I, Reuben Alt, hereby submit this original work as part of the requirements for the degree of Master of Architecture in Architecture (Master of).

It is entitled:
Wild Urban Woodlands: Addressing the Emergent Typology of Post-Industrial Forest Succession

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Wild Urban Woodlands: 
Addressing the Emergent Typology of Post-Industrial Forest Succession

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Abstract

The decline of the Industrial City resulted in the emergence of spontaneous nature on sites where frequent use can no longer be sustained. The emergent typology, the *Wild Urban Woodland*, infiltrates the fractured peripheries of once dense cities. The process, known as natural, ecological, or forest succession, emerges as a product of regional cultural and environmental specificities. The vegetation associated with the process provides a clear visual indicator and constant reminder of the social, economic and cultural transformations that result in its occurrence. The *Wild Urban Woodland* is an embodiment of the place-based characteristics in which it emerges, thus in this new wilderness is the potential to create a culturally significant and self-reflective landscape while embracing the biological and educational benefits of its urban proximity.

This thesis investigates the emergence of *Wild Urban Woodlands* on the once actively occupied, ascended, and descended Cincinnati Hillsides, where a once culturally significant landscape has been detrimentally altered by transformations in the urban structure. Yet, in this emergent typology is the potential for education, recreation, and the development of an environmental ethic necessary for the growth of future *biophilic* cities. This thesis proposes a type of urban architecture integrated with the successional landscape; light rather than heavy, permeable to vegetation and nature, and responsive to the environmental specificities of the site, as much as to the adjacent urban and cultural context.
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The construction of interstate highways caused a restructuring of Cincinnati's Central Urban District. A “holey plane” emerged, particularly around the periphery of the city.
Introduction

Economic, social, and technological transformations, peaking in the middle of the twentieth century, caused a restructuring (or destructuring) of industrial cities. Coinciding with socio-cultural changes were organizational changes as cities began to grow peripherally, moving businesses and citizens away from the center of the city. This phenomenon had great impact on the physical structure of the central urban district of the afflicted “shrinking” cities. In the wake of suburbanization and deindustrialization, natural succession creates ecological infill in once occupied sites. Overlap occurs as the new nature interweaves itself into holes in the urban fabric. The working landscape of the city becomes spontaneous and wild; indicative of the ongoing struggle between economics, nature and culture; “Forest edges and walls of trees form the new edges of spaces when buildings are broken apart.”

Forests have returned to once occupied urban space, the use of which can no longer be sustained. A new urban landscape typology emerges; the wild urban woodland.

“Patently unloved yet naturalistic, this holey plane seems more a wilderness than the datum of a man-made city. Dotted by trees and criss-crossed by wo-men/vehicles/roads, it is a surface dominated by a peculiar sense of ongoing struggle.”

Natural succession and the physical vegetation associated with the process are clear indicators and constant reminders of the social, economic and cultural transformations that resulted in the occurrence of spontaneous urban vegetation, or what many call “new wilderness” “urban wilderness” and “nature of the 4th kind”. The spatial arrangement and species compositions of these areas of emergent nature are also ecologically specific to the micro, local and regional scales in which they emerged. Thus each instance of spontaneous nature is specific to a local and regional culture and its changes and reorganization through time. These areas of the landscape are heavily anthropogenic in their development, yet inherently free and wild as a product of the neglect and non-use that precipitated them, and are intimately connected to regional ecological and cultural specificities; therefore they are an active part of the local landschaft, the working environment of an active community. The incorporation of this emergent nature into new urban architecture and planning becomes increasingly unclear, as a range of attitudes and ethics towards wilderness, nature, and more specifically urban nature exist, and provide often contradictory implications on the use and physical design of these sites.

The emergent successive woodlands provide tremendous ecological, experiential, educational and community growth potential, while being in direct proximity to the urban core of the city. As our world experiences drastic climatic and energy changes, the best future for cities is a biophilic one, utilizing a holistic approach to integrating nature into urban design and planning. “We will not meet the challenge of sustainable development unless and until we learn how to plan, build and live equitably within the sustainable city. This is the first of the new certainties of sustainability.” While parks and other heavily maintained green spaces are accepted as a controlled form of urban nature, wild and spontaneous urban nature lacks integration into the urban culture from which it emerged, largely due to its conflicting social perceptions. Community engagement and participatory methods of feedback and decision making are essential to the future sustainable city, as is a relationship to the regional historical and ecological context. Sustainable cities will need to be “learning cities.” Physicist Fritjof Capra argues that achieving sustainability will depend upon our ability to understand key concepts of culture and place specific ecology, and to apply these to fields as disparate as education, management, politics and building.4

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4 Talbot. Social Inclusion. 95.
Cincinnati’s hillsides physically shaped the formation of the settlement, defining the central urban core on the west, north, and east, while the Ohio River, the cities’ other formative landscape feature, provides the southern border. A working relationship with the hillside existed through much of the cities’ history. As the city was constructed the settlers and early residents depended on the hillside as a source of raw material; timber for frame structures, clay and limestone for building foundations, and fuel-wood for heating their homes and cooking their food. The hillsides were cleared, as material was harvested, and eventually occupied as space ran out in the basin. The hillsides also functioned as a primary transportation route, connecting the downtown and uptown neighborhoods, first through steps, and then incline planes. Around the middle of the 20th century, corresponding with a massive national wave of suburbanization, the central urban district of Cincinnati began to rapidly lose population. The city reorganized and the population spread outward, reinforced by the large scale adoption of the automobile. As the central urban population decreased, buildings were removed and the once heavily used hillside became all but free of human use, allowing nature to progress according the successional process. Approximately half a century later, woodlands have emerged on the hillsides, and the functional working relationship between residents and the hills has disappeared. Parks located atop the hillside rim scatter the expanse of the city, but are removed from urban neighborhoods and intentionally promote a superficial pictorial relationship with this city. Referencing the visually determined landscape James Corner explains, “the scene itself displaces viewers, keeping them at a safe an uninvolved distance, and thus presents the landscape as little more than an aesthetic object of attention, escapes the attention of the gazing subject” thus “effectively decontextualizing them from the very real ills of the present.”

How then does one embrace the social and ecological dynamics of successive nature (as manifested in the wild urban woodland) as a vehicle to recreate an active participatory relationship between Cincinnati’s inner city community and its hillsides? It must be determined how to structure, and build within, spontaneous woodlands in a way that reflect the cultural and ecological events in which they emerged, while creating an educationally relevant program; engaging, and sensitive to each woods specific biological composition.

A displaced view of the city
Daniel J. Ransohoff Scenic Overlook, Bellevue Hill Park,
Cincinnati, OH
“Natural” park settings sit atop the Cincinnati hillside, removed from the Central Urban District.
Establishing the Value of Urban Nature

*(Biophilic Cities: Integrating Nature into Urban Design and Planning, Literature Review)*

Human beings are innately connected to nature. E.O. Wilson, a conservationist coined the term *biophilia* to describe the inherent connection between humans and nature. *Biophilia*, he explains, is the “innately emotional affiliation of human beings to other living organisms. Innate means hereditary and hence part of ultimate human nature.” Wilson elaborates, pointing out that for over 99% of human history people have lived as hunters and gatherers; their lives entirely dependent on their direct interactions with non-human organisms. Thus, the human brain evolved in a biocentric world rather than a machine regulated world. It seems then, unlikely that a couple generations of purely urban dwellers could erase that from our human nature. Timothy Beatley agrees with this and elaborates on the belief that nature needs to be holistically integrated into our urban planning and architectural practices. Nature, he believes, is not optional but essential. City planning must understand that urban areas need to be “wild and nature-ful.” Beatley distinguishes that urban wildness is not wilderness, yet it is still nature, and it is also much closer to us. Wilderness operates amongst us but is often overlooked, or occurring in an often happenstance manner. Beatley believes the future of urban planning places nature as a centerpiece, not an afterthought. Referencing Steven Kellert, he notes that these are certainly unusual times when we have to defend and rationalize our need for contact with nature.
Beatley argues that a primary basis for the integration of nature and wildness in our urban planning is the physical and mental health benefits of biophilic exposure, and the potential to reduce the negative impacts dense urban settlement has had on the health of our planet. Beatley references various studies showing that nature walks, moments of repose in the city, and other brief exposures to naturalness have the ability to increase self-esteem, reduce tension, and increase overall health. He believes this to be especially true in children and young adults, who he feels are suffering from a “nature deficit disorder.” This detachment from nature, caused by computers, video games, and so on, has resulted in a sedentary lifestyle. Beatley, a professor at the University of Virginia, presented his new graduate students with an image of a Silver-spotted Skipper, a very common North American butterfly. Over several years of conducting the study one out of several hundreds of students correctly identified the species. Most students knew it was some sort of butterfly or moth, one even though it was a hummingbird however what is demonstrated is that the perception of nature amongst young adults, as he describes it, is both general and abstracted. Beatley references Midwestern writer Paul Gruchow who links the ability to ascribe names to the capacity to love; “imagine a satisfactory love relationship with someone whose name you do not know? I can’t. It is perhaps the quintessential human characteristic that we cannot know or love what we have not named.”

A change in urban planning needs to integrate nature into our urban infrastructure. In addition to the health benefits of a biophilic urbanism the economic benefits are numerous. The integration of green spaces can reduce the urban heat island, reduce combined sewer overflow, clean air and water and provide other benefits that will indefinitely reduce the extent of future spending. Additionally proximity to green spaces has shown to greatly increase property values. The extreme example would be Central Park in New York City, where even a highly obstructed view of the park can potentially increase the value of a property by millions of dollars. Beatley proceeds to familiarize the reader with the concept and benefits of biophilic cities and defines what nature is in cities, and what features, institutions, and policies constitute a biophilic city.

In biophilic cities, the integration of nature and culture with remnants of history is essential. Each city’s physical development and growth has been defined by the natural

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4 Beatley. Biophilic Cities
5 Beatley. Biophilic Cities 2
6 Beatley. Biophilic Cities 2
history of the place. Cities formed where rivers converged and edges are defined where topography prohibits building. Climate determines regional architectural design strategies and the types and abundance of food and natural resources. The form of cities is largely caused by the nature all around. What needs to occur is heightened awareness, immersion in the natural world, and an integrated appreciation of the nature all around. Environmental and place based education in a variety of types becomes a vehicle of wildness exposure. Regardless of the specific activity, an engagement with hearing, smelling, and feeling biodiversity is equally or more important that simply seeing nature in a classroom.

A biophilic city is more than a biodiverse city; it puts nature first in its design, planning, and management. It incorporates natural processes, strategies, and images into its cityscapes, and mixes green urban design with an emphasis on outdoor life, and environmental protection and conservation on a local and regional level. In addition to biophilic attitudes and activities within the city, a biophilic city is regulated by government and policy. Beatley outlines the constituents of a biophilic city plan, which includes but are not limited to, the adoption of a local biodiversity plan, the presence of biophilic support organizations such as active natural history museums, environmental education incentives, budget devoted to nature conservation and related activities, adoption of green building and planning codes (emphasis on sustainability and renewable resources), grant programs, density bonuses, and green space initiatives. An ethic and strategy should be developed that takes into the account the use of waste as a resource, the optimization of resources, balance with the biosphere, and a localized sense of place and economy. The more comprehensive the approach, the more successful it will be.

The choice between the city and nature is an outdated dichotomy. The abundance and diversity of nature in cities is undeniable. Ranging from preserved ancient forests, to spontaneously emerging wild lands, and designed nature in the form of parks and green roofs, an innate connection and appreciation of nature exists. In this connection to nature is the future of urbanism. Biodiverse, responsible, and sustainable, biophilic cites recognize that no such dichotomy exists between the city and nature. Wildness is all around us.

