Constructing Wilderness

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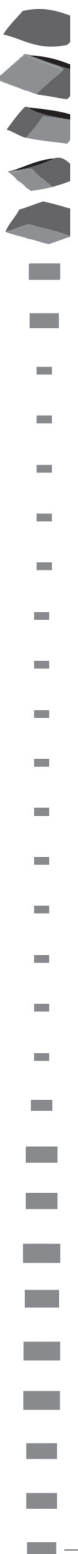
WILDERNESS

The idea of the "wilderness" is not typically associated with the notion of cities or the built environment. One often considers 'the wilderness' and 'nature' in tandem—conjuring images of plants, trees, and maybe birds, all separated from the built environment of cities. Legal definitions of "wilderness" reinforce this notion. In the United States, a "Wilderness Area" is technically an area of land set aside by the federal government and protected from human development, with an aim of conserving land and protecting animals and plants. According to the U.S. Fish and Wildlife Service, "Wilderness, as defined by the Wilderness Act, is untrammeled (free from man's control), undeveloped, and natural, offering outstanding opportunities for solitude and primitive recreation."[1] The first land to formally receive a designation of "wilderness" is the Great Swamp National Wildlife Refuge, located 30 miles outside of New York City in New Jersey in 1968.

It could be argued that society's general understanding of 'the wilderness' seems to center on strategies for *preventing* human intervention in the natural environment, that is, to save nature from humans. But when one considers the regimen of maintenance in cities—consider lawn mowing, 'pest' removal, and weatherproofing—the reverse emerges as reality. Ironically, we constantly strive to maintain, or 'save' our built environment from the forces of nature. An overgrown lawn or shrub is seen as undesirable; evidence of animal presence (for example: bird droppings) is seen as repulsive. An extreme example is the case of New Orleans after Hurricane Katrina. In his article "Jungleland," as reported in the *New York Times Magazine*, Nathaniel Rich describes the state of the Lower Ninth Ward in March 2012:

> To visualize how the Lower Ninth looked in September—before the city's most recent campaign to reclaim the neighborhood—you have to understand that it no longer resembled an urban, or even suburban environment. Where once there stood orderly rows of single-family homes with driveways and front yards, there was jungle. The vegetation had all sprouted since Katrina. Trees that did not exist before the storm are now 30 feet high.[2]

He continues, “The cartoonish pace of vegetation growth resembles something out of a Chia Pet commercial, but it is hardly surprising to New Orleanians long accustomed to roads warped by tree roots and yards invaded by weeds.”[3] These statements point to two conditions: First, the fact that nature is ‘taking over’ parts of the city is seen as undesirable and produces a sense of uneasiness. Second, this condition of nature taking over neglected land happens in many different scenarios, even in less devastated parts of the city. In municipalities that cannot afford a consistent standard of maintenance, the emergence of wilderness is expected, even somewhat of a norm. One can see similar tendencies of nature’s re-emergence in other cities that suffer from depopulation and economic decline. As houses and other structures become vacant, vegetation grows untamed and wildlife move into structures where they previously weren’t welcome. It could be argued, therefore, that the *default* condition of urban environments is already a kind of wilderness.

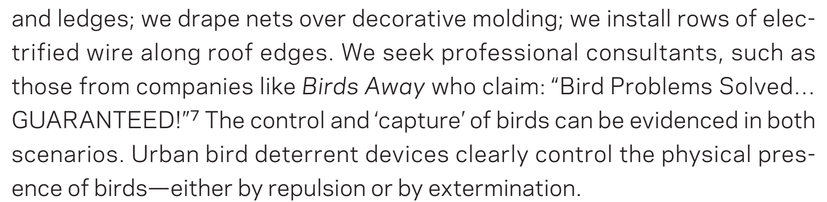


COMPANION SPECIES OR PESTS?

