

# THE SHAPE OF GREEN

Aesthetics,  
Ecology,  
and Design

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# 1 | The Sustainability of Beauty

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*Nature has never been silent for me. Nature whispers in my ear all the time, and it is the same thing over and over. It is not “Love.” It is not “Worship.” It is not “Psst! Dig here!”*

*Nature whispers, and sometimes, shouts, “Beauty, beauty, beauty, beauty.”*

*—Sharman Apt Russell*

DESIGN IS SHAPE WITH PURPOSE.

In recent years, industry has begun to reconsider its purposes. Can products be better for people? Can buildings be better for the planet? Can companies be environmentally responsible and still turn a profit? Addressing these questions is causing dramatic changes in every area of work and life. Yet, as

we seek answers to questions about purpose, questions about shape remain. Of the traditional criteria for judging design—cost, performance, and aesthetics—the agenda known as *sustainable design* is redefining the first two by expanding old standards of value. But what about aesthetics? Does sustainability change the face of design or only its content?

Many designers show little interest in this question, and some dismiss it altogether. “[The term] ‘green’ and sustainability have nothing to do with architecture,” architect Peter Eisenman said in a 2009 interview. Designers care about image, and the green movement, like it or not, has a reputation for being all substance and no style. In 2010, design critic Alice Rawsthorn sized up the Leaf, Nissan’s celebrated electric car: “It is as dull in style as most gas-guzzling clunkers.” Many believe sustainability deals exclusively with energy efficiency, carbon emissions, and material chemistry—issues that belong in a technical manual, not on a napkin sketch. Nuts and bolts are not exactly the stuff of every designer’s dreams. As a result, many consider *great design* and *green design* to be separate pursuits, and in fact much of what is touted as “green” is not easy on the eyes. The ugly truth about sustainable design is that much of it is ugly.

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Even the most ambitious sustainable design can be unattractive because attractiveness isn’t considered essential to sustainability.

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Conventional wisdom portrays green as not just occasionally but inevitably unattractive, as if beauty and sustainability were incompatible. “Sustainability and aesthetics in one building?” asked the *San Francisco Chronicle* in 2007. “Is ‘well-designed green architecture’ an oxymoron?” mused the *American Prospect* in 2009. The previous year, famed journalist Germaine Greer declared, “The first person to design a gracious zero carbon home will have to be a genius at least as innovative and epoch-making as Brunelleschi,” referring to the Italian Renaissance architect who engineered the magnificent dome of Florence’s Duomo. Green lacks grace, say the critics.

The eco-design movement began with an implied mantra: *If it’s not sustainable, it’s not beautiful*. Waste spoils taste. Even now, the battle cry continues. “Look at the architecture of the last 15 years,” architect James Wines complained in 2009. “It’s been more flamboyant and more wasteful than it’s ever been before. To build any of these buildings by Frank Gehry [the architect famous for sculptural structures of crumpled metal], it takes . . . 60 to

80 percent more metal and steel and construction than it would to enclose that space in a normal way . . . Mind-boggling waste.” Wines suggests that the work of Gehry, the most renowned architect of our time, isn’t great design because it’s negligent.

Yet the opposing view insists that focusing exclusively on environmental stewardship is just as irresponsible. “Some of the worst buildings I have seen are done by sustainable architects,” Eisenman said in the aforementioned interview. “Sustainable architecture,” wrote critic Aaron Betsky in 2010, “justifies itself by claiming to be pursuing a higher truth—in this case that of saving the planet. The goal justifies many design crimes, from the relatively minor ones of the production of phenomenally ugly buildings . . . to the creation of spaces and forms that are not particularly good for either the inhabitants or their surroundings.”

In the apparent tug-of-war between sustainability and beauty, which should win? *Contract* magazine’s 2008 interiors awards jury remarked that the Haworth furniture showroom in Washington, DC, “shows you can create something that’s environmentally sensitive but doesn’t look like it.” In other words, looking green looks bad, so hide it, dress it up. The online design magazine *Inhabitat* proclaims that designer Yves Béhar’s projects “have always exhibited a deft balance between stunning aesthetics and sustainable design.” Beauty and sustainability need to be *balanced*, as if designing green requires a compromise or trade-off with looking good. Another Web site refers to “the constant battle between aesthetics and sustainability,” as if the two unavoidably conflict. “A sophisticated building in an environmental sense is not ipso facto a sophisticated building in a design sense,” says architect Eric Owen Moss. “I wouldn’t mix the two.” Environmental sophistication and design sophistication don’t blend well.