7 Beatley. Biophilic Cities 47-51
The Wilderness Construct

The western construct of wilderness has created a dualist view, separating what is perceived as authentic nature from the wild occurrences of our everyday lives. Wilderness, the name ascribed to the idealized place in which wildness abounds, has itself not been a consistent concept. Early biblical views of wilderness portrayed an evil, desolate place, where one might fall victim to Satan himself, yet a drastic shift in perception occurred as post-frontier Transcendentalists imbued qualities of sacredness and the sublime to vast and wild landscapes. Wilderness came to embody the symbolic landscape unaltered by the negative influences of man and at the same time created a critical dualism; wilderness and humans cannot exist simultaneously. This could not be more false, and this emergent dualism encourages environmental irresponsibility outside of designated wilderness areas. Corresponding with the change in perception of wilderness is a change in the role of nature in cities. The cultivated and instrumentally valuable nature of pre-Romantic era urban nature transitioned to a view valuing the experience of more wild nature in cities. What exists today, in our post-industrial urban era, are frequent occurrences of truly wild nature in our cities, but societal perceptions of nature vary greatly, ranging from those who view nature as having purely instrumental value to humans, to those with biophilic attitudes who see humanity as part of nature.

The concept of wilderness is predicated on the undeniable otherness of nature and associated more with the supernatural than the naturalness it embodies. From the biblical
perspective, wilderness embodies chaos, danger, and fear. People did not choose to enter wilderness by choice. It was in wilderness where Christ encountered the devil; “And immediately the Spirit driveth him into the wilderness. And he was there in the wilderness for forty days tempted of Satan; and was with the wild beasts; and the angels ministered unto him (Mark 1:12).” Yet a drastic change occurred in the views of post-frontier Transcendentalists; if Satan exists in the wilderness, God must dwell there as well. The dramatic uncivilized landscape became associated with the sublime and the most virtuous of all characteristics; “Wilderness had once been the antithesis of all that was orderly and good—it had been the darkness, one might say, on the far side of the garden wall—and yet now it was frequently likened to Eden itself.” For romanticists and transcendentalists like Wordsworth and Thoreau, the powerful wilderness landscapes became where one was most likely to find God. In the poem “The Prelude” Wordsworth translates his perceptions of the natural environment into the sublime;

The immeasurable height
Of woods decaying, never to be decayed,
The stationary blasts of waterfalls,
And in the narrow rent at every turn
Winds thwarting winds, bewildered and forlorn,
The torrents shooting from the clear blue sky,
The rocks that muttered close upon our ears,
Black drizzling crags that spoke by the way-side
As if a voice were in them, the sick sight
And giddy prospect of the raving stream,
The unfettered clouds and region of the Heavens,
Tumult and peace, the darkness and the light
Were all like workings of one mind, the features
Of the same face, blossoms upon one tree;
Characters of the great Apocalypse,
The types and symbols of Eternity,
Of first, and last, and midst, and without end

Or, likewise, John Muir’s declaration upon arriving in the Sierra Nevada mountains; “No description of Heaven that I have ever heard or read of seems half so fine.” This romanticized perception of wilderness permeated the American (and Western) psyche. In the face of the industrial revolution, untouched “pristine” nature became increasingly valued and idealized.

2 Cronon “The Trouble with Wilderness.”
3 Cronon “The Trouble with Wilderness.”
4 Cronon “The Trouble with Wilderness.”
The Temptation of Jesus
Wilderness portrayed as a frightening place.

And the devil, taking him up into an high mountain, shewed unto him all the kingdoms of the world in a moment of time... (Luke 4:9)

The works of the Hudson River school portrayed a romanticized pastoral American landscape.
The passing of Wilderness Act in 1964 was the culminating event establishing wilderness as an important American value. The recognized importance of wilderness continues to grow as polls show American’s want more and more land protected as wilderness. Coinciding with the increased popularity of the preservation of nature “the received wilderness idea” is becoming increasingly attacked. Wilderness perpetuates a self-destructive separation from nature, in which humans perceive nature as an other. In this view, nature is seen as something that is in large national parks and nature preserves, rather than a force present in their own communities and neighborhoods. This is particularly true in urban or semi-urban settlements where the landscape is shaped from the byproducts of human occupation.

When wilderness becomes the place for nature the risk of devaluing nature outside of designated wilderness areas increases. American environmental historian William Cronon, in his iconic and timely The Trouble with Wilderness; or, Getting Back to the Wrong Nature, elaborates on the negative impacts of the wilderness construct; “For many Americans wilderness stands as the last remaining place where civilization, that all too human disease, has not fully infected the earth. It is an island in the polluted sea of urban-industrial modernity, the one place we can turn for escape from our own too-muchness.” However, “Wilderness hides its unnaturalness behind a mask that is all the more beguiling because it seems so natural.” Wilderness seems to be a solution to our negative industrial impacts on nature, yet this view creates the detrimental dichotomy; the separation of nature and humans. “Wilderness” associates the awesome otherness of nature with the unfamiliar, thus devaluing the nature that is all around is, it also shows great hubris, claiming if that we don’t preserve wilderness that we will be able to end the nature were part of. Cronon, stretching the logic, claims “if nature dies because we enter it, then the only way to save nature is to kill ourselves.” “Wilderness,” encourages humans, to devalue the nature all around them. Wilderness becomes the precious innate image of our true belonging, it becomes our true home and our urban industrial lives are an artifice. Our urban environment becomes a symbol of the negative impacts of humanity, in contrast to the purity of wilderness. This view encourages environmentally irresponsible behavior, as the nature and wildness all around us becomes subordinate to wilderness. We must learn to recognize and value wildness in the ordinary.

5 Cronon “The Trouble with Wilderness.”
6 Cronon “The Trouble with Wilderness.”
7 Cronon “The Trouble with Wilderness.”
Wildness is a relative condition. As Arthur Carhart put it, “every landscape, whether urban, rural or remote, will have its places where we face away from the man-dominated landscape.” Wildness can only be recognized in the context of a larger whole. In cities, fragments of green space, private and public gardens, overgrown sidewalks and natural succession in degraded sites (to point out a few occurrences) stand in stark contrast to the rigid urban order that is defined by building and infrastructure. In more rural settings, the contrast between pristine nature and the other various degrees of naturalness is less defined. Here, on a larger scale, resources such as large national forests and wildlife preserves may be seen as wild. Yet instances of wildness are present in all contexts. Terms such as “unkempt” “unconfined” and “self-willed” are often used when defining wildness. Free, another equally fitting term, views wildness through the lens of what prescriptions it deviates from. Wildness is the expression of the self-ordering will. Thoreau understood wildness as it applied to “wild nature, wild dreams, wild house cats, and wild literature.” He associated it with other qualities, the good, the holy, the free.” In wildness, he saw the embodiment of life itself, “not mere existence, but vitality and life force.” As Cronon attempts to break down the dualist view of wilderness; “Our challenge is to stop thinking of such things according to set of bipolar moral scales in which the human and the nonhuman, the unnatural and the natural, the fallen and the unfallen,” he references the wildness all around, “We need to honor the Other within and the Other next door as much as we do the exotic Other that lives far away.”

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10 Cronon “The Trouble with Wilderness.” 1995
Perceptions of Urban Nature

The appreciation of commonplace wildness in addition to wilderness is predicated on our ability to recognize wildness in the ordinary. Within the city the recognition of wildness becomes increasingly subjective as a variety of consensuses and individual views on nature exist, many of with assume a false separation between nature and the city. Historically, generalized views of nature within the city reflected cultural perceptions of wilderness. In pre-Transcendentalist urban agglomerations, un-altered, un-domesticated wild nature was perceived as savage, desolate and terrifying, more associated with fear and danger than the sublime. Its place was far away from cities, and any nature near cities required domestication and was there for its instrumental value to humans. Gardens and cultivated forests were accepted forms of urban nature as though seemed to portray the dominance of human beings over nature. However, in the 18th and 19th centuries, with the emergence of Romanticism, Transcendentalism and the increasingly industrialized city, appreciation of nature that, at least, appeared natural began to enter cities and their surroundings. The qualitative and environmental benefits of nature became realized, and preservation emerged as an attitude and policy to wildlands. Now, in the post-industrial city, a mix of nature typologies exist in the city from planned and maintained parks, gardens, and green-spaces to the emergent “new wilderness” woodlands on once intensely used sites. The result is a broad consensus of what constitutes urban nature, what activities occur in urban nature, and with what ethic is urban nature perceived.

Nature is in the eye of the beholder. Cultural and personal values shape ones perceptions of nature and wilderness. In an urban setting, wild nature has even greater embedded cultural implications, as it contains references to historical and cultural events. In a 2003 study of German urban residents, Dieter Rink investigated public consensus opinions of what is perceived as urban nature. The study arose from Rink’s specific questions such as; “Does the term ‘Wilderness’ work in the city? Is it seen here as something positive?” “As the environment becomes overgrown will it be regarded as nature worth protecting?” The consensus results of his study were broken down into three categories; What is perceived as urban nature? What is attractive urban nature? Is urban nature worth protecting? In

11 Konijnendijk. The Forest and the City
13 Rink. Surrogate Nature. 68.
general Rink discovered that there seems to be an attachment to the traditional city park and the citizens participating in the study were largely unaware of the diversity of urban nature.

On a general level, participants recognized that everything “green” or alive within the city was a form of urban nature. Within this overarching theme, multiple specific perceptions emerged. Structured and tended nature, also referred to as social and communal nature, was the most widely recognized form of urban nature. This type of nature, manifested in gardens and parks was recognized as being, in a sense, artificial and also devoid of productive economic function. It is communal in the sense that local authorities bear responsibility and that it is made accessible to the public. This nature is also geared towards specific recreational functions and is designed to create a sense of privacy within the urban environment. Another emergent perception was defined by Rink as “everyday nature” which stands in contrast to wilderness and the “vacation” or “holiday” nature of national parks. The parks and gardens of social and communal nature are part of this everyday nature. Rink classified another perception as “surrogate nature.” This type of nature was perceived as being too small or restricted to contain experiential or economic nature. Surrogate nature was perceived as less natural because of visitor’s ability to see and hear the city from it. Participants also recognized that within the city a large physical variety of formal qualities exist in urban nature, and the variety of users is greatest in an urban environment. Rink also used his study to determine what constitutes attractive urban nature. The general consensus was that parks, botanical gardens and riparian corridors are the most attractive form of urban nature, while overgrown industrial areas, while actually being recognized as natural, are unattractive. He determined that attractive urban nature is classified by a certain expanse, is free of other uses such as housing or infrastructure, provides privacy, and the design of it allows for a flexible range of relatively unrestricted uses. Also, participants wanted urban nature to be natural, yet at the same time free of “creepy crawlies.” As for protecting urban nature, the consensus was that urban nature is indeed worthy of protection primarily for the environmental, economic, and hygienic benefits it provides the city.14

Another study, implemented by Nicole Bauer of the Swiss Federal Research Institute focuses on attitudes people have towards nature. From her study she deduces three typological human/wilderness relationship and frames them within the context of secondary

14 Rink. Surrogate Nature.
### Criteria of wilderness areas according to the respondents of Bauer’s questionnaire survey

![Bar Chart]

### Typologies of the Human/Wilderness relationship

<table>
<thead>
<tr>
<th>Types</th>
<th>Conservative wilderness opponents</th>
<th>Leisure-oriented wilderness opponents</th>
<th>Wilderness fans</th>
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</thead>
<tbody>
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<td>Categories</td>
<td>beauty</td>
<td>diversity</td>
<td>contrast</td>
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<td></td>
<td>usefulness</td>
<td>economic</td>
<td>freedom from regulations</td>
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<td></td>
<td>use as reference point</td>
<td>leisure-oriented</td>
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<td>security</td>
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![Diagram]

[3.3]

[3.4]
new wilderness and well as Kellert’s (1980) nine attitudes which he defines as follows:

1) utilitarian – nature in terms of material value
2) naturalistic – regards nature with wonder and awe
3) ecological-scientific type – systematic scientific investigation
4) aesthetic – emphasis on beauty of nature
5) symbolic type – source of symbols
6) humanistic – emotional connection to nature
7) moralistic – responsibilities towards nature
8) domineering – master the natural world completely
9) negative – with fear and aversion

These nine attitudes provide the framework for Bauer’s typologies of human and secondary wilderness interactions. The first typology she calls “Conservative Wilderness Opponents.” For these people, nature is viewed in terms of safety, past references, and usefulness. They see uncultivated nature at threatening, thus secondary nature, or successive nature, is a threat to populated areas. To the Conservative Wilderness Opponents, maintained and cultivated nature is most appropriate. The second typology “Leisure Oriented Wilderness Opponents” have a desire to intervene in nature in order to make it more suitable for human recreation. These people see nature as functioning better if it’s suited to human convenience. They also believe nature areas should function as a display of their biodiversity so that it benefits a human’s experience of the space. The third typology “Wilderness Fans” see themselves as part of nature and accepts both human influence on nature and the impact of nature and natural events on humans. They believe wild nature is robust enough to withstand human recreation.

