Spring 2015

Emergent Landscape: Urban Shadow Space, Illuminated

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Emergent Landscape: Urban Shadow Space, Illuminated

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Abstract

This study defines a new approach to the transformation of unmaintained land within cities, or urban shadow space. Although urban shadow space can offer a place of free expression for the community and spontaneous vegetative growth within a city, it is often dismissed as blighted land by public authority. This study maximizes existing opportunities of these spaces, illuminating a realm of the city that is currently dark to the public eye. A proposed set of guidelines is utilized in the creation of three alternative designs that illustrate the emergent landscape, a sensitively designed, evolving landscape that encourages user interaction with the site. These guidelines and the results of their application are intended to assist design professionals who wish to move beyond the typical "clean and green" strategy currently employed by many municipalities to embrace a site's existing characteristics.

1. INTRODUCTION

Urban shadow spaces are abandoned, neglected and/or unmaintained plots of land within a city that feature deteriorating hardscape, spontaneous vegetative growth and evidence of human interaction with the site. These spaces are within city centers, yet lack the prescribed quality of typical city spaces and often are unruly. Lack of rigidly defined space means a changeable, ephemeral environment. This impermanence is evident in the vegetation, which grows unrestrained, the wildlife that finds habitat here, built materials that are allowed to decay, and user expression, which is not prevented. All of these elements interact, forming a complex system that functions in a unique way compared with typical city space that requires maintenance. Undisturbed vegetation grows unrestrained, providing habitat space for wildlife, carbon sequestration, a cooler microclimate, lots of shade, and distinctive seasonal change for a visually complex environment. Vegetation pushes through hardscape, such as concrete and asphalt, to create a state of rapid decay. Structures buckle, shed material and gain new openings for the passage of light, sound and wildlife. Unexpected mosaics emerge from new integrations of man-made and natural materials. Humans interact with this environment by manipulating it or being affected by it: they add to, subtract from, rearrange and experience the landscape. Culture and history accumulate in urban shadow spaces when people are free to express themselves and free to manipulate the environment in an un-prescribed, spontaneous way (Corbin 2).

Due to the site character or the inherent "wildness" of these spaces, people must adjust to these sites by engaging in a unique and personal way. The "Stalker Manifesto", written by the anonymous urban explorer and marginal city land "steward, guide, and artist" known as 'Stalker', acknowledges a natural heightening of the senses in urban shadow spaces. In his book *The Accidental Playground*, Daniel Campo records an inventive mentality in nearly everyone he interviews and witnesses the site being programmed and reprogrammed based on the needs of the individual.

Many see urban shadow space as, "a model for public space in the city," due to the site characteristics of these slowly evolving, engaging and functional spaces (Kamvasinou 255). This paper recognizes the positive aspects of Urban Shadow Spaces, analyzes them and attempts to operationalize them, or use the way they operate to inform a new design technique. The experience of spending time in urban shadow spaces is unlike inhabitation of any other kind of public city space. It reveals more about the reality of human presence in our environment than many highly maintained spaces could.

As cities develop, becoming more and more homogeneous, with large-scale designs imposed

Figure 1: The wave of foliage arching toward the open warehouse. Original work by the author, Hannah L. Hefner.

over the public realm (PHS Philadelphia LandCare), we forget the benefits of an unpredictable, evolving environment. "This basic human impulse- to shape and reshape, to arrange and rearrange, to destroy and rebuild- is not fully appreciated by architects, planners, and those who build and control the public spaces of American cities" (Campo 23). The "loosening of public space long controlled by the interests of governments, public authorities, property owners, banks, and corporations," (Campo 29) has been demanded and wild urban landscapes have been supported by many voices over the past 50 years. Jane Jacobs argues for organic formation of cities in her book *The Death and Life of Great American Cities*. Lawrence Halprin outlines a way to involve community members in design in his book, *The RSVP Cycles*. James Corner expresses his theories on the importance of a complex, ephemeral, designed landscape through his design of New York's *Highline*. Anna Jorgensen argues for use of urban shadow spaces to inform planning and design in her book, *Urban Wildscapes*. Peter Del Tredici lists the benefits of spontaneous growth in his book, *Wild Urban Plants of the Northeast*. Klaus Overmeyer, Philipp Oswalt, and Philipp Misselwitz present possible ways in which spontaneous site use can be incorporated into city planning in their book, *Urban Catalyst*. The set of design guidelines described in this study provides an answer to those calling for sensitivity, spontaneity and complexity. The result of the guidelines is an emergent landscape- a designed cultural landscape created through the input of individuals, a designer, and the processes of growth and decay.

