A Philosophical Approach for Distinguishing "Green Design" from Environmental Art

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Abstract In this paper, I begin by analyzing several environmental design projects that are difficult to distinguish from environmental art projects, so as to tease out obvious distinctions between these two fields' practical aspirations. I then employ Arthur Danto's Theory of Action, as described in his 1979 essay "Basic Actions and Basic Concepts," to show how design's outcomes differ from those of artistic actions, even though both effectively entail actions. Unlike design actions, artistic actions prompt interpretations or greater reflection, since artwork meanings are comparatively polyvalent. I next discuss what Bruno Latour describes as the semiotic question of meaning, in particular, the relationship between the designer's guiding principles and his/her design's implicit values, which articulate those principles. I then discuss the importance of design's entwining conception and making. Lastly, I return to the urgency awaiting environmental designers, whose most successful nature-based solutions, whether sustainable architecture, large-scale public works, or edible foodstuff will result from either efforts to recover "lost" practices or innovative strategies for translating nature's processes. "Green designers," especially, owe it to their public to tap what Latour terms design's normative question, so as to optimize resource management and sustainable design.

Keywords Nature-based solutions · Environmental · Normative · Good design

1 Introduction to the Problem

These days, there's a growing interest in what is primarily termed nature-based solutions, but is also known as "green infrastructure." In 2016, the European Commission (EC) selected scores of demonstration projects that it plans to fund to the tune of €40 million, which conveys the significance of this burgeoning field, especially since the EC aims to target income-generating projects that can be implemented widely, so as to multiply their economic benefits across Europe. This

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represents an especially positive opportunity, on the heels of a decade that has already witnessed the adoption of scores of environmental practices from phytoremediation to hybrid cars, renewable energies, and aquaponic/aeroponic urban farms; all designed to address consumer concerns regarding land loss, greenhouse gas emissions, and sustainable living. For the purposes of this paper, environmental design (a.k.a. "green design") engenders environmentally-friendly products (independent of scale) whose designs can be taught, improved upon, and applied broadly, whereas environmental artworks are typically prototypes, one-off solutions, initiated by artists to redress a particular site's environmental issues, which they expect others, especially designers, to eventually copy.

Recent attempts at "green design" include: architects Stefano Boeri's Milan twin towers hosting 730 trees (2014), Jean Nouvel's Sydney skyscraper draped with Patrick Blanc's hanging gardens (2013), Herzog and de Meuron's similarly-decorated Pérez Art Museum Miami (2013), Renzo Piano's California Academy of Sciences (2008), and Dominique Perrault's Bibliothèque national de France (1996); Stefan Sagmeister's edible typefaces; product designer Thomas Heatherwick's London Garden Bridge; Kona Design's Pasona-Tokyo's indoor office farm (2010); plus vertical farms developed by: Singapore's Sky Green (2012); LA Urban Farms (2015); and ZipGrow for the U.S. Pavilion at Expo 2015 Milano. Even commercial real-estate developers are recognizing the demand for roof gardens, locally-grown food, and buildings that capture and store rainwater, recycle grey water, and cleanse stormwater; leaving thousands more examples of green infrastructure as either under consideration or in the pipeline around the globe.

At first glance, it doesn't really seem as though environmental design oriented toward nature-based solutions presents any philosophical conundrums, let alone contributes anything of value to philosophy of design discussions. There's no real reason to doubt that these projects qualify as design. Furthermore, I don't imagine too many people squabbling over whether designers actually deserve credit for projects in which horticulturalists, botanists, and engineers play more significant roles than do the award-winning architects, product designers, and graphic designers who hire them for their expertise. Few would charge designers as "unethical" for seeking out collaborators, so long as they remunerate experts who both beef up the winning proposal and carry out a firm's bid by managing construction projects that design firms themselves are ill-equipped to implement.

Some might worry that greening-strategies are rather a trendy maneuver, proposed by greedy designers who just "follow the money," climbing aboard a green gravy train, primarily because this is what futuristic Asian developers and future-oriented European nations fund these days. Some see green infrastructure as a design strategy especially geared toward making people feel happy, since scientific studies show that human beings feel their happiest (best) when surrounded by nature, or at least images of nature (Zelenski and Nisbet 2014). Socio-biologist E. O. Wilson gave this an evolutionary twist in his book *Biophilia*, which proposes that human beings' "urge to affiliate with other forms of life is to some degree innate" (Wilson 1984, 85). Others may deem such projects mostly window-dressing, since their motivation is clearly monetary, luring wealthy investors and buyers,

rather than contributing anything of lasting ecological value. That is, today's designers may be greening cities, but some are doing so at a cost to diminishing resources that might be better spent otherwise, if only there existed methodologies for targeting and rewarding genuinely "green" strategies that ought to be implemented instead.

So despite the apparent progress, genuine innovation, and enhanced environments on our horizon, numerous philosophy of design issues lurk behind the scenes. Some may find it surprising that fine artists first tested many of the strategies that designers are proposing these days. In fact, the current popularity of vegetative walls could be attributed to Jeff Koons' 13-meter tall *Puppy*, which premiered at documenta 9 in 1992, but has graced the grounds of Guggenheim Museum Bilbao since 1997. For *Park up a Building* (1996), Vito Acconci temporarily suspended a tree-lined staircase alongside the Centro Gallego de Arte Contemporáneo in Spain. In fact, avant-garde artists have been testing innovative ecoventions (ecology + invention) since the early 1960s, most of which were funded and experienced as art. Artists' efforts later captured the imaginations of designers, whether architects, product developers, and even graphic designers, keen to reorient their practices, so as to attract clients increasingly interested in sustainable resource management (Spaid 2002). Others may be surprised to learn that artists rarely mind it when designers copy their ideas. In fact, many hope they do! This already poses a philosophical difference of note.