Architects, planners, and citizens are starting to recognize the value of introducing biodiversity into urban environments. Trends seen in recent urban and regional master plans indicate that we are becoming increasingly aware of human dependence on flora and fauna. A number of examples in Southern California demonstrate purposeful transformations of former industrial sites into places designated for wildlife and nature. For example, in Huntington Beach, the Bolsa Chica Ecological Reserve, a nature reserve that protects the coastal wetlands of Southern California, is a site that was once used by the Standard Oil Company and the Signal Oil Company for oil drilling.[4] As another example, the decommissioned Marine Corps Air Station in El Toro, California is now being transformed into the “Great Park of Orange County,” a thirteen-hundred acre master plan that includes large swatches of green corridors, labeled “biodiversity habitat.”[5] We see similar tendencies on the East Coast, for example, in the ongoing processes of transforming Staten Island’s Fresh Kills Landfill into Freshkills Park.

But what happens when wildlife encroaches upon more densely populated areas of cities? What happens when habitats develop outside of officially zoned territories, and in residential or commercial neighborhoods? The artifacts that we construct in response to these ‘out of place’ animals give us clear indications about standardly accepted attitudes toward co-occupation.

Look, for example, at our conflicted attitudes toward urban birds. On the one hand, carefully crafted birdhouses—a popular resultant of do-it-yourself aspirations—often project an attitude of desire. All too frequently, they resonate with menagerie-like ‘cuteness,’ a miniaturization of our larger, known world. Birdhouse designs, for example, draw from cartooned representations of single-family (human) houses, complete with pitched roofs, front doors, balconies, fake chimneys, and welcome mats.[6] On the other hand, bird-deterrent mechanisms are ubiquitously incorporated in the construction of urban buildings. To prevent birds from loitering on perch-able surfaces, we implement rows of needle-sharp steel spikes on window-sills



and ledges; we drape nets over decorative molding; we install rows of electrified wire along roof edges. We seek professional consultants, such as those from companies like *Birds Away* who claim: "Bird Problems Solved... GUARANTEED!"[7] The control and 'capture' of birds can be evidenced in both scenarios. Urban bird deterrent devices clearly control the physical presence of birds—either by repulsion or by extermination.

The disparity between birdhouses and bird deterrent mechanisms, although seemingly minor, represents a range of conflicting conditions that raise larger questions for me in my approach to architectural production. For example, how does architecture participate in the fabrication of 'value,' especially in addressing the notion of our 'companion species?' If wildlife habitats are seen as necessary and important, why do the logics of real estate tell us otherwise? Well-priced buildings in most residential or commercial neighborhoods are typically structures that have had a history of deterring wildlife presence. Would locational proximity to certain kinds of animal habitats—such as those of raccoons—bring down real estate value? Would a past incident of bat occupation bring a building's value down? Would a building covered in spider webs be seen as less valuable? If these are the kinds of embattled attitudes that we confront in cities, how can we begin to integrate urban wildlife into our built environment? How do we bring conditions of the wilderness within our proximity? Can architecture shift perceptions of urban wildlife, away from thinking of them as pests, and toward considering them as critical to urban ecologies?

BATS

The role of urban wildlife in our lives is, for the most part, underestimated (and conflicted, as mentioned in the case of birds). The plight of bat populations today illustrates this situation quite clearly. As pollinators and natural pesticides, bats are critical in ensuring the future of organic farming. Cited to have the capacity to consume six-hundred insects per hour, they also perform as our companion species in controlling mosquito populations.[8] In some areas of the world, mosquitoes are merely nuisances. In others however, they are vectors of malaria and other diseases.

Bats currently are dying off in great numbers due to White Nose Syndrome with a mortality rate of almost 100% reported at some sites.[9] This is an ecological crisis that started in the northeastern United States and is quickly spreading westward[10]. Despite the severity of White Nose Syndrome, it is a situation that is hardly on the public radar.

Perhaps we can infer that bats have remained in a position of invisibility, often disregarded or vilified as pests. This is not an accident, given how they are represented by media. Often depicted in horror films such as *Dracula* (directed by Tod Browning, 1931) or alongside cartooned ghosts, witches, and black cats on Halloween cards, they are seen as vicious and frequently cited as vectors of rabies. These negative tendencies in representation are further enhanced by our inability to tangibly sense bats. Unlike birds, bats are elusive. They emerge at night and chatter at frequencies inaudible to the human ear. One could argue that our inability to see or hear them not only

contributes to a lack of appreciation, but also more poignantly contributes to a fear of the unknown.