2. BACKGROUND

Many urban shadow spaces are eventually developed, as in the case of the Brooklyn industrial waterfront in New York, the Nature-Park Südgelände in Berlin, the Landschaftspark Duisburg-Nord in Duisburg, and the Skulpturenpark in Berlin. Each of these designs was sensitively performed, taking inspiration from existing processes such as plant growth, hardscape deterioration and human interventions on site.

Other designers and city municipalities around the world have realized the opportunities of urban shadow spaces. These designers and municipalities have created design concepts from their observations of existing site functions and processes. It is through the designs of sensitive professionals that we can see successful attempts at preserving the site character and functionality of urban shadow spaces. Site sensitivity, a low level of intervention, the retention of visible layers of site history, and highlighting or accelerating natural processes occurring on site are all major elements of project designs that successfully preserve site character and encourage more and new forms of use on site.

Site sensitivity is essential when engaging an urban shadow space. These spaces have spent a significant amount of time out of the control of a governing body. Often, there is a reason for their neglect. In the case of Landschaftspark Duisburg-Nord in Germany, industrial ruins were left to decay when industry moved elsewhere. Thousands of local jobs were lost. The abandoned site became a symbol of economic decline, loss, and industrial contamination (Brown 68). Yet, the community was reluctant to forget this important cultural place. It was decided that a public park should be created from the remnants and Peter Latz was hired. He maintained cultural memory while initiating a healing process, preserving old remnants and creating new use for them. Latz took note of the vegetation spread that had occurred since Landschaftspark's abandonment. He discovered that this important character-defining element was also functioning as a natural form of bio-remediation. Attention to existing process and allowing spontaneous growth to occur made it possible for inexpensive healing of the brownfield. Physically healing the site allows people to slowly recover from emotional distress (Keil 127).

Nature-Park Südgelände, in Berlin, Germany

also required sensitivity due to public opposition to development (Langer 154). Designed by Odious Group, the park was abandoned and overgrown for many years, resulting in a huge urban forest in the middle of Berlin. Since the 70's, the public has continuously used the land since its abandonment, so when development threatened, the people fought back to preserve the site as parkland. Because the public demanded that the site character and existing program be preserved, interventions on site are minimal. The design is based on the addition of raised metal trails and the preservation of existing railroad tracks, towers, and forest. Users are invited to explore the forest as before, but on strategically placed trails that reveal ruins, telling the story of the park. Industrial equipment is preserved in its found state of decay- steel rusts, thrown aside long ago. Graffiti persists on stone retaining walls and brick stations. Trees grow between rail tracks, in the midst of a forest in what was previously their habitat. The process of a forest growing in place of a rail yard is revealed to users by inviting them to walk over exposed train tracks and between trees that grow through the tracks.

Urban shadow space characteristically

Figure 2: Trees growing between the tracks at Naturpark Südgelände. "Creative Commons Naturpark Südgelände." Original work by Sebastian Michalke used under CC BY 2.0: http://creativecommons.org/licenses/by/4.0/ Source: www.flickr.com

includes small interventions performed by individuals who use the space. These include temporary artworks, such as those in the Skulpturenpark of Berlin, dwellings, and community gardens. The Albany Bulb in Albany, California and the pre-development Brooklyn Industrial Waterfront in Brooklyn, New York are true, functioning urban shadow spaces within their respective cities. These sites serve as the places for the homeless to make their home within

the city, free exhibition space for artistic expression, and recreational destinations for local residents and tourists.

