

# Starchitecture and Sustainability:

Hope, Creativity, and Futility Collide in Contemporary Architecture

—Josh Stephens

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Twyla Tharp's work left only footprints, none of them carbon. Picasso, Ernest Hemingway, Edward Albee, and Jimi Hendrix treaded equally lightly on the Earth. Paint and acrylics, though toxic, cover canvases in negligible amounts. Sculpture is as likely to use found objects as raw materials. The assignment of environmental impact to verse and prose is all but nonsensical. Even Christo and Jeanne-Claude consider recycling an integral part of their creative process.

Not so for Frank Lloyd Wright, Philip Johnson, Mies van der Rohe, and the other luminaries of 20th century architecture. And even less so for their successors. But as the green movement builds under the auspices of everything from Al Gore's We Campaign to the now common LEED certification, architecture finds itself asking how green it can get—and what green should look like.

"In the last five years, we've been the instigators and the activists, and today a lot of our clients are demanding it," said Thom Mayne, winner of the 2005 Pritzker Prize. "We've become kind of 'green architects' all of a sudden."

But, said Mayne, "green is one of a multiple set of issues."

One of the oft-reported inconvenient truths of the age of climate change is that the operation of the United States' buildings' lighting, heating, air conditioning, and ventilation systems collectively represent an estimated 60 percent of the nation's energy usage, and they account for almost 40 percent of the nation's carbon emissions. New construction consumes millions of tons of energy-in-

tensive materials, including concrete, steel, glass, and lumber.

And yet, whereas heavy industries have consistently fought against greenhouse gas regulations and have only haltingly introduced green products, architecture long ago embraced sustainability as a compelling challenge that demands an artistic and engineering response. Sustainable techniques have gone through many phases of earth-friendly design, including the earth architecture and passive solar movements in the late 1960s and 1970s that captured the back-to-nature ethos of the original environmental movement.

"I think it's come back with a vengeance and has real teeth this time," said former Dean of the University of Michigan Taubman School of Architecture Douglas Kelbaugh, who did pioneering work in passive solar design in the 1970s. But designs such as Kelbaugh's, along with other hippie-era techniques like straw bale, adobe, and rammed-earth construction, never emerged as anything more than curiosities.

Meanwhile, contemporary architecture, led by the popular cadre of so-called starchitects, has been immersed in more esoteric issues of form, site, and layers of meaning so abstract as to be invisible to the average passer-by. Whether the prosaic goals of the environmental movement can commingle with those of high art remains to be seen. If green features, such as those enumerated in the LEED menu, are not integrated into a holistic ar-

tistic vision, they run the risk of appearing tacked on as mere ornamentation.

“A sophisticated building in an environmental sense is not ipso facto a sophisticated building in a design sense,” said Eric Owen Moss, director of the Southern California Institute of Architecture. “I wouldn’t mix the two.”

The question remains whether this functional movement also calls for a new formal movement, displaying materials and designs that hew towards ecological goals rather than individual visions. Uneasy about the prospect of privileging efficiency over art, many of today’s architects say no.

“I just don’t think an architect should sit down and design a building to be sustainable,” said Robert A.M. Stern, dean of the Yale School of Architecture and celebrated neo-traditional designer. “The buildings he designs should be sustainable. The sustainability agenda is part of what has released architects to be more creative, but it is not the sole shaper of architecture.”

## **Form in the Age of Global Warming**

Unlike, say, Van Gogh, who created masterpieces while living on bread and water, for architects to give flight to their fantasies, they typically have to become famous first. For better or worse, those architects that have the clout to bring prominent, creative designs to fruition are the same ones who are most capable of incorporating expensive, potentially risky green features. Though the current economic crisis has damped the pace of new development, the question remains whether leading architects will, either to gain (more) publicity or to set an example, integrate those features into the form of their buildings or whether they will resist what many see as trendy but ultimately futile gestures.

While fads such as green roofs and shipping container homes have garnered attention, their con-

nection to the deeper artistic goals of architecture are not as clear. To allow the ecological crisis to dictate form would force architects to give up pieces of their own artistic visions and personal styles, replacing the subtle message of art with a more didactic admonishment about behavior and energy use. Indeed, with the world plunging into various versions of despair, architects are wary of abandoning the power of art, or, less charitably, of relinquishing the stylistic flourishes that have made them famous in the first place.

“You can have art and performance at the same time,” said Mayne. “I think most people, especially the hardcore environmentalists – I think there’s a notion of an either/or. You have design or you have performance – I think that’s absolutely not true.”

Prominent recently constructed green buildings include Lord Norman Foster’s LEED-Gold rated Hearst Tower in New York, Renzo Piano’s New York Times Building, Mayne’s San Francisco Federal Building, and Stern’s Comcast Center in Philadelphia. Meanwhile, Zaha Hadid and Rem Koolhaas have designed entire new green cities within Istanbul and Dubai, respectively, and Lord Foster’s Masdar City is underway in Abu Dhabi. Needless to say, none of these projects involves straw bales.