Varying perceptions of wilderness are dependent on cultural values and the character of each nature area. While the historical consensus has shifted towards a greater
appreciation of wildness in cities, it seems accepted that urban nature should contain environmental and anthropogenic recreational functions as well. Wildness and “secondary nature” seem largely accepted, so long as it able to be experienced in a way that is beneficial to human beings. This means that landscape design and planning cannot be either purely biological or purely recreational. Landscape needs to integrate the experiential concerns of the urban environment in a culturally relevant way, and at the same time utilize the inherent biological processes and characteristics to provide economic, environmental and recreation benefits for the users. This integrated basis for landscape design predicates the emergence of landscape urbanism.
Landscape urbanism emerged as a response to the remarkable growth of, and at the same time change within cities, as well as the rise of environmentalism and ecological awareness. Referencing Victor Gruen, James Corner clarifies that landscape itself is not natural, rather it is the place where nature is predominant yet still shaped by human occupation. While contemporary landscape frequently concerns itself with the creation of seductive scenes, landscape urbanism is derived more from “an understanding of process—how things work in space and time”; as much a product of “past traces” as “future potentials.” “This is a kind of urbanism that anticipates change, open-endedness, and negotiation.” Landscape urbanism provides an alternative to the rigidity of traditional urban planning and recognizes that urban ecology extends beyond the natural sciences and relates as much to the interactions of human beings and the designed world, as to the relations between plants and non-human animals. A synthesis of both performative and representational concerns, landscape urbanism represents cultural, social, political, and economic as being symmetrical with the natural world.

A dichotomy exists between the active working landscape and the detached pictorial landscape. James Corner elaborates on this separation in his distinction between the Old English term landskip and the German landschaft which temporally precedes the former. Landskip, as Corner explains emphasizes a scene, and “first referred not to land but a picture of it.” In many contemporary landscapes the pictorial image dictates the visual and formal qualities of the design, creating a view of landscape as a stagnant object rather than an ongoing and ever changing process. The Old German landschaft, however refers “not to

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1 Corner, James. “Terra Fluxus.” The Landscape Urbanism Reader. 2006. 26
2 Corner. “Terra Fluxus.” 29
3 Corner. “Terra Fluxus.” 31
4 Corner, James. “Eidetic Operations and New Landscapes.” 153
scenery but to the environment of a working community” and connotes “patterns of occupation, activity, and space, each often bound into calendrical time.” \(^5\) *Landschaft* has deeper eidetic meaning and emphasizes process, performance, time, and engagement as they relate to societal structure and cultural byproducts.

The pictorial formation of landscape reduces the roll of the visitor to that of passive observation. In this condition the visitor experiences the landscape as an outsider rather than an inhabitant who “views landscape as an object, a thing to behold, and not only scenically but instrumentally and ideologically.” \(^6\) The visitor, or better, viewer becomes displaced, observing the landscape from a safe and uninvolved distance. The scene itself sits stagnant and decontextualized from the realities of the present; objectified and free of active process. Such aestheticized landscapes are deceitful as they hide any intention, good or bad. In fact, the withdrawal or decontextualization encourages nostalgia and “can often obscure from its occupants the ideological impulses that motivated its formation and instead foster in them the feeling that they are in possession of a beautiful and innocent past, that they have escaped from the inequities and problems of the present.” \(^7\) This pictorial practice prevents the development of deeper meaning in landscape by through failing to relate functionally to its cultural, creative and environmental contexts.

In contrast, the performative or working landscape, *landschaft*, encourages a deeper cognitive relationship with place. *Landschaft* is not a product of the pictorial scene, but the product of a working environment over time; “Spatial, material, and ambient characteristics are still here, but their essence is not necessarily that of Cartesian objecthood; they are present in sometimes foggy and multiplicitous ways, structured but not immediately visible – structured, in fact, more through use and habit in time than through any prior schematization.” \(^8\) The participant experiences the working landscape quite differently from the pictorial landscape. While the participating outsider is decontextualized by the objectified landscape, the insider or participant in the working landscape experiences no separation between themselves and the perceived landscape. Subject and object become one-in-the same. Corner suggests that to realign the landscape architectural project with the working landscape is to “emphasize the experiential intimacies of engagement, participation, and use over time, and place geometrical and formal concerns in the service of human economy.” \(^9\)

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5 Corner. “Eidetic Operations.” 154  
6 Corner. “Eidetic Operations.” 155  
7 Corner. “Eidetic Operations.” 157  
8 Corner. “Eidetic Operations.” 154  
9 Corner. “Eidetic Operations.” 159
Landschap met Eikenbomen en Ruïne
Barend Cornelis Koekkoek, 1855
As an example of the Dutch Landschap painting, the pictorial and picturesque take representational priority.

Mt. Storm Park, Cincinnati, OH
In the Cincinnati Parks system the pictorial dominates over the performative in the landscape design of urban parks.
Mathur/da Cunha + Tom Leader Studio
Fresh Kills Park Competition

This diagram shows the emphasis on process over time, rather than a fixed image of the landscape. The land is “designed” to function and change over time in response to the local environmental and recreational culture.
Beginning in the middle of the twentieth century, the hillsides rising approximately 350 feet from the central urban basin of Cincinnati experienced a change in use and perception corresponding with transportation, social and planning shifts. The formerly actively engaged hillsides of central Cincinnati, which early Cincinnatians utilized for transportation, recreation, and also raw material, played a crucial role in the early history of the city. While the hillsides still exist in essentially the same manner, the relationship between the urban resident and the hillsides is now passive and uninvolved. The current relationship has shifted to one of passive observation and superficiality. City Parks situated around the rim of the basin provide scenic overlooks of the city; pictorial vistas displacing the viewer from the central urban district and its associated historical, cultural, and creative energies. Commuters pass through the man made canyons in the hillside in automobiles, only momentarily aware of its presence through brief glimpses of vegetation. The passive relationship to the hillside overshadows the remarkably active successional processes that have emerged as a product of both nature and culture. A working cultural landscape exists on the hillside but has yet to be utilized and understood by the communities in which it is occurring.

The early settlement of Losantville formed on the north banks of the Ohio River opposite the Licking River. The settlement, later renamed Cincinnati, grew quickly and the shape of the city became formed by the glacial swept landscape. Rugged hills formed the North, East and West extents and the Ohio River formed the Southern barrier of the primary urban district. Homes and other buildings were built of timber harvested from the
Satellite view of the Cincinnati region shows how the hills shaped the settlement.
nearby hillside, but more importantly clearing the hillside provided access to the shallowly buried limestone which provided the material for foundations and urban infrastructure. Cincinnati continued to grow and the urban settlement extended beyond the hillsides. At first the hills remained undeveloped due to the difficulty of the terrain. By the early 1800’s roads and thruways emerged many ending at the top and bottoms of the hillside, as did footpaths, connecting the hilltop neighborhoods of Price Hill, Clifton, Fairview, University Heights and Mt. Adams to the central business district. Private groups of citizens constructed steps, linking the downtown basin to the uptown neighborhood. The stairs became a primary means of public transportation as horse drawn streetcars stopped their routes at the bottom and top of the hillside. The steps were built and rebuilt to meet the needs of their increased use. The hillside became a space for public interaction, and also a break in the commute, providing the traveler views and a connection to the physical setting and a sense of place. As early Cincinnatian Paul Briol expresses, “In Cincinnati the eyes wander so easily over the hills. Not Rome herself in all her majesty had so fine a site.” As the growth of the city continued a more advanced form of public transportation was necessary. From 1876 through 1948 inclined planes ascended and descended the Cincinnati hillsides, first as primary means of transportation connecting the uptown and downtown street car rails, and then as a recreational device, connecting the downtown residents to social “houses” that sat atop the hills, removed from the pollution of the industrial city. The hillsides remained actively engaged until the middle of the twentieth century.

Beginning in the early 20th century, major structural changes began to affect the central urban district of Cincinnati and other industrial cities. Increasing peripheral development drew residents away from the polluted industrial city and a suburban lifestyle began to emerge. This was made possible by advances in transportation, particularly the large scale adoption of the automobile. With the automobile came highways that created new primary transportation routes. The hillsides were cut away to allow the construction of the highways and citizens were able to commute from the suburbs to the center of the city; no longer pausing or transferring at the hillside. Along with transportation changes came economic changes and heavy industry declined within the city. By 1950 downtown Cincinnati began to shrink in population. The result was massive urban vacancies that ultimately caused the removal of buildings and infrastructure. Holes emerged in a once dense urban fabric. Remnants of the metropolis remain; the steps still exist, as do the broken down

foundations of homes, factories, and the incline planes. Spontaneous vegetation emerges on the razed sites and natural processes succeed as byproducts of the anthropogenically dominated city. City parks scatter the rim edge, but the Cincinnati hillsides remain free from any deeper eidetic meaning. The majority of the stairs still exist, but lack maintenance, and frequently pass through crime ridden neighborhoods. Wide streets and highways pass through, up, and down the hillsides but the passengers of automobiles remain safe and detached in their vehicles. Cincinnatians are removed from their hillsides,
and city planning efforts encourage a superficial and pictorial relationship. Looking at the 2007 Centennial Parks Master Plan which addresses specifically the hilltop parks, including the central Fairview Park and Bellevue Park (whose names themselves connote a scenic or view determined landscape), an emphasis is placed on establishing views and “overlooks” rather than an active connection to the adjacent downtown neighborhoods. Points of connection are represented simply by directional arrows and not associated with a specific connecting process or action, the drawing of which may be pure (or lacking) in their intention, but neither inactive nor benign. Similarly The Hillside Trust’s *A Hillside Protection Strategy for Greater Cincinnati*, in addition to analyzing community ordinances and conservation studies, proposes development guidelines based on what a sampling of the Cincinnati community prefer to see on the hillside opposed to more deeply eidetic analysis that might ask what they would like to do on, or, experience on, the hillside or possibly how the hillside might be an extension of an urban function, process or culture.\textsuperscript{11}

Emerging from the changes in the urban composition of Cincinnati, successional woodlands cover the once engaged hillside landscape. Free from the mechanisms of centralist planning, spontaneous nature proceeds, and a working biological landscape emerges interwoven with urban culture. A future exists for the central Cincinnati hillsides, imbedded in the dynamics of the successional vegetation, its measurable bio-climatic value, historical references and first and foremost the active participation and understanding of the adjacent community. The successional landscape is an authentic landscape that emerged through unconscious processes of habitation; it is “a place that tells its story, where the layers of past history are evident, and preferably not consciously preserved.”\textsuperscript{12} Thus this landscape “is one that expresses a spirit of place. The present configuration of land, houses, and ruins, and so on is still working and connected to its past in a meaningful way.”\textsuperscript{13} A coherent narrative is present; as much a connection to the past as a guide to the future.