Skulpturenpark in Berlin, Germany, managed by the art collective 'KUNSTrePUBLIK' is a landscape of temporary art installations that often use existing site material and spatial qualities to inspire each artwork. A pile of existing rubble seems undesigned and unmaintained. A stream of water mysteriously falls from the top of the pile and a light comes from within it providing enough intervention to suggest intentional placement and care for the site. This sensitive approach is respectful of the site's past life as a no man's land next to the Berlin Wall and then as an urban shadow space. Here, the urban shadow space and existing park are forms of emotional remediation. Users contemplate the oppression of the Berlin Wall as they begin to associate new meaning and freedom to the site through the viewing of art installations.

The Albany Bulb features low cost, low intervention techniques employed by those who have taken ownership of the space. Visitors have made soft trails, artists have transformed concrete rubble into sculptures and canvas space for colorful murals, and the homeless have built small homesteads out of recycled materials found on site. The Brooklyn Industrial waterfront similarly functioned as a destination for artists, the local community and the homeless. The site enabled them all to have influence over land- a rare opportunity in such a dense city.

Adapting on-site material to a new use works well for places like the Albany Bulb and the Brooklyn

Figure 3: A sculpture made from discarded materials at the Albany Bulb. "Creative Commons Cavalry." Original work by Nathan Jongewaard used under CC BY 2.0: https://creativecommons.org/licenses/by/2.0/legalcode Source: www.flickr.com

waterfront that were, in recent history, trash dumps. This method is used as an inspirational tool for artists at Skulpturenpark. Alternatively, recycled material from offsite could be added to an urban shadow space as a way to avoid waste. The Adventure Playground of Berkeley, California uses donated lumber and other building materials for a unique play experience for children. In this park, children are invited to create their own program on site by building structures themselves with real tools. The idea is that a bit of danger and risk taking while building and problem solving is valuable to a child's development. Each site is able to preserve or enhance site character by preserving physical objects on site, even if the material is initially seen as waste.

When a site is not prevented from transforming and interventions are not removed or covered over, a complex and visible set of layers forms on the land. The landscape is thought provoking. The user is compelled to distinguish layers and separate them into different time periods and past site uses. In both Landschaftspark and Nature-Park Südgelände, the transition of industrial wasteland to park is evident; there are indicators of the way these places passed through time. The user can imagine the coal and steel production plant and the train station in their productive state and can see roughly how long the sites have been left to natural processes by determining how old the vegetation is that grows in the ruins. Leaving materials on site and allowing the designer to make only minimal interventions can allow this visible history to remain in the designed urban shadow space.

The Skulpturenpark artworks draw awareness to processes on site. With each small intervention, the artist is asking for the user's attention to a piece of the site. By examining the artwork, the user will observe rubble, cleared land and tree-filled land, spontaneous vegetation covering ruins. It is natural for the user to ask questions about the space as the artist highlights various elements of the site. Even if questions remain, this is how people are made aware of the history, the passage of time through this space.

3. URBAN SHADOWS LOST

Urban shadow spaces are historically misunderstood and systematically wiped clean to make way for insensitive design. They are invisible to some, shadowed between buildings in alleyways,

overlooked due to their absence of formality and tendency to change. When they are made visible, their demise is usually forthcoming. They are seen as vacant, dangerous, unclean, blighted, and unruly. Shadow spaces are neglected, left to their own devices. The owner, if there is one, has abandoned the responsibility of maintenance so the site appears to be unwanted. Designers are called to these "unwanted" sites with a particular goal: to make corrections to a broken landscape, to sterilize the site, and to fix problems at the cost of demolishing an existing cultural repository, carbon sink, and timeline expressed in landscape (Corbin 12; Del Tredici 308).

The City of Philadelphia's "Clean & Green" program consists of "removing all debris and weedy vegetation, grading, adding compost enriched topsoil, and planting grass and trees to create park-like settings. A signature post and rail fence defines the land as a cared for property. After improvements are completed, the sites are regularly cleaned and mowed" (PHS Philadelphia LandCare). This formulaic response to the problems associated with urban shadow space is an effective solution if a safer environment is all that is desired of the space. What is lost is a site defined by individuality of place, authenticity, and evident evolution through time at the very least.

