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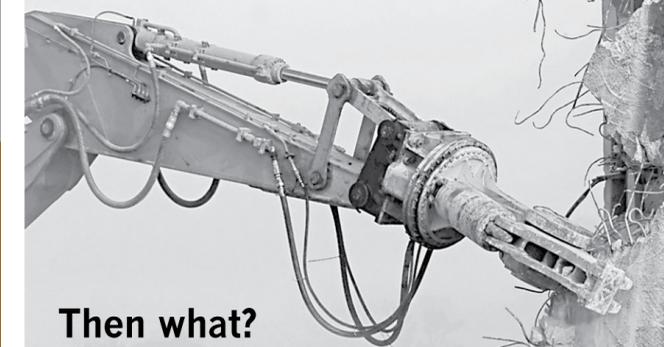


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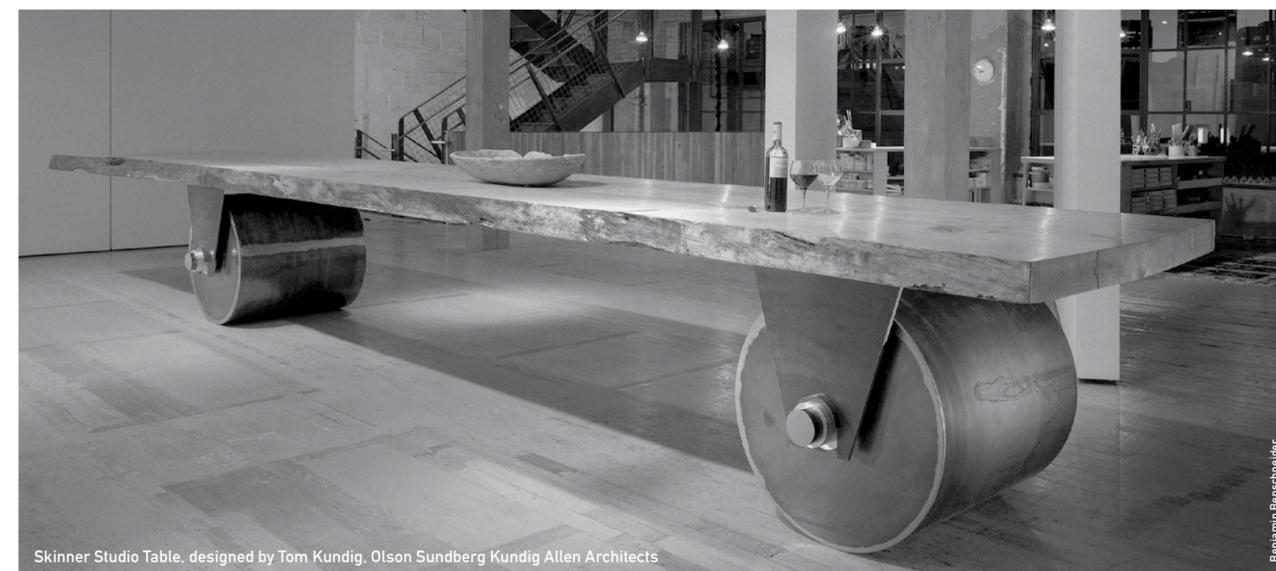


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amanda@arcadejournal.com
206 971 5596

PUBLISHING COORDINATOR

Erin Kendig
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READER

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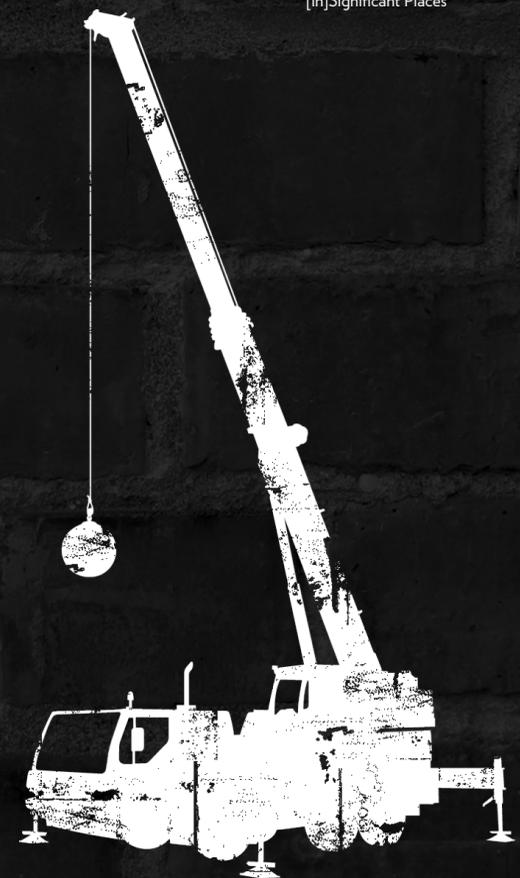
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LAND DEVELOPMENTS

a conversation with seattle artist vaughn bell

abigail guay

ABIGAIL GUAY: Last spring, the Massachusetts Museum of Contemporary Art (MASS MoCA) commissioned you to create new work for the exhibition *Badlands: New Horizons in Landscape* (on view through April 12, 2009). The curator and exhibition organizers saw the show as an opportunity to bring together artists who tackle issues of land use, environmental politics and natural beauty. Common to this age of nonhierarchical value systems, they did not attempt to make a single, sweeping comment on the landscape and instead settled on a handful of categories, of sub-statements. You were grouped with the artists who make a practice of reinterpreting the landscape, artists who examine and customize the language of the most iconic landscape traditions. Can you talk a little bit about your project there? Are you happy with the category you were assigned?

VAUGHN BELL: The project at MASS MoCA is called *Village Green*, and it is a collection of "Personal Biospheres." Each one is a miniature landscape of plants native to the Berkshires suspended in a clear "biosphere" that participants can place their heads inside. The outer forms of the pieces evoke the New England architectural motifs and local hills that are visible behind the piece, out the window of the gallery. I wanted the piece to turn architecture and landscape inside out.

AG: The Berkshires are hyper-idyllic, a very fitting place for the installation. Tourists swarm western Massachusetts in the summer and really revel in the utopian, Old World-like beauty. The irony is that the local early industrial sites, just like the buildings housing MASS MoCA, are environmental catastrophes. When I lived in Williamstown (one town away from North Adams, where MASS MoCA is located) I weathered a loud, dirty summer while the local electric company oversaw the clean up of my backyard, the former site of a manufactured gas plant. And I drove by a Superfund site, an old tannery, on my way to work each day.

VB: Our vision of the idyllic landscape doesn't match up with the real environment, and for me the piece is dealing with this environment in a cross-section of ways. The idea of the natural world as something contained within these little spaces, being preserved in an artificial way, is both frightening and sad. At the same time, I do think the work fits within the prevailing landscape traditions. The landscape, typically painted and contained in a frame "out there," is presented in front of your face as a living system with plants and moss and little insects. As a culture, we are further than ever from the image in that painting, but *Village Green* confronts us with that landscape in an intimate, physical way, and standing within it, we are also confronted with our role and potential impact.

AG: How does *Village Green* fit into what you are working on, your ongoing practice?

VB: I really began making this definitive body of work out of graduate school about five years ago. Beginning with a broad question – how do we humans relate to our environment? – I have been honing and developing many different aspects of the inquiry. Language is very important to the creative process for me. I look at a word like landscape, and the seemingly simple definition of it reveals all kinds of history. There is a huge depth of theory that can be explored just in examining this one word and what it means for art history, design, planning and policy.

AG: While you are tackling words like landscape, the rest of the country is buzzing with the catchphrases of this transitional political season: infrastructure, sustainability, climate change, etc. Have you given these terms (and all that you could interpret them to mean) a place in any of your projects?

VB: Absolutely. I am always thinking about these issues, and this is precisely why the word landscape is so important. It binds up our historical and evolving assumptions about how we relate to the environment. Our notions of how we fit in the environment, as embodied in the landscape painting tradition, for example, or in more recent land art activities, are seemingly inadequate to deal with the reality of climate change and the imperative of sustainability. The sense of calamity present in discussions of crumbling infrastructure, rising sea level, catastrophic storms, can recall a sense of the sublime, the wild power of nature. But the difference is that it's not about "nature" anymore—it's about us and our behavior.



AG: Do you consider yourself an environmental activist?

VB: I do consider myself to be an environmental activist on a personal level, but I don't necessarily feel that my work is activist in a really direct way. I think that one of my primary concerns in my work is asking questions, and so in that sense I don't think of the work as having a definitive message to convey or a position to promote. For example, as part of my ongoing project, *Land for Adoption*, I wander the streets with a cartful of land, the Cultivation Utility Vehicle (CUV), and people can adopt some if they are willing to go through the paperwork and commit to caring for it. In this scenario, my audience is the random people I encounter, and I guess this is my ideal audience because I like the openness of it. People in this situation don't approach the work expecting anything – they don't necessarily call it art – and thus more surprising and exciting things can happen. I like to create work that operates under the radar, in a way, work that sneaks in and asks questions and presents ideas without too much announcement.

AG: It may be useful for some of our policymakers to observe your adoption procedures, to see how a random cross-section of people responds to a situation that tenders both real and symbolic responsibility. Has an adopted parent of a landscape admitted to either sloppy or failed upkeep?

VB: Yes, I have heard some of them have dried up, died, although I think most people don't admit it when they fail to preserve the biosphere. People often ask me this when they adopt—what if it dies? I usually say that all they can do is take on the responsibility for the biosphere with a clear intention. But we can't control everything, and we often fail, so they have to be prepared that they may fail. It becomes a really funny philosophical conversation about how we have to proceed in spite of the fear of failure.

AG: The situation is interesting because of the all meaning that goes with identifying biospheres distributed via the CUV as landscapes. I have let a few potted plants, house plants, die on my watch, and it was sad to varying degrees, but house plants, kitchen gardens, these sorts of closed ecosystems, come and go in a way that an ecosystem comprising an entire continent cannot. Going back to your comments on language, I agree that identifying a tiny, adopted land parcel as a landscape gives it unique emotional currency.

VB: Yes, deliberately confusing the macro and the micro can lead to some interesting situations. A transformation can occur in terms of how we relate to something, simply based on how it is named.

VAUGHN BELL CREATES INTERACTIVE PROJECTS AND IMMERSIVE ENVIRONMENTS THAT DEAL WITH HOW WE RELATE TO OUR ENVIRONMENT. SHE HAS EXHIBITED AT VENUES ACROSS THE UNITED STATES, AS WELL AS IN THE UK AND JAPAN. YOU CAN VIEW HER WORK AT WWW.VAUGHNBELL.NET.

ABIGAIL GUAY IS THE EXHIBITIONS DIRECTOR OF OPEN SATELLITE, A CONTEMPORARY ART SPACE IN BELLEVUE, WASHINGTON. FROM 2002-2006 SHE WORKED AS A PROJECT MANAGER AT THE JENNY HOLZER STUDIO, NY, WHERE SHE COORDINATED INSTALLATIONS AT ART INSTITUTIONS AND PUBLIC SPACES ACROSS THE US, EUROPE AND ASIA.



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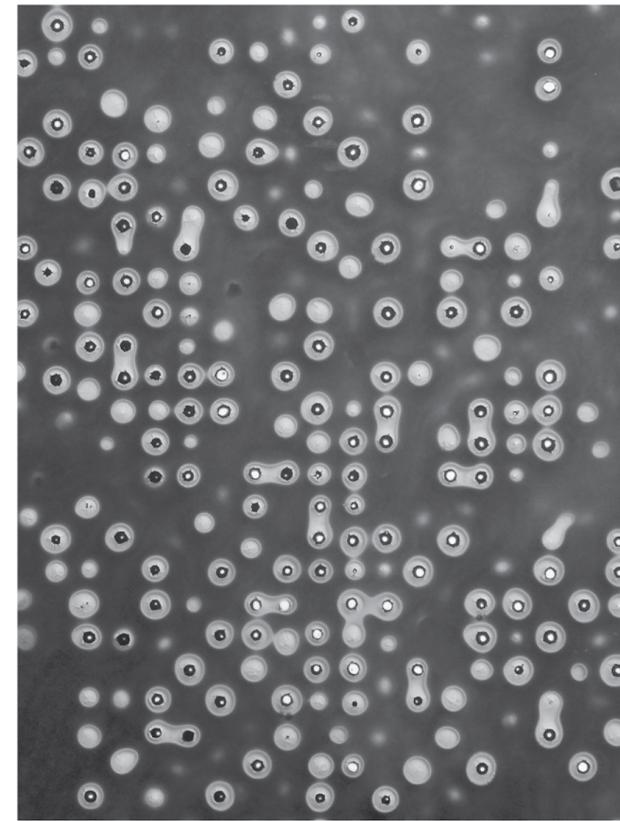
VILLAGE GREEN, MASSACHUSETTS MUSEUM OF CONTEMPORARY ART, 2008. PHOTO: KEVIN KENNEDY. LEFT: LAND FOR ADOPTION, PERFORMANCE, 2008. PERFORMANCE SPONSORED BY 4CULTURE. PHOTO COURTESY THE ARTIST.



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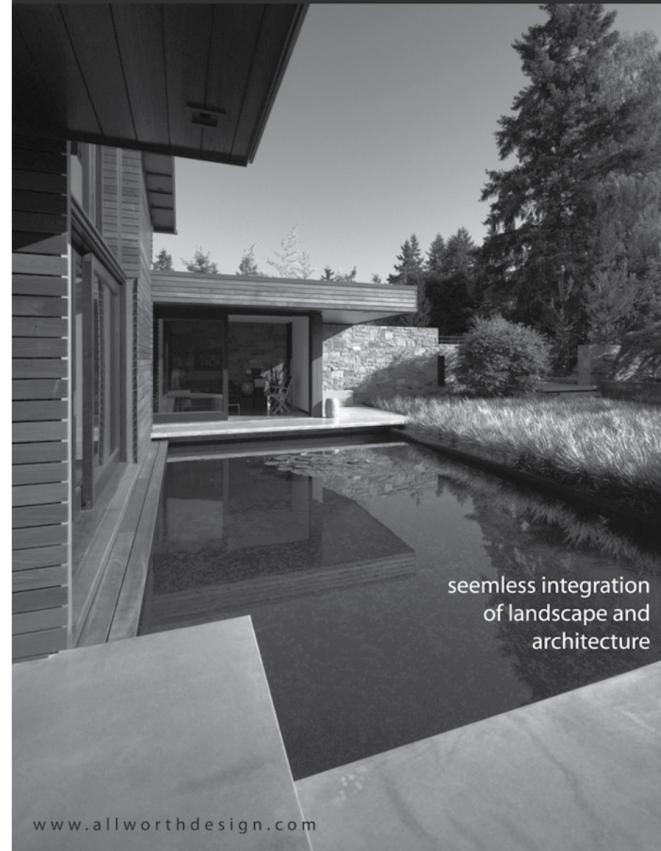
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THE CONUNDRUMS OF ARCHITECTURAL CRITICISM

trevor boddy

Everyone likes the idea of architectural criticism. Far fewer like the actual practice of architectural criticism. My experience is that the public loves it, but architects, editors, developers, advertisers, magazines and newspapers often do not. This makes for some critical conundrums.

Architectural criticism is an art form that many of us would wish to flourish, but it has proven difficult to establish in most places, other than a handful of metropolises. The practice of architectural criticism rose in consort with the increasing popularity of newspapers in European then American large cities, then in topical magazines published in the same places. In the English language, our contemporary culture of architectural criticism has its historical roots in the writings of two eminent Victorians: William Morris and John Ruskin.

From William Morris – especially his writings on the preservation of historic buildings – we have inherited the idea of the architecture critic as activist. His writings on buildings were calls to immediate action, and Morris as critic was most effective in describing how layers of historic building details were pulled away in the romantic zeal to restore buildings to one point in their diverse histories. Passing over the line from activist writing to activist organizing, Morris then went on to found the preservation lobby group “Anti-Scrape” to carry on the cause. The architectural criticism of urbanist Jane Jacobs and former *New York Times* critic Ada Louise Huxtable are continuations of Morris’ notion of invective prose aimed at resolving immediate issues.

Two books by John Ruskin established a related but separate tendency: the architecture critic as moralist. *The Stones of Venice* and, even more so, *The Seven Lamps of Architecture* have a strong foundation in Ruskin’s fundamentalist, Calvinist Christian faith. Many of Ruskin’s ideas like “truth in structure” and “honesty in materials” became foundational concepts for the Modern movement in architecture, ideas now so pervasive that we forget they had their provenance in Ruskin’s paradigm of the Gothic – especially the Italian Gothic he found in Venice and Milan – as the most profound of all the styles. Ruskin’s architectural criticism combines muscular descriptive passages with deft interpretation of the moral, even spiritual, implications of architectural decisions. The moralizing tendency in architectural criticism was continued in Lewis Mumford’s “The Skyline” column for the *New Yorker* magazine and in the editorship and writing of Peter Davey in his many years at the helm of *The Architectural Review* of London.