Other philosophical issues include design's distinct capacity for communicating its function, which is not necessarily avant-garde art's goal. In fact, environmental design's clarity and greater visibility enable it to influence public awareness. As a result, the message environmental design conveys (typically its function) had better be tested and true, rather than mere window dressing. On a certain level, environmental design owes a greater fidelity to truth than ordinary design, when it showcases supposedly viable green infrastructure to the world. For its part, environmental art is the design world's testing ground and will likely remain a fairly underground phenomenon until more art historians undertake this movement as their field of investigation and museums feature environmental art projects (Spaid 2016a).

Perhaps environmental art's success both as a testing ground for novel strategies and as an "ideas-whisperer" befits its underground status, where it feeds "in-the-know" architects and "hip" designers schemes that might feel far less compelling were they present in clear view, where "inspired by" might be deemed at best, appropriation, or at worst, poaching. I don't imagine environmental art's more experimental methods (whether "radical" tactics or high-risk undertakings) for resolving environmental problems ever becoming part of a design practice built on expertise, rather than whim. Bruno Latour considers design to be low risk, as compared to building something, but I don't see how one can sever the design action from its outcomes. In fact, I worry that his characterizing design as low risk underestimates the damages incurred by confident designers, who not knowing their limits fail to involve or refuse to listen to the appropriate experts. Design is hardly a

harmless affair. And "green design," especially, stands to do far more long-range damage should their outcomes not live up to their promised functions.

In the next section, I analyze several environmental design projects that are difficult to distinguish from environmental art projects, so as to tease out obvious distinctions between these two fields' practical aspirations. I then employ Arthur Danto's Theory of Action, as described in his 1979 essay "Basic Actions and Basic Concepts," to show how design's outcomes differ from those of artistic actions, even though both effectively entail actions. Unlike design actions, artistic actions prompt interpretations or greater reflection, since artwork meanings are comparatively polyvalent. In Section Four, I discuss what Latour describes as the semiotic question of meaning, in particular, the relationship between the designer's guiding principles and his/her design's implicit values, which articulate those principles. I next discuss the significance of design's entwining conception and making. Lastly, I return to the urgency awaiting environmental designers, whose most successful nature-based solutions, whether sustainable architecture, large-scale public works, or edible foodstuff are likely to flourish as a result of recovered "lost" practices or innovative strategies for translating nature's processes. Optimizing resource management and sustainable design requires tapping the normative constraints of good and bad design.

2 Distinguishing Practical Design from Practical Art

Some have suggested that describing design as practical action differentiates it from artworks. Problem is, some practical actions turn out to be "practical" artistic actions, such as ecoventions (ecology + invention), institutional critique, activist art, and public engagement practices. Consider Joseph Beuys' 1971 forest action or his later *7000 Oaks* (1982–1987) (Fig. 1) for which he and hundreds of volunteers planted 7000 oak trees in Kassel, Germany, as his contribution to documenta 7. Artworks like these definitely have practical consequences. Social-design scholar Victor Margolin worries that the increasingly practical nature of artworks only complicates matters. Operating under the impression that artists tell stories, while designers "do," he asks, "How do we think about art that moves from discourse to action, art whose intent is to produce a useful result" (Margolin 2006)? Ignoring a fifty-year history of artists initiating practical actions, he claims that artists' practical pursuits are in conflict with art's *discursive* role.

> ...[B]y what criteria do we evaluate this work?...In the never-ending debates on the difference between art and design, the distinction usually comes down to the primacy of discourse in artistic practices...But when artists want to achieve social results without identifying themselves as designers, how should the critical community respond?.Once artists enter a realm of action, it is difficult to characterize their projects differently from those of other actors such as landscape designers or even architects...the discursive has spilled over into the practical, and the practical has become more discursive (Margolin).

Fig. 1 Joseph Beuys, *7000 Eichen*, 1982–1987/2016, W. 22nd St., New York City, USA Photo Credit: Theresa Hackett

To my lights, Margolin's restricting the "realm of action" to design proves problematic, since it leads him to make several erroneous points, namely: (1) Given the "primacy of discourse in artistic practice," design is distinguishable from art as practical. (2) The intent to achieve "social results" is the purview of design, and (3) The critical community should be wary of artists' practical actions, if doers also claim to be artists while doing so. He must not have realized that artists began performing practical actions in 1962, when Beuys first called for an "action" to clean up the Elbe River and Alison Knowles performed *Make a Salad* at the Institute for Contemporary Art in London (Spaid 2012, 16–17).