What other benefits does this solution offer the community? It offers the neighborhoods increased property value and lower crime, but there's a chance that increased property values are lowering crime by gentrifying the area (Lees, Slater, and Wyly). These are not sustainable sites if energy must be used to constantly mow them during the growing season. They restrict access with a fence, therefore taking usable land away from the surrounding community. These new spaces are of the same aesthetic- this does not provide for diversity of a population. What if these sites did not require so much maintenance, served as creative centers for individuals within the surrounding neighborhoods, and were still "defined as cared for properties"? An alternative like this could be a valuable addition to a neighborhood.

Even designers who see opportunity in shadow spaces have failed to preserve important site characteristics. The High Line project by James Corner Field Operations is directly inspired by the urban shadow space from which it came. The original highline was composed of spontaneous growth between rusted railroad tracks, peacefully removed

from the rest of New York City, floating above the city as a self-regulating, thriving ecosystem. When its demolition was nigh, the "Friends of the High Line" assembled to save the highline by transforming it into a public park. The winning design by James Corner Field Operations imagined a park that "is designed to remain perpetually unfinished, sustaining emergent growth and change over time" (James Corner Field Operations). Upon visiting however, it is clear that the new space is highly maintained and refined. The original vegetation has been removed and replaced with planted vegetation. Unmoving, permanent concrete modules may evoke the aesthetic of concrete being slowly overtaken by vegetation but the forms are contrived, built to withstand change by vegetative means. The landscape is static despite the intention to create a landscape that evolves with time.

The Brooklyn Industrial Waterfront, analyzed for its successful functionality by Daniel Campo in his book *The Accidental Playground,* was claimed by the state of New York to be transformed into a formalized park. State Parks developers were interested in Campo's suggestions. He recommended that they "leave the landscape more or less as is". State Parks tried to balance Campo's suggestion with the values of other stakeholders, producing an "incremental, still evolving" site with an open-ended future, but "the playfulness of the state's 'in place' design had not been matched with an accordingly flexible or liberal administrative policy" (Campo 226).

The effect of this was a dramatic demographic switch from those that used the Brooklyn Industrial Waterfront in its state of wildness to new residents of condos built next to the newly completed state park. New rules formed out of fear of litigation and safety regulations limited the time of day people are allowed in the park and what people can do in the park. This has compromised some of the most important site characteristics. For example, loose materials have been removed when before, people had materials to create with on site. Dogs are no longer allowed even though dog walking was a primary use of the site before it became a park. Waterfront access is now limited. Much of the vegetation has been removed- an important physical and spatial characteristic before.

This case study shows that it is not enough to simply make a park that is aesthetically similar to an urban shadow space. Preserving elements of an urban shadow space without also preserving program

elements of an urban shadow space destroys existing site character and unique uses of a more spontaneous landscape.

These projects generally do not fail due to lack of functionality. The Clean and Green Program creates safer areas and the High Line project provides a beautifully designed and unique vantage point in New York City. Each project though, has the unintended result of loss of character when designing should preserve and enhance site character. Designing urban shadow spaces without destroying them will first require a shifted mindset. Instead of being seen as derelict land in need of beautification, designers must see them as an opportunity to embrace existing dynamics of nature and culture.

4. METHODOLOGY

This research utilized a methodology in three parts: 1) analysis of urban shadow space; 2) formation of a set of guidelines; and 3) testing of the guidelines through the production of three design alternatives for an urban shadow space.

5. ANALYSIS OF URBAN SHADOW SPACE

The author preformed surveys to record distinctive characteristics of urban shadow space. Three urban shadow spaces were analyzed for their physical and cultural features, as observed by the author on the grounds during site visits. These experiential features of urban shadow spaces shape the user's perceptions, creating a strong identity for the site. The character defining elements are articulated in the following chart:

Term	Definition	Examples in context of this study
entry	The portal through which users most frequently access the site. Entries are often indicated by trampled earth and proximity to designated pedestrian paths.	Entries, such as a tunnel of bamboo, can help inform site circulation.
defined spaces	Spaces such as rooms or corridors within the site defined by vegetation, structures, or other implied boundaries.	Attention to existing spaces can inform sensitive designation of new spaces.
topography	Grade change; recorded with contour lines.	Topography is instrumental in creating spaces, guiding the flow of water, and guiding the movement of living things throughout the sites in this study.
spatial organization	How defined spaces are connected through physical or sensory means.	This interconnection of spaces helps the site function as a cohesive unit.
circulation	Existing human and animal movement through the site.	Paths are often defined by trampled earth, also known as desire lines. Observed circulation informs designed circulation.
past & present site uses	Perceived site uses. Visible history of plant succession, human & animal occupation, structure existence, etc.	Site uses are usually highly visible in urban shadow space, and therefore worth noting for their ability to preserve identity and cultural value
animal presence	Species evident or seen and potential habitat.	Disregarding the existing habitat and species could disrupt the ecology and affect the character of the site.
existing structures & remnants	Man-made objects such as buildings, walls, foundations or ruins.	Remnants and structures contribute to site character and should be preserved.
state of deterioration	Descriptions of time-based changes of man-made and organic materials on site including the general date of last maintenance.	Deterioration is often undervalued in city space. However, features such as rusting metal, cracking concrete, decaying pine needles, etc. can allow users to experience the process of life, death and impermanence in landscape.
state of growth	General age of vegetation and growth patterns.	Spontaneous vegetation contributes to the ecological health of the site while shaping physical space and user experience.
site affect	Sensory/emotional climate associated with the site.	Unique, pleasant or defining site affect leads to preservation of physical elements associated with those feelings.
narratives	Plotlines, real or perceived, generated through the interpretation of objects found on site.	Stories inspired by one's experience on site can influence an imaginative design.

Many of these characteristics recorded are typically part of site analysis diagrams used by landscape architects before designing any space. "Site affect" and narratives are atypical characteristics found on site for this study. These atypical characteristics gather information that is intuitively seen and felt on site in order to imagine the experience of a site user.

Figure 4: An example of an analysis map, layered with recorded site characteristics. Original work by the author.

The character-defining elements (listed in the above chart) were recorded qualitatively on site as written descriptions, photographs, maps, sections, and other informative sketches of the site. The rough data and notes taken on site were graphically represented and layered on maps. The process was influenced by landscape architects such as Randolph Hester and Lawrence Halprin who both developed methods of recording experience on paper (Hester 86). Phenomenological processes, or unseen processes, were recorded and expressed visually through the same technique. For example, elements like "defined spaces" were represented on the site analysis map as delineated fields and "site affect" was represented through colors or symbols associated with emotions felt on site. With all of the character-defining elements layered on paper, the interactions between elements were mapped through layers that overlap. Intersecting or overlapping layers on the site analysis map were interpreted as areas of experiential complexity.

Recording the character defining elements and subsequently combining them into a site analysis map influenced the formation of the guidelines by indicating the experientially complex areas of the urban shadow space. These areas were compared with similar areas in the case studies described in the "introduction" and "background" section of this paper. Design techniques employing cost efficiency, a low level of intervention, or public engagement (such as the use of existing, on-site materials as mentioned in the guidelines) were extracted from the case studies and directly added to the guidelines. Site elements that were added, subtracted, or preserved in the designs of the case studies were also directly translated to the guidelines when they met the cost, intervention level and engagement requirements of this project.

The guidelines take inspiration from projects mentioned throughout this paper. Specifically, the guidelines encourage the design professional using them to employ techniques exhibited in the case studies to design an emergent landscape. The minimal interventions performed at Nature-Park Südgelände, the Landschaftspark Duisburg-Nord, and the Skulpturenpark is a continuous theme in the guidelines. Spontaneous growth is proven worthwhile and cost-effective at Duisburg-Nord and by Emma Marris in her book *Rambunctious Garden*- unrestrained growth is versatile design device repeated in the guidelines. The guidelines encourage design performed by

designers and site users- this is influenced by Jane Jacob's support of the organic formation of cities, by Lawrence Halprin and Randolph Hester's involvement of community members in designing, and by the Skulpturenpark, which is designed by a team that involves site-specific installations by many artists. The allowance of layers of artifacts to collect on site in an emergent landscape is inspired by the cultural landscapes of the Albany Bulb and the Brooklyn Industrial Waterfront. On-site creative expression through the use of leftover, loose material is shown at the Berkeley Adventure Playground, the Albany Bulb, and at the Brooklyn Industrial Waterfront. Each of these ideas is adapted, in the form of guidelines, to design an emergent landscape below.