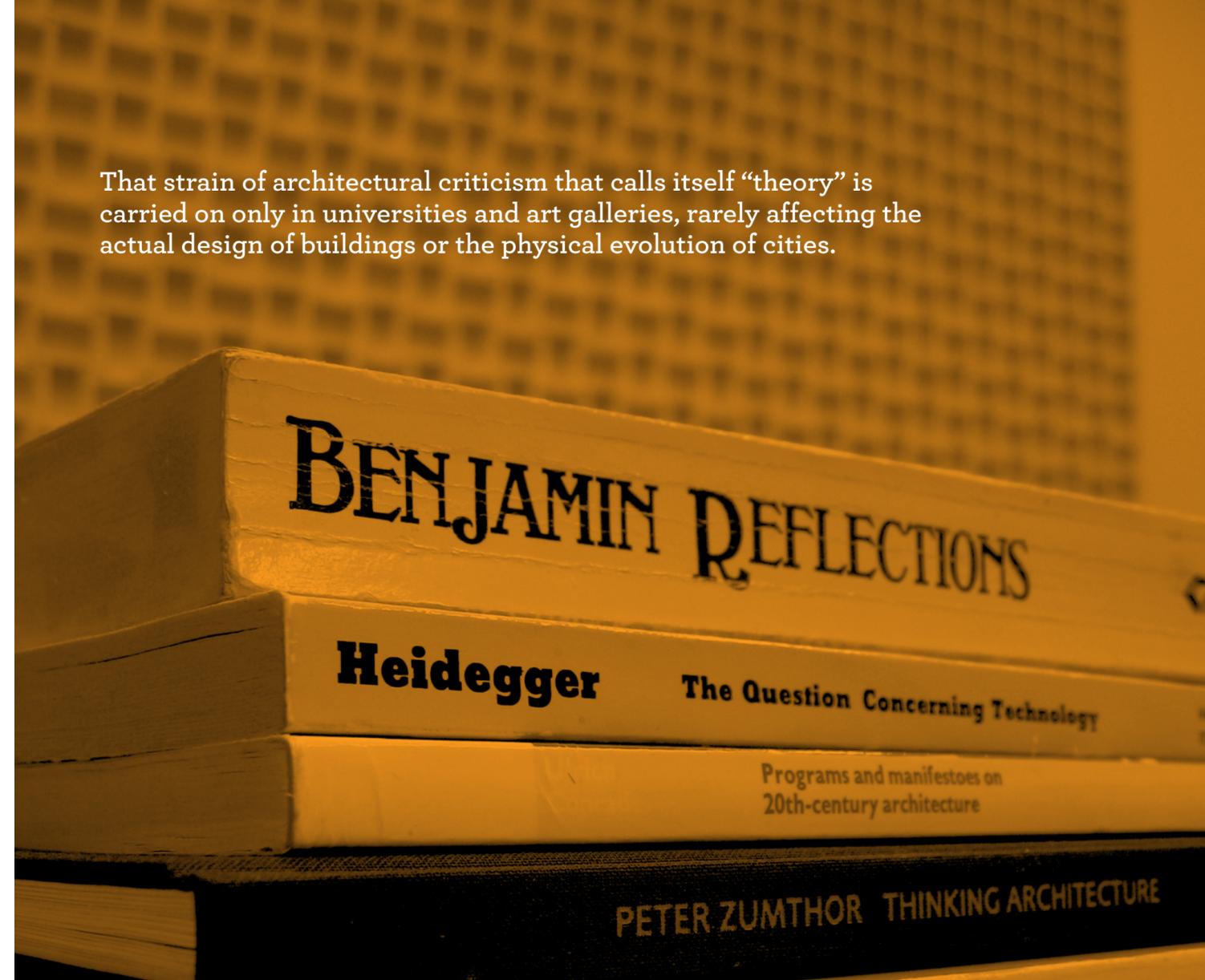
To these two streams from the English-language literature of architecture must be added a

third originating in nineteenth-century German philosophy and art historical writing. German-language philosophers, from Immanuel Kant and Georg Wilhelm Friedrich Hegel in the nineteenth century to Martin Heidegger and even Ludwig Wittgenstein in the early twentieth century, produced theoretical texts and lyrical writings important to our current notions of interpreting and evaluating buildings. In parallel was the German tradition of art historical scholarship demonstrated in the writings of Gottfried Semper during the nineteenth century, Rudolf Wittkower during the twentieth century and many others. The conflux of these tendencies made for architectural criticism that validated architecture as an intellectually autonomous discipline, disengaging writing from the moralizing and strategic concerns of the Morris-Ruskin tradition. At its best, this writing is conceptually rigorous and un-beholden to the distractions of the time and place of its creation, but at its worst it can be pretentious philosophizing or pointless formal analysis.

This tendency lives on to this day in that narrow band of architectural criticism as practiced by architectural academics and curators, which is usually – and inaccurately – called “architectural theory.” The early and mid-career critical practice of Philip Johnson was formalist in character and eclectic in its intellectual borrowings, a combination continued more recently by architect and writer Peter Eisenman and former Netherlands Architecture Institute director Aaron Betsky. It is important to note here that there is little place in contemporary academe for the Morris-Ruskin tradition and indeed for any active practice of architectural criticism that is evaluative and deals with contemporary buildings. On the other hand, that strain of architectural criticism that calls itself “theory” is carried on only in universities and art galleries, rarely affecting the actual design of buildings or the physical evolution of cities. This separation is itself a serious conundrum; one of my personal hopes for architectural criticism has always been for a reconciliation of these two tendencies.

Through the twentieth century, these traditions of criticism – with linked developments in the French, Italian and Spanish-language architectural press – spread to non-Western countries. As architects in these parts of the world went through the paroxysms of modernization, there was nearly always a debate about the conflict between tradition and contemporary technology and another about national identity versus universal ideas and forms. Japan and Latin America

That strain of architectural criticism that calls itself “theory” is carried on only in universities and art galleries, rarely affecting the actual design of buildings or the physical evolution of cities.



first explored these debates in the early-twentieth century, followed soon by the rest of Asia, the Middle East and Africa. The new freedoms for the quotation of historical traditions in the Postmodern architecture of the 1980s sparked renewed critical debates in all of these regions, and these discussions evolved simultaneously with those in Euro-American architectural culture. For example, the references to vernacular and religious building forms in the buildings from that period designed by Egyptian architect Abdel Wahed El-Wakil prompted a very interesting debate in the Arab world, one which contains elements from all of the traditions of architectural criticism described above. Yet another conundrum of architectural criticism is that some of the most important debates in architectural culture have occurred away from Western media and academic centers and have inevitably been seriously under-regarded.

Public criticism is fundamental to architectural culture, but its current precariousness has its roots in how architects are trained. More than any other art, science or profession, public criticism is an integral part of the education of architects everywhere. As a preface to this phenomenon, it should be noted that the very idea of schools of architecture – rather than master and apprentice systems more typical of the building trades worldwide – is a surprisingly recent invention. Independent schools of architecture with their own pedagogies appeared less than 200 years ago, with the Ecole des Beaux-Arts in Paris and a London gentleman’s club, whose evening lectures evolved into a teaching institution, the Architectural Association (AA). For both the Beaux-Arts and the AA, public criticism of student design work became a fundamental technique of architectural education.

Engineers, doctors and even urban planners have nothing like this emphasis on public criticism, and today, open “crits” or “reviews” are a component of virtually all the world’s architecture schools. While architecture schools carry on regional traditions, and the emphasis in teaching varies from pragmatic building issues to formal and intellectual ambitions, architecture school reviews are nonetheless remarkably similar all around the world. I know this from having participated in reviews of student projects in Sharjah and Jogjakarta, Leuven and Los Angeles, Hong Kong and Halifax. Globally, architects everywhere have views of the profession and buildings shaped by this particular dynamic of public criticism because it was given so prominent a place in their education. Yet despite this – or more likely because of it – critical

comments that hardly would generate a murmur if applied to an actor’s performance or the assumptions of a scientific brief precipitate shocked and appalled reactions from deeply offended practicing architects. Because I have written critical texts in newspapers and magazines about many other art forms and professions, the thin hides of architects always have surprised me. Perhaps I should not be shocked, because when architects lash out at criticism, there often seems to be a deeper psychological dimension to their protests. This is one of the conundrums of our field: the extensive use of architectural criticism as a teaching technique engenders a lifelong dislike of public debate and dialogue amongst too many practicing architects. Again, they love the idea of criticism, but not its practice.

The saddest aspect of this particular conundrum is that so much of what is said in architecture schools’ crits is not actually architectural criticism as I understand it – the interpretation of the intellectual, tectonic, technical and social notions implicit in the designs of buildings and cities – but other types of verbal performance, often tangentially related to the student designs under consideration. The long list of the nonsense that gets spoken in the course of architecture school reviews these days starts, but does not end, with this list: big-ego showboating; faux-intellectual fad-gadgetry borrowed from literary theory and cultural studies; private language idolatry by studio gurus; and the Masonic lingo invoked in the socialization into the architectural profession. I suspect many architects would react better to public criticism had they received a higher level and more focused critical commentary as students.

Criticism of any kind is extraordinarily difficult, requiring high-level writing and rhetorical skills. Architectural criticism is perhaps the most difficult of all because of the range and kinds of knowledge needed to do it, and even more so because of the very importance of buildings and urban forms in shaping our lives. Architecture critics are like our colleagues in conventional practice—we find it takes up to the age of 50 to develop the writerly and conceptual skills to practice our art with grace and effectiveness. The saddest conundrum of all is that we have fewer and fewer places to publish considered architectural criticism every year.

My city of Vancouver has one of the most dynamic and interesting building cultures on the continent, but the main daily newspaper here recently cut architectural criticism from once monthly to not at all, meaning that the entire northwest quadrant of North America is now without any independent, specialist commentary on architecture in its daily newspapers.

Because the public criticism of buildings is so difficult, dangerous and debt-inducing, the numbers of practicing critics are tiny. For example, all of us who live by writing on buildings in Canada can ride together in a taxi, and the International Committee of Architectural Critics (CICA) – the global architecture critics' organization – has 120 members. I have no doubt that there are rare subspecies of Himalayan moulds or Arctic sea slugs that rate more specialists looking at them than does commentary and exegesis on contemporary construction. Following a pattern in many other cities, the post of architecture critic was abolished at both daily newspapers in Seattle within one month of each other last year. This loss of a public forum happened after a reported campaign by the development industry to eliminate those irksome independent opinions—builders want solely their weekend "homes pages" advertorial coverage. Not only our designers want to control architectural criticism, it seems.

My city of Vancouver has one of the most dynamic and interesting building cultures on the continent, but the main daily newspaper here recently cut architectural criticism from once monthly to not at all, meaning that the entire northwest quadrant of North America is now without any independent, specialist commentary on architecture in its daily newspapers. This is one of the cruelest conundrums of all: for one of the most public of the arts of appreciation, there are fewer and fewer places to practice it. While local critical coverage has diminished, we have seen more and more coverage about fewer and fewer global architects, and the coverage has shifted from true criticism to celebrity journalism. Celebrity coverage of "starchitects" and their latest sculptings has displaced criticism and commentary on buildings and cities in most mainstream periodicals.

The situation in magazines is only marginally better. Amongst the "glossies," (the highest profile, international, English-language architecture magazines) only London's *The Architectural Review* maintains a regular commitment to criticism, as opposed to the descriptive and explanatory writing more common to design journals. While Toronto's *Canadian Architect* and New York's *Architectural Record* occasionally publish pointed criticism, critical writing is not a high priority amongst the information conglomerate corporations that own them, no matter what the personal priorities of their editors. Urban magazines such as *Metropolis* and *Blueprint* do slightly better, but even the best of shelter magazines – such as the otherwise clever *Dwell* magazine – promote a kind of cheerleading promotional writing that is only occasionally, maybe even accidentally, critical.

The new frontiers of architectural criticism are all electronic. For Radio France, François Chaslin has demonstrated how effective architecture can be in the aural space of a sound-only medium. Feature films by Louis Kahn's son and about Antoni Gaudi demonstrate how effective the high resolution, large image of the cinema can be when it turns its sights on the built environment and upon the creative minds who shape buildings and cities. There is much hope

that the Internet will provide the forum so needed for architectural criticism. I find that my articles published in newspapers and magazines now have a lively after-life, as they are picked up and commented on by information hubs such as www.archnewsnow.com and then in commentary in blogs and specialist websites. The critical conundrum here is that these new places for commentary are important, but by definition they are diffuse, lacking the impact and import of ideas applied to local issues in a public way. As architecture critics, we are developing global publics but are less and less able, in the William Morris manner, to shape events and build culture close to home.

Television has blown hot and cold about architecture over the years. Programs about domestic design and house "makeovers" have never been more popular than now, and there is a rudimentary form of criticism at play in these reality programs. CNN and other news networks have featured weekly shows about design culture, but they took a deadly turn towards the coverage of design stars, and frankly, compared to movie and music-makers, even our most famous architects are just not that interesting as personalities.

The Qatar-based news network Aljazeera has just spent one-billion dollars launching a new global English-language service. Those of us privileged to visit, teach and occasionally write about architecture in the Middle East know that there is a huge interest in Western countries about the evolution of cities there, especially in the Gulf region. The issues are global, and the stakes are high as cities there transform themselves month by month. Will Kuwait City set a separate course from the extravagance and schmaltz of much of Dubai's tourist-oriented development? Has the condominium apartment turned into a global commodity to be traded across borders like crude oil or orange juice futures, or does housing still have some relation to the cities in which it is plunked down? Riyadh, Ankara and Damascus have enormous issues of urban infrastructure but also enormous reserves of talent and ideas to deal with them. I hope an enlightened Aljazeera producer finds time in his or her news program for a show about design and cities. I suspect it would be surprisingly popular on the English-language network and, even more so, on the Arabic one. The world will be watching.

TREVOR BODDY IS AN ARCHITECTURE CRITIC AND URBANIST IN VANCOUVER.



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[IN]SIGNIFICANT PLACES

in search of cultural sustainability

jm cava

Portland recently had a native son (of sorts) return, Sergio Pallerone and his program for building sustainable communities that he calls BaSiC. Essentially a design-build operation for “under-served” clients (those who cannot afford or access architects), BaSiC designs and builds homes, schools and civic structures. In itself, this is not unusual—there are dozens of such outfits, with the Rural Studio being the most well known. What’s different here is that Pallerone is a “sustainability” expert according to his new bosses, Portland State University’s Architecture Department and Center for Sustainable Practices and Processes. Though his work includes the usual green building strategies, he was hired for his expansion of the standard definition of sustainability to one that emphasizes the preservation and enhancement of what he calls “Cultural Sustainability” through design.

This is smart thinking, maybe even a paradigm shift, because like the work of Tony Fry, it steps back from what has become a low-level checklist approach to sustainable building and takes a broader view. The typical definition of sustainability in design – unfortunately rated like Visa cards in LEED™ Silver, Gold, Platinum and beyond – remains imprisoned within the cultural wasteland of “late 20th century capitalism,” where buildings are first and foremost commodities, vehicles of financial profit, like television sets or washing machines. To this end, the LEED™ checklist – though admirably promoting basic energy conservation – falsely implies a greater architectural value or cultural significance to buildings with higher LEED™ ratings.

Of course nothing could be further from the truth, and bringing the question of Cultural Sustainability to the table is an intelligent and important act, certainly more challenging and thought-provoking for students than choosing insulated panels out of a catalog and likely to produce more effective results in the game of saving the planet. Here, PSU shows how academics in architecture can perform serious research equivalent to that in the “hard” sciences—exploring real-world concerns ignored in the private sector for lack of immediate financial rewards.

To emphasize the point, stop and think for a moment: What is considered “Culturally Sustained,” and how could instances of Cultural Sustainability be identified and reinforced? It’s easy to take a crack at this in places like Sienna, Dubrovnik or Kyoto, but copying those forms is historicist and regressive. Here in the US, parts of the original 13 colonies and old rural farmsteads might qualify, but these are mostly empty shells for tourists, full-sized dioramas of previous cultures.

This phrase, Cultural Sustainability, simultaneously (and probably inadvertently) engages the big question that unceasingly haunts the modern architect: is “avant-garde”

architecture, favoring as it does uncompromising abstraction and purity of form, able to simultaneously accommodate the disparate scales, comforts and traditions that collectively embody a local culture? As every architect knows, this has grown into a great beast of dissatisfaction rumbling underneath most modern work, a sweeping deficiency ignored by critics and the press, yet never appeased. It rapidly transformed Le Corbusier’s Pessac housing into cute cottage bungalows, fuelled passionate CIAM and Team X debates, inspired Louis Kahn’s search for “year zero,” Aalto’s fascination with Nordic vernacular and Jorn Utzon’s obsession with traditional Japanese and Mayan designs. This same malcontent was the force behind reactionary movements like Post-Modernism, The Pattern Language and the disingenuously named New Urbanism—all futile attempts to regain the care for the “Cultural Sustainability” that the heroic modern movement inadvertently tossed out.

Although Pallerone generally works with smaller buildings in out-of-the-way places, approaching them through the lens of Cultural Sustainability allows him to face this chronic disturbance of modernism head on and offer at least a forum for its resolution. Without question, the work – though modest – engages issues far greater than anything in a celebrity architect’s latest museum, high-rise or opulent villa.

