 2007. Prior to teaching at the GSD, he was with Design Associates in Cambridge and Eisenman Architects in New York. Hyde received his PhD from Harvard, MArch from Princeton, and BA from Yale University.

Mariana Ibañez Appointed Assistant Professor of Architecture

Mariana Ibañez has been appointed Assistant Professor of Architecture. Ibañez comes to the GSD having worked as an architect in ARUP's Advanced Geometry Unit and most recently with Zaha Hadid Architects. Ibañez continues to be coprincipal of the firm I/K Studio. She received her MArch from the Architectural Association in London and her BArch from the University of Buenos Aires.

Brent Ryan Appointed Assistant Professor of Urban Planning

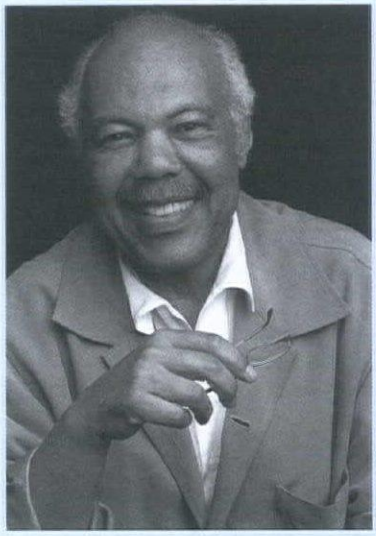
Brent Ryan has been appointed Assistant Professor of Urban Planning. Prior to his appointment at the GSD, Ryan was Assistant Professor of Urban Planning and Policy and co-director of the City Design Center at the College of Urban Planning and Public Affairs and the College of Architecture and the Arts, University of Illinois at Chicago. He received his PhD in Urban Design and Planning from MIT, MArch from Columbia University, and BS in Biology from Yale University. Ryan was an Urban Design Consultant in Boston and a City Planner for the New York City Department of City Planning. He has received many of professional honors and awards and has authored a number of publications, including the forthcoming *The Suburbanization of the Inner City: Urban Housing and the Pastoral Ideal*.

Harvard Design Magazine Wins AIA Honor Award

Harvard Design Magazine, represented by Editor William S. Saunders, was awarded the Institute Honor for Collaborative Achievement by the American Institute of Architects at its 2007 annual conference in San Antonio.

New Members Join the *Harvard Design Magazine* Practitioners' Advisory Board

J. Max Bond, Jr., BA '55, MArch '58, FAIA, is principal of Davis Brody Bond LLP Architects and Planners, New York. Bond is recognized internationally as one of the United States' leading architects and educators. He has directed projects such as the *Birmingham Civil Rights Museum*, *The Martin Luther King, Jr., Center*, and major research laboratories at Harvard, Columbia, and Northwestern Universities. He has designed office buildings and libraries and has designed in Ghana and Zimbabwe. Bond served as New York City Planning Commissioner from 1980 to 1986, taught at Columbia University's Graduate School of Architecture and planning for sixteen years, and served as chairman for four years. Bond was also the dean of the School of Architecture and Environmental Studies at City College of New York. He held the Favrot Chair at Tulane University and served as the Charles Moore Visiting Professor at the University of Michigan. He was elected a member of the American Academy of Arts and Sciences. His firm is Associate Architect for the *World Trade Center Memorial* and Design Architect for the *Memorial Museum*, and is working with Renzo Piano on Columbia University's expansion.



J. Max Bond, Jr., MArch '58, FAIA. Photo, Fred Conrad, *New York Times*. Courtesy, Davis Brody Bond

Jonathan Marvel and **Robert M. Rogers**, coprincipals of Rogers Marvel Architects, are sharing a board position, alternating years. Rogers Marvel Architects is a multidisciplinary practice of forty-five architects, landscape architects, urban designers, preservationists, and product designers, working on a wide range of projects including museums, schools, and public spaces. Marvel and Rogers co-founded TRUCK Product Architecture and Rock12 Security Architecture. Rogers Marvel's NOGO streetscape elements were exhibited at the Museum of Modern Art earlier this year.

Marvel majored in fine arts at Dartmouth College and received an MArch with distinction from the GSD. He worked in the office of Richard Meier + Partners on the *Museu d'Art Contemporani* in Barcelona, the *Getty Center* in Los Angeles, and the *High Museum of Art* in Atlanta. Marvel has taught design studios at the GSD and Parsons, is a former board member of the New York Chapter AIA, and serves on the preservation committee of the Municipal Art Society as well as the streetscape committee for the New York City Art Commission. He is principal-in-charge of the *Lamar Dodd School of Art* building for the University of Georgia, the master plan for the *Visual and Performing Arts Center* at Dartmouth, and the renovation and addition to the *South Fork Natural History Museum*.

Rogers received a BA and a BArch from Rice University and an MDesS from the

Robert Rogers (l) and Jonathan Marvel (r). Courtesy, Rogers Marvel

GSD. Rogers joined I.M. Pei & Partners and worked on the *Grande Louvre*, the *Bank of China*, and the *Science Center* at Choate Rosemary Hall School. He has taught design studios at Pratt Institute and Columbia University, held the Cullinan Chair at Rice in 2004, and now teaches at the Parsons School of Design. Rogers lectures frequently at universities and institutions, most recently at the Malaysian Institute of Architects, the National Academy of Sciences, Harvard University, and Washington University, St. Louis. He is principal-in-charge of the renovation of *Higgins Hall* at Pratt Institute, *The Studio Museum* in Harlem, and is leading the Battery Park City Security and Streetscape and the NYSE/Financial District Security and Planning projects.

Harvard Design Magazine News

The New Architectural Pragmatism: A Harvard Design Magazine Reader, has recently been published. *Judging Architectural Value*, another recent *Reader* has been reviewed in *Metropolis*, *A Weekly Dose of Architecture*, and elsewhere. Upcoming *Readers* will focus on nature and design, as well as urban design past and present. All *Readers* are edited by **William Saunders**, editor of *Harvard Design Magazine*. Saunders was interviewed on "The Jack Rice Show" on WCCO Radio about *Judging Architectural Value*. The *Readers* can be found on the University of Minnesota Press web site at ‹www.ump.edu›. Saunders's essay "Rem Koolhaas's Writing on Cities: Poetic Perception and Gnomic Fantasy" will be published in *Writing Urbanism: A Design Reader*, a collection initiated by the Association of Collegiate Schools of Architecture.

New Book

Inventing American Modernism: Joseph Hudnut, Walter Gropius, and the Bauhaus Legacy at Harvard

The University of Virginia Press has published Jill Pearlman's *Inventing American Modernism: Joseph Hudnut, Walter Gropius, and the Bauhaus Legacy at Harvard*. The publisher states, "From the late 1930s to the early 1950s, the Harvard Graduate School of Design played a crucial role in shaping a new modern architecture and the modern city. Architects, planners, teachers, and students from all over the world looked to the new GSD, with its celebrated faculty and curriculum, for the path to modern design. While the school's significance is widely recognized by architectural historians, most studies have concentrated on the Bauhaus founder Walter Gropius and his transformation of Harvard's old Beaux-Arts School of Architecture into a 'Harvard-Bauhaus,' a radically new school with a single outlook. In *Inventing American Modernism*, Jill Pearlman argues that Gropius did not effect these changes alone and, further, that the GSD was not merely an offshoot of the Bauhaus. She offers a crucial missing piece to the story — and to the history of modern architecture — by focusing on Joseph Hudnut, the school's dean and founder. From the beginning, Hudnut gave the GSD its modern pedagogical direction, and he continued to oversee its curriculum and staffing for the next seventeen years. Although originally an admirer of Gropius's work and theories, Hudnut came to clash with him over the control of the direction of modern architecture and planning in the United States. Gropius won the battle, but Pearlman shows that, had the GSD followed the path Hudnut wanted, modern architecture and the modern city might well have been different. In his role as public intellectual, Hudnut wielded an influence that reached outside the university, distinguished by his encouraging people to participate in the architectural and urbanistic matters that affected their lives. A story involving European modernists such as Marcel Breuer, Martin Wagner, and Christopher Tunnard, as well as a number of other architects, city planners, and landscape architects, this book is more than the study of a single school; it is a look at the origins of Modernism at a defining moment in the history of 20th-century architecture."

Faculty and GSD Books

Art and Landscape in Charleston and the Low Country

by **John Beardsley**, senior lecturer in landscape architecture

Easthampton, MA: Spacemaker Press, 2006

FROM THE PUBLISHER:

The legacy of the exhibition *Human/Nature*, a special project of the 21st season of the Spoleto Festival U.S.A., this book features works in a variety of media by thirteen artists. The festival included installations by landscape architects Adriaan Geuze and Martha Schwartz, sculptors Magdalena Abakanowicz and Martha Jackson-Jarvis, video artist Mary Lucier, and self-taught artist Thornton Dial. John Beardsley — author, teacher, and critic — curated the exhibit and assembled this volume of projects that were scattered around Charleston and its surrounding countryside.

Drosscape: Wasting Land in Urban America

by **Alan Berger**, Associate Professor of Landscape Architecture

New York: Princeton Architectural Press, 2006

FROM THE PUBLISHER:

Do you really know what is under that new house you just bought? How about what lies beneath the neighborhood playground? Was that "big box" retailer down your street built over a toxic site? These are just a few of the worrisome scenarios facing us all as our cities begin to redevelop old toxic waste sites — places Alan Berger has coined "drosscapes." *Drosscape: Wasting Land in Urban America* is your guide to this vast, hitherto largely ignored field of waste landscapes. Landscape architects must learn to accommodate these wastelands along with the more traditional challenges of site and construction. This will require a radical reconceptualization of thinking about landscape before potential solutions can be effectively addressed or devised. Ten cities are examined both visually and analytically through the use of aerial photography and geospatially derived maps, charts, and graphs. Lured by tax incentives and the benefits of inadequate public awareness, corporate America is rapidly developing these toxic sites. It is our right to know about these danger zones underneath our communities and our duty to stay vigilant. *Drosscape* makes clear it is also a design challenge of the most pressing order.

Project Zagreb: Transition as Condition, Strategy, Practice

edited by **Eve Blau**, Adjunct Professor of Architecture, and **Ivan Rupnik**, MArch '03, GSD PhD student

Barcelona: Actar, 2007, in cooperation with the Harvard GSD

Initiated as a seminar at the Harvard University Graduate School of Design, Project Zagreb examines transition as a condition that creates opportunities for architecture. Zagreb is the perfect site for examining the generative dynamic of transition, since it is preparing for Croatia's entry into the European Union and negotiating the rocky shoals of the "transition economy." Practicing in conditions of continuous instability, architects and planners in 20th-century Zagreb developed strategies of urbanism and architecture for creatively engaging the transitional, conditional, mutable, and open-ended — for absorbing, accommodating, anticipating, and instrumentalizing the condition of irresolution. This book examines how these strategies, once stabilized in built form, become

available to practice, generating new techniques for achieving previously unforeseen results. In this way, the city itself becomes an actor in the transformation of architectural and urban practices.