6. GUIDELINES

A series of guidelines, listed below, was created to help design professionals in any city design sensitively enough to maintain and enhance the existing cultural imprint and site character of an urban shadow space, encourage transformative design, promote increased community expression on site, permit decay, increase vegetative growth and create an unpredictable outcome that will be of greater complexity than the designer can anticipate. The result of the guidelines is an emergent landscape.

Perform a thorough site inventory & analysis
- Record character-defining elements and combine them into a site analysis map (a character-defining elements chart is located in the "Analysis of Urban Shadow Space" section of this paper).
- Take inventory with the goal of recognizing the urban shadow space as a complex environment worthy of being treated with sensitivity.
- The site analysis process will help the designer in her responsibility of defining a relationship with the site and determining what needs to be preserved or enhanced while employing the guidelines.

Gain community support
- Identify potential stakeholders within the community.
- Negotiate legal limits with the local city government- some progressive cities are willing to bend the rules if a proposal will become a community asset (Weiderholt).
- Find or create a non-profit organization to

provide minimal maintenance and take liability responsibility.
- If the urban shadow space is on private property, negotiate with the property owner. A semi-maintained & publicly accessible site supported by an organization may be desirable for the landowner if he is not able to maintain the land himself or is particularly receptive to the idea (KUNSTrePUBLIK 26).

Form a relationship with the site to understand phenomenological aspects
- Phenomenological features are parts of a landscape that affect the experience of an individual, but are not physical things, such as the scale of the site (Corner 245). Scale, for example, is a phenomenon that humans perceive by comparing the scale of the landscape against their own perceived scale. Because these phenomena are not manifested physically, a designer must investigate a site further to discover them.
- The designer's job is mostly to recognize processes that are already happening in these spaces, or what is special about the existing state of urban shadow spaces.
- The designer should intervene enough to amplify the unique physical and phenomenological qualities of the existing space.
- The designer must explore the site herself to be able to think like a site user and fully understand the effect of the urban shadow space. It's okay to design based on personal experience and personal thought processes that occurred on site in order to create a design that is sensitive enough to accurately amplify phenomenological characteristics of the site.

Trying to imagine past scenarios on site was a way for the author to personally connect with the site and ultimately produce a design that provokes an imaginative response in the user of an emergent landscape.

See existing processes & physical aspects as design opportunities
- Where there is an area of some existing spatial definition, add plantings or screens or structures to further define the space.

- When a space is an inappropriately large scale, vegetation, walls, and/or overhead structures should be added to subdivide space.
- Existing failing structures that provide important spatial definition should be reinforced.
- Consider including on-site, man-made objects in the design- even if they are small or seem insignificant, like a pile of bricks.
- Preserve even deteriorating objects.
- Some impermanent objects on site can be removed & replaced with designed structures that can provide equal spatial presence and somehow acknowledge the past object.

Illuminate processes
- Illuminate processes observed on site through design.
- Accelerating the decay of site features can make the process more apparent.
- Building something new from existing site materials can inspire questions.
- Adding subtle indicators of the past site use can make the user more aware of the site's progression through time.

Allow users to develop the program
- The designer can develop program for the site, but the expression of the program on site should not be obvious to the user and should be changeable by the user and open to interpretation by the user. The user should have to decide for him/herself what the spatial uses are.

Design for phasing & change
- The designer can anticipate and plan for simultaneous growth, decay and human intervention on site (e.g. Create a maze of underground bounds for bamboo; plan the destruction of a paved area caused by spontaneous growth, then have a plan for what to do with the broken concrete. Anticipate graffiti and cover it from time to time with paint. Covering graffiti with paint is also a form of creative expression).

Use a sensitive, low-intervention, low-cost approach
- The intervention should be the smallest possible in order to preserve existing site character.