Louis Kahn often expressed himself through the point of view of a child (he had a long-standing interest in children’s books), defining a city, for example, as “the place where a small boy, as he walks through it, may see something that will tell him what he wants to do his whole life.”* When applied to design, this perspective has the power to directly access archetypal human desires, unencumbered by profit and loss statements, political wrangling or fame; desires that modern architecture is typically unable or unwilling to address. Children have a different take on what is useful and what is not. Knowing that modern building is perhaps overly focused on being “useful,” Kahn, Aalto, and others utilized the child’s viewpoint to propose a solution to modernism’s cultural paucity; that sometimes the most important aspects in architecture are those labeled “useless.”

Growing up in a modest Midwestern city, I recall a large field at the end of my street—nothing out of the ordinary, a forgotten place of weeds, field mice, rabbits, Queen Anne’s lace and narrow footpaths made by no one, leading nowhere. Though architecturally insignificant, this was a place both useful and useless, a place of mystery and play, of wildlife, drainage and erosion control; a world unto itself. Within a few years, it was a parking lot for drug stores and fast food joints, and with this transformation, the field became “significant,” making money, providing goods and services, but these new cultural qualities entirely pre-empted its former local

specificity. And here lies the rub: how could one propose keeping a field to the zoning board, the realtors, the developers and the city council? Not a park – nature subjugated and controlled – but just an empty field filled with the indigenous life of a place?

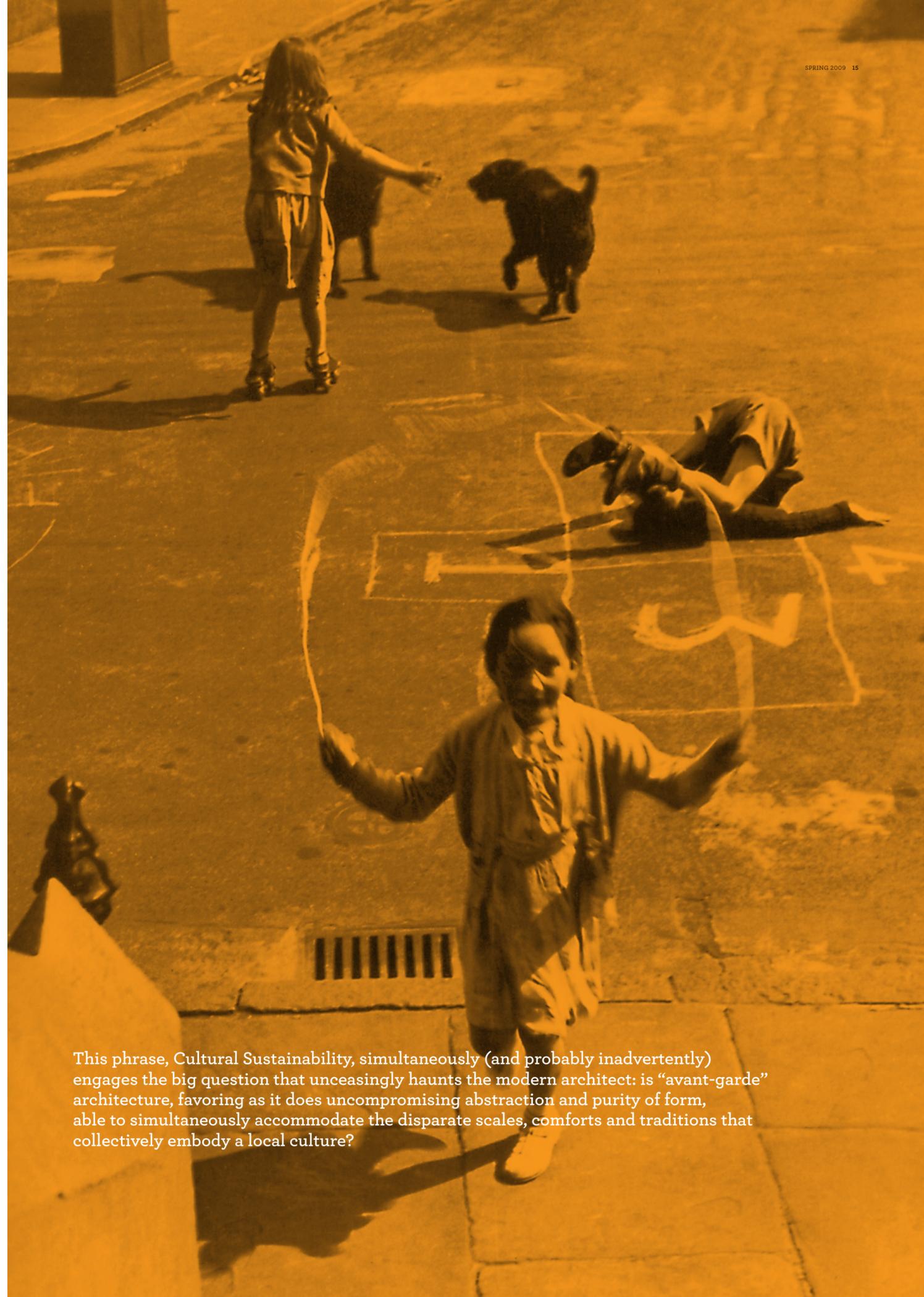
In the same vein, there are those urban places of great cultural significance that vanish due to lack of balance-sheet or suitably “historic” credibility (as in “George Washington slept here”). In Portland, two restaurants with deep cultural connections were replaced not long ago by generic buildings with national chain stores (both by the same architect, as it happens). Each gathering place had a generation or more of popular local history behind it, and each contributed to the city’s character as much as any museum or opera house. Their destruction was mourned, but in neither case was there any cultural platform upon which to plead for their survival.

Peter & Alison Smithson famously realized this inherent problem of modernism when, in 1953 at the 9th CIAM Conference in Aix-en-Provence, they presented photographs not of clean, white, machine-age objects or shining new towns, but of Bethnal Green, a London East End slum, photographed by Nigel Henderson with his wife Judith Stephen, an anthropologist. “The short narrow street of the slum succeeds,” the Smithsons officially proclaimed, “where spacious redevelopment frequently fails.” This was a sharp rebuttal to Le Corbusier (who founded CIAM a generation earlier) and his insistence on a universal order that would check the entropy of urban chaos. The Smithsons’ proposed antidote to the ensuing collateral cultural damage was called, a “shift to the specific,” wherein architects would focus their design on specific cultural attributes of a place at of the various scales of City, Neighborhood, Street, Room and Doorway. These distinct physical attributes constitute in aggregate our physical culture, and it is their recognition and preservation that deserve our fullest attention.

Meanwhile, the lot I purchased long ago next to my house – for which I am constantly drawing plans – has suddenly become a field, complete with mice, raccoons, wildflowers, bramble and a few volunteer shade trees of uncertain species—no doubt all of them on the City’s official nuisance list. My architecture-self sees the lot as empty and incomplete, begging for an orderly arrangement of wood, stone and glass. But perhaps it is full in a way I don’t yet value or understand. I think I’ll leave it alone for a while and see.

*Louis I. Kahn, quoted in John Lobell, *Between Silence and Light: Spirit in the Architecture of Louis I. Kahn* (Boston: Shambhala Publications, 1985), 44.

JM CAVA IS AN ARCHITECT IN PORTLAND, WHERE HE TEACHES, WRITES AND DESIGNS BUILDINGS AND GARDENS.



This phrase, Cultural Sustainability, simultaneously (and probably inadvertently) engages the big question that unceasingly haunts the modern architect: is “avant-garde” architecture, favoring as it does uncompromising abstraction and purity of form, able to simultaneously accommodate the disparate scales, comforts and traditions that collectively embody a local culture?



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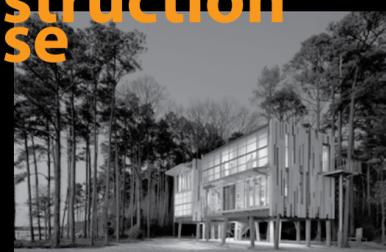
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THE POLITICS OF WASTE

patti southard

As someone who has viewed the politics of waste from several angles – as an artist, a businesswoman and now as a public servant – I have reached the same conclusion that many of my colleagues have reached: Our country’s waste management system is flawed. The essence of these flaws lies in the fact that as a country we’ve been trained to buy stuff, use it and throw it away, only to buy new stuff again. This is true for several hard goods ranging from clothes to computers. Historically, this has been especially true in the built environment, where construction debris has been sent to landfills en masse as we update our cityscapes, towns and infrastructure.

The politics of the 1960s taught us that the “personal is political” and so it goes for our decision-making and behaviors when it comes to the consumption and disposal of products that, for the most part, eventually end up in a landfill. The nature of waste is provocative in that personal choices ultimately get handled in a political manner through waste management and taxpayer dollars. For example, in many jurisdictions – including King County, Washington – waste disposal fees actually generate the funds that support recycling programs and education; this is, in many ways, a counterintuitive cycle of resourcing funding.

It is my hope that this issue of *ARCADE* can act as a useful tool for your business practice and a compelling read for your own politics. We created this issue with an array of ideas that should be revisited as we make decisions personally and professionally.

As an artist in the 1980s, I worked on dozens of pieces made from recycled materials. This is when I observed the enormous volume of otherwise useable – and quite often beautiful – building materials being sent to their landfill graves. The works that I created were individual chapters of my personal love letter to the planet, and the visuals that I created in my mind were that of a cultural cemetery, which in a hundred years might tell the story of our time here on earth. I could not help but wonder, would my love letters eventually rest in the landfill? The ‘80s was a decade of excess and built-in obsolescence, as many sought to display their wealth through a rapid burn rate of material goods. As someone who grew up on a small family farm, this excess and waste ran contrary to my view of the way things work. On a farm, at least on the one run by my family, we took care to treat our resources as precious and to cycle everything back into the farm’s living system.

Waste management professionals often view the resources they manage in the same way. Our jobs are environmental jobs, no matter how they might be perceived in society. We manage waste. Culturally, society is going to buy all these disposable goods, and it is our job to responsibly manage what gets thrown away. It is also our job to try to educate the masses to make better personal choices in regards to waste. Historically, we have had more luck with this approach than with altering manufacturing processes and promoting product stewardship. Observing the incredible resources that could be cycled back into the built environment but instead were going to their premature demise in the landfill, I soon went to work in the private sector—first for a timber company focused on providing reclaimed wood for use in buildings and furniture, and then for the Environmental Home Center (now called EcoHaus).

Today, as a three-year veteran of King County’s GreenTools program, I, along with many of my colleagues, am beginning to see the environmental, economic and community benefits of material reuse, from floors and beams to entire structures, as efforts to change our solid waste system make real headway in the building industry. Much of the credit for this progress goes to public and private efforts to change the dynamic of how we manage our waste.

Designers and builders within the private sector are embracing elements of sustainable or “green” design and building, as they realize cost savings associated with increased construction and operating efficiencies. They are also seeing an increase in consumer demand for green spaces. Many Pacific Northwest designers can proudly claim to be among the early adopters of green design and green building. Their innovations have balanced the natural environment with the built environment, and they have helped inform the ethics of design as we enter a new millennium.

On the public side, government agencies are pursuing strategies to dramatically reduce the amount of construction and demolition waste destined for landfills, while aggressively promoting the benefits of green building and development to citizens, businesses, developers, municipalities and to those within their own agencies. From promoting strategies such as “Design for Disassembly” and product stewardship, to pursuing legislative solutions, to imposing strict green building standards for their own capital projects, government agencies “walk the talk” by taking a leadership role to change the politics of waste for the better.

For example, King County is working on recovering methane from our landfill, “scrubbing” it and returning that resource to the natural gas distribution system. We’re also redesigning our

solid waste transfer stations to better accommodate recyclable material processing—and we’re using recycled materials in their construction, as well. Meanwhile, nonprofit agencies such as the United States Green Building Council; Built Green of King and Snohomish counties, Washington; and Salmon Safe continue to develop standards for designers to meet and exceed, creating spaces in greater harmony with the natural environment. To date, more than 15,000 homes have been certified as “Built Green” in King and Snohomish Counties, and capital projects that seek LEED™ certification are now the norm, rather than the exception.

In this issue, you’ll read about the many political facets of waste management—whether it be the manufacturing community managing (or being pushed to manage) the lifecycle of its products or government deciding whether to ban more wasteful behavior, to the personal and sometimes wasteful choices we make as consumers and as members of the building community every day. You will read about several strategies to reduce waste from the built environment while furthering the cause of green building and development. The perspectives come from a diverse group of forward-thinking architects, urban planners and consultants, government agency leaders, elected officials and nonprofit agencies.

This diversity of opinion is essential, both in terms of generating ideas for waste reduction and in implementing those ideas. This is not a problem that can be resolved entirely through political will, government mandates or private sector innovation. Like many of the issues facing our region and our country today, we need the brainpower and cooperation of the private and the public sectors—from the elected official to the subcontractor on the jobsite. It will take the voice of each and every stakeholder if we are really to make strides in reducing waste and preventing it in the first place.

Waste prevention offers greater opportunities than recycling alone. When I pondered the ultimate outcome of my art, I wondered, did I need to create it at all? As I review past issues of *ARCADE* magazine, I can’t help but think that – albeit aesthetically gorgeous – could this product be created in a smaller format, or even a different medium, to reduce its own consumption of natural resources?

Waste prevention is a simple concept: If you create less waste, you consume fewer resources and you don’t have to spend as much money to recycle or dispose of your waste. Are we as a society ready to compromise our lifestyles, and do we understand it may not be a compromise at all but an opportunity for improvement?

The reality is we may not always be in agreement on the approach. But what is important is for each stakeholder to be heard and to recognize the ongoing need for improving our waste management practices to meet the challenges of resource protection and climate change.

We can no longer assume that the voices of government and the private sector are disconnected from the ultimate goal of managing waste as a valuable resource. We need to create collaborative partnerships to reincarnate our waste and avoid the cultural cemeteries of landfills. Our collective future offers grand opportunities but only if we can take advantage of our strengths and complementary voices to move forward together.

PATTI SOUTHARD IS A PROGRAM MANAGER FOR GREENTOOLS, POWERED BY THE SOLID WASTE DIVISION OF KING COUNTY. AT KING COUNTY SOUTHARD IS CREATIVE DIRECTOR FOR THE ECOCONSUMER PROGRAM AND PROVIDES TECHNICAL ASSISTANCE FOR THE COUNTY’S LEED™ AND BUILT GREEN INITIATIVES. PRIOR TO JOINING KING COUNTY, SOUTHARD MANAGED THE SEATTLE BRANCH OF DULLUTH TIMBER COMPANY AND WORKED IN BUSINESS DEVELOPMENT FOR THE ENVIRONMENTAL HOME CENTER. IN 2006 SHE WAS THE FIRST RECIPIENT OF THE BUILT GREEN PIONEER AWARD FOR HELPING TO “PIONEER” RESIDENTIAL GREEN BUILDING IN THE PACIFIC NORTHWEST. WWW.GREENTOOLS.US.



WASTE ISN'T

rethinking our infrastructure

daniel e. williams

Waste is an unintended by-product of a process. Along with creating the product, the process creates useless stuff, stuff we do not need or want. We are all familiar with the wasteful practice of packaging, but there are other wastes that have more to do with thinking than shrink wrap. Huge amounts of waste and pollution result from lineal thinking. State, city and county decisions in land use, water resources and transportation patterns (our infrastructure) help create and support waste and wasteful habits. We subsidize waste in our purchases by supporting wasteful manufacturing processes and again by selling those products into a fossil-fuel powered product distribution system.

Waste is promoted by adopting and funding sprawling land use patterns while building, rebuilding and maintaining roads and expressways that help facilitate more wasteful patterns. This waste is evident nationally in the unhealthy growth patterns that are supported by road and water infrastructure bereft of "systems logic" and sound planning criteria. In coastal communities, where 90% of the population lives, infrastructure patterns promote growth while draining wetlands, creating more impervious surfaces that then require desalinization plants to resupply the same water concurrently being drained from the system. In King County, Washington mitigating flooding problems typically creates a piped and pumped infrastructure, one that requires constant maintenance and is almost always inadequate at handling large scale events. In comparison, we could designate places within regional areas to store and clean up storm water therefore mitigating flooding while creating much needed public open space. The old paradigm is that infrastructure drives growth patterns, and now is the time to design our patterns to have the infrastructure conform to environmental, social and economic needs.

To get a fresh look at redirecting our wasteful ways, we look to models that have evolved over millennia to become interdependent with wastes. Systems ecology provides us with just such a model. In ecology, as the saying goes, waste is food—the waste is useful. In ecology, the by-products of an organism's metabolism are critical resources for another

organism: A tree loses its leaves, which become organic material (food) for critters and organisms on the forest floor. These organisms, in turn, eat and digest the leaves, and their by-products (wastes) are nutrients for the tree so that it will make more leaves. Urban systems are not trees, but this model can help us create sustainable urban patterns, ones that create useful by-products or resources for residents—not waste.