\textsuperscript{11} The Hillside Trust. *A Hillside Protection Strategy for Greater Cincinnati*. 1993
\textsuperscript{12} Brook, Iris. “Can ‘Spirit of Place’ Be A Guide to Ethical Building.” 142
\textsuperscript{13} Brook. *Spirit of Place*. 142
Urban Forest Succession

"Forests return to land where the previous intensity of land use can no longer be maintained."

Succession within the field of ecology refers to the collective process of changes in an ecosystem following a disturbance. Primarily focused on the growth and development of vegetation on the site, the phases of succession also correspond with changing animal habitats. Following a disturbance on a site, colonizing species such as lichen, mosses and small grasses establish themselves, and are almost immediately followed by larger perennial grasses, shrubs and herbaceous vegetation. Next, pioneer species of small trees establish themselves and begin to form woodlands. Eventually, usually in an excess of 100 years, the changes in the ecosystem reach a climax, granted there is no additional disturbance, species diversity decreases, and a mature forest establishes itself. The species that emerge are dependent on the site and ecosystem prior to disturbance, the numerous effects the disturbance had on the site, the local species pool, the local environmental conditions such as soil composition and character and climate, the influx of species from external sources and the presence of invasive species in local ecosystems.

Succession is described within the framework of two types; primary and secondary. Primary succession, the rarer of the two types, refers to succession on sites where

DENSE URBAN SETTLEMENT

Population density within the city increases, urban density increases with growth of city

METROPOLIS

DISTURBANCE

PHASE 1: BARE SITE
Razed, sites exist in wake of the disturbance, bare rocks, soil, and rubble exist on site

PHASE 2: CONSTRUCTION
Beneath and introduced to the site...
Plant succession following a disturbance on an urban site experiences a predictable series of events as the vegetation develops.
there was no previous life. An example of this condition would be the melting of a glacier, the recession of which exposes previously frozen zones of rocky soils. In primary succession there is no pre-existing species pool specific to the site so the introduction of species comes from external nearby ecosystems. Primary succession moves slowly as soils often needs to develop in order to accommodate new species. Secondary succession is for more common and is relevant to urban conditions. Secondary succession occurs when a pre-existing ecosystem is disrupted by a natural or “man-made” disturbance. Examples of natural disturbances would be flooding, forest fires, or a volcanic event that results in the destruction of an ecosystem and results in a razed site. The leftover site conditions reflect the conditions of the previous ecosystem, deposition, and other factors determined by the nature of the disturbance. Examples of “man-made” disturbances would be the clearing of buildings from an abandoned site, or the speculative clearing of woodland for future construction. Secondary succession proceeds rapidly due to the existing species pool and the environmental conditions that had at some point produced an ecosystem. One might deduce that in urban settings, where the landscape is anthropogenically shaped and dominated that two types of secondary disturbances exist; the specific physical disruption and the socio-cultural event that caused the disruption. An example of the socio-cultural change would be the rapid process of suburbanization experienced by many mid-to-large-size cities, caused by the transition from local industry to a globalized economy, and resulting in major structural changes to the central urban district and its surroundings. This greater disturbance then produces a series of lesser disturbances such as the carving away of hills and habitats to build highways or the removal of abandoned urban buildings leaving disrupted bare sites. Taking the concept of greater and lesser secondary disturbance to its logical extreme, the construction of cities, in general, can be seen as an initial greater disturbance, as the growing urban fabric blanketed the potential of the existing ecosystem. As the post-industrial perforations of Lars Lerup's “holey plane”\textsuperscript{2} emerge from lesser disturbances, they do so within the context of original greater disturbance.

Following the disturbance, the emergence of species depends on the preceding ecosystem, the effects of the disturbance itself on the site condition, the neighboring ecosystems, the enviroclimatic conditions, factors that encourage the distribution of species both

\textsuperscript{2} Lerup. Stim & Dross:88.
native and alien, and the presence of invasive alien species that can inhibit the successional process. Soil conditions can change drastically following a disturbance. While certain characteristic may remain unchanged such as whether or not a soil is rocky, organic, or primarily clay, the chemical composition as well as the physical structuring of the soil can change. Chemical deposition from the disturbance can prevent certain species from the previous ecosystem from re-emerging while other pre-existing species, for example, may flourish as their growth, for example, may be dependent on well drained rocky soils and can accommodate a wide range of acidity levels. Nearby ecosystems also have a primary effect on species colonization following a disturbance. Seeds can travel in the wind from nearby sites or migrate through the droppings of an animal or simply fall from a tree onto the disrupted site. Climatic features involving rain, water management, temperature and solar exposure are also important. In an urban site for example, the effects of the urban heat island, the construction of a bridge or skyscraper that blocks the sun from the site, or the proximity of a major highway that functions as a distributor of exotic or invasive seeds clinging to automobiles all influence the successional process. Large populations of migratory birds, displaced by a climatic event, have also been known to spread invasive species.

Invasive species have traditionally been viewed as inhibitors to a productive successional process. Invasive species generally lack the biomass and environmental benefits of healthy native species and can actually encourage degradation of a habitat. However, dismissing the role of invasive species in succession seems to also regard human influence as an unnatural process since the spread of invasive species is largely dependent on human factors. It seems then that one’s views on the role of invasive species can reflect two similar attitudes. The first attitude would claim humans as being responsible for the disturbance that began the successional process, but the process itself should be inherently native and natural as if humans were not to influence it, thus alien invasive species have no roll in succession. However this becomes contradictory as the only way to remove the invasive species are through an anthropogenic intervention. This view however also promotes the bioproductivity of the successional ecosystem which can be compromised by the invasive species. It is generally not disputed that native and naturalized exotic species have greater biomass. The second attitude is less rooted in bioproductivity and more founded on the belief that humans and their actions are also part of nature. This attitude would imply that invasive species, as a product of biological and cognitive human intervention, are appro-
appropriately natural and should not be interrupted. This view is far less popular as the lack of invasive species remediation will almost certainly reduce the bioproductivity and increase the degradation of the site, likely causing more problems than the implementation of a remediation process.

[6.2]

**Emergent species composition of site zones (see site documentation for details)**
Wild Urban Woodlands: Towards a Conceptual Framework (literature review)

Structural changes in North American and European cities allowed for the emergence of new woodlands on abandoned urban-industrial site. The phenomena, is concisely described by Ingo Kowarik:

“Wild urban woodlands resulting from natural succession on man-made sites have created a new component in the urban forest mix whose significance will grow in areas that are subjected to great structural transformation. These include many former industrial areas, but also more generally, “shrinking cities.” A particular feature of the new urban wilderness is its position in the middle of urban agglomerations. This represents a great potential to bridge, at least partially, the often lamented spatial separation between a large part of the general public and real existing biodiversity (Ingo Kowarik).”

Kowarik also establishes that this new typology needs to be recognized for three primary reasons. The first reason is related to the extent of the reforestation process which includes thousands of hectares of urban industrial waste lands which within a couple have decades have been re-established with young woodlands. The second reason relates to the unique character of these woodlands that emerge as products of natural succession and industrial deposition. Often the observed character of the woodland deviates greatly from what would be expected due to the uniqueness of each urban instance. Third, the location of wild urban woodlands within the urban core allows them to be accessible, culturally influential, and provides the opportunity to incorporate social functions. Kowarik develops a framework to classify the wild urban woodland from a spatial perspective, an ecological perspective, and an integrated nature/culture perspective. The nature/culture perspective forms the basis for his “four natures approach” that classifies the wild urban woodland specifically within the context of other commonly nature typologies such as horticultural plantings, agricultural land, and “pristine” wild lands. This non-scientific approach stands in contrast to the traditional prospective and retrospective scientific approaches which define naturalness in relation to a pre-existing or idealized woodland condition. The various lenses of examination are used to address “the characteristic double nature of urban-industrial woodlands, a product that is equally natural and artificial.”

3 Kowarik. Conceptual Framework. 24
4 Kowarik. Conceptual Framework. 2
5 Kowarik. Conceptual Framework. 3
The spatial approach to woodland classification distinguishes between three types of woodlands, urban woodlands, peri-urban woodlands, and non-urban woodlands. Each woodland is analyzed in relation to its social/recreational function as well as its productivity in the traditionally forestry sense such as material and hunting yields. Urban woodlands, spatially isolated within built-up areas, provide the greatest potential for social value and very little production value. The social/recreational potential of urban woodlands is derived almost entirely from their proximity to large populations and a generalized lack of wild nature in cities. On the opposite end of the woodland spectrum, the non-urban woodlands are distant and expansive. These woodlands rank highly in their traditional productivity, but their distance make them accessible to far fewer people.6

The ecological perspective looks at the post-disturbance urban woodland as a product of the original ecosystem and the urban events that resulted in the current stand. Urban areas often result in highly fragmented stands with highly divergent species compositions. The high perimeter to interior ratio of these woodland patches allows for an influx of native and exotic species. Species exchange is also high in urban woodlands do the variety of plantings present in personal garden and park. The density of animal species urban woodlands is often high as food exists from natural sources as well as human waste. Urban woodlands are also impacted by recreation uses. Trail erosion for example can be amplified in urban occurrence due to the small size of the stand, and the high level of use.7

Kowarik’s “four natures” approach takes four woodland and ecosystem typologies and distinguishes them based on the agency of cultural mechanisms and the agency of nature in their development. Cultural mechanisms include historical and contemporary forestry uses and recreational activities. Natural mechanisms refer to self-regulation and the accepted process of forest succession. Habitat continuity refers to the relative consistency between forest stands. The “four natures” can be summarized as follows:

Nature 1: “Old wilderness” – remnants of pristine forests, remnants of pristine ecosystems – Highest level of habitat continuity, highest agency of natural mechanisms, lowest agency of cultural mechanisms

Nature 2: “Traditional cultural landscape” – forests strongly characterized by silvi-

6 Kowarik. Conceptual Framework. 4-5
7 Kowarik. Conceptual Framework. 5-8
New Wilderness “nature of the fourth kind” has emerged on the once dense block at the intersection of Main St. and Mulberry St., Cincinnati, OH
culture, ecosystems shaped by silviculture and agriculture – high habitat continuity, high agency of natural mechanisms, some agency of cultural mechanisms

Nature 3: “Functional Greening” – planted tree stands in green spaces, ecosystems established by urban greening – some habitat continuity, low agency of natural mechanisms, highest agency of cultural mechanisms

Nature 4: “New wilderness” – woodland succession on urban industrial sites, ecosystems evolved on urban-industrial sites – lowest habitat continuity, highest agency of natural mechanism, some agency of cultural mechanism

In this classification the “new wilderness” of the wild urban woodland is as natural as the “old wilderness” remnants of pristine forests. Species diversity is greatest in urban woodlands however the ratio of native to non-native species is much lower than in non-urban “old wilderness” stands. The “new wilderness” earns its name from a convergence towards the self-regulating character of the pristine ecosystems combined with the “new” effects of the urban industrial disturbance. The “four natures” approach shows that each nature typology has value depending on the lens of analysis, and the traditional approaches to nature conservation, i.e. preserving remnants of pristine ecosystems, and the restoration of native species in managed area, should be reconsidered specifically to address the fourth typology, the wild urban woodland.
Urban Forestry management

A “close to nature” urban forestry structure utilizing community participation and integrated within a larger cultural place-based narrative has proven a successful strategy for urban forestry management. Over the last half century, the environmental function of urban green space has become increasingly relevant in city planning and has resulted in the emergence of conceptual and managerial frameworks. The development of the field of urban ecology resulted in more specific subdivisions within the urban ecosystem. As the environmental functions of urban trees became increasingly popular for their practical climatic regulation, aesthetic, and recreation values, urban forestry developed as a management practice. Urban forestry can be defined as “the art, science, and technology of managing trees and forest resources in an around urban community ecosystem, for the physiological, sociological, economic, and aesthetic benefits trees provide society.” Urban foresters protect city trees from human damage as well as natural damage from disease, storms, and insects. The “urban forest” is all trees and woods within an urban area, including street trees, parks, and public right-of-ways. In the United States urban forestry organizations are frequently associated with city or county governments and as a result have to prioritize their work based on budgetary restrictions. Aesthetic concerns often take priority as city governments regard the appearance of the city as important to visitors. Frequently urban woodland management gets overlooked.