Expect little or no maintenance

- Turf grass (that requires mowing) should be limited or avoided. If a lawn is planned, the design should be able to function if the turf grass is not maintained.The designer should anticipate tall grass mixed with other plant species.
- Materials should be creatively re-used on site in the design or left in place.
- Leave objects in their original place when appropriate for users to make guesses about past site uses.
- Recycle/reuse existing on-site materials. Example: break up concrete from an unused parking lot on site. Use the pieces for a new path.
- Use materials as spatial defining features or sculptural features when possible.
- Maintain site mystery, thought provoking qualities, and character defining traits of the site.
- Sensitivity to existing detail is required.

Relinquish control
- Allow users to manipulate the design.
- Plants should be allowed to express their power and resilience in an emergent landscape. Allow plants to break down hardscape as a show of the temporary nature of human-built structures.

Expect creative expression of many forms by users
- Leave materials on site that the user may build with.
- Provide artist 'canvases' (e.g. blank walls & expect murals to appear there).

Figure 5: Graffiti is a highly varied form of user expression. Original work by the author, Hannah L. Hefner

Expect Decay
- Integrate further decay of site objects into the design.
- Initiate decay of structures or hardscape for a process-based design (perhaps by planting fast growing, resilient trees at a concrete foundation to break the foundation with time).
- Impermanence is a character-defining trait of urban shadow space.

Expect Growth
- Plantings should generally be allowed freedom to spread and dead foliage generally should not be removed (with the exception of invasive species such as bamboo, whose spreading should be controlled in some way).
- Expect the design to grow more complex over time as more individuals intervene on site.

7. DESIGN ALTERNATIVES

The shadow site used for the design experiments is a cluster of three lots in Fayetteville, Arkansas on Prairie Street in a former industrial district. Since the original existence of an animal feed mill, three houses were demolished, leaving only concrete and stone building foundations. The buildings' foundations are in a state of decay- cracks permeate the slabs and spontaneous vegetation grows through them. Graffiti is located on the inner walls of the building foundations and possesses a particularly nonthreatening aesthetic. The lots await purchase.

Three design experiments incorporate the guidelines to express a variety of ways they may be implemented. The design process was used as the method for testing and revising the design guidelines. Each design serves as an alternative low intervention approach, applied to the same shadow space.

"Infectious Installation"

Due to the ease of assembly, unrefined aesthetic and availability of loose parts, pedestrians on the bike trail, neighborhood residents or other community members are invited and persuaded to create their own rock cairn, or balanced stack of rocks, on site. This simple program element requires exploration of the site to find construction materials, time on site for construction, and creative expression through the formation of the individual rock stack. Rock cairns will continue to appear on site, installed by many users.

Figure 6: "Infectious Installation," before and after the design. Original work by the author, Hannah L. Hefner

"Accelerated Decay"

Removed slabs of concrete begin to crumble through natural processes over time. Attention is drawn to the concrete slabs by the removal and replacement on site. As users continue to visit the site over time, they will notice the gradual crumbling of the concrete and be reminded of the impermanence and vulnerability of the human realm. The void spaces created in the existing building foundations can be claimed by individuals for varying uses. Some may become sand boxes or installation space for something unexpected and eye-catching.

"Historic Reference"

Through site material choice and the addition of an interactive, sculptural structure, past and present uses are alluded to. Wheat and a climbable tower hint at the site's past occupation by an animal feed mill. The present state of overgrowth is referenced by the use of lush bamboo and spontaneous growth. These symbols are meant to be ambiguous and confusing to further complicate the user's thought process on site and allow the user to add personal meaning to the

Figure 7: "Accelerated Decay," before and after the design. Original work by the author, Hannah L. Hefner.

Figure 8: "Historic Reference," before and after the design. Original work by the author, Hannah L. Hefner.

landscape.

8. IMPLEMENTATION OF THE GUIDELINES

Many of the techniques below are inspired by the ideas in the book *Urban Catalyst*, which discusses ways to implement temporary use on an underused site and the creators of Skulpturenpark in Berlin, who negotiated with many private landowners in order to create a sculpture park in underused space.