Urban and regional planning and zoning must evolve to join compatible uses of these by-products and wastes so they become resources that are interdependent and nearby. Some potential project opportunities in Seattle:

- We can define our wastes in terms of "useful" reuse so that instead of shipping our waste to Oregon we can put it to use locally.
- We can capture waste heat and use it to heat our buildings. For example, we could capture the waste heat from the glass blowing shop in Pioneer Square to heat Elliot Bay Bookstore (or maybe the whole block).
- We can reallocate public funding to reduce wasteful commuting by locating housing near jobs and transit. For example, take the funding for the expansion of 520, a principal highway and heavily trafficked commuter route connecting Seattle to its outlying suburbs on the Eastside of Lake Washington. Instead of using the funding to increase the size of the highway to the anticipated future

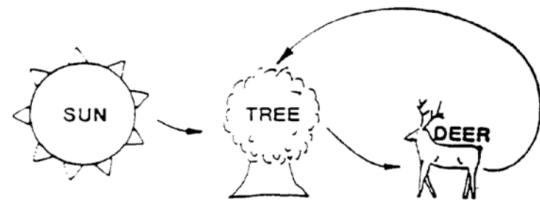
demand—reduce the demand. Use this funding instead to buy infill land and develop affordable housing in both Seattle and the Eastside, therefore reducing future highway demand and traffic by getting the work force closer to jobs, an investment that keeps on giving. All this can be done while developing walkable communities, improving citizen health and neighborhood connectivity.

- We can create region-wide affordable public transit to reduce carbon waste and time—when you measure community, economy and the environment, public transit is a win-win.
- We can reduce expensive, wasteful sprawl, reducing wasted time in cars while protecting salmon and preserving agriculture. Reducing sprawl will solve flooding while recharging potable drinking water storages.
- We can design the built environment to be a storeroom of materials for future uses—all buildings and products can be designed to come apart for material reuse. For instance, in New Zealand a tax on the purchase of products supports the reuse/recycling industry. An off-shoot of this is that products are designed to come apart and be readily available for reuse/recycling.

The time is right to shift our thinking from fragmentation to connectivity, to think about how we can better function as a system, to decide and provide for the protection, restoration and preservation of the resources of our entire human ecology. If we plan for its use, waste will no longer exist.

We can plan and design our way to a higher quality of life with less waste, but we must decide to do it and approve it and fund it and build it. If we don't, the only sure thing will be that it will get much worse, more expensive and more wasteful. It is our choice: Waste or waste not?

DANIEL WILLIAMS IS PRINCIPAL OF SEATTLE-BASED ARCHITECTURE AND PLANNING STUDIO, DWA-DESIGN, AND A NATIONALLY RECOGNIZED EXPERT IN SUSTAINABLE ARCHITECTURE, URBAN PLANNING AND REGIONAL DESIGN. HE IS AUTHOR OF SUSTAINABLE DESIGN: ECOLOGY, ARCHITECTURE AND PLANNING (JOHN WILEY & SONS, 2007) AND IS CURRENTLY WORKING ON A BOOK TITLED SUSTAINABLE INFRASTRUCTURE.



ABOVE: H. T. ODUM'S ECOSYSTEMS MODEL IS A SIMPLE ILLUSTRATION OF CONNECTING WASTE TO USER—ELIMINATING THE IDEA OF WASTE. (RIGHT) TOP LEFT: AN IRONIC PHOTOGRAPH ILLUSTRATING THE DISCONNECT BETWEEN THE PLACE WE LOVE AND OUR WASTE. TOP RIGHT: REGIONAL PLANNING CAN BE THE GREATEST FACTOR IN REDUCING WASTE BECAUSE IT SIMULTANEOUSLY PROVIDES SOLUTIONS CONCERNING TRANSPORTATION, WATER, FOOD AND JOBS WHILE PRESERVING THE NATURAL SYSTEM FUNCTIONS. BOTTOM LEFT: THE GREATEST OF WASTE PROMOTERS IS SPRAWLING LANDUSE PATTERNS.



REVERSING THE POLARITY OF WASTE

terry gillis

All that is required to develop a successful recycling process is to see the value in materials that others consider to be waste.

The fact is, all materials are recyclable (yes, even hazardous materials).

The challenge is to break down building materials to the point that their component parts have value. Case in point: lead was used in paint manufacturing as a pigment, which also decreased the paint's drying time, increased durability, helped retain a fresh appearance and resisted moisture that causes corrosion.

Lead-based paint is typically a hazardous material, yet pure lead is a valuable commodity.

Developing a process that can separate lead from paint and therefore produce a source of pure lead would allow us to stop landfilling a hazardous material and safely convert that material into a usable and valuable commodity. While many would consider this example an

over-simplification of the challenges we face in the recycling industry, I believe it provides a picture of what is possible.

Currently, clean wood can be reused and recycled, but you may not realize that we could also be recycling wood waste coated with lead-based paint if the right infrastructure was in place. One of the ways we could break down this waste into valuable components is by gasifying: a process that breaks the chemical bonds in the wood, allowing us to recycle it at the molecular level. Through this gasification process, the wood waste could be converted into synthetic gas (syngas) and ash. The syngas, a combination of carbon monoxide and hydrogen, could be filtered to remove impurities and used to create energy. The ash could become a concentrated ore from which the lead could be economically extracted. The higher the concentration of lead in the ore, the greater value it would have in the marketplace. While the gasification process has been practiced for more than 50 years (19 gasification plants reside in the US), the industry has yet to take the next step of using this energy production equipment to also extract valuable metals from the ore.

The greater the value we can extract out of the materials we recover and recycle, the lower the disposal cost will be for the waste generators (building contractors). Lower costs help increase construction and demolition activities and provide additional skilled jobs that result in the replacement or renovation of inefficient buildings. Ultimately, this means we have a hand in lowering our region's energy demands and decreasing dangerous greenhouse gas emissions.

TERRY GILLIS IS GENERAL MANAGER OF RECOVERY 1, INC., A PERMITTED FACILITY IN TACOMA, WASHINGTON THAT SPECIALIZES IN CONSTRUCTION, DEMOLITION AND LAND-CLEARING DEBRIS RECYCLING.



WHY ARE WE WASTING BUILDINGS?

expanding our region's recycling commitment

peter steinbrueck

The United States, with less than five percent of the world's population, consumes 25 percent of the world's petroleum supply and produces 30 percent of the greenhouse gases. Buildings and their operations account for almost half of our total greenhouse gas emissions nationwide. Conserving materials, reducing waste and reducing greenhouse gas emissions are national priorities. Yet if conventional building demolition practices are continued in the future, by the year 2030 an estimated 82 billion square feet – or one third of the existing total building stock – will be destroyed, transferred and dumped into landfills. According to a 2004 study by the Brookings Institute, the process of laying waste this enormous quantity of building material would consume an amount of energy equivalent to powering the entire state of California – and 36 million people – for a decade.

Most building construction and demolition debris (C&D waste) is of durable, non-toxic, natural material, including wood, concrete, asphalt, gypsum, various metals, paper and glass (in fact, 90 percent or more of all building debris is fully recyclable). When a building is torn down and dumped into a landfill, it is at considerable expense to the contractor, and owner and causes considerable harm to the environment. There are no accurate figures for the total amount of construction-related waste produced in the US annually. However, according to the Environmental Protection Agency (EPA), the US has about 1,800 active municipal solid waste landfills, 1,900 operating C&D landfills and more than 10,000 old municipal landfills. In all, municipal landfills in the US are piling up at a rate of 250 million tons per year—a staggering 293 percent increase since 1960. Waste generation per person has almost doubled since 1960, up from 2.6 pounds to now 4.6 pounds per day per person. The recycling rate nationally is only 34 percent. As much as 30 percent of all landfill dumping is estimated to be from C&D waste. In Seattle, according to the Department of Planning and Development, 700 buildings were torn down and mostly landfilled in 2007 alone.

Designing new buildings to meet a higher performance standard such as LEED™ is certainly important and necessary to reducing future energy demands and greenhouse gas emissions, but it does not make up for even a fraction of the enormous loss of embodied energy used to create buildings in the first place, combined with energy expended in the demolition, trucking and landfill operations. Clearly, we cannot solve our energy problem and meet the global climate protection challenge without addressing the designing of short-life, throw-away buildings

and destroying reusable older buildings. Many of the older buildings being demolished today were designed passively with more durable materials, natural daylight and ventilation and out-perform newer so-called "energy-efficient" buildings.

With so much waste generation and industrial material ending up in unseen landfills, why can't more be done to recover reusable C&D waste? While the Northwest is a national leader in residential recycling (now about 50 percent compared to the national average of 34 percent), few jurisdictions have established goals, programs or incentives for C&D waste recycling. State and local governments have jurisdiction over C&D landfills, and the EPA regulates municipal solid waste landfills. C&D landfill, including even some toxic materials, is largely privately owned and operated, unregulated at the state and local level. Unknown amounts of C&D materials are also believed to go into combustion facilities or unpermitted landfills. But besides recycling materials from older buildings, the least wasteful, "greenest" alternative is to extend the building's life through retrofitting and adaptive reuse.

More can be done, and is being done, in other cities to tackle this mammoth environmental problem. For example, Portland, Oregon mandates that all building projects valued at over \$50,000 separate on site and recycle all non-toxic construction materials. New York City provides tax incentives, electric rebates and employs re-zone strategies to encourage re-use and the conversion of commercial buildings to residential. In King County, Washington the

As much as 30 percent of all landfill dumping is estimated to be from C&D waste. In Seattle, according to the Department of Planning and Development, 700 buildings were torn down and mostly landfilled in 2007 alone.

GreenTools C&D recycling program emphasizes education and outreach to contractors and suburban cities on the environmental and economic benefits of re-use and recycling. Still, for new construction, the LEED™ rating system for high performance buildings should assign greater value to Design for Disassembly, older building reuse and on-site recycling of C&D waste. Another approach would be to impose a federal carbon tax on the demolition of existing buildings, calculated on the embodied energy wasted in disposing of the structure.

In the private sector, since there is no regulatory mechanism to incentivize C&D recycling, the waste management industry has a near monopoly on the disposal of solid waste and is resistant to the recycling of C&D materials. They're in the business of hauling and dumping, and they own the profitable landfills. And even the so-called garbage recyclers, without standards to measure content, have recovery rates nationally as low as 10 percent. Despite these barriers, there is good money to be made in recycling construction waste, and in the greater Seattle region, a budding industry of independent C&D recyclers is emerging. Glacier Recycle located in Auburn, Washington is the Northwest's leading construction materials recycler. They recycle just about everything—wood, concrete, stumps and land clear, asphalt roofing, metals (including one million nails per day!), plastics, old corrugated cardboard (OCC), carpet pad and even co-mingled debris. Employing more than 90 people, their facility, including a co-mingled source bin, wood pulverizer, nail extractor and concrete crusher, is an awesome sight.

Best management practice of construction waste starts with managing the waste stream at the construction site before it leaves on trucks. Source separating in multiple bins can save as much as 50 percent of the hauling/tipping fees, and that means more profit can be made in recycling construction materials. To achieve higher diversion rates, a consistent standard for measuring recycling rates is needed, as is establishing regulatory incentives and removing barriers to C&D recycling. Glacier Recycle, with a whopping recovery rate of 87 percent, proves it can be done. Glacier boasts the diversion of 20 million pounds of construction materials from landfills each month—helping the environment while creating serious competition for conventional garbage haulers.

PETER STEINBRUECK, FAIA IS PRINCIPAL OF STEINBRUECK URBAN STRATEGIES, LLC.

WASTE BANS— ONLY AS A LAST RESORT

kathleen o'brien

If you live in or around the Seattle area, you've probably heard your fair share about new or upcoming city-wide waste bans—bans on Styrofoam take-out food containers; bans on dumpsters in alleys; bans on putting food scraps in your garbage can. All the city has to do is say the word "ban" and the lights on the talk-radio phone lines light up like the holidays.

The debate rages inside and outside government walls about the effectiveness of waste bans. When Seattle banned recyclables from residents' garbage cans, they saw the city's recycling rate shoot up.

So the logic goes, if we want to cut construction and demolition waste, why don't we just institute city or statewide bans?

In a nutshell, bans don't work for the construction industry.

Bans on construction waste, of course, might work in a different environment—if there was market support for both conveniently and cost-effectively recycling the material that comes off a job site and reducing the waste in the first place (for example: an increase in popularity for small homes as well as zoning and financial incentives to create them). The problem with bans is that they leave a bad taste in the mouths of the contracting community—just the people you want on your side. And, without the above-mentioned support, contractors will find ways to deal with the waste, and it won't necessarily be in the manner solid waste agencies would prefer.

In reviewing the changes that have occurred in construction waste recycling over the years, it is pretty clear that when recycling construction waste is good business, more of it occurs. For years, agencies and environmental consultants like me tried to educate, cajole and guilt-trip builders into separating their recyclables at the jobsite. I stooped to dumpster diving to prove that recyclables were finding their way to the landfill—even on sites that were aggressively "recycling."

The result?

Only the few, most dedicated contractors came through. These companies enjoyed good press, won environmental awards and earned some extra business from customers who cared. Most contractors, however, were lukewarm to the idea of separating wood from drywall, carpet from concrete; recycling took time from "productive" work, and the financial rewards were, to be frank, slim when compared to opportunity costs.

However, the picture changed dramatically when local recycling companies began accepting commingled recycling. Then it was convenient. It didn't take more time to handle the material for recycling or extra effort to train subcontractors.

It also didn't hurt that several local jurisdictions and the State of Washington were requiring that publicly-funded projects meet green building standards, all of which award points for construction waste recycling, nor that some construction materials were gaining in value in the recycling marketplace because virgin materials were becoming so expensive. (This last factor has been totally eliminated recently with a tanking of the recycling market in general due to the economic downturn.)

Contractors will always be more interested in self-regulation and more excited by incentives. I recommend bans only as a last resort, after education (which is well-established in the region), incentives to make the desired action convenient and disincentives to make the undesired action inconvenient.

KATHLEEN O'BRIEN IS PRINCIPAL OF O'BRIEN & COMPANY AND A LONG TIME ADVISOR TO PUBLIC AGENCIES ON CONSTRUCTION WASTE MANAGEMENT. SHE'S EVEN BROUGHT COOKIES TO JOB-SITE TRAILERS TO BRIBE CONTRACTORS INTO CHANGING THEIR CONSTRUCTION WASTE PRACTICES. HER LATEST WORK IS A FULL-LENGTH BOOK, ADDRESSED TO LAYPEOPLE, *THE NORTHWEST GREEN HOME PRIMER* (TIMBERPRESS, 2008).

WASTE STREAM POTENTIAL

looking to europe and asia for new waste management strategies

christine grant & marc daudon

Waste is an unavoidable consequence of nearly every action taken in industrialized, consumer cultures. Most manufactured products and components of the built environment will eventually break down or become outdated and will then require disposal. The term, *disposal*, however, has undergone a dramatic transformation over the last few decades, and its meaning continues to change.

The fact is throughout most of the world, per capita waste generation is increasing, and population growth is exponential. Furthermore, we are facing a global energy crisis and we need to re-examine how we use the resources available to us—including the energy our waste stream can offer. Will recycling and reuse disposal strategies alone be enough to achieve a “zero waste” of resources goal? Are we realizing and recovering as much energy as possible from our waste? Other advanced industrialized countries have asked these same questions and found that the answer is no. Many of these countries have subsequently incorporated new energy recovery technologies into their waste management systems as a way of complementing their recycling programs and minimizing the waste that ends up in landfills. Could there also be a place for these emerging technologies in US waste management systems?

The many cranes speckling skylines in the Pacific Northwest in recent years have been indicators of the overall economic vitality of our region. However, an externality of this development has been the steady increase in waste generation. Construction and demolition waste (C&D) generation is far more variable than municipal solid waste (MSW) and is generally linked to a region's economic growth. Seattle and other Pacific Northwest jurisdictions have recently started to track C&D generation and – although calculation systems have yet to be perfected – are ahead of the game in terms of understanding material inputs and outputs. Many US municipalities are not yet comprehensively recording or analyzing generation data. Preston Horne-Brine, director of the Northwest Construction Materials Recycling Association noted, “There isn't a good understanding of the true generation rate of C&D materials on the national level. Waste calculation methodologies aren't as developed in other parts of the country.” Current reports provide ballpark numbers that can paint a picture of how our various waste streams contribute to Washington State's overall waste footprint.

For example, in 2005, the amount of C&D generated in Washington reached about 6.1 million tons. At that time, approximately 40 percent of the total C&D generated in the state went to landfills. The remaining 60 percent was successfully reused, recycled into new products or converted to energy as “hog fuel.” The current 60 percent waste-diversion rate has been achieved in large part because of C&D material recovery programs implemented over the last few years and the growing trend to build green.

Yet despite increasing diversion opportunities, just under half of the C&D materials accounted for in Washington are disposed of as waste. Many builders – especially small-scale contractors – simply are not able to take the time to sort materials, or they need a financial incentive to do so. The

current economic slump is not helping the situation, as prices for many recyclables have dropped considerably.

In times like these, we need alternative recovery options to complement recycling, reduction and reuse. Sending such a large (and potentially rising) percentage of both the MSW and C&D waste stream to landfills is an inefficient use of materials. It is for this reason that many countries across Europe and in parts of Asia have turned to waste conversion technologies to manage portions of their C&D, MSW and industrial waste streams.

Conversion technologies refer to an assortment of biological, chemical and thermal technologies capable of converting waste into different types of energy—most commonly in the form of electricity or heat. The best available conversion technologies – those that are most applicable to the organic portions of the C&D waste stream – are thermal conversion technologies, including waste-to-energy, gasification and pyrolysis. These technologies typically operate at temperatures between 700 and 1,500 degrees Fahrenheit and can reduce solid waste by up to 90 percent of its original volume. Feedstock (comprised mainly of organic materials) is essentially “cooked” in an oven with no air or oxygen present; no burning takes place. The remaining bottom ash (resulting from inorganic materials) is either sent to a landfill or used for construction purposes and in the production of bricks or paving stones.