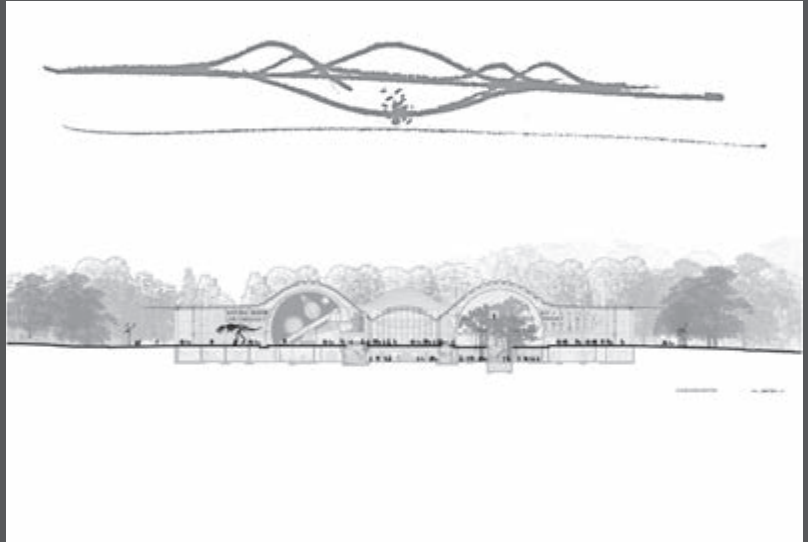
Recent surveys confirm how widespread this impression is. In 2010, *Vanity Fair* asked ninety leading architects to pick the “greatest buildings of the past 30 years.” Fifty-two people responded, and among the twelve picks with more than a few votes each was a glaring lack of exemplary green projects. (The winner, with nearly three times the number of votes of the second-place choice, was Gehry’s Guggenheim Museum in Bilbao, Spain—the epitome of what Wines calls “mind-boggling waste.”) Sustainability, it seems, is not much on the minds of the architectural elite.

To test this theory, I conducted my own poll. For my column in *Architect* magazine, I asked 150 experts to pick the most important examples of sustainable design from the same period; to be consistent, we published the

**“Green” Design or “Good” Design?**

*Renzo Piano Building Workshop,  
California Academy of Sciences,  
San Francisco, California.*

Green experts named this the most important building since 2000. The architectural elite did not.





first fifty-two replies. The differences were dramatic. Not one building from the *Vanity Fair* list recurred in the top twenty results of my survey, and not a single American architect appeared in both sets of winners. (Of the two architects who did—Italian Renzo Piano and Briton Norman Foster—*Vanity Fair* featured their older, less environmentally ambitious work.) In fact, none of the winners of the first poll appear anywhere on the entire list of 122 projects in the second. Clearly, standards of design excellence and of environmental performance don't match, for the "greatest" buildings of our time are far from the "greenest," and vice versa.

No surprise there. Originally, the concept of sustainability promised to broaden the purpose of contemporary design, specifically by adding ethics to aesthetics, but instead it has virtually *replaced* aesthetics with ethics by providing clear and compelling standards for one and not the other. The most widely accepted measures for environmental performance exclude basic considerations about image, shape, and form. Even the most ambitious sustainable design can be unattractive because attractiveness isn't considered essential to sustainability.

But this will change. "It may be true that one has to choose between ethics and aesthetics," wrote the film director Jean-Luc Godard, "but whichever one chooses, one will always find the other at the end of the road." As the green agenda becomes more popular, more designers are realizing that, as Béhar has put it, "virtuous products don't have to equate with indifferent design." Over the past handful of years, plenty of striking examples of eco-design have appeared, and suddenly sustainability is sexy. Yet, what makes these designs look good usually has nothing to do with what makes them green. "Sustainability has, or should have, no relationship to style," insists architect Rafael Viñoly. Fundamental decisions about appearance often are decided by the personal taste of the designers, so when it comes to aesthetics, sustainable design is business as usual.