In European countries urban forestry has taken a more integrative approach “focusing on aspects of multifunctionality and community participation.” The strengths of the (generalized) European urban-forestry concept is its valuing of urban environments, an integrative approach combing technical and strategic managerial strategies, community specific strategies, and its participatory approach. Urban forestry in this context as seen as both a natural and social science and integrates experts from both fields. When urban forestry becomes urban community forestry, the social dimension becomes fully explored. Community forestry engages the local people’s participation to manage local woodlands. This framework becomes valuable as it allows urban forestry to extend beyond budget-limited governmental desire and contribute to the management of more wild urban woods within their communities and reflect the values.

The English Community Forest program functions as part of a larger national narrative focused on socio-economic regeneration. A subset of the English Community Forest program, The South Yorkshire Forest Partnership, is a public owned community forest organization that emerged as a key participant in a re-branding narrative process in the city of Sheffield, specifically related to six degraded neighborhood in the north of city, that focused on engaging community participation to create a new cultural “place identity.” Environmental psychologist K.M Korpela asserts that “place belongingness is not only one aspect of place-identity, but a necessary basis for it (Korpela 1989).” The Sheffield example shows how a narrative vision for a city, focusing on its historical and ecological context can create place-belongingness through community participation.

Community forest education and maintenance, Community Forests International, Canada.

Local Narrative as a Planning Methodology

The Parkwood Springs landscape area was developed within the context of a community established city and neighborhood narrative, integrating the technological and ecological heritage of Sheffield, South Yorkshire with an emphasis on natural resource management and community determined recreation activities. Narrative, as a process for developing a sense of place identity, can be an effective tool for engaging community participation and developing a sense of place-based civic pride. Southney and Owlerston, a six neighborhood area of North Sheffield experienced two decades of decline following the collapse of the local steel mining industry. Economically deprived and increasingly rundown, Southney and Owlerston is nestled in a beautiful natural setting of hills and forests with expansive views towards the city and the countryside. It was determined by the Southney and Owlerston Area Regeneration Board, after the community rejection of private developed housing plans, that non-traditional approaches would be used experimentally to develop a neighborhood regeneration plan. An overarching regional narrative was to be developed by a diverse team of consultants and community organizations from a variety of social institutions, environmental organizations and community development groups. Within the context of the overall narrative the direct interaction between citizens, stakeholders, community organizations, planners and professionals was encouraged through community workshops to develop neighborhood specific regeneration plans. An integrated top-down bottom-up strategy was used in which local knowledge and decisions were weighed equally to the concerns of the professional organizations in charge of development and implementing the plan.¹

The Parkwood Springs Regeneration Plan used a regional narrative to structure the planning project. Wildlife, recreational, and cultural layers were overlayed to create the plan.
social, environmental, and economic issues and to cope with periods of dramatic change. To do this they will need new tools that make connections between problems, rather than separating them into boxes, that open up new ways of looking at issues and that respond to the personal, the local and the everyday, as well as the strategic and the ordinary.”

The emphasis on narrative was conceived as a way to relate the planning process to the stories of the residents. Narratives “locate us as part of something bigger than our individual existences, make us feel less insignificant, (and) sometimes give us at least partial answers to questions like who am I? Why am I like how I am?” Urban planning needs to place emphasis on local narrative in order to create an appropriate contextual response. As urban planner Charles Landry emphasizes, “The challenge of creating urban initiatives is to embed narrative qualities and deeper principled understandings within projects which have iconic power.”

The overarching narrative of Sheffield describes the relationship between nature and technology, the two primary forces in the city’s history. External perceptions of Sheffield portray a “sad, grimy” post-industrial city, located “somewhere in the middle of England.” Residents however, appreciate the dramatic topography and landscape of the city, the rivers and hills of which provided the energy and material resources that allowed the initial industrial growth of the region. This relationship between nature and technology formed the framework for the overarching city narrative and the basis for the city’s Unitary Development Plan. The narrative of Sheffield was broken into two parts; history and politics and the topography. The historical political aspect of the narrative focusses on the growth and decline of industry within the city and the still functioning remnants of the steel industry. The topographical narrative focuses on the geographic distinctness that is unique to the regional and the potential of the regional ecology for a sustainable future. Hills, valleys, rivers, and forests define the landscape of the city and urban planning efforts need to accentuate the connection between the city and its surrounding. Within the historical/political narrative, five sub-strategies were identified, summarized as follows; redefine the role of the river, create connections between the existing green spaces, use the surrounding forests for recreation and to encourage new timber based industry, introduce recycling as an industry, and attract new “high technologies” to the city through its redefined image.

4 Chiles. What If? 191
Cincinnati is composed of a diverse mix of neighborhoods, each with its own specific urban context. A hillside arch frames the central urban district of Cincinnati. Topography formed the physical composition of the city. Views of downtown and the surrounding landscape abound.

Cincinnati has one of the oldest and most comprehensive public park systems in the country. The parks are located in both urban and suburban environments.

In the late 1800s through early 1900s, inclined railways navigated the Cincinnati hillsides, connecting the uptown and downtown neighborhoods. The majority of the steps still exist, creating a comprehensive network of vertical navigation.

Resulting from the removal of buildings wild urban nature has emerged in close proximity to the urban core. This nature provides environmental and experiential benefits.

[7.2]

A proposed narrative for future urban intervention in Cincinnati.
Within this established planning structure, each of the six Southney and Owlerton neighborhoods was allowed to develop its own specific narrative. Guided walks, creative workshops, and storytelling became the basis for consensus in the planning process. The integrative approach of the Parkwood Springs landscape area shows the success of joint professional and citizen workshopping. All interested parties were invited to be involved. This included city government organizations, wildlife and forestry conservationists, community interest groups, and even private utility and waste companies that had partial ownership of the site as well as planners, architects and landscape designers. Another framework contextualized within the narrative was developed. The framework concepts were “Park City,” “See and be seen,” “Identity from landform,” “From city to country and back again,” and “Green arteries.” The community then became involved in programming the site with recreational land use and conservation strategies. Design professionals used programmatic collages to reach consensus on the function of the land. Emergent from the process was the Parkwood Springs Community Vision Regeneration Action Plan reflecting the expressed needs of those involved and also a narrative framework in which to analyze the success of this, and future plans.

Narrative proved to be a successful tool in creating place-identity in Sheffield, but what implications does the process have on other post-industrial cities? The self-reflective historical narrative combined with the ecological, place-based, environmental narrative has universal relevance to post-industrial cities seeking to create a self-identity within the context of a sustainable future. While Sheffield was nestled within a relatively un-altered landscape, what becomes the ecological narrative in post-industrial cities situated distant from this type of landscape? In cities where successional nature is the most accessible, how does this nature play into an environmental urban narrative? Through the lens of Kowarik’s “four natures” approach the “new wilderness” wild nature of the fourth type is a product of both the agency of culture and the agency of nature, thus also a direct product of both the historical and environmental narratives of the particular place in which it emerged. Zooming in from the master plan, at the human scale, the scale at which one functionally interacts with the city, how do historical and environmental narrative influence architectural and landscape design? The challenge then for planners, designers, and communities is to imbed cultural and environmental significance in the emergence of “new wilderness” woodlands through urban planning, architecture, and landscape design.
A proposed narrative for future urban intervention in Cincinnati.
In Strategies Between Intervening and Leaving Room, Landscape architect Dr. Lucia Grosse-Bächle discusses integrating the successional dynamics of vegetation and design within the wild urban woodland. Grosse-Bächle references a dialogue between humans and nature, noting that both wild nature and designed nature are deeply rooted in the inherent give-and-take relationship between the two forces. However, to design nature is to design with the specific qualities of the plants and environments being used or affected, thus one is designing with dynamic processes. Design in fact is necessary, particularly in area of spontaneous urban vegetation in order to bring human use back to the site. Referencing plants as a design medium Grosse-Bächle explains “Plants are both the active opponents as well as the passive medium of the landscape architect. This double nature confronts the designer with an unsolvable contradiction that can be seen as both a problem and an opportunity.”

The plant can be considered as a biological phenomenon, where the dynamic processes are the most interesting aspect, a medium, in which its aesthetic qualities produce ideas and meaning, or as a “methodological challenge” in which the design accommodates the unexpected. Grosse-Bächle sees the wild urban woodland as undeniably valuable, but in need of a culturally relevant design strategies; “the denseness and closed-ness of the spontaneous woodlands require design interventions in the places where the woodlands meet developed areas in order to open up the space, create lines of sight, and allow public access.”

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2 Grosse-Bachle. Strategies. 233
3 Grosse-Bachle. Strategies. 244
Urban Context
Tempelhof-Schöneberg, Berlin, Germany

[8.3]
Land use diagram
Path typology, path is integrated with vegetation and cultural artifacts

Path typology, path is elevated above rare and fragile grasslands that emerged on the site
The design of Berlin’s Natur-Park Schöneberger Südgelände carefully balances nature conservation with community and tourist recreation, culture, and history. The site, an abandoned train yard of approximately 18 hectares, located in the urban Tempelhof-Schöneberg, the seventh borough of Berlin, was left unused as a result of the post-World War II political situation in Berlin, particularly West Berlin, whose railyards were controlled by the East German Reichsbahn, or Reich Railway, who reduced train service to a minimum in West Germany. The abandonment of the majority of the site allowed natural succession to proceed for nearly forty years with little occupational impact. What was left at the Südgelände after reunification in 1989 were artifacts of history, the remnants of the abandoned train yards, ecology, in the form of various stages micro-environmentally specific succession, and a constant reminder of the socio-political transformation that allowed for the transformation of the site. As Ingo Kowarik, in his analysis of the balance between recreation and conservation in the planning process of the site wrote, what was left was a “mosaic of remnants call to mind the history of the site, particularly those events that made the new natural development possible.”