These thermal conversion technologies are still emerging; for example, there are only between 40 and 90 gasification facilities worldwide (some in pilot stage) and even fewer pyrolysis facilities. The recorded net energy generation can range from between 450 kilowatt-hours (kWh) of electricity to 900 kWh per ton of waste processed. This otherwise forgone energy production can quickly add up—contributing to energy independence and economic gain.

Energy production opportunities, rather than waste management gains, are often the catalyst for counties to adopt conversion technologies. Denmark, for example, is considered to have the most efficient waste management system in Europe, and with 29 operating waste-to-energy facilities, they are able to produce enough district heating and electricity to account for the needs of approximately 400,000 households—nearly the population of Seattle. An impressively low percentage (about 12 percent) of the waste stream ends up in landfills. This has been possible in large part because of a ban developed in 1997 prohibiting the landfilling of waste that is otherwise suitable for an energy facility.

Their success is also due to a tax structure that gives incentives for recycling and penalizes landfilling. Essentially,

there is a general tax on waste. The tax is tiered such that the landfill tax (51 Euros or \$71 USD/tonne) is greater than the energy conversion tax (44 Euros or \$61 USD/tonne). Recycling, on the other hand, is tax-free. Despite the waste-to-energy option, recycling and reuse is still the first priority of Danish municipalities when managing their waste stream. Approximately 66 percent of the waste stream in Denmark is recycled or reused. In addition to Denmark, waste-to-energy, gasification and pyrolysis are most prevalent in Germany, Sweden, the Netherlands and Japan. (See *ARCADE* 271, “Wasteland” by Pierre Bélanger for more information on Denmark's waste management strategies.)

Thermal conversion technologies are not in widespread commercial operation in the US (there are no gasification or pyrolysis facilities) for several reasons, including public misconceptions and lack of experience with these technologies. Thermal conversion is often falsely associated with incineration and deemed to be a human health threat, when in fact, these facilities emit less pollution per unit of energy input than combustion plants fired with oil or coal. In fact, thermal conversion technologies emit fewer particulates, toxics and carcinogens than conventional landfills. Another barrier to implementation in the US is that there are no renewable energy credits or clear policy incentives in place for waste conversion technologies.

Despite these barriers, many cities throughout the US, most notably Los Angeles and New York, are considering emerging thermal and biological conversion technologies. They are motivated to do so because of growing populations and closing landfills. The Puget Sound region in Washington also will be approaching a crossroads in 2016, when Cedar Hills Regional Landfill, where most of King County's waste is disposed, will reach capacity and close. This impending closure, combined with the current collapse in the demand for recyclables and the recent record energy prices, suggests that now is a good time to begin a robust discussion of the potential for conversion technologies.

Energy conversion certainty does not supplant recycling, prevention and reuse. But with new technologies emerging, this recovery method should be considered as a means of eliminating waste, increasing energy independence and contributing to economic vitality.

CHRISTINE GRANT IS A PROJECT ASSISTANT AT CASCADIA CONSULTING GROUP AND WORKS PRIMARILY ON CONSERVATION FINANCE AND POLICY PROJECTS RELATED TO SUSTAINABILITY AND RESOURCE MANAGEMENT. MARC DAUDON IS A PRINCIPAL AND CO-FOUNDER OF CASCADIA CONSULTING GROUP. HE HAS OVER 25 YEARS OF MANAGEMENT CONSULTING EXPERIENCE RELATED TO ENVIRONMENTAL ISSUES, INCLUDING THE FIELDS OF SUSTAINABILITY, BIODIVERSITY, ENERGY, WATER CONSERVATION, CLIMATE CHANGE, WASTE PREVENTION AND RECYCLING.



RECYCLING MARKETS IN FREE FALL?

david dougherty

During this time of worldwide recession, most commodity prices are in decline. However, prices for materials recovered through community recycling programs have taken an even bigger hit.

Over the past decade, the volume of materials recovered through local recycling programs has grown exponentially. Most communities in industrialized parts of the world have adopted recycling programs and are currently recycling approximately 35 percent of the waste stream.

However, in mid-2008, the prices received for recovered materials (paper, plastic, glass, aluminum and tin) began to plummet. Recovered paper brokers in the US have been seeking storage space for paper that has no buyers. Waiting for prices to rebound, England is strongly advising local authorities not to attempt to store recovered materials. Ireland announced that they would provide two million additional Euros to local communities to help them offset the low prices they are receiving for their collected recyclables. Additionally, the European Commission recently completed an analysis of the current market conditions and is considering what can be done to sustain the current level of recycling.

Recovery and recycling of household waste is not a system that can just be turned on and off. Several years of effort and education were required to achieve the understanding and acceptance for sorting waste in households.

So what is the cause of this price volatility, and what can be done to help stabilize prices for recovered materials?

The greater volatility for recovered materials stems from the fact that the markets are still relatively immature. They lack diversification and consequently, these commodities are thinly traded. For example, mature commodities typically have a primary market. When that primary market is unable to use the entire commodity available at a given time, the price falls 10 to 20 percent. At that price point, a secondary market will find the price attractive

and begin buying. For example, when Russia invaded Afghanistan, President Carter suspended wheat sales to Russia. The Chicago Board of Trade (CBOT) suspended wheat trading and the prices fell to record lows. Four days later, when CBOT resumed trading, the price for wheat immediately moved up to just below the price paid by Russia. Had trading continued, the price would have only declined slightly before buyers in South America would have purchased the available supplies.

In the case of most recovered materials, however, when the primary market (or in other words, the industry that can afford to pay the highest value for the materials) reduces its demand, there are no secondary markets and the prices go into free fall. While the industry will never be able to stabilize the markets, there are steps the industry can take to stabilize the prices.

In the long term, there must be more diversified markets with secondary and tertiary purchasers of recovered materials, similar to most other commodities markets. Local, state and national programs must continue to pursue new and alternative uses for materials such as paper, plastic, glass and rubber.

More immediately, members of the recycling community must move forward with plans to develop an organized market mechanism that allows collections and manufacturers to enter into contracts, which guarantee future delivery at set prices. Such contracts will not curb the swings in demand for materials but will lessen the price swings. For example, British Airways typically enters into contracts for half of the future fuel needs of their fleet, purchasing the balance on the spot market. As a result, they were spared the increase in costs when fuel prices spiked last summer. Numerous commodity-based industries (agricultural crops, metals, petroleum) have similar “cash-forward” and “futures” contracts, which offer relative price and supply stability to the buyers and sellers of those materials.

In 1995, the Chicago Board of Trade and the recycling community attempted to create such a market mechanism. However, for a variety of reasons, it did not materialize. Today, a major initiative is underway in Great Britain, working with the London Exchange to create such a market mechanism.

DAVID DOUGHERTY RECEIVED THE TITLE “OFFICER OF THE BRITISH EMPIRE” FROM HER MAJESTY THE QUEEN OF ENGLAND FOR HIS CONTRIBUTION TO THE ENVIRONMENT AROUND THE WORLD. MR. DOUGHERTY IS THE FOUNDING DIRECTOR OF THE DOUGHERTY GROUP WHICH FOR THE PAST 14 YEARS HAS FOCUSED ON ASSISTING COMPANIES AND SEVERAL COUNTRIES IN DEVELOPING PROCESSING CAPACITY AND ALTERNATIVE MARKET APPLICATIONS FOR RECYCLABLE MATERIALS. DAVID HAS ALSO SERVED AS ASSISTANT DIRECTOR OF THE DEPARTMENT OF TRADE AND ECONOMIC DEVELOPMENT FOR THE STATE OF WASHINGTON.

BUILDING MARKETS

can rating programs alone boost demand for recycled-content materials?

thor peterson

Green building rating systems, most notably LEED™ nationally and the Built Green program locally, are experiencing annual growth rates rivaling the early years of the organic food industry. For those of us advocating for high performance, low-impact buildings, this is an exciting development and a huge opportunity. One extremely valuable trait of rating systems is their examination of all facets of green building, from site protection to occupant health to energy conservation to responsible materials use—in other words, a holistic approach to building performance.

One element common to nearly all green building rating systems is their encouragement to use recycled content building materials. For example, the LEED™ Materials and Resources Credit 4 confers up to two points to projects meeting certain percentage levels of recycled content in its materials palette. Pre-consumer recycled content products are weighted at half the value of post-consumer content products, underlining the environmentally preferable nature of post-consumer content. Built Green takes a different tack, offering dozens of specific materials choices and assigning point values to each. In both systems, the recycled content materials credits are voluntary. By including credits for recycled content, the systems highlight the fact that recycled content is a desirable attribute. According to the market transformation philosophy of these programs, this generates demand for such products, as design teams seek to achieve the credits on their projects.

It's far from clear, though, how much credit rating systems can actually claim for the increased availability and use of recycled-content building materials. Studies have yet to assign responsibility for recycled content product demand to rating systems versus other factors, such as municipal and regional recycling programs, government procurement policies, services that verify and certify recycled content and other environmental attributes, governmental and nonprofit environmental education and outreach efforts and shifts in public consciousness.

Anecdotal evidence, however, in the form of a growing swarm of advertisements touting various products' ability to contribute to the achievement of LEED™ points, shows that manufacturers think alignment with LEED™ will help their products sell. These claims run the gamut of product attributes, from energy efficiency to health to water conservation. Products such as IceStone countertops and 3form panel goods also tout their LEED™ creditworthiness in terms of recycled content. While this new era of environmental marketing is exciting, it also presents a challenge: as marketers sniff a new sales angle, more than a few are making environmental claims that their products can't live up to.

LEED™ spends extensive time defining each credit's performance and documentation requirements, and the subtext is clear: "greenwashing" (the making of unsubstantiated, misleading or just plain untrue environmental claims) is not tolerated. For example, for a product to be eligible to count toward LEED™ MR Credit 4 totals, the firm must abide by Federal Trade Commission rules for environmental claims. Bright lines and clear definitions help counter this disconcerting and frustrating trend toward disingenuous green marketing.

Still, we can't rely solely on green building rating systems to save the day when it comes to sustainability. A multimodal approach is needed to help manufacturers shift from the current linear, extraction-production-disposal paradigm to true closed loop processes. In absence of a stewardship culture within the manufacturing sector, regulation will still play a part in increasing recycled content material in products, on several levels. These include, first, eliminating the current subsidies for virgin materials extraction that disadvantage recovered products; second, strengthening regulations related to environmental claims (including recycled content) to include independent verification; and third, providing tax incentives for manufacturers to include recycled content materials in their products.

Also needed is the deployment of a holistic, multi-attribute product level evaluation protocol. LEED™ and Built Green are valuable at the building level, but action must also happen at the scale of the individual product. The most promising development to date on this front is the Pharos Project, a collaborative endeavor bringing together the Healthy Building Network, the Cascadia Region Green Building Council and the University of Tennessee Center for Clean Products. Once up and running, Pharos will be the first of its kind in terms of truly comprehensive product evaluation, examining health, environmental and social factors. (Other product evaluation systems are available today, but they focus on only a few areas of concern, such as volatile organic compounds or treatment of workers, and often on a specific class of products.)

So in the end, the question of whether green building rating systems help drive the recycled content building product market is important, but insufficient. We want to develop the right kind of recycled content building materials market—one that's robust, benign, even restorative. Successful transition to sustainable building material manufacturing will require a systems approach, where decisions are made with a rich understanding of the environmental, social and economic ramifications and an aim to maximize the beneficial end points of those decisions. For recycled content products, this means accounting for factors such as energy expended in gathering, transporting, processing and remanufacturing the recycled material, its toxicological profile, its impact on the product's physical properties such as tensile strength and durability and many other issues. The value of an evaluation protocol like Pharos is that such tradeoffs and synergies are made immediately apparent.

Such a systems approach will include interventions at multiple scales, such as LEED™ and Built Green at the building level and Pharos at the level of the individual product, with a regulatory and policy overlay. Only with all the parts in place will we be able to make the essential metamorphosis to a sustainable society.

FOR NEARLY 10 YEARS, THOR PETERSON HAS BEEN PROVIDING EDUCATION AND OUTREACH TO ARCHITECTS, DEVELOPERS, BUILDERS, PUBLIC AGENCIES AND THE GENERAL PUBLIC ON THE TOPICS OF RESOURCE CONSERVATION AND GREEN BUILDING. HE PREVIOUSLY WORKED AT THE CITY OF SEATTLE GREEN BUILDING PROGRAM, AS A RESEARCH DIRECTOR AT THE CASCADIA REGION GREEN BUILDING COUNCIL, AND HAS SINCE STARTED SYNTHESIS CONSULTANTS, A GREEN BUILDING CONSULTANCY.

IS THERE A MARKET FOR MY WASTE?

kris beatty

While many efforts are underway to promote the recycling of construction and demolition (C&D) waste to the building community, we must be careful not to put the cart before the horse.

One of the biggest challenges in reducing C&D waste is on the back end—finding and developing markets for recycled materials that are local and in the end, are used to create useful and desirable products. The best outcome, which is often a difficult one to achieve, is for these recycled-content products to represent a high-value in the marketplace.

Companies that are working hard to develop C&D recycling markets and create high-value recycled-content products represent a unique few. Because of this, opportunities still abound to recycle construction materials that commonly head to the landfill. At any given time, some materials are more ripe with recycling potential than others.

Government and nonprofit agencies are devoting serious resources to facilitating the recycling of various materials from roofing to flooring, and although the development process can be long, the payoff is huge. Below are some of today's best developing opportunities for recycling building construction, demolition and renovation waste:

ONE FOR THE ROADS

An estimated 17,000 tons of asphalt-shingle waste is generated by construction and demolition activities in King County alone each year. Less than 1,000 tons of these materials are currently recycled. In several US states, post-consumer, asphalt roofing shingles are being ground and used successfully in hot mix asphalt pavement, and this may soon be true for the Puget Sound region as well. Recycling, paving and transportation groups are working on a demonstration project that will hopefully jumpstart the establishment of a hot mix asphalt end market for asphalt shingles.

SALVAGED URBAN WOOD WASTE GOES TO PAPER

Significant quantities of wood generated from building construction and demolition (C&D) activities are recyclable, though much of this material is used beneficially as industrial boiler fuel. The potential for recycling C&D wood for high-grade paper production, however, looks very promising. One innovative Northwest company, Cascade Pacific Pulp in Halsey, Oregon, is reportedly the only pulp mill in the country making a copy paper grade pulp from C&D wood. The company sources its wood from the central Puget Sound area in Washington. Grays Harbor Paper Company in Hoquiam, Washington is using Cascade's wood pulp in selected copy paper products. When Northwest buyers purchase those paper products, it creates a unique, regionalized recycling loop.

THE TROUBLE WITH CARPET

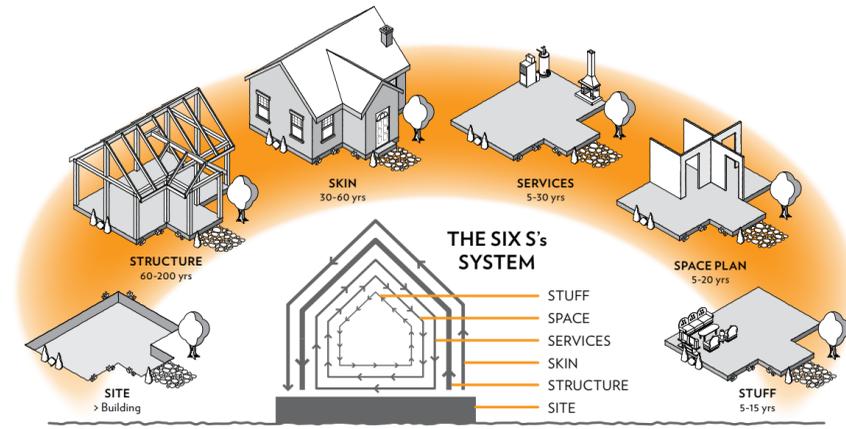
Recycling carpet in the Northwest is problematic because existing carpet recycling facilities are located in the Southeast United States, where carpet manufacturing is also based. However, a recent effort by Northwest government has generated interest with carpet manufacturers and their fiber suppliers in the possibility of establishing carpet processing in the Seattle area. Several types of carpet face fiber (as opposed to backing material) are readily recyclable back into new carpet fiber and other products.

KRIS BEATTY IS THE MANAGER FOR KING COUNTY'S LINKUP PROGRAM, WHICH WORKS TO SUPPORT AND FACILITATE COLLECTION, PROCESSING AND END-MARKETS FOR HIGH-POTENTIAL RECYCLABLE MATERIALS.

DESIGN FOR DISASSEMBLY

how many years will your next building last?

kinley deller



How are you keeping your life's work out of the landfill? This is a call to action for building owners, developers and the design community to build a better product.

Great strides have been made recently to shift the collective architectural conscience toward sustainability and looking at the complete lifecycle of buildings. Yet, in many respects, we have only begun to scratch the surface in actual implementation of these principles. For example, the concept of Design for Disassembly (DfD) – a building design process that allows for the easy recovery of products, parts and materials when a building is disassembled or renovated – is more commonly practiced within the manufacturing realm. Companies, such as computer and other electronic manufacturers, are creating products that can be deconstructed into recyclable or reusable components at the end of their lives.