FROM THE INTRODUCTION, by Eve Blau:
The enormous dislocations of the postcommunist transition are visibly registered in the physical fabric of Central European cities. Everywhere there is evidence of wild "illegal" building, living space turned to commercial uses, abandoned industrial buildings converted into provisional dwellings, and gleaming new office towers rising among suburban houses in semiurban areas with little or no infrastructure. In recent years a literature of "transitology" has emerged that sensationalizes these phenomena, describing them as "urban mutants," "infections," and "parasitic developments" while also celebrating them as the improvised formations of a "fluid," "anarchic," "hybridized," new "culture of urban action." Clearly the transitional urban landscapes of the postcommunist city challenge traditional concepts of the European city.

This book contends that if we want to grasp the full significance and potentialities for architecture and urbanism of the postsocialist transition in Europe today, we need to look beyond the chaos and entropy to examine the contemporary city with both a longer historical lens and a sharper critical focus. We need to engage the geographical, historical, and cultural specificity of the cities themselves, to look closely at the fabric, and most of all to pay close attention to the conditions of practice, the desires, aspirations, and constraints that over time generated the cities. We need, in other words, to look backward to project forward.

Public Intimacy: Architecture and the Visual Arts

by **Giuliana Bruno**, Professor of Visual and Environmental Studies, associate of the Department of Architecture
Cambridge: MIT Press, 2007

FROM THE PUBLISHER:
In her thoughtful collection of essays on the relationship of architecture and the arts, Giuliana Bruno addresses the crucial role that architecture plays in the production of art and the making of public intimacy. As art melts into spatial construction and architecture mobilizes artistic vision, Bruno argues, a new moving space—a screen of vital cultural memory—has come to shape our visual culture. Taking on the central topic of museum culture, Bruno leads the reader on a series of architectural promenades from modernity to our times. Through these "museum walks," she demonstrates how artistic collection has become a culture of recollection, and she examines the public space of the pavilion as reinvented in the moving-image art installation of Jane and Louise Wilson. Investigating the intersection of science and art, Bruno looks at our cultural obsession with techniques of imaging and its effect on the privacy of bodies and space. She finds in the work of artist Rebecca Horn a notable combination of the artistic and the scientific that creates an architecture of public intimacy. Considering the role of architecture in contemporary art that refashions our "lived space"—and the work of contemporary artists including Rachel Whiteread, Mona Hatoum, and Guillermo Kuitca—Bruno argues that architecture is used to define the frame of memory, the border of public and private space, and the permeability of exterior and interior space. Architecture, Bruno contends, is not merely a matter of space but also an art of time.

Cities: X Lines: Approaches to City and Open Territory Design

by **Joan Busquets**, Martin Bucksbaum Professor in Practice of Urban Planning and Design
Barcelona: Actar D/Nicolodi Editore, 2007

FROM THE PUBLISHER:
Cities: X Lines is the outcome of extensive research conducted at the Harvard Graduate School of Design on the methods and tools with which designers now shape cities and open territories. Over the past three decades, new techniques in working the built environment have been deployed in multiple settings, interacting with a wide array of cultures, scales, and intensities. The book documents the most significant, worldwide case studies of each approach and traces back to precedents and references, establishing a theoretical framework and critical assessment of each line of work. Furthermore, *Cities: X Lines* serves as an additional initiative to develop a stronger potential for unprecedented forms of urbanity.

Botanical Progress, Horticultural Innovations, and Cultural Changes

Dumbarton Oaks Colloquium Series in the History of Landscape Architecture
by **Peter Del Tredici**, Lecturer in Landscape Architecture, Mauro Ambrosoli, Nurhan Atasoy; and Mohammad El Faiz
Washington: Dumbarton Oaks Research Library and Collection, 2007

FROM THE PUBLISHER:
From Roman times to the present, knowledge of plants and their cultivation has exerted a deep impact on cultural changes. This book highlights the religious, artistic, political, and economic consequences of horticultural pursuits. Far from a mere trade, horticulture profoundly affected Jewish and Persian mystical poetry and caused deep changes in Ottoman arts. It contributed to economic and political changes in Judea, Al Andalus, Japan, Yuan China, early modern Mexico, Europe, and the United States. This book explores the roles of peasants, botanists, horticulturists, nurserymen, and gentlemen collectors in these developments and concludes with a reflection on the future of horticulture in the present context of widespread environmental devastation and ecological uncertainty.

Handbook of Regenerative Landscape Design

Integrative Studies in Water Management and Land Development series
by **Robert France**, Adjunct Associate Professor of Landscape Architecture
Boca Raton: CRC Press, forthcoming 2007

FROM THE PUBLISHER:
Featuring contributions from experts drawn from a wide range of disciplines, this book discusses the remediation of degraded environments such as industrial landfills, mining sites, buried urban rivers, seriously polluted or effectively destroyed wetlands, Superfund sites, and abandoned factories. It brings the environmental perspectives of landscape architects and urban planners to a wider audience and examines how physical landscape restoration facilitates urban renewal. This is the first book to explore in detail the multifaceted roles played by design professionals and scientists in restoring or remediating degraded landscapes for both wildlife and humans.

Healing Natures, Repairing Relationships: New Perspectives on Restoring Ecological Spaces and Consciousness

edited by **Robert France**, Adjunct Associate Professor of Landscape Architecture
Sheffield, Vermont: Green Frigate Books, 2007

FROM THE PUBLISHER:
Presenting emerging perspectives on environmental restoration, this collection of essays by a leading group of environmental scholars combines theoretical discussion with practical approaches. Describing the variety of ways that humans can and should interact with nature, this multi-disciplinary

work shares hands-on exercises for engaging urban communities to develop supportive relationships with their surrounding environment. These writings define the paradigm of "restoration design" and the ways that its disciplines and actions can provide humans with a new direction for interrelating with the world in the 21st century.

The Iraqi Marshlands: Restoration and Management

edited by **Robert France**, Adjunct Associate Professor of Landscape Architecture
East Sussex, UK: Sussex Academic Press, forthcoming 2007

FROM THE PUBLISHER:
The Mesopotamian Marshes, located between the Tigris and Euphrates Rivers in southern Iraq, were historically one of the world's most important wetland environments. The area of once over 20,000 square kilometers—thought by some to have been the original Garden of Eden—provided habitat for millions of birds and has been inhabited since the time of the Sumerians by thousands of people living on artificial islands of mud and reeds and depending on sustainable fishing and farming. Since the early 1990s, however, this important ecological and unique cultural jewel has been devastated by a series of thoughtless dam constructions and deliberate water diversions that have led to what many believe to be one the most severe "ecocides" in history. At the same time, Saddam Hussein's pogrom all but destroyed the indigenous marsh dweller inhabitants. Today, many groups from around the world have begun work to restore the ecological and cultural landscape of the marshlands. This book pulls together the most recent results of that work and outlines the diversity of perspectives underlying the various restoration efforts. Both background theory and nuts-and-bolts practicalities of these reparation efforts are provided in fifteen chapters authored by the leading authorities studying and undertaking this work.

Sustainable Redevelopment of the Iraqi Marshlands

edited by **Robert France**, Adjunct Associate Professor of Landscape Architecture
London: Routledge, 2006

FROM THE PUBLISHER:
The Iraqi marshlands housed a 3000+ year-old civilization until Saddam Hussein ruthlessly drained the marsh region following the 1991 uprising. Many of the insurgents fled to the marsh wetland region (between Baghdad in the north and Basra in the south, and between the Tigris and Euphrates) when Hussein crushed the rebellion. Saddam then retaliated by draining the marsh areas, which not only housed a culture that had changed little over the centuries but which also housed a rich and fragile ecosystem. *Sustaining the Iraqi Marshlands* uses examples of restoration efforts around the globe to look at ways to best restore the Iraqi marshlands to make life there sustainable.

Corruption and Reform: Lessons from America's Economic History

National Bureau of Economic Research Conference Report
by **Edward L. Glaeser**, Fred and Eleanor Glimp Professor of Economics, associate of the Department of Urban Planning and Design, and Claudia Goldin
Chicago: University of Chicago Press, 2006

FROM THE PUBLISHER:
Despite recent corporate scandals, the United States is among the world's least corrupt nations. But in the 19th century, the degree of fraud and corruption in America approached that of today's most corrupt developing nations, as municipal governments and robber barons alike found new ways to steal from taxpayers and swindle investors. In *Corruption and Reform*, contributors explore this shadowy period of United States history in search of better methods to fight corruption worldwide today. Contributors to this volume address the measurement and consequences of fraud and corruption and the forces that ultimately led to their decline within the United States. They show that various approaches to reducing corruption have met with success, such as deregulation, particularly "free banking," in the 1830s. In the 1930s, corruption was kept in check when new federal bureaucracies replaced local administrations in doling out relief. Another deterrent to corruption was the independent press, which kept a watchful eye over government and business. These and other facets of American history analyzed in this volume make it indispensable as background for anyone interested in corruption today.

Die Schweiz: Ein Städtebauliches Portrait

by **Jacques Herzog** and **Pierre de Meuron**, Arthur Rotch Design Critics in Architecture, Roger Diener, Marcel Melli, and Christian Schmid
Berlin: Birkhäuser, 2006; in German

FROM THE PUBLISHER:
Over several years, the "ETH studio Basel-Institute city of the present" examined the territory of Switzerland in all its multilayered aspects in a research work. Geographical, historical, linguistic, cultural, social, economic, political, urbanistic, and architectural structures were studied. . . . "The Swiss want neither nature nor city, but a little of both. . . . Switzerland, the country of hyper-difference, can live with and arrange difference worse than any other country!" (Jacques Duke and Marcel Meili) . . . By sketching future possible and/or desirable scenarios for important metropolitan regions and for the alpine region, this book has a current political explosiveness.

El Croquis 131/132 AMOMA 1996–2003: Delirious and More, volume 1

Rem Koolhaas, Professor in Practice of Architecture
Madrid: El Croquis Editorial, 2006

El Croquis 134/135: OMA/Rem Koolhaas 1996–2007: Theory and Practice, volume 2

Madrid: El Croquis Editorial, 2007

FROM THE PUBLISHER:
Rem Koolhaas along with OMA and AMO have grown into an influential architectural phenomenon producing architecture, urban planning, and wide-ranging research projects. This double volume explores a total of twenty-nine works and projects produced between 1996 and 2007 through full-page color photographs, plans, models, and various investigations. Included are projects such as: *Bordeaux House*, the Prada projects, *CCTV* in China, *The McCormick Tribune Campus Center* at IIT, and the *Netherlands Embassy* in Berlin.