The point that proves most troublesome for our purposes is Margolin's limiting the discursive to art, especially since many scholars function as architects, even though their designs never get built, yet one no longer functions as an artist if one's actions, whether discursive or practical, fail to be valued as art! Similarly, one can function as an artist, even if one's designs don't work out as intended, though designers' designs that fail also fail categorically as design. So the quality of "discursive" belongs no less to design than to art. Regarding Margolin's second point, the history of artists' actions, artists farming as art, community art, and participatory art proves that artists have been applying their skills to achieve "social results" since the sixties, so one wonders why he specifically attributes "social

results" to the design field (Spaid 2012, 218–229). In fact, "green design" and "social architecture" are rather recent trends, partly inspired by Samuel Mockbee's "Rural Studio Program." The Modernist buildings of Le Corbusier and Mies van der Rohe no doubt launched "social experiments" that have been in play now for sixty years, though their popularity rises and falls as the public's appreciation for their experiments waxes and wanes.

To address Margolin's third point, I would argue that design and art are judged by totally different standards, so there's no good reason for the critical community to be wary, unless of course, designers start calling what they do "art." Design *can* be art, though only when it offers an innovative solution that others later copy, not when it appropriates art historical strategies![1] One point that differentiates discursive design from discursive art is that artists' designs (whether in the form of a drawing, photo/text proposal or digital file) are often meant as ends in themselves (as exhibited art), while designers' designs remain the means to some end, since they must be built to function as design. The primary exception of course is "visionary" architecture, or drawings of buildings deemed impossible to construct, such as those associated with Lebbeus Woods, Hugh Ferriss and the early designs of Coop Himmelblau, Superstudio, and Archigram. I now try to clarify the differences between practical design and practical art.

When some design (constructed, manufactured, or built by others) is reduced to a singular idea, under what conditions is this idea art and not design?[2] In a way, the answer is easy, since the answer lies in the way these two fields are practiced. Not surprisingly, similar conditions differentiate art from science. Science and design are hardly fields guided by whim, intuition, or supposition. Each follows general principles, best practices, and guidelines that are tested, vetted, and circulated by respected peers. When Chicago-based artist-collaborative Haha first hatched their plan (1992) to transform storefronts into hydroponic vegetable farms so as to minimize the need for washing and peeling vegetables, thereby keeping nutrients in tact for eaters plagued by HIV, people no doubt thought their plan was radical. Nearly twenty-five years later, hydroponic, aeroponic, and aquaponic systems that tender similar results are popping up everywhere, so as to transform concrete jungles into edible landscapes.

People tend to distinguish design, which *solves* problems, from art that *creates* problems, though this distinction fails for those artists, whose practical projects must at least attempt to solve problems, if not solve them altogether. As with the above HaHa example, artists' design solutions have yet to be tested, vetted, or circulated, so their success as design remains uncertain, but such projects are driven by a singular goal to tackle a particular problem. Even stranger, artists whose practical solutions turn out to be wildly popular or scientifically successful are often disinclined to repeat them, lest they become known for specializing in one area. Many artists would prefer their sought-after design solutions to become prototypes that serve as models for others to copy, so that they can continue experimenting. It

[1] I have in mind here Frank Lloyd Wright's *Falling Water* as a design object that doubles as art.

[2] To see how art can be reduced to ideas, see Rob Pruitt's *101 Art Ideas You Can Do Yourself* (1999).

thus seems that what characterizes practical art is the absence of verifiable standards for evaluating its outcomes, unlike the testing new designs for cars or washing machines undergo. The problem of the artist-initiated design solution proves complex, especially since a work's greatness as design (sustainable, cost-effective, easily implementable, well-built) often depends on the very qualities people invoke to differentiate design from art, while its success as art depends on hotly-contested values such as "originality," "ingenuity," "influence," and "generosity."

In light of the differences between art and design, it helps to look at how practitioners trained in design versus art have approached urban farming. In contrast to art-farms, which tend to meld the "I can," "I will," and "I know," design-farms tend to replace the "I know" with the "I show," perhaps because designers want their projects, which typically employ less experimental farming techniques, to stand out and communicate attractive solutions that passersby will either want to emulate or purchase for their own use.

Whether an art-farm or a design-farm, ownership (title/deed, owner's labor/resources/time) and authorship (creator/producer), as they pertain to edible property, prove nearly impossible either to enforce or assert. Since 2005, architect Fritz Haeg has worked with nearly a dozen home owners and apartment dwellers, stretching from Connecticut to Maryland, Kansas, and California all the way to Italy, Turkey, and the United Kingdom, transforming their front yards into *Edible Estates* (subsistence farms).[3] Project descriptions and blogs posted on Haeg's website suggest that most of the homeowners he's worked with originally imagined their neighbors both eyeing and stealing their bounty, which sounds like a warranted fear! Baltimore *Edible Estates* co-owner Clarence Ridgely notices that passersby consider his front-yard farm fair game, free snacks available those who first notice what's ripe (Ridgely 2008)! Even those who deem picking their neighbor's flowers rude might regard stealing the fruits of their neighbor's labor akin to showering them with complements. So long as food access seems a "God-given" right, food production will lack the sense of ownership commonly afforded gardeners. Moreover, food is grown to be eaten, while flowers are grown to be experienced, so when passersby notice produce in need of harvesting, why hesitate?