Yet DfD is less well known and practiced within the construction industry—perhaps because the life of a building tends to be so much longer than the life of your iPod. Not every project will have the resources to implement DfD principles to a tee; however, architects should be looking at how far they can push the envelope. There are cost-effective elements that can and should be worked into every building design.

The DfD process is intended to maximize economic value and minimize environmental impacts through reuse, repair, remanufacture and recycling. The process involves developing the assemblies, components, materials, construction techniques and information and management systems to accomplish this goal. The DfD building design process encourages those who follow its principles to design their buildings for the longest life possible by incorporating flexibility and convertibility into their designs. The DfD process also encourages the use of reused and recycled content materials—which usually have less embodied energy.

Like so many things, DfD is a balancing act between different values. How can you make something both extremely durable and easily changeable and adaptable? The key is in asking the right questions. A few minutes of reading through the following 14 questions and contemplating how they relate to your project will go a long way toward a more sustainable building.

HOW LONG WILL THE BUILDING LAST?

One hundred years should be the minimum. Structures designed to be highly adaptable yet durable will outlast their less flexible counterparts. The other key to a long life is to have minimal connections between layers that have different replacement periods (e.g. 30-year siding on a 100-year frame).

HOW EASILY CAN THE BUILDING BE TRANSITIONED TO DIFFERENT USES?

A building that easily can be adapted to serve different functions is much more likely to accommodate the changing needs of its tenants over time and much less likely to be seen as outdated and impractical.

WHAT WILL HAPPEN TO THE BUILDING WHEN IT HAS REACHED THE END OF ITS LIFE?

Wrecking balls and dynamite don't do much to improve the patina of a well-worn building. Any structure that lends itself to disassembly by hand has a much greater likelihood of passing its genetic code to the next generation of buildings.

HOW EASY WILL THE BUILDING BE TO MAINTAIN?

Using products and techniques that are durable and allow for easy building maintenance will not only reduce operating costs, but will also reduce the long-term need for replacement and renovation.

HOW EFFICIENT WILL THE BUILDING BE (ENERGY, WATER, HUMAN, ETC.)?

In addition to the usual concerns of energy and water, spend a little time considering human efficiency. Walking may be good exercise, but when it comes to departmental meetings or distributing clean laundry to bedrooms, sprawling designs may be a thing of the past.

HOW ADAPTABLE WILL THE BUILDING BE TO CHANGING LOCAL CLIMATE CONDITIONS?

If climate change predictions hold true, increases in severe storm events combined with rising sea levels may create the need for buildings to be increasingly adaptive to the elements. For example, you may want to design your downspout systems to handle larger volumes of water or increase the size of your overhangs to protect from wind-driven rain.

WILL THE PEOPLE TAKING THE BUILDING DOWN IN 100 YEARS KNOW HOW TO DISASSEMBLE IT?

If you design your building to be made of human-scaled components so it can be disassembled by hand with tools that need no electricity or gasoline, you can be fairly certain that the building will be reusable no matter the state in which our post-peak oil future may be.

WHAT CONNECTIONS ARE USED BETWEEN THE DIFFERENT BUILDING ELEMENTS? HOW EASY ARE THEY TO UNDO?

Adhesives may work wonders for holding a building together, but they are a hindrance when it's time for a building to intentionally come apart. Adhesives also severely compromise the structure's adaptability and impede the regular replacement of building components with shorter lifecycles. Don't use glue when a screw will do.

WILL PEOPLE WHO USE THE BUILDING LIKE IT?

Buildings that people value are better maintained. Buildings that aren't appreciated get neglected. And neglect begets water damage. And mold begets the wrecking ball.

HOW LONG WILL THE DIFFERENT LAYERS LAST?

Think beyond the common 20-year warranty to materials that will stand the test of time. Remember that the bond between two layers must be replaced every time either of the materials is replaced.

HOW TOXIC WILL THE BUILDING'S MATERIALS BE?

Which of the common construction materials will be the next to come under regulation as a public health concern? Formaldehyde? Fiberglass? A little thought, research and guesswork can go a long way toward making your structure less costly to repair, maintain and disassemble.

HOW MANY DIFFERENT MATERIALS ARE GOING INTO THE BUILDING?

A key DfD principle is to minimize the number of different types of components and materials so that when it comes time to renovate or deconstruct there are large marketable quantities of similar materials that can be recycled.

WHO ELSE HAS BEEN ASKED TO THINK AND PROVIDE INPUT ON THESE ISSUES?

Talk to those who will inhabit the building to understand how the building will be used and maintained. Taking human nature and long-standing maintenance procedures into account from the get-go will result in a much higher level of user satisfaction.

HOW WILL THE MECHANICAL, ELECTRICAL AND PLUMBING (MEP) SYSTEMS BE RUN THROUGH OR ATTACHED TO THE BUILDING? CAN THESE SYSTEMS BE MINIMIZED?

Planning your layout and minimizing MEP runs helps reduce cost and complexity. And eliminating unnecessary entanglement lends itself to a long building life. Make your MEP systems easy to access and easy to separate into individual components (pipes, ducts and wires) for repair, replacement, reuse and recycling.

KINLEY DELLER IS A WASTE REDUCTION SPECIALIST WITH KING COUNTY'S GREEN BUILDING PROGRAM, GREENTOOLS. HE PROVIDES TECHNICAL ASSISTANCE TO COMMERCIAL AND RESIDENTIAL CONTRACTORS AND CAPITAL PROJECT MANAGERS.

REUSED MATERIALS GIVE NEW PROJECTS A STORY TO TELL

graham black and brad khouri

On the flip side of Design for Disassembly is the notion of what to do with all the disassembled components once they are removed from the old building. We are gProjects and b9 Architects, and together we design and build urban infill projects in Seattle. Our latest collaboration is a case study in how deconstruction and reuse, when done right, can shape a project's character and set it apart. At our project called Urban Canyon (19th and Pine in Seattle), demolition morphed into deconstruction—a process that shaped planning, design and execution start to finish.

Urban Canyon is a seven-home project totaling 10,000 square feet built on three lots. It's not your typical set of overcrowded townhomes perched above a sea of garage doors. The canyon is a central walkway that runs from the owners' pea-patch garden to their front doors, from fringe parking to the sidewalk. The three homes that lived here before were in sore need of repair, or in this case, deconstruction.

Deconstruction methods vary. The process we used at Urban Canyon started with two reclaimed building-material companies pulling out what they wanted, and then neighbors and various "independent" folks (guys with broken-down trucks) took what they wanted. A heavy equipment operator pulled the three decrepit houses apart into components, such as roof and wall sections, and these were dissected into re-useable beams, studs, joists and bricks. Pulling a building apart is the relatively easy part—it's figuring out how to use all this great material that turns most contractors off.

To make it work, we reused materials in both the most visible and most hidden parts of the project. Some less-sexy two-by-fours were used for the platform under kitchen cabinets, hardware backing and other concealed places. Other deconstructed wood had more character, perfect for fencing and supports for mailboxes, trellises and carports. Bricks from chimneys and chunks of concrete from old sidewalks make communal pathways and retaining walls.

The project was designed to fit the neighborhood, and reusing materials was a key part of this, both to keep a historic link and to make the pedestrian experience more interesting for residents and neighbors.

Deconstructed materials are not just about responsible resource use, sustainability ratings or even environmental principles. Buildings that use salvaged components have a story to tell of site-specific design and can help create the kind of community where you'd walk next door to borrow a cup of sugar.

BRADLEY KHOURI IS THE PRINCIPAL OF SEATTLE-BASED B9 ARCHITECTS INC. WHOSE CURRENT WORK CENTERS ON SUSTAINABLE SINGLE- AND MULTI-FAMILY RESIDENCES. BRAD ALSO TEACHES ARCHITECTURAL DESIGN STUDIOS AT THE UNIVERSITY OF WASHINGTON IN SEATTLE.

GRAHAM BLACK IS THE OWNER OF GPROJECTS LLC, A SMALL, FAMILY BUSINESS, COMMITTED TO DEVELOPING AND BUILDING HIGH QUALITY, CONTEMPORARY, INFILL HOMES IN SEATTLE. GRAHAM'S PASSIONS AND INTERESTS HAVE LED TO A SERIES OF PROJECTS THAT BLEND COMMUNITY-ORIENTED SITE PLANNING, CONTEMPORARY ARCHITECTURE AND GREEN BUILDING.



THE INTERIOR OF ONE OF SEVEN URBAN CANYON HOMES IN SEATTLE; THE FLOORING IS MADE FROM RECLAIMED WOOD FROM DECONSTRUCTED FORT LEWIS BARRACKS.

PRODUCT STEWARDSHIP

pioneered in the northwest

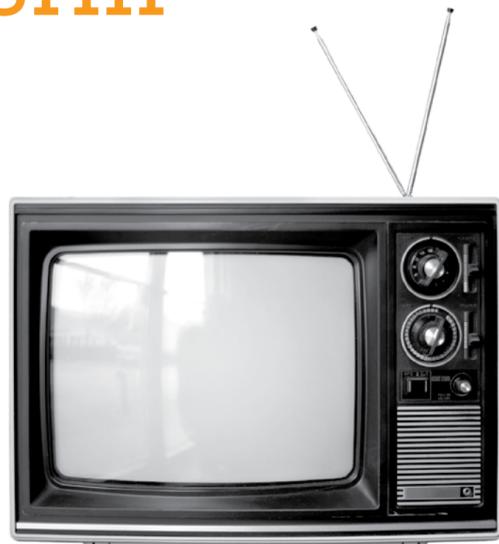
sego jackson

The Northwest has become the leading US hot spot for the rapid emergence of Extended Producer Responsibility (EPR) policy and programs, also known as product stewardship. Extended Producer Responsibility, while common throughout Europe, Canada and a number of other countries, was thought by many to be unlikely to succeed in the US due to the influence of business on government policies. But passage of EPR "e-waste" legislation in Washington and Oregon changed this, and there is now a significant groundswell of activity at the state level, with numerous bills introduced in state legislatures across the US each year.

Thanks to legislation passed in Washington in 2006 and Oregon in 2007, on January 1, 2009, electronics manufacturers began financing and arranging for the environmentally responsible collection and recycling of computers, laptops, monitors and televisions at no charge to residents and others. Laws in both states require manufacturers of electronic products to finance and organize free electronics recycling for residents and small businesses. A total of 16 states have now passed similar EPR e-waste laws.

As a result, hundreds of locations across the Northwest have been designated (and will be compensated) as collection sites, making electronic equipment recycling both easy and convenient. And this was just in time to deal with the tsunami of discarded toxic television sets that resulted from the switch to digital broadcast on February 17.

EPR legislation is now emerging for a range of products including pharmaceuticals, mercury thermostats and fluorescent lighting. The general approach is straight forward: manufacturers are responsible for financing and arranging for these product stewardship programs. They can do this



individually or collectively, perhaps through a stewardship organization, as is common in Canada. They internalize the costs in the pricing of their products or as a cost of doing business. The manufacturers submit a plan to the state describing how they will provide the program and meet the legislated requirements. Annually they submit a report stating how they have performed.

Government sets the requirements but is not prescriptive, seeking to level the playing field and provide review and enforcement. The intent is for government to stay out of the way and let the private sector find the best way to meet the requirements.

But is a product-by-product approach necessary? Advocates including legislators, local governments and non-governmental organizations are now looking to "framework" approaches to EPR across product types. This approach would establish in

law the basic requirements, such as convenience of provided recycling services for consumers and environmentally protective processing standards, that any manufacturer must meet when its product is to be managed through a stewardship system. The legislature or an agency would designate products over time.

The end game is not simply proper reuse or recycling of discarded products but to establish financial drivers for design changes and innovative collection and processing systems. Eventually, those paying the bill should have strong motivation to ensure they are designing products that are less toxic, more recyclable and reusable and that strong markets exist for the recovered materials.

SEGO JACKSON IS A PRINCIPAL PLANNER WITH SNOHOMISH COUNTY, WASHINGTON AND SERVES ON THE BOARD OF THE PRODUCT POLICY INSTITUTE.

VALUING THE CONSUMER PERSPECTIVE

tom watson

How much is waste worth? In dollars and cents, the value for many waste materials dropped precipitously during the past few months, as markets for recyclables took a nose dive. But in the currency of symbolism, waste has become increasingly precious. With a flailing economy, cutting waste is also a way to create value for individuals and businesses. And with a new president preaching change and green-collar jobs, the reduction of waste – in the form of energy conservation, for example – may finally get the attention it deserves. That's where consumer education comes in.

I used to hate the word "consumer." I would think, "We're not consumers, dammit, we're people." But consumer education, through such conduits as *Consumer Reports* magazine and consumer reporters on TV, has helped people choose wisely among all these products being thrust at them. So I've learned to embrace the consumer advocacy movement, and our King County EcoConsumer project in Washington is a green version of that.

The EcoConsumer project seeks to provide information to the public and the media on their terms, not ours. Too often, governments and other organizations parcel out public education only when it's connected with a specific program, such as a new green building initiative, for example. And these efforts are often one-dimensional, delivering all the "education" through a single website, flyer or press release.

But people are confused—about "sustainability," "eco-friendly" products and all the recycling rules. They've got questions, and I believe it's government's job to answer those questions directly. More importantly, it's our job to learn from the public. What do they really want in green buildings? What do they hate about recycling? Which environmental changes would help them the most?

For those of you reading this who deal with the public – working for the government, businesses or nonprofits – remember: We have got to listen better, to all the people. It's about them, not us. Then we need to give them the specific green information they want.

This approach is messy. It makes us, as public servants and businesspeople, a lot more vulnerable than when we're protected behind our own goals and products and programs. But it's the only way we're going to see real changes.

TOM WATSON MANAGES THE ECOCONSUMER PROJECT FOR KING COUNTY RECYCLING AND ENVIRONMENTAL SERVICES IN WASHINGTON, AND APPEARS FREQUENTLY IN LOCAL MEDIA.

ZERO WASTE

an interview with seattle councilmember richard colin

clayton o'brien-smith



Clayton O'Brien-Smith, co-founder and principal at GGLO, sat down last November with Seattle Councilmember Richard Conlin to talk about his ideas and plans for reshaping Seattle's approach to solid waste and recycling, in what's called the "Zero Waste" strategy.

CLAYTON O'BRIEN-SMITH: What does the term "Zero Waste" mean to you?

RICHARD CONLIN: [It means]...treating waste as a resource and thinking that anything otherwise is a problem; recognizing of course, that Zero Waste is an aspiration. The chances of achieving 100 percent reuse are challenging, if not impossible, but if we are short of 100 percent, it means we're not imitating nature and its cycles in the appropriate way.

COS: What made this one of your priorities?

RC: I took on the chairmanship of the committee that oversees Seattle Public Utilities in 2006. One of the first tasks on this committee was updating the solid waste plan and revisiting the city's transfer station system. The mayor's office proposed to reconstruct these transfer stations (to current standards) and build a third to facilitate transferring garbage on trains to eastern Oregon. I became convinced that this path would create a barrier to increasing our recycling and waste reduction efforts.

COS: So, the alternative was?

RC: To say, "We don't need this. Let's change the system." Let's limit ourselves to live within our means. One of the key parts of our Zero Waste strategy was to say, "Okay, we're not only going to recycle more (which has been a major emphasis), but we're also going to reduce the amount of waste that we send away."

COS: How big is the problem now? I keep hearing about how many train loads go to Oregon every day.

RC: A mile-long train every day.

COS: That is incredible. Is there a target to reduce the quantity in a certain number of years?

RC: Our goal is to start by reducing it by one percent per year for the next five years, see how well we do on that and then set more ambitious targets. At the end of 2008 we'll see whether we met our goals. Our approach is modeled after our water conservation program, which has been extraordinarily successful—we're now using the same amount of water we used in 1970 and serving 40 percent more people.

COS: What are the big targets for reductions (in solid waste)?

RC: Food, construction and demolition waste.

COS: What are the major strategies to achieve the targeted reductions in solid waste?

RC: With food waste, we promote composting and offer pickup with our yard waste collection to single-family residences. In 2011 we may reduce the regular garbage pickup (frequency), which will further encourage all food waste to go into the composting system. The goal is to get to where almost everybody is doing it.

With construction and demolition waste, our activities range all the way from an ordinance that makes house moving easier to an ordinance that separates the construction permit from the demolition permit (to facilitate deconstruction and salvage).

COS: Are there other ways to encourage waste reduction?

RC: Yes, one way is take-back programs for product stewardship. The first major product stewardship initiative, an electronic "e-waste" take-back program, begins in January...we're working with several other industry sectors, including a pilot with pharmaceuticals. The carpet industry is, of course, really getting into stewardship in a big way, and so is the paint industry.

In addition to this kind of stewardship activity, we also will directly ban some products, starting off with Styrofoam in January. The plastic bag fee is another approach to product waste reduction.

COS: Has the (Seattle) arts and culture community been engaged in the Zero Waste initiative at all?

RC: The recycled fashion shows like the International Sustainable Solutions (ISS) Trash Fashion Bash have been a great way to engage people. There will be other opportunities with the reconstruction of the transfer stations under the 1% for art program. There will be (close to) a million dollars available for art, and I really hope this is used in a way that gets the arts community involved.

COS: Any other thoughts about where we're headed or what's next?