OMA in The Hague

by **OMA**
The Hague, Netherlands: Stroom Den Haag, 2006

The catalogue accompanying the exhibition *OMA in The Hague*, a survey of all built, future, and never realized projects of OMA in The Hague, presented in the form of a travel guide.

Derry and Londonderry: Studies in Landscape and Urban Design

by **Virginie Lefebvre**, Lecturer in Urban Planning, and **Martha Schwartz**, Adjunct Professor of Landscape Architecture
Cambridge: Harvard Graduate School of Design, 2007

FROM THE PUBLISHER:
Undeterred by strife, divisive politics, and the blind passions that occupy nations and

national leaders internationally and at home, the responsibility of the design professions continues to expand in leading cities, local communities, and neighborhoods, in comprehending their past, and in reshaping and enriching their current open space, buildings, and social amenities through creative enterprises. During the fall 2005 semester, such an enterprise was undertaken at the GSD led by faculty members Martha Schwartz and Virginie Lefebvre. Focused on the city of Derry in Northern Ireland, the work of the advanced design studio centered on the transformation of a decommissioned military site and explored site programs that would serve the citizens of Derry in practical ways through the provision of new public space and programs of housing cultural and civic facilities. Students from landscape architecture, urban planning and design developed highly charged responses to this assignment. The imaginative and challenging results of this endeavor are the content of this publication.

CASE: Puerto Madero Waterfront

Edited by **Jorge Francisco Liernur**, chairman of the architecture department at the Torcuato Di Tella University in Buenos Aires
CASE series executive editor: **Hashim Sarkis**, Aga Khan Professor of Landscape Architecture and Urbanism in Muslim Societies
Munich: Prestel; Cambridge, Harvard University Graduate School of Design, 2007

Throughout the world, cities have been redeveloping their waterfronts and in turn revitalizing their communities. The neighborhood of Puerto Madero, in Buenos Aires, is a leading example of waterfront urban renewal. This book traces the progress of the Puerto Madero project, which until the late 1980s lay idle. It discusses the strategies and implications of the effort, offers a detailed analysis of the landscape, and focuses on the forces of globalization that have helped drive this and other urban renewal projects around the world. Puerto Madero emerges as a compelling case study of current trends in urban revitalization.

FROM THE INTRODUCTION, BY JORGE FRANCISCO LIERNUR:
In this volume of CASE, as in previous books in the series, researchers in diverse fields address various aspects of one significant project. Graciela Silvestri, a specialist in history and landscape culture, analyzes the way in which the Rio de la Plata coastlines were incorporated into the imagination of the city through art and literature. My own work details the history of the site and its particular significance within the general history of the city and the nation. Geographer Luis Domínguez has analyzed the transformation in use of port installations with the intent of understanding the role of the port of Buenos Aires in relation to the regional transformations that result from globalization processes. From an urban history perspective, Adrián Gorelik offers a detailed review of the processes and projects that immediately preceded PMO. He also undertakes a critical analysis of the competition results that led to the materialization of this project. Alfredo Garay, an urban planner and the main technical protagonist of PMO, puts forward the political context and economic dynamic of the constitution of the Puerto Madero Corporation. Finally, Claudia Shmidt, historian and architectural critic, presents an analysis of the main projects that have formed the physical profile of PMO and describes aspects of the contemporary architectural debate in Argentina.

Toshiko Mori Architect

by **Toshiko Mori**, Robert P. Hubbard Professor in the Practice of Architecture and Chair of the Department of Architecture, and Matilda McQuaid
New York: Monacelli, forthcoming 2007

FROM THE PUBLISHER:
Founded in New York City in 1981, Toshiko Mori Architect is known for using both new and traditional materials and for integrating architecture with light and landscape. This monograph, the first on the practice, includes more than twenty-five residential, cultural, institutional, and commercial projects. The firm has designed private houses in Maine, New York, and Florida, including additions to modern residences by Paul Rudolph and Marcel Breuer. In addition, Toshiko Mori Architect specializes in exhibition designs, notably various installations of textiles and other materials at the Museum of Modern Art and the Cooper-Hewitt, National Design Museum.

The Function of Ornament

by **Farshid Moussavi**, Professor in Practice of Architecture, and Michael Kubo
Barcelona: Actar, 2006

FROM THE PUBLISHER:
Architecture needs mechanisms that allow it to become connected to culture. It achieves this by continually capturing the forces that shape society as material to work with. Architecture's materiality is therefore a composite one, made up of visible forces (structural, functional, physical) as well as invisible forces (cultural, political, temporal). Architecture progresses through new concepts that connect with these forces, manifesting itself in new aesthetic compositions and affects. Ornament, is the by-product of this process, through which architectural material is organized to transmit unique affects. This book is a graphic guide to ornaments in the 20th century. It unveils the function of ornament as the agent for specific affects, dismantling the idea that ornament is applied to buildings as a discrete or non-essential entity. Each case operates through greater or lesser depth to exploit specific synergies between the exterior and the interior, constructing an internal order between ornament and material. These internal orders produce expressions that are contemporary, yet whose affects are resilient in time.

Regenerating Older Suburbs

by **Richard B. Peiser**, Michael D. Spear Professor of Real Estate Development
Washington, D.C.: Urban Land Institute, 2007

FROM THE PUBLISHER:
How can aging inner-ring suburbs remain vital and attract investment from private developers? This book describes the strategies and solutions employed by ten inner-ring suburbs—some experiencing significant redevelopment and others striving to attract redevelopment. The case studies shed light on what is happening and why; what can be done better; the role of the public sector; incentives the public sector has used; what piques the interest of private developers; and what can be done to improve the quality and pace of redevelopment. The case studies describe the demographic, locational, and economic characteristics of each suburb, the degree of public involvement, neighborhood opposition, and private development activity.

Glass Construction Manual

by **Matthias Schuler**, Lecturer in Architecture, Christian Schittich, Gerald Staib, and Dieter Balkow
Berlin: Birkäuser, 2007

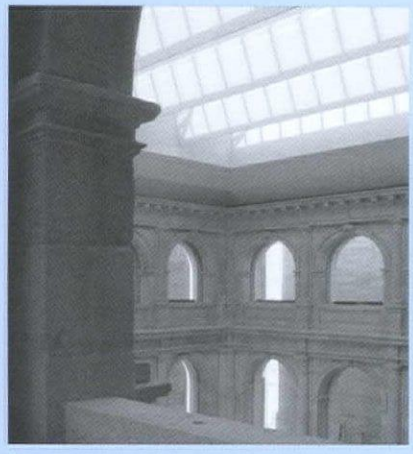
FROM THE PUBLISHER:
Glass offers a wide variety of possible applications for the realization of even the most ambitious designs in architecture, and in the past two decades it has experienced an unparalleled burst of innovation. For planners, this means working constantly with this high-performance material. In compact and appealing form, the completely revised *Glass Construction Manual* presents the current state of the art on planning and building with glass, from the history through the technical foundations all the way to the most

continued on page 120

Faculty Project

Prado Museum Extension
Prado in Los Jerónimos
Madrid, Spain
by **Rafael Moneo**, Josep Lluis Sert Professor in Architecture

Completed 2007
Client: Ministry of Culture
Architect: Rafael Moneo
Competition team: Mauricio Bertet, Lori Bruns, Carmen Díez, José Luis Gahona, Sigrid Geerlings, Jacobo García Germán, Belén Hermida, Juan Hevia, Fernando Iznaola, Irwin Miller, Eduardo Miralles, Tara Solomon, Mariano Molina, Alberto Nicolau, Borja Peña, Cristobal Roig, Christoph Schmid
Design Development: Carmen Díez, Jacobo García Germán, Belén Hermida, Mariano Molina, Borja Peña, Christoph Schmid
Structural Engineer: Jesús Jiménez Cañas, NB 35 Ingenieros
Mechanical Engineer: Rafael Úrculo Aramburu, Úrculo Ingenieros Consultores
Consulting Engineer: Andrew J. Sebor, Altieri, Sebor, Wieber LLC
Construction: UTE Prado (Dragados y San José)
Site: David Campo, Pedro Elcuaz, Francisco Blasco Esparza, Belén Hermida, Miguel Angel Santamaría, Filippo Serra, Scott Snyder, Isabel López-Taverna
Surveyors: Hernán y Coronas, S.A., Santiago Hernán, Carlos Corona
Built area: 22,040 m² building; 13,363 m² exterior
Budget: 106,315,000 € / $145,200,000



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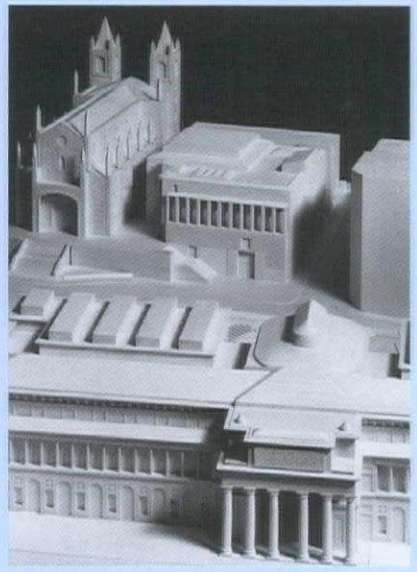
Whereas in the prior competition for the *Prado* extension, the guidelines stimulated exploration of all possible alternatives without placing constraints on the designers, the new 1999 competition, because of its extensively defined limits, required extreme rigor of the architect: An extensive plan gave rise to a precise program and to an unambiguous definition of the building area. But the rigorous accepting of limitations does not necessarily imply less liberty. "The greatest liberty is born out of the greatest rigor," Paul Valéry tells us in *Eupalinos*. We would like to make clear that we did not want the architecture to simply be trapped by the limitations established in the guidelines: our desire was that the architecture of the Los Jerónimos area enjoy that freedom that the French poet understood is always present in the discipline's moments of splendor.

The new construction has a dual effect: on the one hand it provides the spaces required by the program, guaranteeing continuity between the volume of the Jerónimos church and that of Villanueva's *Prado*; on the other hand, it helps improve the back of the actual museum. The imprecise and unsure meeting of the slopes and the walls of the volumes added on over the years will be transformed into a complex whole in which Villanueva's architecture and the new construction will be woven together with the help of the platform planted with parterres producing an indivisible, continuous architectural episode that will undoubtedly improve the overall museum area.

The new building constructed around the cloister of the Jerónimos church is conceived as a plain volume that and accepts and incorporates the definition established by the limitations of the competition guidelines. Its volume is animated by a loggia where the entrance door becomes an importance element, a protagonist of the exterior space. However, the door of the new *Prado in Los Jerónimos* does not compete with either the door or the stairway of the church. The facts that the access is off center in the cubic volume of the new building and that there is a six meter difference in the heights of the doors of the church and the extension let the volumes of the two buildings maintain their independence, something we believe is highly desirable. The block of the Jerónimos becomes the expression of an architecture of neighborliness achieved by creating diversity rather than imposing an artificial homogeneity. This explains why the parochial building has not been colonized by the architecture of the *Prado in Los Jerónimos*. Accepting and understanding the individual and diverse expressions of the three pieces that make up the block help to enliven its architecture.