In Haeg's book *Edible Estates: Attack on the Front Lawn,* he maps out the criteria that he uses to determine which front yards provide the best hosts for his "regional prototypes," local versions of his model. He prefers homes "on a somewhat lengthy typical residential street lined entirely with uninterrupted groomed front lawns," whose front yard is "very visible from the street, with regular car traffic" (Haeg 2010). Furthermore, prospective *Edible Estate* owners ought to be "super enthusiastic about the project, and committed to and willing to continue the *Edible Estates*

[3] Between 2005 and 2013, Haeg installed or received funding for fifteen *Edible Estates*: (15) Twin Cities, US (2013), (14) Aarhus, DK (2013), (13) Holon, IL (2013), (12) Budapest, HU (2012), (11) Istanbul, TK (2012), (10) Rome, IT (2010/2011), (9) Aldrich Contemporary Art Museum, Ridgefield CT (2010), (8) New York City, NY (2009), (7) Los Angeles, CA (2008), (6) Baltimore, MD (2008), (5) Sierra Ridge Apartment Complex, Austin, TX (2008), (4) Brookwood House Council, London, UK (2007), (3) Maplewood, NJ (2007), (2) Lakewood, CA (2006) and (1) Salina, KS (2005).

prototype as long as they live in the house" (Haeg). Unfortunately, a divorce, move, and other issues have prevented several *Edible Estates* owners from proceeding as Haeg envisioned.

In Berin Golonu's article "Greening the Revolution," she claims that Haeg's front yard "organic" farms offer both practical and discursive potential. She cites as "practical benefits" their reduced water usage, minimizing pesticide runoff, and lower carbon foot prints (Golonu 2008, 44). While all of this sounds great, only the reduced carbon-footprint point is totally true, since Haeg's farms tend to consume more water than lawns and most likely require pesticides, since replacing one's lawn with food couldn't help but attract loads of pesky critters. So far as I know, Haeg is not particularly interested to create ecologically innovative lawns or farms. Rather, he aims to inspire a conversation about the ubiquitous U.S. lawn, which his design-farms (and related catalog) have achieved. If one wanted an ecologically-sound lawn, one would opt for unkempt, renegade lawns that are full of weeds and look like heck, but maximize habitat, ensure biodiversity, and require little upkeep. Some *Edible Estate* owners have remarked that their front-lawn farms actually require far more maintenance than their earlier, back-yard farms ever did (www.fritzhaeg.com).

In 2008, WORK Architecture Company (WORKac) created a functioning design-farm as part of P.S.1's Young Architects Program, which commissions architects to build new works in its courtyard to host its summer concert series. WORKac's *Public Farm (P.F.1)* engaged over thirty artists, designers, engineers, farmers, and green suppliers in its design and production. Although P.S.1's press release asserted that food harvested from its farm would be served in its restaurant, multiple telephone conversations with restaurant staff failed to verify this claim. Golonu describes *P.F.1* as a visionary environment, a farm, a playground, an art installation and an "educational model for sustainable building and design" (42). *Public Farm* architects Amale Andraos and Dan Wood see their structure as providing a "space for leisure and relaxation," as well as serving a "didactic purpose" by availing information regarding *Public Farm*'s green collaborators. In contrast to Haeg's one-lawn-at-a-time approach, these architects believe that "ecology works best at a citywide scale to effect change and that it's hard to make a real difference on an individual level" (42). Despite its many possibilities, *Public Farm* functioned more as a popular gathering spot, offering shelter from the elements, than as a "public farm" for providing sustenance, though plenty of partiers surely partook in spontaneous acts of foraging/gleaning.

Perhaps the most well known design-farm is *The Edible Schoolyard/Yale Sustainable Food Project* (since 2003), an ongoing project initiated by Yale University's Berkeley Dining Hall and famed Berkeley (CA) chef Alice Waters. *The Edible Schoolyard* gained global publicity when it was included in the traveling exhibition "Into the Open," curated by Aaron Levy, William Menkin, and Andrew Sturm, for the United States Pavilion at the 2008 Venice Biennial Architecture Exhibition, traveling the next year to Parsons/The New School and the National

Constitution Center. Represented by a vegetative wall, passersby were free to pick the growing vegetables.[4]

Another arena that seems especially well-suited for environmental design is the contemplative garden, whose primary attributes concern taste, meditation, and beauty. By contrast, farms typically require the discussion and evaluation of the best available technologies, the need for invention versus convention, function versus aesthetics, and most obviously, ongoing group negotiation. While gardens are often designed by someone working from a "drawing board," who likely assigns the work to hired hands, farms are hotbeds for negotiation and discussion among the multiple stakeholders, who eventually share in the work and the bounty. It doesn't take such a stretch of one's imagination to consider a well-maintained garden great design or beautiful art. By contrast, farms, whether designed by designers or artists are messy, and can seem dirty and noisy, requiring a far greater imagination to recognize their artistic contributions, in terms of qualifying as art or having aesthetic attributes.

By looking at these three design-farms, several features that distinguish practical design from practical art begin to emerge. (1) Built design must minimally achieve its stated function. (2) Good design communicates its function and doesn't prioritize innovation or carry out experiments on its public. (3) Like visual art, visionary design can be discursive. (4) Designers welcome becoming experts in specific fields, since regular income tied to their specialties affords them opportunities to submit far-flung Requests for Proposals (RFP's). (5) Practical art, which aims to solve something very specific, doubles as a beta test (the alpha test having occurred in the artist's studio). By contrast, practical design often has numerous goals, which are either competing or contradictory, when lumped together in one project, such as maximizing durability and minimizing resource exploitation.