RC: ...implementation. I'm going to really push on this. We have a set of milestones that Seattle Public Utilities has committed to, and each step of the way is going to be a new and an experimental step toward making these things happen.

COS: What do you think are the biggest obstacles to this all working out well?

RC: ...finding the right convenience technique for people and then getting that out in a timely and accessible way so that people understand it before they have a chance to develop a negative stereotype.

COS: So, consumer objections (are one of the biggest obstacles)?

RC: Exactly. We have to think of this as a marketing exercise.

CLAYTON O'BRIEN-SMITH IS A SEATTLE ARCHITECT, FOUNDING PRINCIPAL WITH GGLO AND CO CHAIR OF THE FIRM'S SUSTAINABLE DESIGN GROUP. HE'S CURRENTLY PRINCIPAL IN CHARGE OF SEVERAL MIXED USE PROJECTS DESIGNED FOR LEED SILVER RATINGS AND FOR A LEED ND PILOT PROJECT IN THE BAY AREA.

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William Kentridge is organized for the Henry by Chief Curator Elizabeth Brown. The exhibition is generously supported by Patrons of the Henry Art Gallery. Image: Drawing for Stereoscope, 1999. Charcoal and pastel on paper. Courtesy of the artist.

22

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WIND

the powerplant on my roof

alex diener & kristin will

An undulating helical wing spins like kinetic art atop an urban roof. Stark white wings whirl away next to a suburban home. Twenty-eight linked propellers perched on a high-rise capture the winds coming off Victoria Harbor in Hong Kong. Has the time come for personal wind-empowerment?

Wind power used to be the domain of energy corporations and off-the-grid conspiracy theorists, but recent product innovations are bringing it from its rural origins to the urban landscape. Size, noise and cost have come down dramatically in the last ten years, making owning a wind turbine possible for concerned citizens.

A wind turbine is a fan blade connected to a generator, turning the kinetic energy of wind into electricity. There are hundreds of different designs, but two main types: the horizontal axis turbine (think desk fan) and vertical axis turbine (think ceiling fan). The Joe-consumer designs come in all different scales—from a three-foot diameter fan mounted to a building to a 12-foot diameter fan on a pole towering 35-70 feet off the ground.

People are seeking out wind power for a number of reasons: a drive for self-reliance, reduced energy costs, a smaller carbon-footprint or escape from the guilt of oil-based energy. A 15 kWh turbine supplied with winds averaging 12mph+ can reduce a household's energy needs by half and keep 1.2 tons of airborne pollutants and 200 tons of greenhouse gases out of the air over its lifetime.

After years of incubating in the labs of universities across the world, companies have spawned and products are just now being released to meet the emerging demand for wind power. The products have become smaller, more efficient, quieter and easy to install, but there is one achievement that trumps them all—"net metering." It's the ability for the wind turbine to connect with your household (or commercial) power meter. In times of no wind, power will draw entirely from the utility grid, but as the wind blows, the power consumption will slow or reverse, letting the household sell its energy back to the grid.

Selling back to the grid provides a much faster payback on investment (approximately 5-20 years).

However, it's not all warm summer breezes for wind-driven power. Applications for wind power have to be seriously considered before installation, or turbines will become expensive lawn ornaments. First, the wind "resource" has to be calculated. Does the land/building see enough wind to justify a wind turbine? Average winds generally need to be above 12mph to begin to see significant power generation. If wind exists, then where should the turbine be placed? Turbulence from buildings and trees reduces power generation. Systems like the Skystream 3.7 are placed on posts and recommend installation 20 feet above the tallest object with a 250-foot clearance radius (www.skystreamenergy.com). That's not going to happen in many Seattle neighborhoods, for instance. Noise has been greatly reduced through better propeller

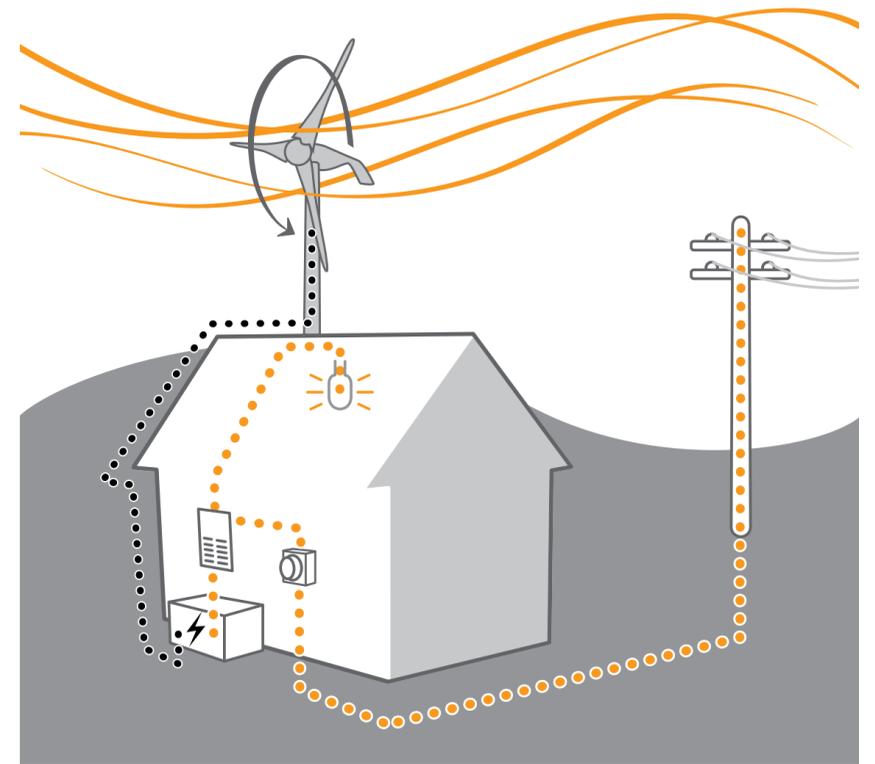


ILLUSTRATION BY KRISTIN WILL

design, but during operation expect to hear at least +5db above ambient noise. Zoning, permitting and utility agreements will take time and work, but web resources exist to help with the process (www.awea.org/smallwind/toolbox2 and www.awea.org/smallwind/Washington.html). Interference with birds and bats is also a concern, and while studies are sparse, it is agreed by the manufacturers that collisions occur.

While wind power has traditionally shied away from commercial buildings, new innovative designs are embracing them. For those new to aerodynamics, a box isn't a wind-friendly form. Its edges and planes create turbulence, making it difficult to draw sustained winds through turbines. But this challenge hasn't deterred companies like Aerotecture and Aerovironment from developing systems that are intended for commercial buildings in urban environments. These companies employ multiple turbine units that run along the roof edges of the building to capture the deflected wind energy.

There are other big dreams shedding the constraints of past designs, such as the Magenn Air Rotors (www.magenn.com). Their design comprises a helium-filled balloon with finned rotors that spin on an axis tethered via wire to the ground. It's a stunning solution that Magenn hopes to ship by 2010.

Another non-traditional concept was inspired by the Tacoma Narrows Bridge collapse. Shawn Frayne has developed Windbelt generator technology, which works like a blade of grass fluttering in the wind. It uses an oscillating movement to create energy without a turbine. Its simple, compact form makes it a prime candidate for urban energy generation. Honolulu-based Humdinger Energy is still developing Windbelt technology and likely licensing the technology to companies in the years to come (http://www.humdingerwind.com/#/windbelts_worldwide/).

Wind energy in the urban environment is under intense development. There is a new urgency created by the political instability and environmental consequences of oil or coal-based energy. While progress is being made, given the dense spacing of urban homes, the ideal product for many consumers is still in the clouds.

ALEX DIENER AND KRISTIN WILL ARE INDUSTRIAL DESIGNERS FOR PENSAR, A SEATTLE-BASED PRODUCT DEVELOPMENT FIRM. SEE MORE OF THEIR HANDIWORK AT WWW.PENSARDEVELOPMENT.COM.

LET THEM EAT PIE

shocking revelation: statisticians hate pie charts

karen cheng

“A table is nearly always better than a dumb pie chart; the only worse design than a pie chart is several of them, for then the viewer is asked to compare quantities located in spatial disarray both within and between pies ... Given their low data-density and failure to order numbers along a visual dimension, pie charts should never be used.”

—Edward Tufte, Professor of Statistics, Political Science and Graphic Design, Yale University. *The Visual Display of Quantitative Information* (1983).

“Pie charts have severe perceptual problems. Experiments in graphical perception have shown that compared with dot charts, they convey information much less reliably.”

—William S. Cleveland, Professor of Statistics and Computer Science, Purdue University. *Trellis Graphics User Manual* (1996).

“I don’t use pie charts, and I strongly recommend that you abandon them as well.”

—Stephen Few, information visualization consultant and instructor, MBA program, University of California, Berkeley. *Show Me the Numbers* (2004).

I have great respect for Tufte, and, in fact, have some sympathy for his point of view. Often pie charts can be overly simplistic, and indeed, it is difficult to compare one pie to another. However, I am not convinced that pies are always “the ultimate bad seed of the graph world.” Perhaps a closer examination of the evidence against the humble pie is needed. The main arguments against pies are as follows:

1) Pie wedges are hard to compare. In a series of perceptual experiments conducted in the 1980s, psychologists determined that viewers are better at comparing simple line lengths (vertical or horizontal bars) than comparing different areas, angles or arc lengths. Since pie charts rely on the visual perception of areas, angles and arc lengths, pie charts are therefore inferior to bar charts.

2) Pie charts require a small data set of high variance. If the pie is sliced too finely (for example, into more than six slices) differences in wedge size will be difficult to detect. Similarly, if the wedges are relatively close in size (for example, 22-26-28-24), differences will be hard to see.

There are, however, underground pie advocates. These beleaguered statisticians and psychologists argue in defense of the humble pie chart, noting that:

1) The original perceptual tests against pies were flawed, as test subjects were asked to evaluate angles in abstract (not as a proportion of a circle). Revised tests show that pie and bar charts are equivalent, or that pies are even superior to bars in specific cases (for example, when evaluating a single percentage).

2) Pies provide four implied reference points (at 3, 6, 9 and 12 o’clock), while bar charts provide (at most) three reference points (the origin, 50% and 100%). Since reference points help viewers to compare data and estimate percentage values, pies are superior to bars.

3) Pies provide an innate “part-to-whole” relationship, while bar charts imply an uninterrupted continuum. Divided bar charts (where a single bar is sliced into several lengths) may also be effective in communicating a percentage scheme, but the circular form of pies may be more intuitive (if the viewer is already familiar with circular analog devices such as analog clocks, speedometer dials, various meters, etc.).

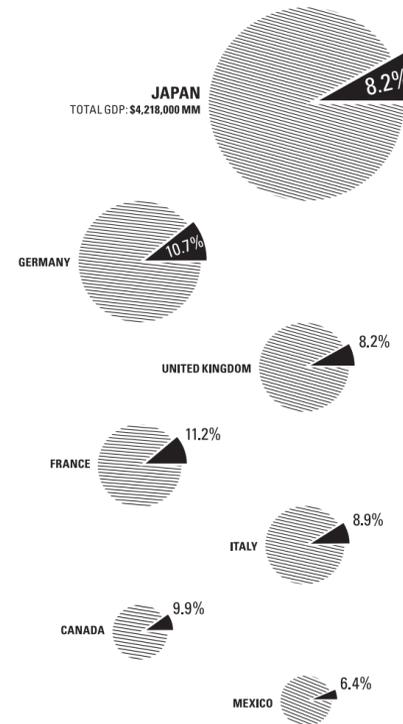
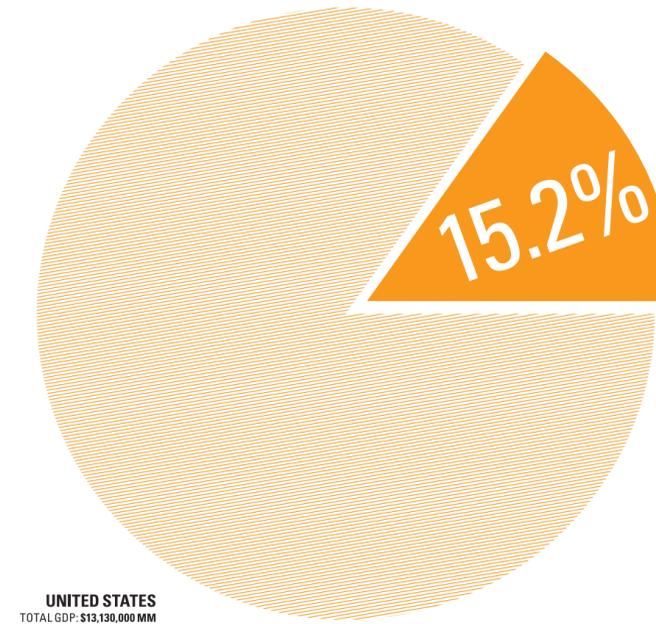
Given these conflicting points of view among the experts, perhaps the best course of action is to retreat and regroup—to reevaluate the purpose of an information graphic within the larger goals of communication. If the driving concern is precision, clearly a table (with specific values) will be superior (à la Tufte).

However, often the audience for data graphics is less interested in a precise magnitude and more concerned with relative comparisons—does Company A or B make more money? Does the combination of Company A and B do better than the grouped set of Companies C, D and E? When assisting viewers in making comparisons, any visualization (whether pie or bar) will be superior to a typographic and numeric table. The choice of form (circular or linear) should be selected after considering the specific data to be clarified and communicated. Smaller data sets with strong value differences are best for pies, while larger groups require bar comparisons. The variations shown opposite demonstrate the wide range of design considerations for data graphics.

KAREN CHENG IS CHAIR OF THE DESIGN DIVISION AT THE UNIVERSITY OF WASHINGTON AND THE AUTHOR OF *DESIGNING TYPE* (YALE UNIVERSITY PRESS, 2006). KAREN IS ALSO A PRACTICING DESIGN CONSULTANT WHOSE WORK HAS BEEN RECOGNIZED AND PUBLISHED BY THE AIGA, *COMMUNICATION ARTS*, *PRINT*, *CRITIQUE*, *I.D. MAGAZINE* AND THE AMERICAN CENTER FOR DESIGN.

THE GDP OF THE US FAR EXCEEDS THAT OF ANY OTHER OECD COUNTRY. THE US ALSO SPENDS THE LARGEST PERCENTAGE OF ITS GDP ON HEALTHCARE. THE PIE CHARTS ARE MORE EFFECTIVE THAN BAR CHARTS IN COMMUNICATING THE SPECIFIC PERCENTAGE OF GDP BEING SPENT ON HEALTHCARE. HOWEVER, THE BAR CHARTS ARE BETTER FOR DIRECT COMPARISONS BETWEEN COUNTRIES (COMPARING THE MAGNITUDE OF TWO OR MORE VALUES).

HEALTHCARE EXPENDITURES OF OECD COUNTRIES AS PERCENTAGE OF GROSS DOMESTIC PRODUCT



TOTAL GROSS DOMESTIC PRODUCT



HEALTHCARE EXPENDITURES (% OF GDP)



ARCADE 27.4
SUMMER 2009

No Time to Waste on Climate Change

FEATURE EDITOR: JONATHAN GOLOB WITH CHARLES MUDEDE



Some choices are easy.



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PLEASE, NO MORE DESIGNER WORDS!

part II

ron van der veen

EDITOR'S NOTE: IN PART 1 OF LAST VOLUME'S SIDE YARD INSTALLMENT, "PLEASE, NO MORE DESIGNER WORDS!" RON VAN DER VEEN'S BROTHER-IN-LAW BEGAN HIS EMOTIONAL APPEAL TO THE DESIGN COMMUNITY (SEE ARCADE 27.2). HE IMPLORDED US TO USE STANDARD ENGLISH WORDS AND PHRASES WHEN TALKING TO THE NON-DESIGNER WORLD. FOR SPACE CONSIDERATIONS, ARCADE HAS CHOSEN TO RUN THE ENTIRETY OF SCOTT INGMOSS'S LONG-WINDED BUT PERTINENT APPEAL IN TWO PARTS. HERE, IN PART 2, SCOTT FURTHER ARTICULATES HIS POINT. KELLY WALKER.

...In my effort to cleanse the design community of its oral flatulence, I've compiled a list of words and phrases that you should delete from your lexicon. This is just a smattering of expressions I have heard from my dear brother-in-law that have caused me bouts of head scratching. For your benefit, I have also included my best guesses at their definitions.

GESTALT: Big German word. I think it means something looks cool?

LESS IS MORE: I guess that means more is A LOT more!

GOD IS IN THE DETAILS: They look really great, but I don't think God cares that much about the knee braces holding up the roof of my 1926 Arts and Crafts Bungalow.

TYPOLGY: The study of fonts?

ARCHETYPE: Architectural lettering.

FENESTRATION: This word really cracks me up. Why can't he just say, "WINDOW?"

BLURRING THE BOUNDARIES BETWEEN OUTSIDE AND INSIDE: Big windows!

BORROWED LIGHT: Daylight that comes from big freakin' windows!

SKIN OF THE BUILDING: This phrase begs the question, "what does a house with acne look like?"

ANIMATED FAÇADES: Mimes along the outside your building?

TREATMENT OF THE FAÇADE: What to do when your front porch has cancer...