Following the dismissal of plans to erect a new train station on the site, largely do the documented species richness and presence of rare species which had emerged, that the Berlin administration became interested in integrating urban-industrial nature into a city-wide urban open space system. The site, which had been rediscovered in the early 1980s was well documented by ecologists who evaluated the species composition and the sites development from herbaceous to woody vegetation. As interest in the site intensified a non-government organization of ecologists and citizens sought to preserve the Südgelände as a nature conservation area. In the early 1990s the site was designated as the Schöneberger Südgelände landscape and nature conservation area and was to be designed to unify the urban-industrial cultural artifacts and ecological diversity and species richness that emerged on the site, while balancing conservation and recreation needs. Today, joggers, recreation seekers and students frequent the site in number upwards of 50,000 per year.

The conflict between conservation and recreation dictated the planning and the design of the Natur-Park. The two major challenges of the planning process were “first, how to open the site to public without endangering the rich local flora and fauna, and second, how to respond to the natural vegetation dynamics that would, in a short time, lead to a

Mosaic of different dynamics and ordering of heterogeneous spaces along a path

Spatial Juxtaposition of different stages of succession
complete dominance of woodlands.” A strategy to protect fragile vegetation needed to be implemented while meeting the primary goal of urban nature conservation: the promotion of natural experiences for urban residents. Four goals were established as follows:

1. Preserve the historical structures and train tracks
2. Protect the flora and fauna that emerged on the site since its closure in 1952
3. Create a space for modern art and cultural, artistic, and theatrical performances
4. Develop environmental education for children and adults

In order to meet these goals a strategy adopting the simultaneity of culture and wilderness was adopted and reflected in the physical structuring and conservation agenda of the site. Three “zones” were established, each embodying a different conservation strategy. In some areas, the uncontrolled development of new wilderness was allowed. Succession is allowed to function in an unregulated manner characteristic of urban vegetation. In the second type of zone, succession is monitored and essentially frozen in time in order to preserve rare species that developed in the non-woody stages of the succession process. Woodlands are not allowed to develop here, creating open space and allowing for the easy observation of the railyard artifacts. In the third type of zone, the guest is allowed to move freely, much more like a traditional recreational park. In this zone access to the park is unrestricted, while in the previous two conservation based zones, a path, the construction of which responds to the fragility of the immediate site, regulates the procession of the visitor. The first and third zones are designated by the government as a Landscape Protection Area while only the second zone is designated as a Nature Protection Area because of its conservation of rare and fragile species.

Within the publicly accessible Landscape Conservation area three different “room typologies” were designed integrated with plant dynamics as well as two layers of cultural significance: the exiting industrial artifacts and sculptural and architectural interventions of the Odious Group. “Clearings” are kept free of shrubs and provide open views and easy

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6 Kowarik. Natur-Park Südgelände. 291-292
7 Kowarik. Natur-Park Südgelände. 295-296
access. “Groves” are open, light and accessible, and composed of primarily woody species. In “wild woods” the vegetation is entirely unmaintained. Throughout the park, architectural relics remain as defined spaces. Many of these relics were restored and made safely accessible to express the integration of anthropogenic history and natural processes. The display of art forms a new cultural layer on the site. The permanent sculptural features of the Odious group “present a creative tension with the developing wilderness,”8 while existing buildings were preserved as art galleries and a small café.

The designed organization of the rooms within Landscape Protection area and the Nature Protection zones functions as an analogy of the processional nature of time. Through maintenance interventions, stages of succession that normally would come and go are essentially frozen in time. At the Natur-Park these stages can be experienced as a visitor proceeds along a path that moves through mosaic of successional stages (Grosse-Bachle 242).9 Lucia Grosse-Bachle defines the specificities of the dynamic of each successional typology:

Cyclical Dynamics: In areas of pioneer vegetation, grasslands, and perennial meadows the succession process is either stopped or reset through maintenance to preserve the characteristic species of this early successional state. In these spaces the vegetation is the most designed and the least user impacted.

Targeted Dynamics: In the grove-like stands of trees, maintenance delays the successional process to create accessibility. These spaces are partially designed and are the most user impacted.

Undisturbed Individual Dynamics: In the wild woodland the successional process remains undisturbed. These spaces are not designed and the least user impacted.10

8 Kowarik. Natur-Park Südgelände. 297
The typologies are navigated by a path, itself responding to the site dynamics. In the grove-like stands of the site, the path is often integrated into the existing train tracks or simply worn into the ground. In areas where rare and sensitive species emerge the path take the form of an “iron boardwalk” touching the site in as few locations as possible. In the culturally driven areas of preserved architecture and structural relics the path is often paved or integrated into an existing hardscaped artifact.

The success of Berlin’s Natur-Park Schöneberger Südgelände lies in its ability to integrate urban-industrial artifacts, and their embedded cultural significance, with the inherent species dynamics of emergent successive post-industrial nature while successfully attracting visitors and educating both residents and tourists. The manipulation of the development processes of the present plants recognizes urban nature as “nature of the fourth type;” formed by the agency of both natural and cultural mechanisms. Urban nature is presented as an interactive process between humans, flora, and fauna, opposed to the often pristine and untrammeled “nature of the first type,” or wilderness.
Urban Ecological Education

As an increasingly large portion of the world’s population, around 80% in the United States, live in urban settlements it seems that the future of sustainability is an urban one, thus urban nature becomes increasingly important. The success of future biophilic cities depends largely on the active and socially inclusive participation of the citizenry and their understanding of their roles as stewards to urban nature. Participation becomes not only a way to connect to nature but also a way to strengthen human cultural relationships.

In Social Inclusion and the Sustainable City Roger Talbot and Gian Carlo Magnoli argue that a new knowledge base is needed to build an urban community “that are simultaneously resource efficient, ecologically sound and inclusive.”\(^1\) Talbot and Magnoli reference Medard Gable, an author and proponent of a holistic world view, who believes a future world “will need to be abundant, regenerative, dependable, safe, appropriate, equitable, flexible, efficient, and open minded, and locally controlled.”\(^2\) The authors emphasize the importance of learning, as the success of community participation depends on the ability of those involved to understand key concepts of ecology and how they relate to the environment, the community, politics and architecture.

Talbot and Magnoli argue that a transition to a “learning city” is a necessary prerequisite to sustainability. Education becomes the basis of participation, as we need to

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2. Talbot. Social Inclusion. 94.
“learn how to plan, build and live equitably within the sustainable city.” A re-education is necessary as current planning social and economic ideas are anti-ecological and fail to recognize local relationship and context. Physicist and director of the University of California Berkley’s Ecoliteracy Center, Fritjof Capra, argues that sustainable communities need to “possess the culture specific knowledge and the capacity to manage and utilize their resources in ways that are analogous to those of natural, ecological systems.”

Thus, community learning will be the vehicle in which this place based management knowledge will be obtained, and its success will be dependent on the networks of communication disseminating the information. Talbot and Magnoli define learning communities as those that “will be those able to adapt their social structures, their complex cultural values, and their patterns of resource utilization in response to the complex and interrelated environmental, social, and economic problems of sustainability.” A learning city contains high quality accessible education, an open structure for sharing knowledge and resources, is organized on ecological principles, attempts to make the best of what is, and is inclusive in its planning and development procedures.

A Community Education Model: Urban Forestry Education

The education of children is especially important as a basis of a learning city. Not only are children the most able to learn, they full time students. The ecological education of urban children is essential as many of them have had denatured childhoods. These are the citizens suffering the “nature deficit order discussed” by Richard Louv. Historically, city forests have been a place of learning for both professionals and the general public. Danish urban forestry and greenspace management specialist and professor Cecil Konijnendijk traces the educational roll of city forests back to 16th and early 17th century Europe. Wealthy collectors, garden societies and botanical gardens became increasingly interested in exotic tree species brought to the continent by the Dutch East India Company. The city forests, often semi-public privately owned hunting ground for the aristocrats become testing grounds for the newly introduced exotic species. City forests in early 18th and 19th
Berlin hosted many early forestry experiments related to the optimization of growth and health within forest stands, regeneration, and the optimization of economic returns. This was the development of so-called “rational forestry” and resulted in the founding of the Berlin “Forestschule” whose research influenced forestry across the Western World.6

The educational role of the community forest gains importance as well as relevance in the face of global climate change and the increasing emphasis on sustainability in cities. Likewise, communication between forestry professionals and the community increases in importance, as it is the urban public who interact in some way with urban forests on a daily basis. The city forest can function as a place for demonstration and create transparency in the forest management process through community participation. In the last couple of decades various demonstration forests have emerged internationally such as the Canadian Model Forest Network and the Polish national program of “Forest Promotional Complexes” that not only demonstrates innovative forestry methods but also contains a large recreational infrastructure to attract urban residents. In the Ronneby Brunn woodland park of Ronneby, Sweden, an education program focuses on the dissemination of non-professional local historical and culturally specific woodland knowledge by community volunteers. In Denmark and Sweden “landscape laboratories” are established in different woodland conditions to study the unique character of different landscapes. In Holstebro, Denmark, the Sletten Landscape Laboratory was developed in correspondence with three new residential communities to provide an educationally engaged public greenspace. In urban instances, landscape laboratories provide a place to learn how to design, manage and plan new urban woodlands.7

6 Konijnendijk. The Forest and the City. 155.
7 Konijnendijk. The Forest and the City. 156.
The city forest is an important tool in the nature education of children. Numerous studies have recognized the need for nature exposure in urban children who are living an increasingly sedentary lifestyle. Taylor and Kuo (2006) found that nature experiences and “outdoor challenge” programs promote self-esteem and self-concept amongst youths. The same study showed that in teenagers with behavioral problems, therapeutic wilderness programs resulted in a reduction of delinquent behavior and increased interpersonal communication skills. Additional studies discussed by Taylor and Kuo showed that students who engage in educational curriculum using “outdoor classrooms” on average have higher grade point averages and higher standardized testing scores. The participation of children in urban forestry management is all but non-existent, however youth specific forestry programs in non-urban areas are quite popular in Germany and France. ONF, the French State Forest Service, collaborates with local schools for their ‘Junior Foresters Education Program’ located in the Forêt de Sénart, a large forest on the outskirts of Paris that was once used as a royal hunting ground by French royalty. In collaboration with professional foresters and nature interpreters school children participate in forestry management activities such as the pruning and maintenance of trees and the establishment of recreation facilities. Upon completion of the program the students receive the title of “Junior Forester.”

Cincinnati Parks has a well-developed nature education system formed around grade specific learning programs however a major shortcoming is the lack of an explicitly urban focus. The programs take place at nature centers located at seven parks around the city and along the trails of twelve other city parks. While inside the city limits, none of these Parks are in truly urban setting and none of them contain post-industrial urban nature. Additionally, none of these parks are within walking distance of the central urban distance. This encourages the development of dualistic view of nature and the city implying that nature worth learning about is located a bus ride away and outside many of the students’ residential neighborhoods. A nature education agenda focusing on successional urban nature needs to be developed. The wild urban woodland becomes the focus as these places contain great biodiversity and ecological potential, and the effects of patterns of occupation and

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8 Faber Taylor, A. and Kuo, F. E. “Is contact with nature important for healthy child development?
9 Faber. Contact with nature.
activity over time. The programmatic emphasis becomes tied to urban forestry, and specifically the Cincinnati Parks Urban Forestry Division who are responsible for the health and maintenance of all woody plants within Cincinnati. Utilizing a collaborative strategy founded on education precedents, the following goals should be reflected in an urban forestry education curriculum. Within these goals grade specific learning standards should be addressed, as should the design and construction of facilities that reinforce and provide physical engagement with the curriculum and the physical environment.