3 Practical Actions' Differing Outcomes

These days, designers commonly distinguish their contribution as an action, since design work generates products either *with* or *for* others, presumably some client. As a result of designers' consultation and collaboration with others (stakeholders/consumers, fellow designers, and manufacturers/builders), designers earn acclaim for actions (ideas, strategy, design, and implementation plan) that produce desired outcomes. As a result of successful actions, designers gain credibility that leads to their selling future projects. *The Design Way* authors Harold G. Nelson and Erik Stolterman consider "design wisdom" to be "an integration of reason with observation, reflection, imagination, action, and production or making" (Nelson and Stolterman 2012, 18). Since the same could be said of "science wisdom," or "art wisdom" for that matter, they add a more specific condition:

[4] http://beta.constitutioncenter.org/ncc_press_Into_the_Open.aspx

> [D]esign wisdom has the ability to shift from an analog experience of life, to a digital or analytic perspective of the world and *back again*. This is done by means of a design process that begins initially with a complex, undifferentiated, situation, which then transitions through a process of discernment and distinction and ultimately terminates with the integration of innovative designs into a desired seamless reality for those being served directly or affected incidentally. Therefore, one of the most vital aspects of design is that the outcome of any practical digital and analytic intervention must be transformed back into the analog. This is to ensure that, with each new design addition, life continues to be experienced as a whole (18-19).

Although these authors don't offer a case study of this process, nor do they explore this shift in any great detail, they imply that "design wisdom" shifts from digital to analog, while "science wisdom" need not engage the analog experience of life and "art wisdom" need not adopt the digital or analytic perspective. In other words, scientists and engineers don't have to have a working knowledge that comes from hands-on experience to employ computer simulations that engineer solutions. They problematically stereotype artists as shunning technological tools that otherwise allow them to do their work faster in favor of hands-on approaches. To my lights, a designer's capacity to shift between digital and analytic practices fails to characterize design work in general, though these authors' advice is well taken. As demonstrated by "New Craft: Design After Design" (2016), an exhibition at the XXI Milan Design Triennale, the number of contemporary designers using found or recycled materials, selling handmade goods on Etsy, or opting for letterpress suggests that the shifts they attribute to "design wisdom" only apply to manufactured goods.

It's hardly surprising that design, whose outcomes are the products of human beings' engagement in collaborative discussion, decisions, and activities, is described as an action. Problem is, artistic actions are no less collaborative, this too fails to distinguish design from art. As early as 1958, Yves Klein exhibited an empty gallery to demonstrate the priority of social encounters over objects. That same year, the Situationist International (SI), led by Guy Debord, launched its journal *Internationale Situationniste*, whose aesthetics of everyday life inspired real-life interventions involving the creation of revolutionary situations. Beginning in the early 1960s, artists similarly adopted the term "actions" to denote artworks that facilitate environmental transformations, thus differentiating their practical actions from that era's happenings, situations, and environments. In 1971, Beuys performed *Eine Aktion im Moor* (Bog Action) and *Forest Action* (along with students in the second case) to publicize the rapid destruction of European wetlands and Germany's forests, respectively.

For over five decades, the Harrison Studio has practiced what they term "conversational drift," whereby they initiate and lead public discussions to address otherwise neglected topics of ecological interest. Newton Harrison explains: "We are storytellers. Our art is about engagement" (Spaid 2002, 21). And their form of storytelling typically initiates transformative actions, as was the case with their vision for the *Green Heart of Holland* (1995), a vast ring of Dutch cities enveloped by farmland, but under threat from encroaching housing developments. Because they involved several Dutch ecologists and landscape architects in their proposal,

Table 1 Danto's 1979 Theory of Action Applied to Art (Case 1) and Design (Case 2)

Case	Cause	Effect	"Theory of Action" Comments	*Transfiguration* Examples
1	R	R	It is an artwork when the representation is true and its being true is explained by its impact when the resulting representation is satisfied.	Andy Warhol's *Brillo Boxes*, Roy Lichtenstein's portrait of madam Cézanne, Picasso's painted tie, and Duchamp's shovel.
2	R	~R	"It is action, when the representation is true but its *being* true is explained through the impact of the person whose representation it is on the world."	Erle Loran's Cézanne diagram, Brillo cartons stacked in store rooms, a tie painted by a child, most advertisements, posters, TV programs, stories, and actions that fail as art.

some of the original ideas their proposal recommended, like the Bio-Diversity Ring that provides a protective eco-urban edge, were not only folded into the Minister of the Environment's formal proposal eight months later, but found eventual implementation (Spaid 2002, 34–36).

I next employ Arthur Danto's 1979 Theory of Action to show that art and design outcomes are quite different, despite their both being actions, since the outcomes of design actions don't also require an interpretation. In *Transfiguration of the Commonplace*, Danto characterizes artworks as belonging to a rather large class of "representationally characterizable" events (R), which also includes actions such as posters, advertisements; billboards; signs; packaging, maps, charts, graphs, logos, and illustrations (Danto 1981, 83). Although Danto's 1979 table presents four cases, I focus on the first two, which are most relevant here. Case I comments are my assessment, while Case 2 comments are Danto's (Danto 1979, 481). As Case 2 examples (a diagram, Brillo cartons, a painted tie, advertisements, posters, etc.) provided by Danto in *Transfiguration* indicate, Case 2 specifically addresses design, since practical actions that both facilitate and communicate their functions don't *prompt* "representationally characterizable" events. Case 2 characterizes designers' actions (their designs) that produce desired functions and thus don't require further interpretation or analysis. Case 1 actions cause "representationally characterizable" effects, while Case 2 actions reflect "the person whose representations it is on the world." Case 1 actions thus impart "our capacity to reflect upon our experience, or to ascribe contents to our own thoughts, as a result of our having experienced an artwork" (Spaid 2016b) (Table 1).