“To have a building that is not only sustainable but appears to be part of the earth and look like the earth--those are values I very much respect,” said architect Cesar Pelli. “But they are not necessarily values that are applicable everywhere.”

Many contemporary buildings embody the age-old conflict between individual expression and the common good, while some appear almost antagonistic towards the environment. Frank Gehry’s aluminum billows and Daniel Libeskind’s tilted spires are largely aesthetic accents that use computer-aided design to create forms unbuildable, if not unimaginable, even a decade ago. The sheer expense of iconic libraries, concert halls, and cor-

porate headquarters contradicts environmentalism's drive for efficiency.

Some architects are hostilely disinterested in green design. Cynthia Davidson, spokesperson for Peter Eisenman-known for abstruse theories about the interstitial, as well as the Arizona Cardinals' cactus-inspired football stadium-wrote in an email, "Mr. Eisenman...does not 'wrestle' with sustainability."

Many architects who do embrace sustainability do so from a perspective so abstract as to be nearly meaningless. Zaha Hadid, winner of the 2004 Pritzker Prize, wrote in an email, "I am concerned with adjusting new materials and manufacturing methods that are relative to a whole new paradigm of space articulation and space making."

In part because of the inscrutability of these progressive designs, critics of celebrity architects contend that their buildings are too individualistic to convey any deeper social meaning or to serve as efficient, attractive venues for human activity; for architects, egoism trumps ecology.

"Selfish starchitecture...is all about media, flash, avant garde shock, and sex appeal," said Kelbaugh. "In many cases, they're just buying consultants. They'll introduce green to the extent that [they] like the way it looks, but they're not going to let green overrule their aesthetic sensibilities."

## **Modernism's Cautionary Tale**

Egoism aside, architects' hesitancy to embrace an ethic of sustainability may be the final echo of the collapse of Modernism. Having once tried to save the world, prominent architects are no longer convinced that technology and uniformity can cure the world's social ills. They are instead clinging to individualism and, perhaps, a fatalistic attitude about the future of the biosphere. Attention to aesthetics and vague concepts such as "site" and "spirit" have emerged as more neutral motivators

than the Modernist desire to empower the proletariat and destroy old icons of oppression.

"Architecture needs to be completely anchored in its program and site," said New York-based architect Steven Holl, named by Time Magazine as "America's best architect" in 2001. "Its meaning must be so deeply rooted in the conditions of its inception that it's unfazed by fashion."

This style was, not coincidentally, a product of the very same historical period that gave rise to the smokestacks and tailpipes that have spewed for decades the cause of the current crisis. Whatever its aesthetic triumphs, the Modernist experiment has been largely discredited for producing severe buildings that ignored how people actually relate to their environments and, perhaps worse, for overestimating architecture's power to effect societal change. Partially as a result of these failures, today's architects are wary of turning sustainability into an ideological or even a stylistic movement.

"Sustainability has, or should have, no relationship to style but rather to the substance of architecture," said architect Rafael Viñoly. "I have always thought that the most important quality of a building is its overall performance, be it as a functional, environmental, or cultural object."

To design buildings that looked intentionally green would belie the fundamental visual component of architecture and therefore commit an artistic sin that most architects try to avoid at all costs: dishonesty.

"Most architects will keep giving the highest value to the looks of the building – that's how we know most buildings – and the sustainability doesn't necessarily photograph," said Pelli.

But many current forays into sustainable architecture involve elements that are recognizably, or even literally, green. On some buildings, vegetative roofs have sprouted atop skyscrapers, and solar panels adorn prominent walls. Others invoke

the ethos of deep ecology, using materials produced from readily renewable resources like straw or adobe. Some architects have even gone so far as to convert metal shipping containers into modular buildings, while others have pondered the use of custom-grown trees.

“Those are still experimental efforts,” said Pelli. “They are not effective mainstream architecture or mainstream design. Those are more crafts than part of the industry of architecture.”

In fact, many of these efforts thwart contemporary architecture’s concurrent quest for novelty, functionality, and grace.

“We have had and probably still have a number of buildings that are celebrated for their sustainability or conceived of for sustainability that disappoint as works of architecture,” said Stern. “We had this in the 1970s when architects and homeowners in particular were slapping solar collectors on their roofs and all sorts of things that produced hideous buildings. We don’t want to go through that again.”

For architects who do feel a need to acknowledge a building’s role in the global ecosystem, the artistic perspective can matter just as much as any new technology or old material. Indeed, the most natural gesture may be that which respects the landscape and the aesthetic relationship between the human-made and the natural.