Activist organizations such as Bat Conservation International are working to increase awareness of the decline of bat populations. They advocate for the implementation of bat houses, and bring attention to a number of bat boxes and other products that are out on the market.[11] Some of these artifacts may indeed be helpful and effective. Upon surveying off-the-shelf bat houses, however, one sense that they tend to blend into the background and do very little to bring public awareness to these animals. Some models are clever, for example, the redundant vent cover by Bat Guys, a professional wildlife removal company in Massachusetts and Rhode Island.[12] In Europe, a building product manufacturer, Schwegler, has produced a range of 'nest box' building materials that accommodate and welcome bats as well as birds for example: the Bat Access Panel for implementation in building facades and the Brick Box for Bats, a building 'brick' that can be incorporated into constructing an exterior wall.[13] These products have enormous potential in the market, yet the modes of implementation (blending into a panelized exterior wall, or discreetly aligning with windows) still subscribe to a kind of aesthetic repression. They are purposefully designed to seamlessly blend into their surroundings, and reducing the visual 'presence' of wildlife.

ARCHITECTURAL INTERVENTIONS

Given the conflicted attitudes of city dwellers toward urban wildlife, perhaps the off-the-shelf products described above will ultimately emerge as marketable, feasible, and effective. As an architect, however, I am interested in exploring ways of producing spatial environments that not only 'perform' but also produce a public resonance. I will discuss here a series of recent projects that attempt to resist the kind of invisibility that is typically seen in the artifacts that are built for urban wildlife.

The first aim of these projects is to visually intensify the presence of bats and other so-called pests. In an attempt to bring visibility to bats, Bat Tower (Fig. 1), the first installation in this series, challenges notions of the typical off-the-shelf bat house. Rather than innocuously fading into the background, the tower stands as a prominently visible outdoor sculpture. Drawing from the idea of a vertical cave, the installation has a heavy and intense presence, contrasting the lightness and invisibility associated with do-it-yourself bat house constructions. A similar strategy of mass and visibility is used in the design of our second installation, Bat Cloud (Fig. 2). We initially envisioned this project as a large hovering mass, something that would appear like a floating cloud in the woods. Creating a public 'presence' for urban wildlife is a significant first step to instigating public curiosity about urban wildlife and fostering a more lingering sense of awareness. They also carry a message about the potential of architecture—or designed and built environments—to have a role in shaping our critical ecologies.

Our projects also aim to go beyond the fact of simply being 'visible,' however. We are also interested in how architecture can provoke our own discomforts and conflicted attitudes toward the unpredictability of 'nature.' In both

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Figure 1: Bat Tower

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Figure 2: Bat Cloud

Bat Tower and Bat Cloud, we attempt to achieve this through the projects' siting strategies and the consequences of their intended 'performance.' Bat Tower, for example, is sited in a large sculpture park, a forty acre site that his filled with walking trails, hills, ponds, and a collection of other outdoor sculptures. Unlike the other installations in the park, however, Bat Tower is a 'living' sculpture: bats emerge from it at dusk, and guano is scattered about. The crevices and small spaces of the tower, as well as the herbs that we planted at the base have been attracting insect populations, as well as spiders and mice. From afar, the piece appears to be a clean, refined sculpture. But up close, one sees the emergence of the messy evidence of life.

In the case of Bat Cloud, the siting and performance of the project are, on the one hand, logical and expected. Located in an urban nature preserve, Bat Cloud is comprised of twenty-one hanging 'pods' that are designed to facilitate bat inhabitation in their uppermost portion. The lower volume of each pod is designed as a planter, filled with soil and native plants, and coco lining. The pods are constructed with stainless steel mesh, and layers of aluminum, plastic and Astrolar fabric sheets, and hung on stainless steel cables from a cluster of Eastern Cottonwood trees. The perceptual effects of the project's material qualities (metallically shimmering) in combination with its siting strategy (near an abundance of walking trails and daily activities) has rendered it as an unexpected artifice—described by the local media as "mini space capsules."[14] The combination of media attention and the project's physical disposition has seemed to catch the attention of the public. Since the project's installation, I have been contacted by a number of individuals regarding a range of requests, including: solicitations for my advice on how to remove bats from their houses, questions from ecologists and biologists about whether I would be interested in future collaborations, and queries about the possibility of selling any of the project's 'pods.'