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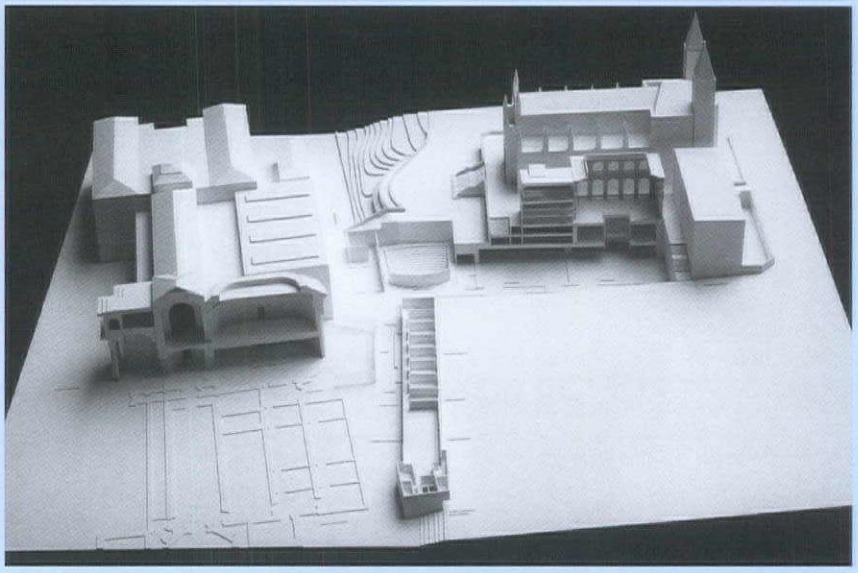

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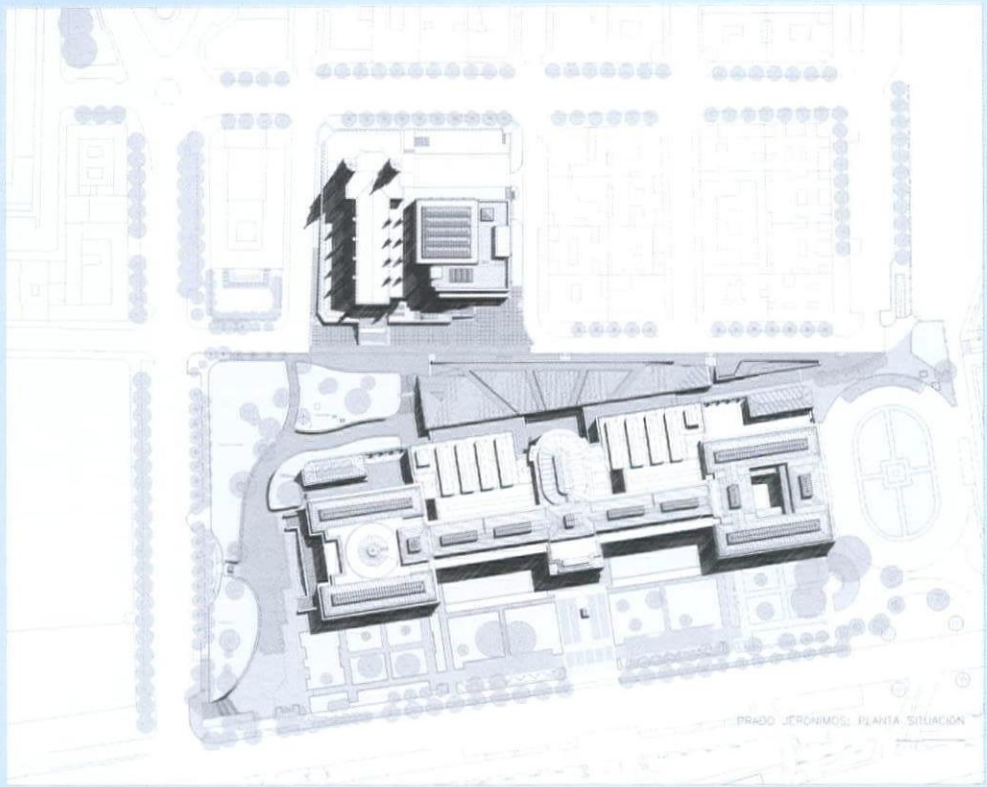

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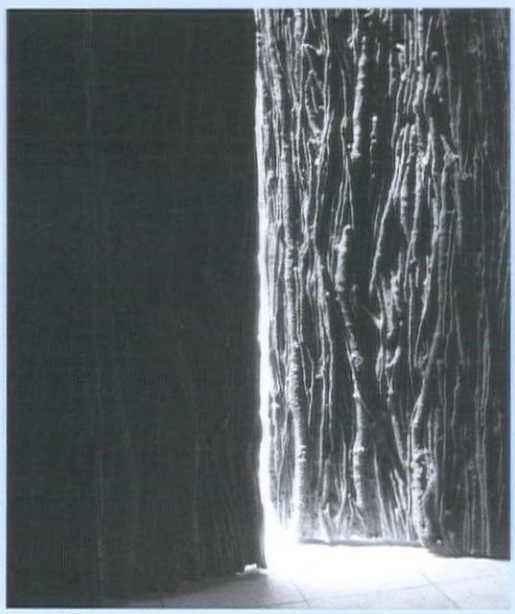
All images courtesy, Rafael Moneo

1. **View of the newly enclosed cloister of San Jerónimos.**
2. **Model of the Prado with the old museum in the foreground, the *Iglesia de los Jerónimos* to the left and the extension in the center.** Photo, Hisao Suzuki
3. **Sectional model of the *Prado* complex.** Photo, Hisao Suzuki
4. **Ground level plan.**
5. **Foyer.**
6. **New landscaping between old museum and new extension.**
7. **Cristina Iglesias, bronze doors.**



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innovative applications. Astonishing perspectives on thermal insulation and solar protection and the addition of thoughtfully selected new practical examples round off this comprehensive reference work.

Building the Kingdom: Giannozzo Manetti on the Material and Spiritual Edifice

Arizona Studies in the Middle Ages and Renaissance
edited and translated by **Christine Smith**, Robert C. and Marian K. Weinberg Professor of Architectural History, and Joseph F. O'Connor
Turnhout, Belgium: Brepols Publishers, 2007

FROM THE PUBLISHER:
Building the Kingdom examines how Giannozzo Manetti (1396–1459), by interpreting the great architectural projects of his day within historical, literary, and spiritual contexts, articulated their relevance for his contemporaries as cultural paradigms of the Early Italian Renaissance. Manetti, wealthy, learned, devout, and politically active, was perhaps the most admired lay thinker of his generation, a leader within the new intellectual currents of his native Florence and prominent in Rome at the court of Pope Nicholas V. Manetti's detailed accounts both of the consecration of *Florence Cathedral* in 1436 ("De secularibus et pontificalibus pompis") and of the ambitious building projects planned by Nicholas for a revival of papal splendor in Rome (Book 2 of his "Life of Nicholas V Supreme Pontiff") are among the most elaborate architectural ekphrases of the 15th century. In these, he surpasses his better-known rival, Leon Battista Alberti. These important Latin texts are presented here in new critical editions, with English translations and commentaries, preceded by chapters situating them within Manetti's other writings, his vast reading, and his historical moment. A close reading of the texts, coupled with an in-depth examination of the sites described and the ceremonies conducted there, shows how Manetti's distinctive fusion of Scholastic and Humanist ideas became authoritative for an early Renaissance understanding of the cultural and spiritual power of buildings.

Aga Kahn Program Publication

Landscapes of Development: The Impact of Modernization Discourses on the Physical Environment of the Eastern Mediterranean

edited by Panayiota Pyla
Cambridge: Harvard University Graduate School of Design, with Harvard University Press, 2007

This book examines the impact of development policies and politics on the physical environment of the Eastern Mediterranean, a region defined here not as a rigid geographical area but as a larger cultural context. Since the end of World War II, the drive toward development has featured dreams of progress and emancipation intertwined with processes of reconstruction, decolonization, and nation-building, as well as transnational agendas for socioeconomic restructuring (capitalist or otherwise) and larger postwar/Cold War power politics. In physical terms, the drive toward development has been responsible for the rapid growth of metropolitan centers, the radical restructuring of rural landscapes, and the proliferation of dams, irrigation systems, and other infrastructures. Nine essays examine formal manifestations of development, placing the spotlight on urban and rural schemes, housing projects, and agro-landscapes and dams from Israel to Turkey, and from Greece to Syria. These contributions are all grounded in new scholarly research, employing a variety of critical tools to situate built works within the larger sociopolitical context that influenced their design and implementation, and to reflect on their social, cultural, and environmental impact.

*The Aga Kahn Program at the GSD is run by **Hashim Sarkis**, Aga Khan Professor of Landscape Architecture and Urbanism in Muslim Societies.*

Fall 2007 Visiting Faculty

Architecture

Kimberly Ackert, architect, Ackert Architecture, New York
Sibel Bozdoğan, architectural historian, Boston Architectural College and Bilgi University, Istanbul, Turkey
Dominique Jakob, principal, Jakob+MacFarlane, Paris
Alice Jarrard, lecturer and architectural historian, Boston
Mark Kalin, architect; president, Kalin Associates, Newton, Massachusetts
Sheila Kennedy, principal, Kennedy & Violich, Boston
Jeff Kipnis, professor, Knowlton School of Architecture, Ohio State University, Columbus
Sylvia Lavin, chair, Department of Architecture and Urban Design, UCLA, Los Angeles
Brendan MacFarlane, principal, Jakob+MacFarlane, Paris
Francisco Mangado, architect, Francisco Mangado, Pamplona, Spain
Robert Marino, principal, Robert Marino Architects, New York
Ryue Nishizawa, architect, SANAA, Tokyo
Hani Rashid, architect; co-founder, Asymptote, New York
Renz van Luxemburg, acoustician, Dorsser-Blesgraaf, Netherlands
Jay Wickersham, architect and lawyer; partner, Noble & Wickersham, Cambridge