For the most part, Danto's Case 2 actions cohere with Latour's "post Promethean theory of action," so-called since he considers design's five advantages (over Modernism's strategy of revolutionary overhaul) to be its modesty, attention to details, meaningfulness, continuous state of redesign, and ethical-orientation. He continues, "This theory of action has arisen at just the moment when every single thing, every detail of our daily existence, from the way we produce food, to the way we travel, build cars or houses, clone cows, etc. is to be well, redesigned" (Latour 2008). At first glance, Latour's acknowledging design's semiotic thrust such that we conceive of artifacts as designed things or distinguish good design from bad sug-

gests that he may consider Case 1 actions design. But I don't actually think this is so, since he definitely emphasizes the designer, not the designed object, as the actor fulfilling or carrying out some desired task. He continues, "To design something allows us to raise not only the semiotic question of meaning but also the normative question of good and bad design. This is true of DNA manipulation, as well as of climate control, gadgets, fashion, cities, or natural landscapes, a perfect case of design from beginning to end. Artificiality is our destiny, but it does not mean accepting the modernist definition of an artifact as the invasion of matters of fact over the softer flesh of human frailty forever" (Latour 2008). It is no wonder that Case 2 actions continuously undergo redesign, whereas Case 1 actions remain in constant motion like a chain reaction. Recall how many times you may have heard an artist say, "I just make the stuff. I put it out there. And then it has a life of its own."

4 Semiotic Question of Meaning

Earlier, I noted that few would view as unethical those architects whose RFP's benefitted from the additional wisdom of engineers, botanists, landscape architects, interior designers, and others who both improve their firm's proposal and then manage its implementation. I've noted that artists too, like the Harrison Studio who collaborated with Dutch ecologists and landscape architects, routinely work collectively. In fact, practical actions typically result from collaborative practices that convene various stakeholders, practitioners, and experts to tease out the winning solution. But the big question remains, who rightly deserves to put their name on the proposal? Who signs the drawings? To whom does the credit belong in the end? These kinds of issues have plagued collective practices for decades. Artist Judy Chicago's taking full credit for *The Dinner Party* (1974–1979), despite the fact that over 400 volunteers worked on it, created quite a controversy back then. The lesson from Chicago's debacle is remuneration is key.

Of course, one simple answer is "the party who calls the meeting to order" wins the day, since he/she/they/it assembled all the accomplices for a particular reason. The question of "credit due whom" is especially crucial for design firms where minimally-paid, low-level designers and interns work long hours (salaried workers may be excluded from over-time pay) doing a lot of the technical work, but rarely receive extra compensation or formal credit (outside the firm) for their significant contribution. That is, they cannot sign the drawings (with their own names) even if they're licensed professional architects. Although I know of no case where a designer has expressed his/her feeling slighted for not having been permitted to sign the drawings that he/she actually produced, or for not having received public recognition for managing a design process from start to finish on behalf of his/her firm's principals, I wouldn't be surprised to one day meet such a disenchanted ex-designer.

Like Latour, Nelson and Stolterman consider designers responsible actors. Of course, most responsible are the (typically licensed) principals who sign off on the firm's drawings, which may explain why they inevitably win the awards, are often

paid the big bucks, and receive credit for design achievements, even though they may have contributed very little to the actual design or its implementation. They are after all, the person(s) whose representation impacts the world (Case 2). With Case 1, the artwork's owner (the collector), as opposed to the artist, typically reaps the big bucks. Nelson and Stolterman particularly deplore the notion of designers attempting to escape responsibility for the consequences of their ill-conceived designs: "[T]hese attempts by designers to divorce themselves from responsibility for the ultimate outcomes of their designs cannot be justified and are unacceptable, given the accumulating effect of small designs on the emergent design of social reality" (Nelson and Stolterman, 204). They continue, "Design decisions are based on judgment and judgment is both personal and situational. In the end, design is always an act of faith in our abilities and ourselves" (204). For this reason alone, responsible designers deserve credit for building a winning team of experts that successfully implement and manage the design. The principal(s) who assume all of the risk receives the lion share of credit as a reward for having been the responsible party.

Related to the notion of the design principal being the responsible party (and thus the most rewarded) is the connection between a design firm's mission statement (a.k.a. design philosophy or design principles) and a particular design's values. The reason lower-level designers can do award-winning work with very little supervision is because they understand the design firm's design principles, as established by the principals in accordance with values earlier designs uphold. The principal(s) receive all the credit because the firm's designs convey their values. When performing their work on the firm's behalf, employees effectively enact their employer's design philosophy, not their own. This is yet another reason they don't expect to receive credit for their work...it's not necessarily their work! One imagines that those designers who routinely find their personal design principles diverging from those of their firm's principals will either soon search for a new firm whose design principles align with their own or start their own firm.