INTERVENTION: Telling your building it has a drug problem...

MATERIALITY: What building isn't made out of materials? Isn't this sort of like talking about the "wetness" of water?

POCHE: An obese Frenchman?

CHARRETTE: Old Stevie Wonder Hit. "Pretty little woman I adore..."

EMBRACING HISTORY: You're not "embracing" anything; you're just copying a dead architect's style.

TIMELESS: Old and boring, like spending the day with my grandfather.

JUXTAPOSITION OF HETEROGENEOUS ELEMENTS: アーキテクチュアル・ブルシット...

DECORATED SHED: Sounds like an ugly, cheap building with an ugly, cheap paint job.

PARTI: ...Harti!!!!

ACTIVATE THE STREET: Is he talking about one of those people walkers at the airport?

PEDESTRIAN FRIENDLY: Sidewalks with happy faces all over them.

URBAN FABRIC: Hmm, I wonder if my neighborhood is a cotton poly-blend?

VALUE ENGINEERING: Let's be real here. Since when does making something cheaper give you more value?

Believe me, I could keep going, but I think you get my point. At the end of the day I usually ask myself, "is Ron bullshittin' me or does he really believe what he is saying?" For once, when I ask him why he made a design choice, I'd like him to say, "I don't know... I just like it." To most nursing managers or other non-designers, it's okay to admit that you don't have some higher, philosophical inspiration guiding every decision you make. Really, it's fine.

Now please don't take this appeal as an assault on your revered profession. At the risk of sounding Palinesque, we regular "Joe-the-plumber" types understand the venerated position of the architect in our society. You shape the space we live in. And trust me: we're glad you do. All I am asking is that you speak like normal people. I trust your visions. But after 20 years I just can't take the "Gestalt" anymore!

I am writing this humble letter to ARCADE while on a break from my shift at the hospital. I thank you for your time, but I really have to go. I have a gomer in room 314 who just did a code brown**!

Sincerely,
Scott Ingmos
Registered nurse and concerned citizen

* AFTER REVIEWING THE FINAL DRAFT OF PART 1 AND REALIZING THERE WAS AN EVER-SO-SLIGHT LIKELIHOOD THAT MANAGEMENT OF HIS HOSPITAL MIGHT SEE THE ARTICLE, RON'S BROTHER-IN-LAW DEVELOPED A MEDICAL CASE OF "COLD FEET" AND DECIDED TO CHANGE HIS NAME TO SHIELD HIS JOB. HE ACKNOWLEDGED THAT HOSPITAL MANAGEMENT DOESN'T SHARE THE WITNESS EVIDENCED IN THE SEATTLE ARCHITECTURAL COMMUNITY.

** SEE PART 1 FOR DEFINITIONS.

Henrybuilt, AIA-Seattle and ARCADE present...

WASTE NOT

A series of educational dialogues, hosted at Henrybuilt's showroom, focused on renewable resources, design for dis-assembly, green materials, recycling and the whole gamut of waste in its many manifestations. Our goal is to provide an outlet for the design community to explore the issues and find options to neutralize our environmental footprint.

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Email (info@arcadejournal.com), call (206-971-5596) or check our calendar of events (www.arcadejournal.com).

4pm, Wednesday April 22 (Earthday)

Design for Dis-assembly
Kinley Deller of King County GreenTools
and Dan Williams of Dan Williams Architects

8am, Thursday May 14

Tour LEED™ Platinum Shoreline Transfer Station
Meet members of King County's Solid Waste Division and the design team of the first LEED™ Platinum certified transfer station in the world.

4pm, Wednesday June 10

Buy Once, Buy Well
Thor Peterson of Synthesis Consultants
and members of the Henrybuilt Design Team





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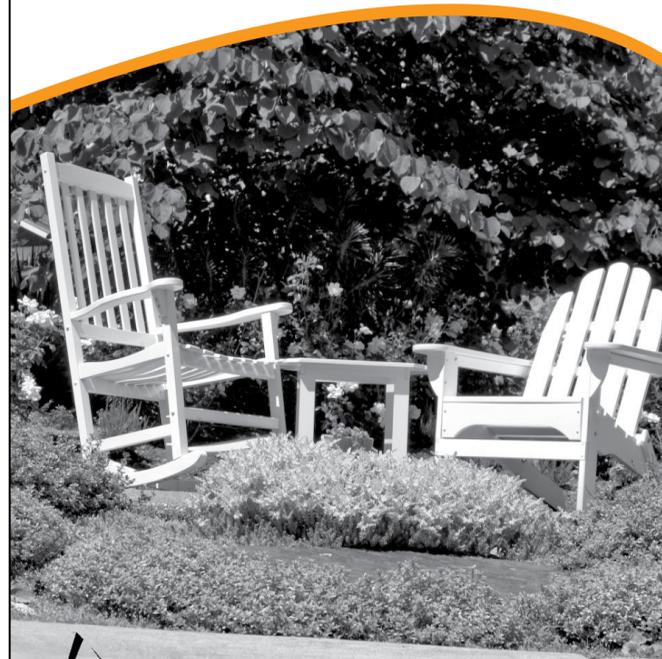
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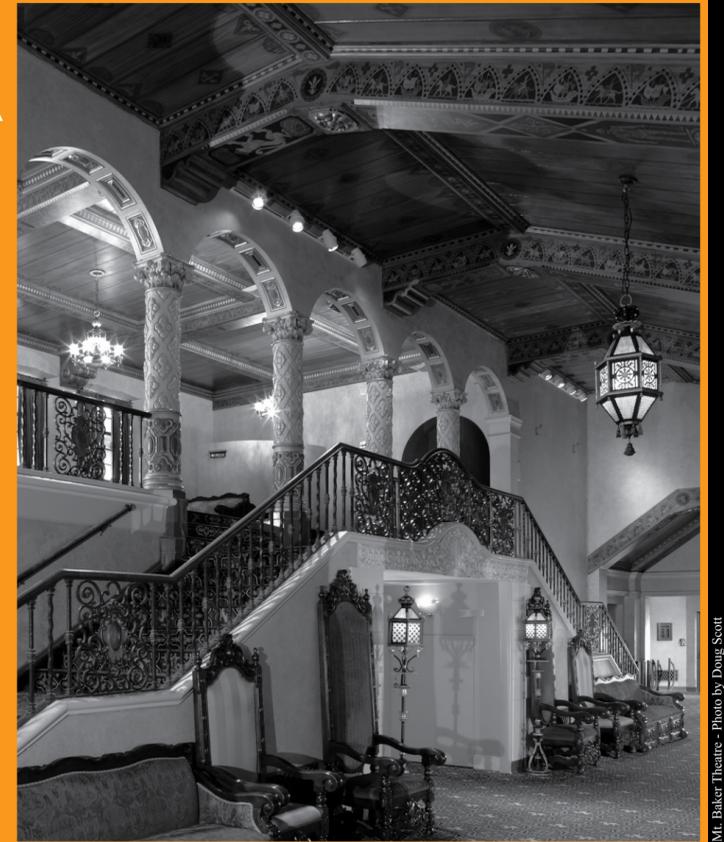
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Mt. Baker Theatre - Photo by Doug Scott

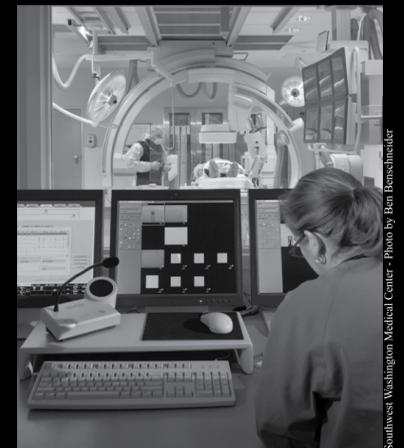
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Clackamas Community College Center for Health Education - Photo by eckert & eckert



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Southwest Washington Medical Center - Photo by Ben Benschneider

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END NOTE

BEYOND SYDNEY

an architect's guide to jørn utzon

jm cava

Jørn Utzon, who died four days after last Thanksgiving at the age of 90, was one of those larger-than-life talents who occupied his own idiosyncratic place in architecture. Like Kahn or Aalto, he never ran a traditional professional office but always some variant of a studio, where the pursuit of particular architectural ideas was paramount. I was introduced to him through his much-publicized Sydney Opera House and, like many, thought it overly personal, extravagant and un-functional. As it turns out, Sydney is a manifestation of steadfast ideas developed by Utzon years prior to his famous competition entry—principles assiduously pursued by him in all aspects of his work until the end of his life.

The breadth and density of Utzon's work is more deserving of a large book than a tiny article (Kenneth Frampton, Philip Drew and Richard Weston have excellent presentations of Utzon's work); nevertheless, here are a half-dozen of what could be called Utzon Principles that, acknowledging the arrogance of condensing a genius' work formulas, are summarized for anyone who hasn't had a chance to delve more deeply into his work—principles that not only invalidate the "showboat" school of Sydney critics, but still have the capacity to inform and inspire us today.

01 ROOF | PLATFORM Like Kahn, Utzon sought "first principles" in architecture. Unlike Kahn, he found them not in books but from first-hand travel and experience. His early visits to Mexico revealed the primordial spatial power inherent in a simple raised podium, and in Japan, he saw that an ethereal roof canopy floating above such a platform provided limitless opportunities for spatial exploration in a modern idiom. "There is magic," he later said, "in the play between roof and platform."

02 HUMAN | NATURE Utzon approached everything from a deeply humanist background, engaging visceral and tactile senses to describe and experience space. Attributable perhaps to his Danish background and more specifically to his teachers Kaare Klint and Steen Eiler Rasmussen (both notorious for their anthropocentric orientation), Utzon interwove this with an almost religious reverence for Nature, which he in part saw as a creative mentor and, more importantly, something that built form could draw more intensely into our daily lives.

03 STEREOTOMIC | TECTONIC Utzon refined the platform/roof juxtaposition by assigning ancient qualities of stereotomic mass to the platform and lightweight components of organic form to the roof, differentiating the roof from the level platform below.

04 PREFABRICATION | ADDITIVE Sydney was a study in constructional prefabrication long before the Hong Kong bank took the notion of global assemblies to an extreme. Nearly all Utzon's buildings and projects employ an additive approach using smaller-scale spatial devices in aggregate to form larger ones—he saw this as both financially sound and as a way of humanizing the scale of large volumes. He experimented with pre-cast concrete expression around the same time as Kahn, though Utzon's was simpler and smaller and more overtly Oriental in expression.

05 TRADITION | MODERN Like the platforms of the ancient Mayan temples and the pagoda roofs of Japan, Utzon believed in Siza's construct that "Architects don't invent anything; they transform reality," and for him such transformations could be inspired by any culture in any era. Additive architecture using prefabrication was a reinterpretation of ancient Islamic mud-brick vaults; his courtyard housing transformed vernacular Islamic and ancient Roman precedents; public spaces were democratized versions of Roman temples and the ancient platforms of solid stone became hollowed-out concrete shells for modern transportation and services.

06 PUBLIC | PRIVATE For Utzon, the "space of public appearance" was all-important and had yet to find an appropriate expression in modern architectural language. A democratic architecture needed to elevate – literally and spiritually – the individual, and Utzon struggled to achieve this in all his public proposals of which unfortunately, only Sydney was fully realized. He did not propose open-ended public spaces with acres of glass-curtain wall but created-space that was as physically bounded and contained as any sacred shrine. He felt just as strongly about private space—that the syntax of modernism had failed to provide a private realm for the family. To that end, his housing screened the world with walls, turning inward to form private sanctuaries of quiet seclusion.

Utzon never mystified his architectural ideas; they were not swathed in allegory or metaphors from literature or music or science. They were always grounded in the language of space, and he made no secret of how he worked and what he wished to achieve. If for no other reason, this merits spending some time with his work—I guarantee it will be an uplifting and refreshing encounter.

JM CAVA IS AN ARCHITECT IN PORTLAND, WHERE HE TEACHES, WRITES AND DESIGNS BUILDINGS AND GARDENS.



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ARCADE

ANNUAL REVIEW 2008

2008 HIGHLIGHTS The quality of ARCADE's content continues to evolve. We aim to "keep the conversations going."

EDITORIAL REVIEW

26.3 SPRING f:IT

Feature Editor: Cara Rose DeFabio

Revealed how technology continues to impact fashion design, specifically exploring how technology's ascent into the aesthetics of fashion marks its social relevance as a medium of self-expression.

26.4 SUMMER NOW + NEXT: FURNITURE AND PRODUCT HORIZONS

Feature Editors: Kelly Walker
with Bill Fritts

Discussed the future of furniture and product design and highlighted sustainable design for interiors and furnishings. Included was an article by Marcel Wanders focusing on the merging of art and design.

SPECIAL RECOGNITION

Thank you to our ongoing grantmakers 4Culture, the Naramore Foundation, The Seattle Foundation, the Seattle Office of Arts and Cultural Affairs and the Washington State Arts Commission. We also thank the Norcliffe Foundation for their 2007-2008 two-year grant.

OUTREACH AND DISTRIBUTION

In 2008 nearly 20,000 copies of ARCADE magazine were distributed. We are constantly communicating with our recipients to ensure our outreach is effective. ARCADE can be found in several professional firms, galleries, coffee houses and cafes; ARCADE members (those making a gift to our organization) receive our publication on a subscription basis. We are also broadening our reach into Eastern Washington with a stringent effort to make ARCADE available to that community. ARCADE is continually being welcomed by new members and advertisers. Our publication can also be purchased at Bulldog News, Café Presse, Elliott Bay Book Company, First & Pike News, University Bookstore, J & S Broadway News, Rich's Cigar, Powell's Books, Newsbeat and Newstand.

OPERATIONS

In a paramount year, we hired our first full-time managing director. The increased manpower ensured a smoothly run operation with more time devoted to community building, outreach and fundraising.

As always, we are grateful and thankful for our office space provided by Mithün.

BOARD OF TRUSTEES

In 2008 Scott Allen wielded the presidential gavel for ARCADE and we welcomed new board members Brian Boram, Jane Degiacomo Buck, Randy Everett, Liz Longworth, Andrew Phillips and Rick Zieve.

STAFF

The work of ARCADE is accomplished primarily by one full-time and two part-time staff members in tandem with a volunteer board, editorial committee and many creative contributors, including volunteer feature editors, who continue to pull together provocative and thoughtful content.

GRAPHIC DESIGN

The look of the magazine changes with each volume thanks to the contributions of talented local graphic designers. James D. Nesbitt and Stephanie J. Cooper (cdesign) completed Volume 26 (March and June); Ed Andrews and Marcela Barrientos (Somelab) designed the current Waste volume.

VOLUNTEER BASE

ARCADE increased its outreach efforts to a broad range of volunteers and looks forward to further developing volunteer opportunities in the coming year. These include feature editors, contributors, committee membership, event support, our Board of Trustees and much more.

PARTNERSHIPS

In November 2008 we partnered with Henrybuilt to create and develop WASTE NOT!, a series of educational dialogues hosted at Henrybuilt's showroom, focusing on renewable resources, design for disassembly, green materials, recycling and the whole gamut of waste in its many manifestations. Our goal is to provide an outlet for the design community to explore the issues concerning waste and find options to neutralize our environmental footprint. The first presentation was from Teragren on bamboo and other products that reduce dependence on dwindling timber resources and reliance on renewable-resource materials. With the new year, AIA-Seattle joined our partnership to further promote and enhance design in our community.

Throughout the four feature sections of Volume 27, ARCADE explored (and will continue to explore through June 2009) the many guises of waste: construction waste, packaging waste, lifestyle waste. We ask how the design and architecture industries can think differently about their products in an effort to put a stop to the staggering waste in our world.

27.1 FALL REGENERATE REVITALIZE RE-SOURCE

Feature Editor: Pliny Fisk III

Journeyed into the linked universes of economics, sustainability and design in a quest to change the way society thinks about waste streams. Featured examples that directly and immediately affect planning and design.

27.2 WINTER THE ART OF WASTE

Feature Editor: Abigail Guay

Explored the realities of consumption and waste through the provocative photographic imagery of Chris Jordan, printed in full-color. Jordan's subject matter, in the artist's words, is "the immense scale of our consumption." Included a critique by JM Cava of three new books on Danish Architecture, providing pointers on identifying the "art" architecture book.

PLACES

Special thanks to our hosts of the quarterly publication launch events:

March: Vermillion

June: Inform Interiors

September: Krekow Jennings at the Metropole Building (under construction)

December: Grey Gallery & Lounge

RESOURCES

We are in the green with a total 2008 income of \$201,956 and expenses of \$201,528. We are excited to report that for the fifth year running, ARCADE's income has exceeded expenses, enabling us to carry our reserve, which enhances fiscal sustainability. With this funding, in 2009 we will progress towards our strategic goal of providing more staff full-time status and upgrading the website to enhance our relationship with the design-minded community.

On May 31st we honored some of the greatest friends and patrons at our fourth-annual Leadership Celebration hosted by Barbara Lycett and John Parchem at their beautiful Eggleston|Farkas designed home in Blue Ridge. Flip to the front of ARCADE or check out our website to see a full list of donors who are leading the way in support of quality architecture and design.

We continue to reach out to the design community through phone appeals, mailings, email blasts and membership renewal requests. We also went "online" by including a web-based donor service to make giving easier.

Thanks to everyone who contributed in 2008!

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