What if we created a different approach to aesthetics, one based on intelligence and not intuition? Can we be as smart about how things *look* as we are about how they *work*? Typical sustainable design strategies stem from painstaking research and time-tested evidence, and this approach can guide both technical choices and aesthetic choices. For every study demonstrating the benefits hidden inside particular materials and production methods, there are other studies showing how certain shapes, patterns, images, colors,

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Can we be as smart about how things *look*  
as we are about how they *work*?

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or textures can create environmental, social, and economic value. Why aren't they more familiar to designers?

Although green techniques often seem complicated, actually they could be divided into two simple categories: those you see and those you don't. *INVISIBLE green*—considerations such as embodied energy, material sources, chemical content, and so forth—has become a more familiar agenda, partly because these factors are easier to regulate and measure (and possibly because they don't threaten artistic freedom). Many designers restrict environmental performance to these factors alone; in the words of architect Cesar Pelli, "Sustainability doesn't necessarily photograph." But *VISIBLE green*—form, shape, and image—can have an even greater impact on both conservation and comfort. How a building is shaped can have an enormous effect on how it performs, and some sources estimate that up to 90 percent of a product's environmental impact is determined during the early design phases, prior to decisions about technical details. In other words, elementary decisions about shape—the "look and feel" of a design—are essential to sustainability.

## Love It or Lose It

Aesthetics, or sensory appeal, are not just icing on the cake. In both nature and culture, shape and appearance can directly affect success and survival. From a single cell to the entire planet, much of nature can be explained in terms of geometry alone. The filled donut of a blood cell is perfectly streamlined for fluid dynamics. The slight angle of the earth on its axis creates the four seasons, which have helped shape nearly every living creature. And many of these creatures thrive on being attractive—feathers are colorful, flowers are scented, fruit tastes sweet. Life is alluring, and pleasure drives evolution.

The same applies to design—form affects performance, image influences endurance. A square wheel won't work, regardless of how well it's engineered. And even with the most sophisticated mechanical system, a building facing west is going to get hot. So shape affects efficiency but also longevity, which can depend almost completely on visual and emotional appeal. How long will something last if it fails to excite the spirit and stir the imagination? Picture two objects. One uses energy conservatively but is dull, unsightly, or uncomfortable. The other is gorgeous but a glutton

for fossil fuels. Which is more likely to endure—the responsible one or the ravishing one?

In *The Botany of Desire*, Michael Pollan shows that domesticated plants and animals have thrived because they have an important survival advantage over their competitors in the wild: *we like them*. Pollan writes: “Human desires form a part of natural history in the same way the hummingbird’s love of red does, or the ant’s taste for the aphid’s honeydew. I think of them as the human equivalent of nectar.” The fate of many things depends on whether they please people. Wolves might seem heartier than dogs, but there are 50 million dogs in the world and only ten thousand wolves. Which has adapted better? This view of nature may give you pause—should other species exist just to please us? But as a principle for design, it is essential. If you want something to last, make it as lovable as a Labrador.

Because, as studies show, we form positive associations with things we consider beautiful, we are more likely to become emotionally attached, giving them pet names, for instance. We personalize things we care about. Experiments in interaction design also reveal that people generally consider attractive products more functional than they do unsightly ones and therefore are more apt to use them. We prefer using things that look better, even if they aren’t inherently easier to use. Consider the ramifications—if an object is more likely to be used, it’s more likely to continue being used. Who throws out a thing they find functional, beautiful, and valuable all at once? A more attractive design discourages us from abandoning it: if we want it, we won’t waste it.

Long-term value is impossible without sensory appeal, because if design doesn’t inspire, it’s destined to be discarded. “In the end,” writes Senegalese poet Baba Dioum, “we conserve only what we love.” We don’t love something because it’s nontoxic and biodegradable—we love it because it moves the head and the heart. If people don’t want something, it will not last, no matter how thrifty it is. And when our designs end up as litter or landfill, how prudent have we been? “The more clearly we can focus our attention on the wonders and realities of the universe about us,” wrote Rachel Carson half a century ago, “the less taste we shall have for destruction.” When we treasure something, we’re less prone to kill it, so desire fuels preservation. Love it or lose it. In this sense, the old mantra could be replaced by a new one: *If it’s not beautiful, it’s not sustainable*. Aesthetic attraction is not a superficial concern—it’s an environmental imperative. Beauty could save the planet.

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what we love.”

—*Baba Dioum*

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