Educational goals of an Urban Forestry Education curriculum and interpretive center (the order does not reflect importance)

1) Understand the role of urban forests within the context of the urban ecosystem, the future sustainable city and the history of Cincinnati

2) Learn how to properly maintain and be stewards of the urban forest

3) Learn about species diversity and the differences between beneficial native and non-native species as well as invasive species remediation

4) Engage in grade specific education programs that encourage a personal relationship with the urban community forest through maintenance, planting, identifying, discovering, building, etc.

5) Understand the successional process that resulted in the wild urban woodland including its embedded cultural history specific to Cincinnati

6) Develop a connection to urban nature as “place” rather than space

7) Provide accessibility to the community, guarantee a certain number of trips or activities to the involved parties

8) Utilize a collaborative structure, specifically between the Urban Forestry Division, Cincinnati Parks, and Cincinnati Public Schools, and other interested community partners and create cross-generational mentorship opportunities.
Cincinnati Parks system map
The Urban Ecology Center in Milwaukee, Wisconsin provides education opportunities to over 70,000 school students, community members, and visitors per year. Starting as a small neighborhood effort to reclaim a crime-ridden park, the Urban Ecology Center has become an essential part of the curriculum of over forty partnering schools and has expanded to three locations around the city. The strength of the program comes from its partnership strategy with local schools, which guarantees a substantial environmental education curriculum. The program encourages cross-generational mentorship opportunities between students, teachers, and volunteers and focuses on the development of a strong environmental ethic. The original location, situated in Milwaukee’s Riverside Park, features a 20,000 square foot interpretive center, providing flexible learning space, participatory design elements, and sustainable building systems that function as learning tools for the visitors. The center is open seven days a week to the general public and provides a variety of functions including adventure and scientific equipment rental, as well as bike and walking paths, canoeing and snowshoeing in the winter. As important as the educational partnership is the accessibility to the community.
By the mid-1980s Milwaukee’s Riverside Park, a Frederick Law Olmstead design from 1892 located two miles north of downtown, was essentially unusable by the public due to a lack of maintenance and a massive influx of crime. Pollutants in the Milwaukee River reduced the recreational value of the park and damaged the ecosystem. The park began to decline and after budget cuts was abandoned by the city. The park then became occupied by large numbers of the city’s homeless population and eventually became a space for drug dealing and violent crime. The Urban Ecology Center was incorporated in 1991 as an attempt to reintroduce positive participation in the park and remediate the increasing crime rate. The idea worked, as the frequent education trips grew in popularity and forced criminal to relocate. The documented crime rate in the park and its adjacent neighborhood dropped significantly since the center’s incorporation.  

The model for urban environmental education established by program director and founder of the current center Ken Leinbach and derived from the principle that “The best way to create an environmentally aware and activated citizenry is to provide children from a young age consistent contact to natural land while providing cross-generational opportunities on this land to foster the formation of environmental mentors.”  After meeting with the principals from neighborhood schools, a collaborative Neighborhood Environmental Education Program was formed. The Neighborhood Environmental Education Program established relationships between the Urban Ecology Center and partnering schools based on the following seven “key elements” taken directly from a statement by the director and founder of the center Ken Leinbach.

1. The program serves schools (public or private) within a two-mile radius of the Center. There are over 40 schools within the circle. We picked two miles because most of the schools with whom we work serve low-income families who may not have a car, so to get visitation outside of the school day, we needed to be within walking distance from their homes.

2. Each partnering school pays $4,000 a year from their annual budget. The actual cost of the program, including transportation is $9,000. We find a local business or

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10 Leinbach, Ken. ”It’s Kind of Fun to Do the Impossible: The Story of Milwaukee’s Urban Ecology Center.”
11 Leinbach. ’It’s Kind of Fun to Do the Impossible.’ 1.
foundation to sponsor the additional costs. For example, each year Alterra Coffee Roasters sponsors Escuela Fratney, a nearby bilingual school, while Harley Davidson Corporation sponsors Clark Street and Lloyd Street Schools.

3. Partner schools receive a baseline of 24 half-day trips spread throughout the seasons. Often, additional funding is found to add to this package.

4. We provide transportation in 15-passenger minibuses. Our teacher are drivers so the program begins the moment the students meet their Ecology Center teacher at their school. Every program is enhanced with a bus ride activity.
5. All programs are geared towards grade-specific learning goals. Each grade has five to ten programs to choose from, with a “create a program” option for teachers to tie the field trip into what the students are learning in their classroom.

6. We guarantee a maximum of a 1:14 teacher/student ration. Volunteer educators help to reduce this ratio.

7. A signed contract requires each school to provide a liaison who must attend two meetings each school year. These meetings are informational and evaluative.\textsuperscript{12}

This framework for partnership between the Urban Ecology center and the neighborhood schools is designed to be replicable in similar neighborhood centers in other cities. A similar collaborative framework can be established in Cincinnati with an Urban Forestry Interpretive Center and its surrounding neighborhoods.

\textsuperscript{12} Leinbach. 'It's Kind of Fun to Do the Impossible.' 4.
The Building

The 20,000 square foot Urban Ecology Center is designed to express its sustainable and ecologically responsive design and integrate a playful participatory approach. The program supports an outdoor recreation program for urban youth as well as science education, accredited research, citizen science, environmental appreciation, and green building education. Performative systems display their function throughout the building. Rainwater is collected in rain gardens and ponds that become active parts of the local ecosystem and the educational process. Additional rain water is collected in cisterns and used to water the vegetable gardens maintained by groups of students. The large surface area of the roof provides the space for a massive photovoltaic array that negates nearly the entire energy bill of the center and pumps energy back into the grid. Additional exterior participatory elements include a fire tower with an integrated climbing wall that provides views of the nearby park, river, city and the participatory gardens and ponds below. The interior spaces respond directly to the wide range of curriculum specific programs offered by the ecology center. To accommodate the variety of programs, primary spaces remain large, open, and flexible. The flexibility of the space has attracted some functions that were initially unintended. Ballroom dancers from the community contacted the Urban Ecology Center because of the large wooden floored spaces and now community dances are also held in the center. Three smaller classrooms exist to accommodate classes where a greater level of

Adjacent bicycle path
Urban Ecology Center, Milwaukee, WI
Neighborhood context and adjacency to Riverside Park

Building Plan
Participatory design elements
Urban Ecology Center
intimacy is required such as laboratory work, including the “camouflage” classroom that’s located beyond a hidden pivoting door. Other playful features, like the slide connecting the second floor to the first, attempt to create a fun and enjoyable experience for the visitor. Reclaimed local materials contribute to the structure as do the material and artistic donations of community businesses and creative. The Urban Ecology Center successfully encourages its use through its flexible, performative and accessible indoor and outdoor spaces. Despite its successes, the building is not without its flaws. Programmatically the building functions well, however the integration of sustainable systems is done a questionable tacked-on manner. Additionally no apparent ethic towards site disruption is expressed as the building sits heavily in the ground, and the construction process utilized involved the use of heavy equipment on site which can potentially damage species habitats. Briefly put, the building engages renewable resources yet fails to utilize a holistically biocentric design strategy that places site and habitat as an essential priority.
Max Pritchard's Bridge House in South Adelaide, Australia utilizes architectural strategies that place emphasis on an attitude of eco-stewardship. In particular, the project utilizes a structural strategy that reduces the footprint, and thus the site disruption, showing an inherent respectful ethic towards disrupting what is natural, or at least to some degree not manipulated by man. By touching the site lightly a functional and symbolic relationship with the building’s immediate context develops.

[10.1] Site Plan
DESIGN STRATEGIES

1

NARROW PLAN

The shallow plan of the bridge house creates almost entirely perimeter walls allowing clear views from all spaces.

2

TRUSS FRAME

The house’s truss frame allows the building to be elevated above the site. Local vegetation grows in the area a more traditional foundation would disrupt the site.

3

FOOTINGS

The building sits on 4 concrete footings. The total footprint of the home is around 10 square feet.
ASSEMBLY

Footing, frame, enclosure strategy allows for the majority of construction to be off site. This minimizes site disturbance.
Max Pritchard’s Bridge House is a home and office located in rural Australia an hour from the city of Adelaide. The building takes a minimally invasive approach, utilizing a difficult to build on site, and implementing a structural strategy that reduces the structures footprint, and the site impact of invasive construction methods. The positioning of the building on the site allows the linear-plan structure to span a small gully, set back from the vehicular access to the site. The structural system of the house is essentially that of a bridge; replacing a traditional more invasive foundation with a steel truss system, touching down at four small points on the site. The goal of the house, as stated by the architect is to “allow appreciation for the site without spoiling its beauty.” The house and truss system were pre-fabricated to eliminate the damage to the site caused by the construction process. The materials are primarily recycled and intended for assembly in a simple manner, in order to limit the total energy consumed during the construction process. The only on site construction was the pouring of the four small concrete footings.

Pritchard’s Bridge House not only physically touches the site respectfully. Its structural strategy allows the building to appear suspended over the earth. The building relies entirely on passive heating and cooling strategies, and gathers and uses rain water. Photovoltaic panels on the site generate more electricity than used by the house. The excess electricity is distributed back on the grid. This project comes very close to what I would consider a biocentric building. A biocentric view is one in which all life is accepted as equally valuable and humanity is not the center of existence. In this philosophy humanity has no more value than another species. Thus, in biocentric architecture, the needs of the environment are weighed equally with the needs of the client. The result is a symbiotic relationship between the site; the architecture, and the occupant. However, this condition is dependent on an objective analysis of the human and non-human needs of a particular project. This stands in contrast with anthropocentric architecture, where the needs of human beings are the driving force in the design.
The Tillamook Forestry Center was designed to educate visitors on the Tillamook National Forest, in particular the Tillamook Burn, a series of fires destroying 355,000 acres of forest. The facility offers classes, interpretive programs that venture out into the forest, and summer camps focusing on nature education and forestry. The building engages nature with views, materiality, and elevated movement through the site. Spaces are narrow and walls are highly fenestrated in order to create a strong visual connection from the interior space to the surrounding forest. The narrow-
DESIGN STRATEGIES

1

LINEAR PLAN

Narrow spaces create a high percentage of perimeter walls allowing for a close visual and physical connection to nature while inside the building.

2

FLEXIBLE SPACE

Over half of the interior square footage is used by a large interpretive space. This flexibility of the space accommodates a diverse program and also a large number of visitors.

3

INTEGRATED PATH

The linear plan and extending bridge allow the building to function as a trailhead. A visitor passes uninterrupted through the interpretive center and across the bridge before accessing the trail.
4

PARTICIPATION

The design incorporates participatory environmental systems as well as historical remnants integrated into the design.

5

LOW IMPACT

A portion of the building is elevated on piers. This both accommodates the topographical change and reduces site disturbance.

6

VIEW AND OBSERVATION

Exterior walls are largely transparent. A fire tower allows for views and observation. View can be a powerful tool used to connect to place.
Interior interpretive space
ness of the building connects the interpretive program to a path that extends across a bridge to a trailhead that leads visitors into the forest. The building utilizes minimally invasive construction methods and renewable materials and energy. These features reduce the impact on the site and display a respectful site ethic.

The majority of the building’s square footage is consumed by a large interpretive space that features permanent and temporary exhibits as well as mixed use activity space. A long path connection the parking to the trail head enters and exits at the far end of the interpretive space. Labs as well as indoor and outdoor classrooms, and an amphitheater provided separate educational spaces for the visitors. Offices provide private space for the staff and a gift shop sells educational souvenirs. Participatory features such as a bridge, a fire tower, and various interactive forestry tools (both modern and antique) enrich the program to create an active and engaging experience.