Landscape Architecture

Michael Blier, design critic, Harvard GSD
Jane Choi, principal, C2 | studio, Boston
Nazneen Cooper, Assistant Dean for Campus Design, Harvard University
Paul Cote, geographic information systems specialist, Harvard GSD
Peter Del Tredici, senior research scientist, Arnold Arboretum, Boston
Stephen Ervin, director, Computer Resources, Harvard GSD
Kristin Frederickson, landscape architect, Reed Hilderbrand Landscape Architecture, Watertown, Massachusetts
Scheri Fultineer, principal, Reisen Design Associates, Cambridge
Flavio Janches, visiting scholar, David Rockefeller Center for Latin American Studies, Harvard University
Emma Kelly, associate, Richardson & Associates, Saco, Maine
Brian Kenet, consulting principal, EFCG, New York
Michael Lee, landscape architect, Cambridge
Kaki Martin, principal, Klopfer Martin Design Group, Cambridge
Wilson Martin, principal, GroundView, Somerville, Massachusetts
Ann McGhee, lecturer, Harvard GSD
Laura Solano, principal, Michael Van Valkenburgh Associates, Inc., Cambridge
Matthew Urbanski, principal, Michael Van Valkenburgh Associates, Inc., New York
Juan Carlos Vargas-Moreno, doctoral candidate, Harvard GSD, and Doctoral Fellow, Harvard University Center for International Development

Urban Planning and Design

Brian Blaesser, partner, Robinson & Cole, Boston
Thomas Campanella, assistant professor, City and Regional Planning, University of North Carolina at Chapel Hill
Armando Carbonell, senior fellow and chairman, Department of Planning and Urban Form, Lincoln Institute of Land Policy, Cambridge
Toni Griffin, principal, urbanlstudio; deputy director for revitalization and planning,

District of Columbia
Matthew Kiefer, partner, Goulston & Storrs, Boston
Kathryn Madden, principal and urban planner, Sasaki Associates, Watertown, Massachusetts
Bing Wang, managing partner, HyperBina, Inc., Boston

Faculty Notes

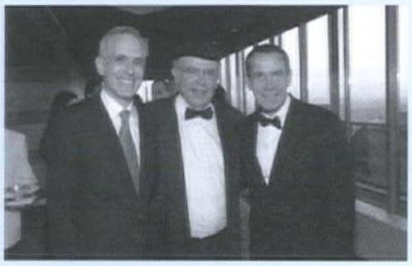
Martin Bechthold, DDes '01, associate professor of architecture and technology, lectured at the Cranbrook Academy of Art, the Universidad de los Andes in Mérida, Venezuela, the Chinese University of Hong Kong, and Hong Kong University.

Alan Berger, associate professor of landscape architecture, received the Prince Charitable Trusts Rome Prize from the Trustees of the American Academy in Rome for *Landscape Reclamation and the Pontine Marshes*. He will receive a stipend, studio, and room and board for six months to two years. His book *Drosscape* won the Silver Medal for Design Distinction from *I. D. Magazine*.

Eve Blau, adjunct professor in architectural history, curated *Project Zagreb*, an exhibit documenting the growth of Zagreb, the capital of the Republic of Croatia. The exhibit was reviewed in *The Boston Globe*.

Joan Busquets, professor in practice of urban planning and design, was a keynote speaker at "Thinking City: International Conference on the Future of Copenhagen," where he discussed how Copenhagen could best grow and develop. Busquets has a chapter in *Crossover: Architecture Urbanism Technology*, published by 010 Publishers.
Aziza Chaouni, design critic in urban planning and design, DDes '05, received a P/A Award for *Hybrid Urban Sutures: Filling in the Gaps in the Medina of Fez*, a project analyzing issues facing historic districts in the Middle East and proposing uses for three vacant sites in Fez, Morocco. Chaouni was featured as Moroccan Woman of the Year in Morocco's leading newspaper, *Au Fait*.

Scott Cohen, MArch '85, Gerald M. McCue professor in architecture, and **Toshiko Mori**, Robert P. Hubbard professor in the practice of architecture, were panel members at a Cooper-Hewitt, National Design Museum, discussion on reconciling innovative architectural approaches and historical context. Cohen was honored with the Visionary Award at the American Friends of the *Tel Aviv Museum of Art* Gala in New York.



P. Scott Cohen, left, at the American Friends of the Tel Aviv Museum of Art gala in New York. Courtesy, Scott Cohen

"City in Suspension: New Orleans and the Construction of Ground," an article by design critic in urban planning and design, **Felipe Correa**, appeared in *Architectural Design*. The article argues that, in the aftermath of Hurricane Katrina, a thorough reevaluation of the city's ground is a prerequisite to urban reorganization.

Bruner/Cott, firm of adjunct professor of urban design, **Leland Cott**, MAUD '70, is working on the *Kemeny Hall and Haldeman Center* for Dartmouth College. Bruner/Cott received BSA Honor Award Citations for their *Landmark Center* and *Congregation Or Atid*. They received a SCUP-AIA Honor Award for Excellence in Architecture for their work on University of Chicago's *Bartlett Commons* and a BSA Housing Design Award Citation for the *Channel Center*. Bruner/Cott's LEED Platinum Certified *Blackstone Office Renovation* at Harvard won an Honor Award for Sustainable Design from the BSA. (Harvard University won the CambridgeGoGreenBusiness Award for this project.) Cott completed two projects for Harvard University: the *Blackstone* and the redesign of the 1898 McKim Mead & White gymnasium for the Radcliffe Institute for Advanced Study. The firm won an invited design competition for the *New Arts Center* at Lesley University, a project that will facilitate and support the relocation of the Art Institute of Boston to Cambridge. Cott lectured on the Architecture and Urban Design of Havana, Cuba, at the Royal Ontario Museum in Toronto as well as on "A Radical Approach to Building Reuse" at Roger Williams University. At the annual North Atlantic Society for College & University Planning Conference, he presented the sustainable measures used at the Blackstone office renovation and will be speaking on this at Build Boston. Other Bruner/Cott work includes a dining commons for Vanderbilt University, a thirty-one-story luxury residential building in Boston; and the renovation of the *Waltham Watch Building*, in Waltham, Massachusetts, for mixed-use development.

Margaret Crawford, professor of urban design and planning theory, lectured to the Ghangzhou Planning Association on "Urban Convergence? Debates on Urbanism in the U.S. and China." She participated in a roundtable on "The University and the City" at Ryerson University in Toronto and presented a paper at the Agriculture at the Urban Edge conference at U.C. Berkeley with Takako Tajima, MLA/MUP '03, and gave a lecture, "Can Design Trickle Down into Everyday Life?" at the "Design and Its Publics" symposium held at the University of Minnesota. In June, she returned to Rotterdam to participate in a debate on "The Power of Sprawl" with Michael Sorkin and John Norquist at the "Architecture and Dissent" dialogues hosted by the Berlage in The Netherlands. Her short film *Everyday Urbanism* was shown as part of the WIMBY! (Welcome into My Back Yard) exhibition at the Boijmans van Beuningen Museum in Rotterdam. She received a Guggenheim Fellowship to support her book-in-progress, *Rethinking Urban Space*. She published "Everyday Attitudes" in a book on the art collective "HaHa" and "Everyday Urbanism Update" in the Dutch journal *S&RO*.

Peter Del Tredici, lecturer in landscape architecture, was featured in "One Gardener's Almanac: Who Speaks for the Trees?" in *House & Garden*.

Stephen Ervin, lecturer in landscape architecture and assistant dean for information technology, presented two keynote addresses last spring: "Land-Tech Scape-Nology" at IMAGINA2007 in Monte Carlo, Monaco, and "Twenty-Five Years; Ten Challenges" in Germany at the Technical University of Anhalt Conference on Digital Landscape Architecture.

Susan Fainstein, professor of urban planning, spent a month at the Rockefeller Center for Scholars in Bellagio, Italy, working on a forthcoming book, *The Just City*, about using theories of justice to develop criteria for Western urban development policy. She lectured at the Amsterdam planning department and at the Technical University of Berlin.

Adjunct associate professor of landscape architecture **Robert France** was featured in the article "Oracle of Aqua" in *Harvard Magazine*.

Peter Louis Hornbeck professor in practice of landscape architecture, **George Hargreaves**, MLA '79, was a finalist in the contest to redesign Baltimore's Pratt Street. His firm, Hargreaves Associates, with Chan Krieger Sieniewicz, firm of professor in practice of urban design, **Alex Krieger**, MCUD '77, will develop a plan for four miles along New Orleans's riverfront. Hargreaves Associates received an ASLA Award of Excellence in the Analysis and Planning Category for their

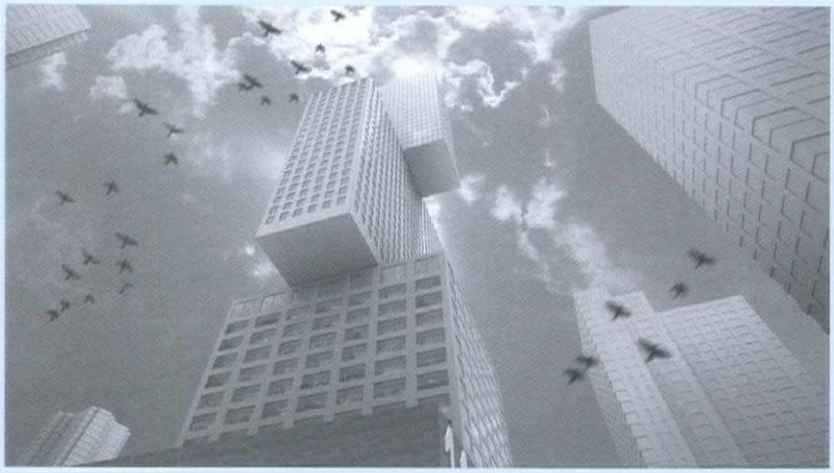
Hunters Point Water Park Project in San Francisco to turn a decommissioned military base into a park.

The Royal Institute of London awarded the Royal Gold Medal to **Jacques Herzog** and **Pierre de Meuron**, Arthur Rotch design critics in architecture, for the creativity and quality of their work. Herzog & de Meuron designed a 36,000-person football stadium for Portsmouth Football Club. *Architectural Review* and *Arquitectura Viva* highlighted Herzog & de Meuron's design for the *Espacio Goya*, a museum in Zaragoza, Spain, to be completed in 2008. *Architectural Review* focused on their recent design of the *Roche Tower* in Basel, Switzerland, part of a comprehensive plan to accommodate Roche's long-term growth. Herzog & de Meuron completed *40 Bond* condominiums, a reinvention of the cast iron building in downtown Manhattan with a glass facade and a cast aluminum sculptural gate. The firm designed the *Elbe Philharmonic Hall* in Hamburg, Germany, which will include two concert halls, a luxury hotel, apartments, bars, and restaurants and was featured in *The New York Times* and *ArchNewsNow*. Their glass pyramid extension to London's *Tate Modern* was unanimously approved and granted planning permission by Southwark Council.