A city government may be interested in hiring a design professional to design emergent landscapes if:

- There is current occupation and use of the space by city residents.
- There is not enough funding for the development of a formalized park.
- There is an overabundance of shadow spaces within a city- this may affect walkability or be associated with crime.
- There is city government interest in a transitional space or a landscape reflective of the needs of the surrounding community.

A private property owner may be interested in hiring a design professional to design an emergent landscape if:

- There is current occupation and use of the space by city residents.
- The owner is "sitting" on property without the funds or time to maintain it.
- The owner wants to develop according to the program that the population creates in the emergent landscape.
- The owner would like to increase the value of the property through design.
- The owner is interested in donating the property, permanently or temporarily, to the public.

9. DISCUSSION

Site character is dependent on innumerable factors, making it impossible to record them

all during the site analysis process. This paper assumes that it is possible to record and maintain enough site characteristics throughout the design and implementation processes to preserve existing character and user interactions with the site according to the sensitivity exhibited in the precedent studies discussed in the "Background" section of this paper.

Due to the open-ended nature of the guidelines, misuse or misinterpretation is a risk. The guidelines are a reflection of the design professional and are interpreted based on his or her intuition, experience and skill. A landscape architecture student trained in site sensitivity has written this study, so it is not known if other design professionals have the background necessary to design an emergent landscape. Being site-sensitive requires a designer to have practiced becoming aware of processes in the environment through observation. The designer could use techniques such as landscape photography, landscape drawing, landscape painting, gardening, or exploring to notice more processes on site and then be able to acknowledge them in the design.

If an emergent landscape were built in a place where the surrounding community is unreceptive to it, the space could become underused or dangerous. Engagement with the local community is crucial before installing this type of landscape.

One person, the author of this research, created the guidelines and performed three design experiments on only one site. The study cannot prove that the guidelines can be applied to varying contexts or be used by other designers until other designers, in other varying places, continue the experiment.

10. IMPLICATIONS FOR FUTURE RESEARCH

The guidelines are designed to serve all urban shadow spaces equally because no site is entirely vacant, however, some urban shadow spaces make better candidates than others. Therefore, guidelines on choosing an appropriate urban shadow space may be a valuable addition to this paper. This could include a guide to engaging the community before installing an emergent landscape.

Allowing the design experiments to be performed by multiple design professionals would show true variability of design and prove the strength of the guidelines. Also, guidelines could be written by multiple design professionals to prove the strength

of the existing guidelines and provide valuable amendments. Allowing other designers and non-designers such as gardeners, artists, city planners and community members to participate using the guidelines could show the adaptability or the possible scale of the future impact of implementation of the guidelines across the country.

The evaluation of an implemented emergent landscape is a compelling next step for the research. An emergent landscape designed with the guidelines should be evaluated based on the perceived change in site character and the amount of user expression on site. The evolution of the site should be recorded over time to see if the desired effects of the guidelines are sustainable.

CONCLUSION

Urban shadow spaces have long functioned as complex sites layered with culture, untamed growth, decay, and free expression. These processes will exist for each site, until they are misinterpreted as blighted land and eradicated. In order for cities to view the benefits of urban shadow space, there must be a middle ground.

The emergent landscape can serve as a way to communicate to city authority and the public by showing the results of a land designated, designed, and open for free expression, spontaneous use, growth, and decay. City officials can use the newly visible land to begin employing these methods of sensitivity throughout the realm of public space. Using the guidelines as a tool, design professionals can efficiently design urban shadow spaces with sensitivity and flexibility according to their interpretation of the site. If the guidelines are employed, spontaneous growth and spontaneous interventions may gain respect for their benefits to an urban environment and city residents will see a new addition to the realm of public space that is open to their creative influence.

This study opens urban shadow spaces to interpretation and manipulation by all to create an unpredictable outcome. The resulting landscape, made with the guidelines, should be open to as much interpretation as the guidelines themselves. Emergent landscape is an experiment ground: a space in which plants, animals, humans and natural processes contribute elements to form one design. Let the layers of information found in an emergent landscape

inspire design professionals to move toward sensitive, engaging design in cities.

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