Even if designers adhere to principles that are expressed by prior designs' values, it doesn't mean that the principals could actually identify said principles, let alone articulate their designs' values. Principals are under no legal, ethical, or practical obligation to specify design principles and values up front. Some designers, especially architects, have clarified their principles, though mostly for marketing purposes, to attract clientele. Some principals eschew the idea of a principle specifically because they expect clients to establish the principles, so lacking a principle reflects their belief that their clients' briefs come first. Absent a stated principle, a firm's designs cannot be critiqued for veering from (or praised/blamed for steering) their firm's stated mission (Table 2).

Independent of a design firm's mission statement, every design action reflects particular values, and skilled observers not only recognize values in designed objects (see Table 2), but building enthusiasts can also infer the underlying design principle from implicit values. For example, a public building that integrates proportion with its sighting and accommodates solar angles and street views aims to relay that it connects with the community and is welcoming, ecological, sunny, and

Table 2 22 Design values culled during "Design Ethics" Course (2010)

		Roger	Royal Fine Art
General	Particular	Scruton	Commission
context	sustainable	mutability	order/unity
program	solar angles	taste	expression
practical	& views	façade	integrity
public		manners	plan and section
scale		street	detail
			integration
			sighting
			massing
			proportion
			rhythm
			materials

bright. To my lights, this is exactly what Latour has in mind when he attributes meaning to design. Nelson and Stolterman add, "Meaning as form, is revealed to us through the ordering and organizing of elements into systematic relationships and connections that have been created intentionally, in response to purpose, in fulfillment of an end. With this we mean that those unifying forces that cause things to stand together, in unity, provide comprehensible emergent qualities of presence, significance, and value, thus forming meaning for individuals who are part of the whole or served by the whole" (93–94). As already noted, designed objects (not design philosophies) make designers' intentions manifest. "It is intention that predisposes or directs us toward certain data and values" (121).

Moreover, skilled observers recognize when a designer's actions suddenly contradict his/her prior actions and thus either indicates some external influence such as a client's wish or some investor's demands, or the designer's changed principles. More worrisome than designers' contradictory actions veering from prior principles is their capacity to produce outright fakes, that is, solutions that some designer has promised his/her client, yet the delivered goods fail to fulfill the stated promise. Either the delivered goods were not designed to meet their specs or the design does not function as promised. As alluded to in the introduction, I worry that a lot of what passes as "green design" merely looks green, especially when it employs nonrenewable resources. Strangely, design theorists tend to ignore the preponderance of fakes! I guess they opt to leave this conundrum to courtroom judges (and philosophers), who can't ignore them.

5 Entwining Conception and Making

While Latour seems to sever design as conceiving from building as making, Nelson and Stolterman's notion of design entwines conception and making. They characterize designers as craftsmen, or practical actors who capably wield their "knowing hand," infusing their every move with "design wisdom," as briefly discussed already (Nelson and Stolterman, 18). From what I know about engineers, such expectations seem entirely unrealistic. It's hard to imagine that some designers, let alone most, fulfill their expressed craftsmen ideal, anymore than engineers are tinkerers, who build machines in their garages. Design attracts all types, from the brainy to the brawny. A handful of architects have built their own homes, yet I imagine many more who haven't a clue as to how to use an electric screw gun. That said, what seems more appropriate here is to convey the roles bestowed upon conception and making, while not pretending that any one designer necessarily balances both skill sets. In fact, collectives, whose members fulfill diverse roles, are purposely assembled to defeat inescapable deficiencies. After all, responsible designers recognize their shortcomings (210).

Because Nelson and Stolterman emphasize making, their notion of design, which involves bringing "things into existence" (127), departs from that of Latour, who sees design as an ongoing process of redesign. For them, "[t]his type of ideal process involves imagining and creating that-which-does-not-yet-exist, but which we desire to be in existence, in the service of humanity in general and specific people in particular" (Nelson and Stolterman, 132). Sharing Latour's concern about our Prometheus (or modernist) past, they concur: "This is quite different from a typical Western technological approach, which prescribes that something ought to be created, simply because it can be done. This assumed prescriptive reasoning is lifted from an economic frame of reference where money –as the measure of value and return on investment –stands in for deeper aspiration and intentions" (132).

The little takeaway here is that the "I can" (capability) is not reason enough to justify the "I will" (determination). As will be discussed in the next section, leveraging the "I can" to execute the "I will," while elevating the "I show" over the "I know," constitutes what Nelson and Stolterman term "evil design." For them, "design volition," what I call the "I will" (after Hannah Arendt), concerns the use of one's will to pursue desired ends and forms the "distinctive character of design judgment" (134). To my lights, "making" (design volition) drives every project, leaving conception (what they term "design interpretation') to keep making in check.

> In design, interpretation is not about determining a solution by closely and objectively analyzing reality in order to be informed of what action to take. Interpretation in design is not a search for the objective, true, and precise design imperatives, hidden somewhere in the richness of reality waiting to be observed. Instead, design interpretation is an act of judgment. A scientific assessment is an accounting of objective factors, while a design interpretation is an appreciative judgment –a picking and choosing of what is to be considered and in what way (121–122).

In design, conception doesn't stop at the factory door: it is invested throughout the design process from team building to fabrication, marketing, distribution, and eventual iconography. In contrast to Latour's view of design as continual reflection and rethinking, conception is no less material than intellectual. Conception thus requires the complete and total envisioning of every corner of Earth where the product could reach, and imagining how its function might be received, long before it ever materializes. This is how a creative concept is transformed into a "concrete particular addition to real life" (134). Nelson and Stolterman term this process *allopoiesis*, since it is "the making of something outside of one's self, with and on behalf of the other" (132). And they see design as "the act of creating something intentionally on behalf of another's desires and purposes" (132). Again, their all-encompassing reach may be unrealistic, but at least they convey how conception and making are entwined, not severed as Latour problematically claims.