Gary Hilderbrand, MLA '85, adjunct professor of landscape architecture, and **Martha Schwartz**, GSD '77, adjunct professor of landscape architecture, participated in a CEO roundtable on the costs and benefits of small firms at the ASLA Annual Meeting. Reed Hilderbrand, Hilderbrand's firm, was awarded the ASLA Award of Excellence in the General Design Category for their work on the *M. Victor and Frances Leventritt Garden* at Harvard University's Arnold Arboretum. Hilderbrand authored an essay in *Architecture to Landscape: Salvatore LaRosa and Ronal Bentley*, "Iconically Charged: Pursuits and Pleasures of an Arboreal Kind."

Vincent James Associates Architects, firm of adjunct professor of architecture, **Vincent James**, designed a student center with open courtyards and rooftop terraces for the American University in Beirut.

The *San Francisco Gate* interviewed **Jerold Kayden**, Frank Backus Williams professor of urban design and planning, about the renovation of San Francisco's Union Square. **Niall Kirkwood**, professor of landscape architecture and technology, gave a keynote address, "Brownfields: Sites, Strategies, and Speculations," in the Conservation and Creation of the National Landscape Symposium at Seoul National University, Korea, and will give the keynote address at the "Ambiguous Landscape" symposium for the 50th anniversary of the landscape architecture program at the Technical University of Munich, Germany. With the Korea Institute of Construction & Transportation Technology Evaluation and Planning, Kirkwood is researching a future "U-Eco City." He was a facilitator of the "Design Charrette on Public Health and Brownfields" and a presenter on the panel "Brownfields and Urban Design" at the USEPA Brownfield Conference in Boston. He contributed a chapter on "Long-Term Planning for the Tar Creek Superfund Site, Ottawa County, Oklahoma," in the University of Virginia Law School's, *Reclaiming the Land: Rethinking Superfund Institutions, Methods and Practices*. He is a contributing author on brownfields and site pollutants in *Landscape Architectural Graphic Standards*. Kirkwood was appointed to the Mayor's Sustainability Task Force in New Bedford, Massachusetts.



Rem Koolhaas/OMA, 111 First Street in the Powerhouse Arts District, Jersey City, New Jersey, rendering. Courtesy, OMA

Rem Koolhaas, professor in practice of architecture and urban design, spoke at the Faculty of Architecture at the Delft University of Technology's Seminars on Architecture, Modernity, and the Public Sphere, examining how the changing nature of programs can influence architectural design. He spoke at the Canadian Centre for Architecture in Montreal. *The Architect's Newspaper* featured Koolhaas's design of a fifty-two-story mixed-use tower in Jersey City, which will include housing and cultural events. Koolhaas's firm, OMA, announced the completion of a study for a new masterplan in The Hague; OMA's study analyzes development possibilities for the Binckhorst, an industrial park. Another recent design by OMA, the *Museum of Contemporary Art* in Riga, Latvia, was showcased in *Architectural Review*. In May, Koolhaas was elected to the American Academy of Arts and Sciences. OMA won the competition to design a financial exchange building for Shenzhen Stock Exchange. Koolhaas was a participant of the Design Advisory Board for The International Design Forum in Dubai in May. The exhibition "OMA in Beijing," focusing on the *China Central Television Headquarters* in Beijing, was held at the Museum of Modern Art in New York. Far East Organization, Singapore's largest private development company, has commissioned OMA'S first architectural project in Singapore, a thirty-six-story residential building.

David Lee, adjunct professor of urban planning and design, was a design resource participant at the first International Mayors' Conference on City Design sponsored by the National Endowment for the Arts and the National Conference of Mayors in Warsaw, Poland. He was Jury Chair of the New Housing New York affordable housing competition sponsored by AIANY Center for Architecture and is a member of the Steering Committee "Function, Form and Meaning: Design Excellence in Federal Courthouses," sponsored by the U.S. General Services Administration, as well as of the Visiting Committee of the MIT Architecture Department. His firm, Stull and Lee, designed *The Houses at Dutch Point*, a Hope VI project that received an award from the Hartford Preservation Alliance for its sensitive integration into the surrounding neighborhood. Lee is a member of a committee of three convened to discuss ideas for the design of a plaza for Tarrant County College in Fort Worth, Texas.

Leers Weinzpafel Associates, firm of adjunct professor of architecture, **Andrea Leers**, accepted the AIA Firm Award at the American Architectural Foundation's Accent on Architecture Gala in Washington, D.C. The firm completed the new Harvard Library Services building in Harvard Square; it includes

sculptural skylights and a state-of-the-art conservation laboratory and is eligible for LEED Gold Level certification. Leers Weinzapfel Associates received an Honor Award for Design Excellence for the *Chilled Water Plant Addition* at Princeton University. The firm was featured in *Architectural Record*, *The Architect's Newspaper*, and the Apple Pro website. Leers wrote "Urban Design and the Courthouse: How Sites Shape Solutions" in *Celebrating the Courthouse: A Guide for Architects, Their Clients, and the Public*. She lectured on the architecture of the American courthouse for The University of Paris, Sorbonne. Leers Weinzapfel Associates' work includes Brown University's project for the Department of Cognitive and Linguistic Sciences, the Brain Science Program, and university-wide classroom and recital hall space; a new *Youth and Family Center* in Jackson Square, Jamaica Plain; and the *Chilled Water Plant* at the University of Pennsylvania.

Adjunct professor of architecture **Jonathan Levi** received a BSA Small Firm/Small Projects award for *Craft Gallery North Bennet Street School*. The project's smooth wood surfaces echo the craft traditions of the school. The firm received a BSA General Design Award for its work on the Harvard graduate student housing, *29 Garden Street*. With Bergmeyer Associates, he won an ASLA general design award for this housing.

Rodolfo Machado, professor in practice of architecture and urban design, was chosen to double the current size of the University of Wisconsin's *Chazen Museum of Art*. Machado and Silvetti Associates, the firm of Machado along with Nelson Robinson, Jr., professor of architecture **Jorge Silvetti**, designed the restoration and expansion of the *Provincetown Art Association and Museum* (featured in an article written by **John Gendall**, MArch '06, in *Architectural Record*) received a BSA Honor Award for Design Excellence. Machado and Silvetti designed a Civic Building and Veterans Plaza in Silver Spring, Maryland, that will be its downtown's centerpiece.

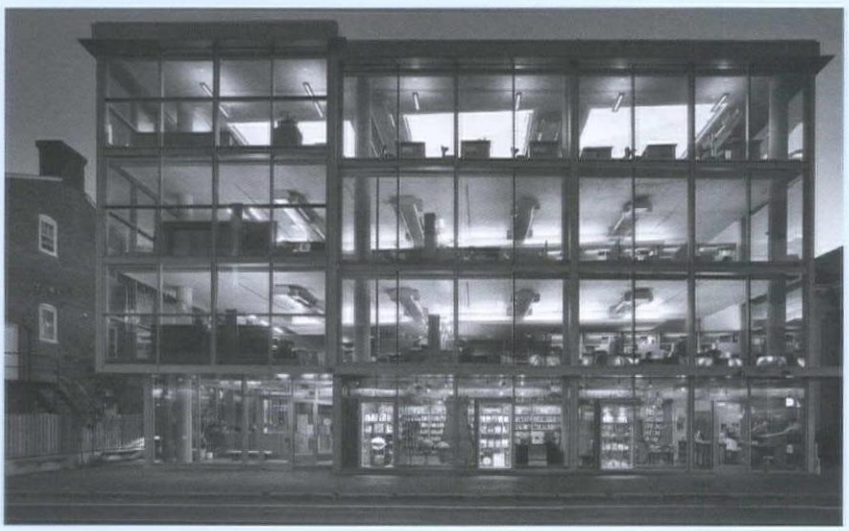
Sandro Marpillero, design critic in architecture, has published *James Carpenter: Environmental Refractions*, a book about the contributions of James Carpenter, LF '90, to glass architecture. Marpillero Pollak Architects, co-run with Linda Pollak, MArch '85, was featured in a *New York Times Magazine* article on design innovators.

José Rafael Moneo Arquitecto, firm of Josep Lluis Sert Professor in Architecture, **Rafael Moneo**, was chosen to design the new neuroscience and psychology buildings at Princeton University. The project will encompass 200,000 square feet and provide classrooms, offices, laboratories, meeting rooms, and specialty spaces. His design for the *Zurich Forum* was featured in *Arquitectura Viva*. Moneo's theater museum in Cartagena, Spain, was featured in *Architectural Review*. The new annex of the *Prado Museum*, designed by Moneo, has been completed; the 183,000-square-foot annex was the biggest extension to the Prado in the museum's history. Moneo also was named one of six finalists for the design of a new *Philadelphia Art Museum* by the Barnes Foundation.

New York University has selected Toshiko Mori Architect, firm of **Toshiko Mori**, FAIA, Robert P. Hubbard Professor in the Practice of Architecture and chair of the Department of Architecture, in association with SMWM, Grimshaw Architects, and the Olin Partnership, to work on a strategic plan that will allow the University to refine and clarify its planning principles and provide guidance in addressing its academic needs and physical development over the next twenty-five years. Her firm was selected for the list of architects chosen for requirement contracts in Mayor Michael R. Bloomberg's Design and Construction Excellence Initiative, overseen by the New York City Department of Design and Construction. Mori lectured in the "Uncommon Ground" Lecture Series sponsored by the New York City Department of Parks and Recreation and participated in a panel discussion on "Alvar Aalto and Isamu Noguchi: Two Rooms" at the Noguchi Museum in Long Island, NY. Her design for the *Poe Park Visitor Center* in the Bronx received the Award for Excellence in Design from the NYC Art Commission. Her finalist design for the Salzburg Sternbrauerei Housing Competition was exhibited at the competition's exhibition in Innsbruck, Austria, and published in the accompanying catalogue. Mori was quoted in "Edward Larrabee Barnes, Gold Medal for a Lifetime in Architecture" in *Architectural Record*, and recent mention of her work in periodicals includes "Beauty and the Box" in the *Sarasota Herald Tribune*. An interview with Mori was featured in the book *Open House: Architecture and Technology for Intelligent Living*. She served on the jury for the Young Architects Forum for the Architectural League of New York, the Bezalel Academy of Arts and Design Competition in Jerusalem, and The Edge Competition Jury in Dubai. Mori was appointed an advisor to the New Canaan Modern House Survey. She has been named a member of the Fellows Committee of the AIA New York Chapter and of the 2008 Editorial Board of the World Economic Forum in Davos.

Foreign Office Architects, firm of professor in practice of architecture, **Farshid Moussavi**, MArch '91, made it onto the short list for the 2012 *Olympic Games Velopark*. The firm is one of several high-profile firms pairing with local practices to build affordable housing in Madrid, Spain, reports *The Guardian*; their *Carabanchel Social Housing* has opened. FOA's *La Rioja Technology Transfer Centre* in Logroño, Spain, which contains a graduate school, a research facility, and a suite of start-up units for web-based companies, received extravagant praise in *Building Design*. FOA were guest editors of the June 2007 issue of *Icon* magazine, where they focused their commentary on high-rise design.