“When you fetishize it, the effort to make it green trumps some other level of power that is not tapped into- I would call that spiritual or poetic sustainability,” said Antoine Predock, who designed the recently completed LEED Gold Austin City Hall. “You want to do the green shopping list, for sure, but it’s about the place.”

The “place” of course encompasses the entire network of buildings, infrastructure, energy use, and human activity that swirls anonymously at the feet of the buildings that make it on to postcards and

has very little to do with high design. Whether the world will burn or not remains to be seen, but iconic buildings offer benefits that transcend their carbon footprints.

“I think there’s a very important role for monuments in the urban landscape,” said architect and planner Peter Calthorpe, one of the leaders of the so-called smart growth movement. “We need special buildings that speak more to culture and innovation and social identity. But they should be few and far between.”

Even the greenest, most striking edifice or the serene house surrounded by nature are almost always less preferable to that which seems anathema to environmentalism: dirty, crowded cities are, in many ways, the very greenest environments, and the greenest buildings are those that embrace urbanism rather than try to live above it.

“I think [iconic buildings] are absolutely brilliant,” said Andres Duany, who, along with wife Elizabeth Plater-Zyberk, co-founded the Congress for New Urbanism. “The concert hall is a great sort of building. But you cannot confuse that with making the urban fabric of the city.”

By this token, the creations of prominent architects are the exceptions that prove the rule: they are among the few buildings that can afford to be creative and even frivolous while bearing in mind that obligations towards efficiency remain as serious as ever.

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distinguished urban plains where most of the nation's 4 billion light bulbs burn deep into the night.

## Cities, Not Buildings

Architects' hesitancy to build explicitly green buildings may stem not only from a sense of wariness about grand social movements but also from the acknowledgement of the limitations of architecture. Indeed, for some, the attention to form amounts to a performative protest against the piecemeal, and ultimately insignificant, impact of isolated gestures. Even some of the most appealing green techniques appear trivial as opposed to wholesale revolutions in public policy and behavior.

"Architects can lead by example, and it's extremely important," added Moss. "But I think the sort of rammed earth and [environmental] kind of arguments seem superfluous to me in terms of what are you going to do in Lagos, Taipei, L.A., New York. They just aren't solutions."

Despite the fame of architects and their high profile, architecture's potential contribution may pale in comparison with that of its more anonymous cousin, urban planning. Whereas architects deal with, at most, a handful of buildings at a time, urban planning and transportation planning account for broad swaths of cities and even entire urban regions, encompassing everything from zoning laws to transportation infrastructure and roadways that truly determine whether cities are green. Many architects admit that the greenest buildings are those that are situated in dense urban contexts. Moreover, new construction hardly matters compared to the billions of square feet of extant structures that, like so many coal pow-

er plants and leaded-gas cars, are not going anywhere anytime soon.

"It doesn't matter how green or how efficient it is if it generates a whole bunch of car trips," said Duany.

The mindset that has led to auto-based cities runs deep enough that no architectural movement could ever combat it. And any architect who tries to paint in green strokes does so on a canvas that is already well covered. In this context, buildings that reject visible sustainable features stand as defiant, visible statements against small solutions.

"The 21st century presents us with one third of the earth already developed, much of it in sprawling waste," said Holl. "A fundamental change of attitude, a re-visioning of values must take place."

But it is just this sort of dense, gritty urbanism that often seems at odds with the environmental movement's concern for the natural world.

"[Environmentalists] have this idea that if people go back to the country and recycle their sewage and build an adobe house, they're being environmentally wise," said Calthorpe. "The real question is, how does that person get to work from that low-density location? Any urban planning solutions must be shoehorned in to existing urban conditions, and that presents a practical challenge more complicated than the aesthetic challenges that even the most ambitious architects wrestle with."

"If you really want to solve the problem, you have to now solve it in terms of land use planning, the way cities develop," said Mayne. "You're going to look for intensification, transportation."

The complexity of solving climate change through urban planning, however, is daunting. Whereas contemporary buildings may be striking and contemporary green buildings may be inspiring, if expensive, the relatively compact act of creat-

ing a single structure pales in comparison with that of retooling streets, funding public transit, and engendering an overall acceptance of density and genuine urban living that dominant patterns of land use-suburban sprawl, malls, office parks, highways, and so much more-simply cannot accommodate, either logistically or culturally.

“Environmentalists need to be the biggest advocates for infill, density, and transit-oriented development,” said Calthorpe. “They need to stop the greenwashing of sprawl, that a couple solar collectors on the roof and a straw bale wall sometimes camouflage.”

Ultimately, though, no amount of creativity, at the level of the building or even the city, may be enough to thwart catastrophes that could arrive not in decades but rather in an instant – in a world where the difference between a concert hall and a mud hut is also the difference between power and fury.

“The reality is that if Osama bin Laden walked into a refinery in Riyadh tomorrow [and blew it up],” added Moss, green architecture “wouldn’t make a damn difference.”

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