6 Normative Constraints of Good and Bad (or Evil) Design

I now want to revisit Latour's positive conception of design, which for him engages human beings in collaborative action, while reconnecting them to their environment. As briefly mentioned, he characterizes design's five advantages over revolutionary practices as being: modest, attentive to details, semiotic, in constant transformation, and subject to the normative constraints of good and bad design. While I appreciate Latour's historicist account of design vis à vis modernist strategies of emancipation, detachment, progress, and mastery; I worry that his emphasizing design's positive capacities overlooks the way designs proposed by designers who lack experience making things can seem half-baked. That Latour considers design "low risk" seems myopic since "bad design" engenders unforeseen consequences, while "fantasy designs" risk dismissal. By contrast, environmental artists who propose ecoventions initially perform alpha tests (often on their own dime), so that they can analyze and revise their designs, long before proposing them as public commissions. As already noted, Latour severely under-estimates the significance of making, yet he rightly makes room for the "normative question of good and bad design" that invites praise or condemnation of the outcomes of design actions.

Keeping in mind the possibility of normative judgments that praise or condemn the outcomes of design actions, I finally return to the urgency awaiting environmental designers, whose most successful solutions, whether sustainable architecture, large-scale public works, or edible foodstuff; are the results of efforts either to restore "lost" practices or to replicate nature's processes. Relevant examples include bio-intensive farming, rammed-earth homes, phytoremediation, or land conservation (using herd-plant dependencies to minimize soil erosion). As well-documented elsewhere, our crisis on Earth is the result of climate change and the depletion of scarce-world resources, which capitalism's dependency on population explosions further exacerbates. Design that pursues a totalizing conception involves every step

of the process from brainstorming to iconography, enabling designers to optimize resources expended by the array of handlers contracted. Much like Nike was in a position to demand that its manufacturers implement higher work standards, designers who conceive the entire chain of command from manufacturing to distribution and marketing, are in a position to demand that resources be conserved to the highest degree. Similarly, designers are in a position to ensure that the daily operation of designed products minimally expends resources. And quite frankly designed objects that expend more resources than their designers originally promised (as stipulated in design-spec contracts) are either fakes or failures. Take your pick.

I would imagine that the vast majority of bad design stems from over-confident designers who either promise more than they can deliver or don't know what is feasible to build with existing technologies or for contracted manufacturing fees. As Nelson and Stolterman point out, "[D]esign is based on a compound form of inquiry, composed of true [evidential], ideal [perfect world], and real [best practices] approaches to gaining knowledge" (34). "Design is a process of making close approximations, the closest possible, to these idealistic desires" (35). Bad design happens because designers failed to make close approximations. While bad design is inexcusable and is punishable to the full extent of the law, I see bad design for what it is: hubris, ignorance, lack of curiosity, poor connections, or an under-performing team. With bad design, the principal is blameworthy, even if the motives were good (or right). The intent to design was lacking, since the principal lacked the requisite skill set needed to carry out the contracted bid.

What interests me most is what Nelson and Stolterman term "evil design," which supersedes bad design (168). With evil design, the principals promise to design something that they know they cannot deliver. Even worse, they use the promise of delivering something that is either desirable or innovative as a way to gain attention from the press. Sometimes, principals know full well that their stated innovation not only adds little value, but unnecessarily expends additional resources. One wonders what inspires principals to attempt evil design, especially since they are most likely risking their professional accreditation. Most evil design takes the form of window-dressing, thus generating the false impression that the design is especially helpful, necessary and innovative. As Nelson and Stolterman point out, "[D]esigned artifacts are most commonly recognized by their most immediately accessible level of presence, their style or fashion. Style and fashion are characteristics of presence that appear across the compositions of the one designer, or school of design, or across eras of material culture. When particular design principles are used together, regularly and consistently implemented in multiple artifacts or system designs— a style is born" (170). Putting an end to evil design, especially as it infects "green design" is just a matter of demanding that designers account for every show-stopping embellishment and provide evidence that what they are recommending their clients do has undergone a time-tested evaluation.

7 Conclusion

With this paper, I have demonstrated that not all "green design" is desirable, since many examples fail to deliver promises the designer was contracted to deliver. I imagine designers establishing boundaries to ensure that the most important demands are met, while avoiding experimental options with only a small chance of working out. The most important point is that designers know their limits and don't incidentally (unbeknownst to either designers or clients) experiment on their clients. Although I don't share Latour's view that design is low risk, as in "harmless," I do think it ought to remain as low risk as possible. Leave the experimenting to environmental artists, whose budgets, commitments, and spheres of influence are comparatively infinitesimal. When an artist's design experiment goes awry, it seems charming. When a building collapses, a crane topples over, or streets flood, there are life-threatening consequences.

The differences between art and design are vast, so it is indeed odd that few philosophers have attempted to tease out their differences as I have tried to do here. Since I assign environmental art to be the experimental territory for environmental design, the distinction that I outline here is enormous, and demonstrates perhaps why architectural teams increasingly involve artists in their proposals.

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