Richard Peiser, Michael D. Spear professor of real estate development, participated in a discussion on the economics of affordable housing in *ArchitectureBoston*. He is primary



Leers Weinzapfel Associates with Samuel Anderson Architects, Harvard Library Services Building, Cambridge, Massachusetts, 2007. Photo, Paul Warchol/Courtesy, Leers Weinzapfel Associates

author of *Regenerating Older Suburbs*. Office dA, firm of professor of architecture **Monica Ponce de Leon**, MAUD '91, and **Nader Tehrani**, MAUD '91, received a P/A Award for *Villa Moda: New Kuwait Shooting Club*; the project features various components unified under a canopy of undulating concrete. The firm received an AIA/ALA Award of Design Excellence for their *Fleet Library* at the Rhode Island School of Design. *Transliterations*, an exhibition on the work of Office dA, was held in the Jack Tilton Gallery in New York. Cooper-Hewitt awarded the Architecture Design Award to Office dA. The firm was featured in a *New York Times Magazine* article on design innovators, in *Architectural Record* for its *Fleet Library*, in the *Boston Globe* for its *Macallen Building*, and in *Architect* for three recent projects. Office dA participated in the exhibit *Art of the Harbor Islands*, sponsored by the Institute of Contemporary Art Boston and Vita Brevis. Their *Voromuro* was created for Georges Island. Also participating was **Teri Reub**, DDes '09, whose *Core Sample* is an interactive sound walk on Spectacle Island with a corresponding sound sculpture at the ICA. Office dA's "green" gas station, *BP Helios House*, was featured in *Icon*.

Peter G. Rowe, Raymond Garbe Professor of Architecture and Urban Design and University Distinguished Service Professor, authored an essay, "An Architecture of Unfolding Experiences and Materials" in *Architecture to Landscape: Salvatore LaRosa and Ronal Bentley*.

02138 magazine published an article on the career of **Hashim Sarkis**, PhD '95, Aga Khan professor of landscape architecture and urbanism in Muslim societies, focusing on his work with local NGOs in Lebanon, especially his design of an olive-oil press in Batroun. Sarkis received a P/A Citation for *Bab Tebbaneh School for Working Children and for Women* in North Tripoli, Lebanon. **Matthias Schuler**, lecturer in architecture, was a speaker at the James Carpenter Design Associates' "Environmental Refractions" at The Architectural League of New York.

Mack Scogin Merrill Elam, firm of Kajima adjunct professor in architecture **Mack Scogin**, won a 2006 Harleston Parker Medal for *Lulu Chow Wang Campus Center and Davis Garage* at Wellesley College, which features a large building integrated into the surrounding landscape with bridges and views. Scogin was a panelist in a *Harvard Design Magazine* discussion with **Frank Gehry**, GSD '57, at and about his *InterActiveCorp Headquarters* in New York.

Thomas Schroepfer, DDes '04, assistant professor of architecture, curated *TransUrban: Charting Experiments for Cities of the Future* with **Christian Werthmann**, assistant professor of landscape architecture, and **Limin Hee**, DDes '05, at the Urban Redevelopment Authority in Singapore. Exhibitions of *TransUrban* were held at the Tsinghua University Department of Architecture, Beijing, the Hong Kong Institute of Architects, and at the SPACE gallery in Seoul. Schroepfer lectured on "Architecture and Materiality" at the National University of Singapore and on "Global Design and Building Practice" at the Harvard Asia Center. He was subject editor for *Principles of Construction: Facades*, a Birkhäuser-published textbook on building construction. He coauthored papers with Hee, including "Sustainable Development" for the China Urban Housing Conference in Beijing, "Sharing a Future in Asia" for the International Convention of Asian Scholars in Kuala Lumpur, and "Sustainable Urban Ideas" for the European Network on Housing Research.

The ALSA awarded a General Design Honor Award to Martha Schwartz Partners, firm of adjunct professor of landscape architecture, **Martha Schwartz**, DES '97, for its work on the seven-acre *Mesa Arts Center* in Mesa, Arizona. Both Schwartz and professor in practice of architecture **Farshid Moussavi** were appointed to the "Design for London" Advisory Group by the Mayor of London.

Richard M. Sommer, Associate Professor of Architecture and Urban Design, lead a Harvard design team that presented "a stunning vision of a futuristic Belfast, complete with new Parliament buildings at its heart" as a part of a long-term study into urbanization in Northern Ireland.

John Stilgoe, Robert and Lois Orchard professor in the history of landscape development, was selected to be the Class Day Speaker at the GSD's commencement. He wrote the forthcoming *Train Time: Railroads and the Imminent Reshaping of the United States Landscape* and the introduction to *The Camera's Coast: Historic Images of Ship and Shore; In New England*, by W. H. Bunting.

Office dA, Voromuro, Georges Island, Boston, Massachusetts, 2007. Photo, Meghan Ryan/HDM

Foreign Office Architects, Carabanchel Housing, Madrid, Spain, 2007. Photo, Francisco Andeyro García and Alejandro García González/Courtesy, FOA

The GSD Forum on Race and Architecture examined the ways that issues of race permeate the design profession. The forum was hosted by **Steven Lewis**, LF '07, and moderated by **James Stockard**, lecturer in housing studies in the Department of Urban Planning and Design and curator of the Loeb Fellowship.

Kostas Terzidis, associate professor of architecture, authored "The Etymology of Design: a Pre-Socratic Perspective" in the refereed *Design Issues*. He presented "Predicting the Future: Open Source CAD?" at the European Computer Aided Architectural Design Association conference in Frankfurt, Germany.

Landscape Architecture published a feature article on *Teardrop Park* in Battery Park City, the work of Charles Eliot professor in practice of landscape architecture, **Michael Van Valkenburgh**. Van Valkenburgh, with Behnisch Architects and Ken Greenberg, won the Lower Don Land Design Competition with a scheme to redevelop land near the mouth of Toronto's Don River.

Kelly Wilson, adjunct associate professor in architecture, was guest provacateur at the BSA's "Conversations on Architecture," where he discussed his paintings and visual research done with architecture, drawing, and painting.

Fall 2007/Winter 2008 GSD Events

Lectures

Lectures are held at 6:00 pm in Piper Auditorium at Gund Hall, 48 Quincy Street, Cambridge, Massachusetts, unless otherwise noted. This schedule is subject to change. Please visit www.gsd.harvard.edu/news *for up-to-date information.*

September 17
Exhibition Opening Lecture for
ECOLOGY.DESIGN.SYNERGY
Behnisch Architecten and **TranSolar Climate Engineering**, Stuttgart

September 18
Angelo Bucci
principal, SPBR Architects, Brazil
"Recent Projects by SPBR Architects"
Department of Architecture and Latin GSD

September 19
Ryue Nishizawa
architect, SAANA, Tokyo
"Recent Projects"
Department of Architecture

September 25
Liat Margolis
researcher, GSD Materials Collection; landscape architect, Hargreaves Associates
Alexander Robinson
landscape architect, SWA
"LIVING SYSTEMS, Innovative Materials and Technologies"
Department of Landscape Architecture

September 26
Hani Rashid
principal, Asymptote Architecture, New York
"Recent Work"
Department of Architecture

October 1
Fares el-Dahdah
associate professor and Graduate Program chair, Rice University, School of Architecture
"Oscar Niemeyer 100: Architecture and its Meanders"
Department of Architecture and Latin GSD

October 2, 5:30 PM
Lewis Ranieri
founder, Hyperion Private Equity Funds, New York
John T. Dunlop Lecture
Department Lecture Sponsored by the Harvard University Joint Center for Housing Studies

October 2, 7 PM
Fares el-Dahdah
associate professor and Graduate Program chair, Rice University, School of Architecture
"280 x 280: Lucio Costa's Superquadra"
Department of Urban Planning and Design

October 9
Kenneth Frampton
Ware Professor of Architecture, Columbia University, New York
"Architecture in the Age of Globalization"
Department of Architecture

October 15
Jeppe Aagaard Anderson
landscape architect, Denmark
"Recent Works in Scandanavia, Europe, and Australia"
Department of Landscape Architecture

October 16
Brendan MacFarlane
principal, Jakob & MacFarlane, Paris
"Recent Work"
Department of Architecture

October 17
Erwan Bouroullec
Ronan & Erwan Bouroullec Design, Paris
"Ronan et Erwan Bouroullec"
Department of Architecture

October 24
Carl Steinitz
Alexander and Victoria Wiley Research Professor of Landscape Architecture and Planning
"Landscape Planning: A History of Influential Ideas"
Frederick Law Olmsted Lecture/Department of Landscape Architecture

October 30
George L. Legendre
director, IJP Corporation; teacher, Architectural Association, London
"New Things"
Department of Architecture

November 6
Eva Jiricna
principal, Eva Jiricna Architects Limited, London
Recent Work
Department of Architecture

November 7, 6:30 PM
Craig Webb
senior design partner, Gehry Partners, LLP, Los Angeles
"Projects for Urbanity"
Harvard Design Magazine

November 9
MK12
Tactical Design and Research Bureau, Kansas City
"Magic"
Department of Architectue and Asia GSD

November 13
Sarah Whiting
assistant professor of Architectural History and Theory, Princeton; partner, WW SUPER
Department of Urban Design and Planning

November 14
Willoughby Sharp
artist, New York
"Reflections on My Work After My Retrospective"
Department of Architecture

November 19
Arata Isozaki
architetct, Arata Isozaki and Associates, Tokyo
"Built/Unbuilt"
Department of Architecture

November 27
Philippe Rahm
principal, Philippe Rahm architects
EPFL, Paris
"Invisible Architecture—the Design of the Atmosphere: Selected Projects of Philippe Rahm Architects"
Department of Architecture

November 28
Francisco J. Mangado
professor; principal, Mangado y Asociados, Navarra, Spain
"Left-Handed Architecture"
Department of Architecture

November 29
Jonathan F. P. Rose
president, Jonathan Rose Companies, New York
Department of Urban Planning and Design

December 4
Jacques Herzog
principal, Herzog & de Meuron, Basel
Peter Eisenman
principal, Eisenman Architects, New York
"A Conversation"
Department of Architecture

December 5
Marion Weiss and **Michael Manfredi**
Veronica Rudge Green Prize in Urban Design for *Olympic Sculpture Park, Seattle Art Museum*
Public Lecture Sponsored by the Department of Urban Planning and Design

Exhibitions

ECOLOGY.DESIGN.SYNERGY
Behnisch Architecten and TranSolar Climate Engineering, Stuttgart
August 22–October 3

Studio Works, Fall 2006–Spring 2007
October 17–November 14

Olympic Sculpture Park, Seattle Art Museum
WEISS/MANFREDI Architecture, Landscape Urbanism
Ninth Veronica Rudge Green Prize in Urban Design
November 29–January 13

DIRTY WORK: LANDSCAPE IN THE NON-FORMAL CITY IN THE AMERICAS
Curated by John Beardsley and Christian

Werthmann, Department of Landscape Architecture
January 28–March 14

Conferences and Symposia

Cambridge Talks 2
November 3, 9 am to 4 pm
Gund Hall, Porticos
Cambridge Talks 2 will feature a keynote lecture and dinner on November 2, and, on November 3, two panels including recent PhD graduates presenting their work and career options beyond the PhD. Senior alumni will discuss their experiences on the academic and non-academic job markets in the United States and abroad. *Contact Barbara Elfman at* ‹belfman@gsd. harvard.edu› *with questions or comments.*

***Harvard Design Magazine* Symposium: Can Design Improve Life in Cities? Part 2: The Cases of Los Angeles, London, and Chicago**
Harvard Design Magazine Tenth Anniversary Benefit Symposium
November 7–8
Gund Hall, Stubbins Room
This private event looks at case studies with some of the major designers, developers, and politicians. Live Web Broadcast at ‹www.gsd.harvard.edu/ events/webcasts/›.