A further provocation from the project stems from its specific functions. The project is constructed in a way that allows for water to slowly drain from the planting liner. This also, on its own, is an unremarkable characteristic of hanging planters. Bat Cloud, however, has a presence that invites viewers to approach it and stand underneath it. After a rainy day, the project becomes a sort of performative cloud, sprinkling (soil and perhaps guano-infused) water onto observers below.

In line with our aims to bring visibility to urban wildlife while also revealing the tensions in our relationships with nature, we proposed a larger-scale project to 'renovate' an existing building's façade by creating a vertical wall for bats and other urban animal habitats. This idea is not without precedent. In 2009, Gitta Gschwindtner installed a large wall for animal habitats, 50 meters in length and approximately two stories in height. Titled Animal Wall, the project defines the boundary between a residential housing complex and a riverside path in Cardiff Bay, United Kingdom.[15] To reflect the one-thousand new (human) residences developed in the adjacent housing complex, Gschwindter deliberately incorporated one-thousand nesting boxes in the wall[16]. In relationship with its high-rise neighbor, the Animal Wall stands as a kind of mirrored inversion.

Our recent speculative project, Pest Wall (Fig. 3), proposes a similar spatial aspiration—that an exterior wall cannot only act as a façade, but also as a membrane that prominently incorporates conditions for bat habitation. The fact of seeing an entire multi-story wall, completely crawling with bats and other animals would certainly provoke the urban public to face its conflicted attitudes toward urban animals.

We anticipated that such a proposal would raise concerns, specifically due to its proposed location in the city. We have attempted to preempt some likely questions by developing iterations specifically to address them. For example, to confront the (always mentioned) issue of bat guano, we explored how surfaces can be formed to shed water, so that bat droppings can always be washed away. We found packaged bat guano for sale in a local gardening sale, and cited its high sale value whenever the issue was raised. Yet despite these tactics, the very fact of proposing a direct and constructed proximity between human and wildlife habitation was consistently met with fear and disapproval. Following an article in the local press about the Pest Wall proposal, a number of individuals chimed in their comments, such as:

> A pest is something you want to eliminate. I wish someone would spend some time to develop plans to rid the city of pests like carpenter ants or the rats. Yeah and maybe the squirrels.

Also:

> Instead of spending more money on ridiculous projects…why not invest some cash into the house itself to provide adequate housing for people…[17]

The idea of incorporating wildlife habitats into built, urban environments is a relatively simple and straightforward notion, but it is one that that still elicits caution and skepticism from the public. Drawing from personal experience, I have found that organizations and individuals who 'care' about habitat diversity issues are hesitant to install sizeable structures that are designed to attract wildlife to the city. They are happy to entertain small, discreet birdhouses, but tend to think twice about installing anything larger. In my attempts to convince a city-based organization to install a prototype of the Bat Tower on their property, for example, I was met with interest, but ultimately the proposal was turned down with the reason that "it would just get vandalized anyway." In the case of our Pest Wall proposal, it was finally the Audubon Society that showed interest in building it however, rather than locating the installation on an urban site, they decided to situate it on one of its nature preserves outside of the city (The installation project is now underway. It is called "Habitat Wall," rather than "Pest Wall," since the removing the project from the urban context renders the notion of wildlife as 'pests' less relevant).

URBAN WILDERNESS?

If the overarching goal is to create conditions for 'wilderness' to thrive in cities, and to facilitate natural processes that are already taking place, it is

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Figure 3: Pest Wall

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Figure 4: South Buffalo: Speculative green network resulting from zoning setbacks.

possible to propose and produce small-scale urban interventions as part of gardens, parks, and nature preserves. But now as we are initiating a more impactful 'campaign' for urban wildlife advocacy, our goals are also to instigate curiosity among the public, provoke public responses, and initiate action by others.