[10.9]

Attached bridge/trail head
METHODOLOGY: SITE DOCUMENTATION
TOPOGRAPHICAL CONTEXT

[11.1]

Cincinnati, OH
A city shaped by hills
Urban Context within a network of parks and wooded hillsides
OLD INCLINE SITES: A SERIES OF VIEWS

MT. AUBURN INCLINE 01

BELLEVUE INCLINE 02

FAIRVIEW INCLINE 03

PRICE HILL INCLINE 04

MT. ADAMS INCLINE 05

[11.3]

Keyed references from [11.2]
urban context diagram
Rothenberg Preparatory Academy (K-12)

Historic School currently under renovation located directly across the street from the proposed site of the Cincinnati Urban Forest Education Center.

.02 Miles from site

Historic Preservation/Adaptive Reuse

Commercial, residential, and cultural redevelopment is occurring in the nearby neighborhood of Over-the-Rhine. Main St., Vine Street, and the areas surrounding Washington Park and Findlay Market are key locations. A growing community of artists is establishing itself in the nearby Pendleton Neighborhood.

.1 - .5 Miles from site

New Development

In addition to historic preservation and adaptive reuse efforts, new construction, such as Mercer Commons (pictured to the right) is creating additional commercial and residential space. The Horseshoe Casino and the riverfront development, The Banks, are other new development projects nearby the site.

.1 - 1.25 Miles from site
Main and Mulberry, Cincinnati, OH

Location:
Main St. and Mulberry St. (1700 Block Hughes St.)
Mt. Auburn, Cincinnati, OH
39° 6'51.71"N, 84°30'39.20"W

Area:
5.1 Acres

Elevation Change:
220 ft (570-790 ft. above sea level)

[Site Proximities Diagrams]
Mount Auburn Incline

From 1871 - 1878 the Mount Auburn Incline rose nearly 250 feet from the corner of Main St. and Mulberry St. The current Main St. Steps follow the path that the incline once took. The incline was unique in that the tracks changed grade in order to accommodate the uniqueness of the hillside condition.

Historical Significance

Site Proximities Diagrams
The site, at Main St. and Mulberry St. is located only a mile from downtown Cincinnati giving the project the ability to connect into the context of multiple surrounding neighborhoods. Particularly relevant is the commercial and residential development currently underway in the Over-the-Rhine neighborhood. The site has the potential to tie into the surrounding redevelopment and add something different to the neighborhood; a natural and educational experience. The presence of Permaganic Eco Garden has proved the success of this site as a place as an environmental nature education. The proposed Urban Forest Education Center will embrace this potential for a larger audience while addressing the physical needs of the site.
ROTHENBERG ACADEMY
K-12 school, currently under renovation.

PERMAGAMIC ECO GARDEN
Non-profit urban farm utilizing community participation.

OVER THE RHINE
Adjacent neighborhood located west of Main St.

BASE OF MAIN ST. STEPS
Hillside inflection point, stairs lead to Jackson Hill Park.

ECOLOGICAL SUCCESSION
Wild urban woodland emerged where homes were demolished.
Existing Conditions: North View

The site location bridges the gap from a dense and occupied urban environment to the wild and overgrown woodlands of the Cincinnati hillside. The site has great potential as a threshold into the emergent successional vegetation; connecting the central urban district to the spontaneously vegetated hillside. The historic Main St. Steps, in old location of the Mt. Auburn Incline connect the site to Jackson Hill Park, atop Mt. Auburn. The steps occur at the terminus of Main St., a key street in the redevelopment of the Over-the-Rhine neighborhood. This further emphasizes the sites importance as a threshold to both the hillside woodlands and the existing, yet detached park.
ECOLOGICAL SUCCESSION
Wild urban woodland emerged where homes were demolished.

MT. AUBURN
The site is located in Mt. Auburn where the Over the Rhine, Pendleton and Mt. Auburn converge.

PROSPECT HILL
Hillside inflection point, stairs lead to Jackson Hill Park.

DOWNTOWN CINCINNATI
Site is located 1 mile from Downtown Cincinnati.

PERMANENT ECO GARDEN
Non-profit urban farm utilizing community participation.
TOPOGRAPHICAL ANALYSIS

Topographical Analysis Site
Section
Various phases of ecological succession occur on the site. This is due to the different times in which buildings were removed as well as the intensity of site use. While some good native species do occur, the less than ideal site conditions encourage the growth and spread of invasive species (primarily honeysuckle) and growth of “weed” trees that do well in shallow soils.
Prevalent Successional Phases
Prevalent Successional Phases

Species Inventory
Prevalent Successional Phases
ZONE 4

ENVIRONMENT
Slope: 35-60% west-facing - steepest section
Soil: CDF, with fragola, loam topsoil

Very steep, rapid runoff, few permeability and drainage
High slope/aspect exposure (dark, waterless to reduce evaporation)
Sun: 1/2 southern exposure.

Prevalent Successional Phases

Species Inventory
ENVIRONMENT

Shape: 100'-150' wide ridge
Soil: Kalf; sandy, soggy, rocky clay loam

Movement: 25'

Sun: full southern exposure

Prevalent Successional Phases

Phase 1: Baby Stage
  - Height: young
  - Size: climbing vine
  - Soil: rock but not eroded soils
  - Other: wind associated with sessions of wind disturbance, insects, and birds

Phase 2: Colloquium
  - Height: young
  - Size: young
  - Soil: protected root area and soil strips, land grows on dry or thickened soils
  - Other: same micro-environment same as "colloquium" leaves close growing, used to be forest stage tree

Phase 3: Pionaeus
  - Height: young
  - Size: 6'-10'-12'
  - Soil: all rock type
  - Other: shrubs and perennial herbaceous species

Phase 4: Cooking
  - Height: tall
  - Size: 6'-12'
  - Soil: all rock type
  - Other: same species as Phase 2

Phase 5: Alters
  - Height: young
  - Size: 6'-12'
  - Soil: all rock type
  - Other: same species as Phase 3

Phase 6: Elk
  - Height: young
  - Size: young
  - Soil: rock but not eroded soils
  - Other: wind associated with sessions of wind disturbance, insects, and birds
URBAN FORESTRY EDUCATION CENTER: PROGRAM AND USER
Building Typology

Cincinnati Urban Forest Education Center

The Cincinnati Urban Forest Education center provides a home to the Cincinnati Parks Urban Forestry Division and provides an urban Nature Education center for Cincinnati Parks and Cincinnati Public Schools, thus the facility is to be utilized by both the public and professionals. An interpretive path, creating a diffuse perpendicular circulatory relationship with the historic Main St. Steps runs up the hillside and is accessible to the public at all times. Additionally the laboratory facilities provide a research outpost for the University of Cincinnati, Xavier University and Cincinnati State Technical and Community College. The wide range of users makes the project a valuable asset to a large portion of the local community.

The building addresses three primary practical issues relating to urban nature policy in the Cincinnati area. First, the Central Business District is the priority of the Urban Forestry Division in terms of maintenance and policy yet the current location is in Avondale. The facility provides a centrally located base for the Urban Forestry Division. Additionally, the hillside location addresses the need for maintenance and remediation on Cincinnati’s overgrown hillside district. Second, the facility addresses the lack of a truly urban Cincinnati Parks Nature Center. The current locations are peripheral to Cincinnati’s urban core. Finally, the project provides a solution for integrating spontaneous nature into a relevant and theoretically current urbanism. The program engages successional nature within the local biological and historical contexts.
Institutions and Users

1. COMMUNITY FOREST
   - Activities: Recreation, Art/flex zones, Trailhead to forest trails, Trailhead to steps, Exposure to nature, Hiking/walking, Biodiversity research and gathering

2. INTERPRETIVE CENTER
   - Activities: Cincinnati natural history, Cincinnati urban history, Parks information, Urban Timber Program

3. ENVIRONMENTAL EDUCATION
   - Activities: Urban Timber Program, Tree planting and cultivation, Tree maintenance and forestry stewardship, Tagging for removal, Species inventories

4. RESEARCH
   - Activities: Interactive nursery, containerized growing method, Tree care and planting

5. FORESTRY ADMINISTRATION
   - Activities: Policy and Practice, Parks administration, Tree and forest/hillside maintenance, Urban site documentation and maintenance, Street tree program (Downtown and others)

Program Diagram
## Spaces

**Forestry Education Center**

<table>
<thead>
<tr>
<th>Space</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretive educational flexible space</td>
<td>7000 ft²</td>
</tr>
<tr>
<td>Wood shop</td>
<td>1000 ft²</td>
</tr>
<tr>
<td>Laboratory</td>
<td>1000 ft²</td>
</tr>
<tr>
<td>Archive</td>
<td>800 ft²</td>
</tr>
<tr>
<td>Restrooms</td>
<td>180 ft² x 2</td>
</tr>
<tr>
<td>Gift Shop</td>
<td>276 ft²</td>
</tr>
<tr>
<td>Tower</td>
<td>1200 ft² x 3</td>
</tr>
<tr>
<td></td>
<td>144 ft² x 2</td>
</tr>
<tr>
<td>Interpretive stair/path through landscape zones</td>
<td>1100 linear ft</td>
</tr>
</tbody>
</table>

**Forestry Administration**

<table>
<thead>
<tr>
<th>Space</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offices</td>
<td>155 ft² x 2</td>
</tr>
<tr>
<td>Directors office</td>
<td>310 ft²</td>
</tr>
<tr>
<td>Meeting space</td>
<td>520 ft²</td>
</tr>
<tr>
<td>Reception space</td>
<td>600 ft²</td>
</tr>
<tr>
<td>Garage/Maintenance</td>
<td>2400 ft²</td>
</tr>
</tbody>
</table>
(Shared with Education Center)

## Totals:

- **Building and Garage**
  - 18464 ft²

- **Building and Garage (with interpretive path)**
  - 29464 ft²
Cincinnati Nature Education Opportunities:
Distance from Central Urban District
DESIGN STRATEGIES
Site Phasing:  
Layers of Intervention

In response to the horticultural and topographical specificities of the site a multi-phased approach to the site must be implemented. Invasive species need to be removed in order for more bioproductive species to flourish. The sloping soils of the site also need to be retained in order to prevent further damage to the slope and to allow the site to be built on.
Site Section
Topographic Negotiation

The building and path hover over the site and step down the hillside to accommodate the topography. This strategy reduces the footprint of the building and allows vegetation to overtake the structure and grow through and under the building. The stepped form and framing of the building formally reference the incline plane that once existed on the site.
Initiated Succession

Following the remediation of invasive species on the site, the hillside retention, and the building implementation phases, a revegetation phase begins and proceeds in accordance with the successional process. The species planted on the site are the good species that emerged following the removal of buildings on the site. The vegetation is managed by the Urban Forestry Division and with the help of school students and community members. This regulated successional process created a healthier and more bioproductive landscape while not denying the anthropogenic influence of the urban realm.

YEAR 1
MID SLOPE PERSPECTIVE

YEAR 2
MID SLOPE PERSPECTIVE

[13.4]
YEAR 10
MID SLOPE PERSPECTIVE

YEAR 25
MID SLOPE PERSPECTIVE

LARGE PERENNIAL PLANTS ESTABLISH
SMALL WOODY PLANTS
FURTHER IMMERSION OF STRUCTURE

RELATIVE STASIS OF VEGETATION
SMALL WOODY PLANTS MATURE
STRUCTURE IMMERSED IN LANDSCAPE
Site Strategy: Hillside Ascent
DIFFUSE
PERPENDICULAR
[13.8]

Site Concept Model
Early Site Model
[13.11]

Site Concept Model
Site Concept Model
Mid-site tectonic study model
Mid-site tectonic study model
Section Model
Section Model
Section Model
Section Model
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