ASIA GSA Conference
November 10

The schedule of all GSD events is subject to change and more may be added. For additional and up-to-date information, visit the GSD web site at ‹www.gsd.harvard.edu/ events›.

2007–2008 Loeb Fellows

The following mid-career practitioners, whose work is dedicated to the improvement of the built and natural environments, will be in residence as Loeb Fellows at the GSD for the academic year:

Kevin Cavenaugh is a designer and developer, long-term owner, and property manager from Portland, Oregon. He uses unconventional materials, exhibits strong environmental sensitivity, and brings lively uses to the street.
Janet Echelman is an artist who sculpts public space; she has studios in New York and Boston. Her work has been installed in a dozen countries and includes a monumental wind-sculpture made of steel and netting in Porto, Portugal, and an artificial island in the Hudson River, which is a memorial of September 11, 2001.
Eric "T" Fleisher is the Director of Horticulture at Battery Park City Parks Conservancy in lower Manhattan and is national leader in sustainable horticulture.
Moises Gonzales is a planner in Sandoval County north of Albuquerque, New Mexico. He spent his early career dealing with the preservation of cultural amenities and traditions in his and similar small settlements with ethnic connections to the earliest history of the state.
Edward Lifson is the producer and host of "Hello Beautiful," a weekly public radio show in Chicago that explores architecture, design, and urban issues.
Douglas Meffert is a scientist and community activist from New Orleans, trained as an environmentalist at the Tulane/Xavier Center for Bioenvironmental Research. He cochaired the Sustainability Subcommittee of the Bring New Orleans Back Commission and is New Orleans coordinator for UNESCO's Urban Biosphere Program and director of a Japan Foundation Center for Global Partnership project working to improve information sharing among cities facing potential natural disasters.
Christine Saum is a licensed architect who works for the National Capital Planning Commission in Washington, D.C., as Director of the Urban Design and Plan Review Division. She was Director of the NEA's Mayors' Institute on City Design.
Deidre Schmidt is a developer in Minneapolis, Minnesota, with a focus affordable housing development.
Lonni Tanner consults for companies, foundations, and nonprofits, using design to draw public attention to the difficult conditions of inner-city poor families and motivate donors to contribute. She was Director of Special Projects for the Robin Hood Foundation in New York City.
Camilla Ween, trained as an architect, serves as Interim Head of Land-Use Planning at Transport for London. She helped develop master plans for the areas surrounding the Waterloo, King's Cross, Elephant & Castle, and Victoria stations.

Ninth Veronica Rudge Green Prize to Weiss/Manfred

The Harvard University Graduate School of Design announced that it would award the ninth Veronica Rudge Green Prize in Urban Design to the firm of Weiss/Manfredi for the *Seattle Art Museum's Olympic Sculpture Park*. This is the first time the $50,000 prize has been awarded to a project in the United States.

Joint Center for Housing Studies

The State of the Nation's Housing 2007 report is now available from Harvard's JCHS at ‹www.jchs.harvard.edu/publications/markets/son2007/›.

External Relations Welcomes New Members

Kathan Tracy Is Appointed Director of Development. Prior to joining GSD External Relations, Kathan Tracy was co-executive director at the Crossroads Community Foundation, Natick, Massachusetts, where she had served as a member of the board of trustees. Her focus at Crossroads was on increasing the assets of the foundation. She brings many years of development experience to the GSD, having worked as the director of development for the Wellesley Free Library Campaign and as a corporate development officer at Harvard. Prior to her work in development, Tracy was a sales engineer for a semiconductor manufacturer. Tracy is a graduate of Smith College.

Other new External Relations staff include **Norton Greenfeld,** database coordinator, and **Bonnie Campbell,** who supports the development and alumni relations team.

HDM 26 Errata

In Victoria Newhouse's "Paths from the Pompidou: Renzo Piano and Richard Rogers," Alan Stanton was said to be a partner at the Richard Rogers Partnership. Stanton is no longer a partner with RRP. He is principal of his own firm, Stanton Williams. In David Celento's "Innovate or Perish," the *Loblolly House* designed by Kieran Timberlake Associates was prefabricated by Bensonwood of New Hampshire (not LivingHomes, as the article states). However, Kieran Timberlake and LivingHomes are now working together to produce Loblolly Homes commercially. The images on pages 7 and 25 are not of Lord Norman Foster's *Troika* but actually of his *Russia Tower* in Moscow.

HDM Reader, Volume 4 Erratum The captions in the *Harvard Design Magazine* Reader, volume 4, *Judging Architectural Value* (Minneapolis: University of Minnesota Press, 2007), for the photographs by Morley Baer on page 151 and 158, should have read "Photographs by Morley Baer. © 2006 by the Morley Baer Photography Trust, Santa Fe. All reproduction rights reserved."

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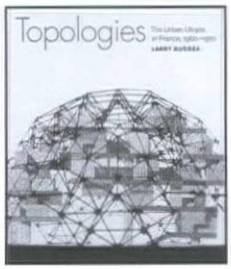

Topologies

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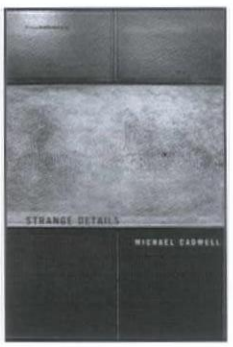

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Michael Cadwell

preface by Nader Tehrani

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preface by Anthony Vidler

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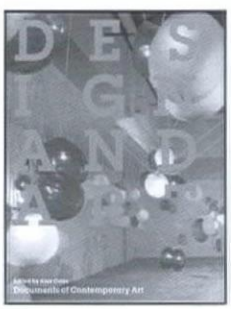

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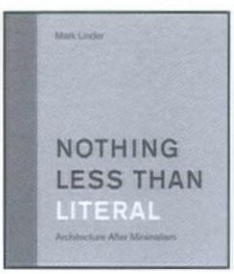

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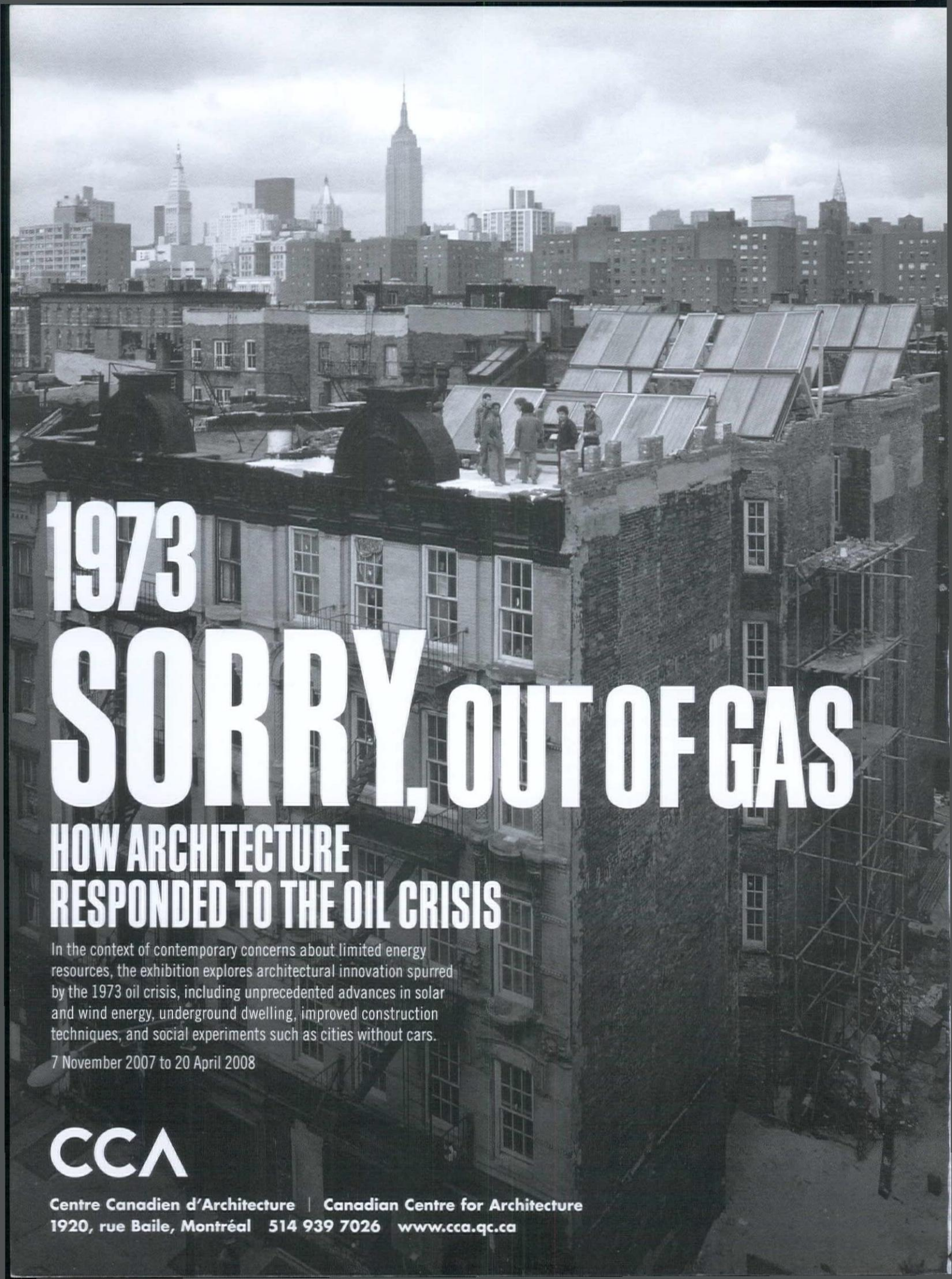

1973 SORRY, OUT OF GAS

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