Through small-scale interventions, we believe it is possible to make a larger ecological and societal impact, but only if one considers that a single intervention is not an end product in and of itself; rather, it is a way to instigate the beginning of a series (or even trajectory or 'movement'). Relatively small installations are a starting point, beginning to pave the way for larger projects that operate more systemically at an urban scale. For example, I'm currently engaged in a research project to mine existing zoning ordinances in Buffalo, New York, toward an aim of revealing potential opportunities for 'green infrastructure.' Specifically, for example, some of the city's form-based laws dictate a one-hundred foot setback in some Industrially-zoned properties that are adjacent to properties in Residential zones. By tracing all of these setback locations, we revealed a network of extra-large urban setbacks (Fig. 4). These types of often-neglected spaces are frequently the sites that allow urban wilderness to flourish. We're interested in harnessing this tendency—proposing to reintroduce wildlife habitats into these spaces, as well as exploring ways to develop more 'productive' landscapes—from gardens and farms to structured activity spaces.

Further, another opportunity within Buffalo's zoning code exists as an often overlooked part of its use-based ordinances: There are a certain number of permitted uses (for example "Amusement Enterprises" - such as pool halls, bowling alleys, and nightclubs - or "Small Animal Hospitals/Veterinary Clinics") which require the implementation of high walls (at least 6' tall) and/or blank exterior walls (without operable windows). Due to the 'strict' requirements for these types of programs, there often isn't significant effort invested in envisioning the quality, presence, or performance of these walls, thus rendering these properties as neglected spaces. We see this as an opportunity to instigate proposals for 'living' walls and fences—that is, walls that proactively accommodate urban wildlife.

Additionally, it is possible to imagine an urban system that integrates the spatial products of these land-use interrogations with the fact of Buffalo's sheer quantity of vacant parcels—a ubiquitous condition in many Rust Belt cities. Vacant parcels could be transformed to serve as linkages between new zones of constructed wilderness that result from major setbacks or required walls and enclosures. The installation of Bat Cloud fueled a process of imagining South Buffalo in this way. By integrating a more comprehensive system of 'wilderness' into cities, it would be possible in the not so distant future, to imagine how buildings, major urban structures, and infrastructure can be designed to enable co-species habitation.

To conclude, the goal to construct habitats for urban wildlife is not new. Since the early 20th century, we've seen large structures constructed as animal habitats, such as the bat tower by Charles Campbell from 1924.

My sense though, is that we as a society have become less conscious of our interdependence on animals. Through my projects, I am advocating that architecture itself, can not only begin to address the problems of disappearing habitats in urban environments—but can also very effectively contribute to producing spatial, ecological and social resonances in the built world. In order to pique curiosity and educate the public, we need to begin to think about ways that we can more consciously intersect ourselves with animal populations. As architects, it is critical to identify and harness potential spatial resonances of these intersections, and develop experiential ways to shed light on these under-represented issues.

While today we may eventually come to accept birds, bees, and bats as significant 'companion species,' unexpected conditions and discoveries occur. Part of the process of constructing urban wilderness is being able to identify and embrace those conditions. Our future's companion species will most likely generate similar public indifference, if not an increase in fear. Just imagine, for example, how society might react to news of human dependence on cockroaches. At North Carolina State University, scientists are now developing live, remote-controlled cockroaches that would be able to find victims buried in rubble from an earthquake.[18] So, indeed, the squeamish thought of the cockroach as our companion species may one day become a reality.

Producing architecture that explicitly addresses the habitats of our companion species is therefore not a static preoccupation. It is one that shifts along with ecological and societal changes, and consistently encounters resistances due to public perception. Given the volatile nature of these conditions, animal architectures rarely find themselves aligned with consumer trends or developer-driven agendas. As such, it is imperative to find new ways to collaborate between public and private partners in order to transform proposals into implemented realities. ◆

ENDNOTES

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