Pathways of Urban Nature: Diversity in the Greening of the Twenty-First Century City
Andrew Karvonen

Nature is a central component of the twenty-first century city. Beyond parks and open spaces, urban nature is implicated in strategies of economic development, climate change mitigation and adaptation, public art, biodiversity enhancement, local food production, health and livability, social justice, community identity, and more. This “pluralization” of urban nature has come about in the last four decades as a result of the mainstreaming of environmental protection activities; the proliferation of knowledge about how natural systems support and maintain cities; a wide range of innovative and inspiring projects, policies, and technologies that feature urban nature; and a gradual shift away from cultural perceptions that nature and cities are diametrically opposed. Greening activities continue to be undertaken by environmentalists and community activists, but also include a broader array of stakeholders including private development interests, natural scientists, artists, social justice advocates, and others. The broadening of the urban greening agenda to a wide variety of actors and strategies is a welcome development but it can result in confusion due to a cacophony of voices and ideas on how and why we green cities. How can we make sense of the multiple ways that nature is being reworked in today’s cities?

The aim of this chapter is to propose a pathways approach to interpret the multiple ways that urban nature is being realized today. The notion of “pathways” has been used by a wide variety of scholars in the social sciences and the design disciplines to deal with the multiplicity of ways that sustainable development and design has been conceptualized and acted upon in a variety of contexts. Pathways are useful for identifying key actors and their perceptions of improved urban futures with an emphasis on the means by which they frame and enact their particular visions in particular social and physical contexts. It serves as a heuristic tool to structure and assess the various approaches to urban greening that are shaped by particular cultural and political pressures. I begin the chapter by defining the theoretical underpinnings and intentions of the pathways approach. I then use three vignettes of urban nature projects in Manchester, England, to demonstrate how the pathways perspective can be used to reflect upon and scrutinize urban green activities. I conclude by arguing that the greening of cities not only involves the introduction and rearrangement of nature in the city, but also has implications for how human societies are governed. In this way, we can understand the greening of cities as a deeply political process of reinventing the relations between humans and their physical surroundings.

The Pathways Approach to Urban Development
The pathways approach has been developed over the past two decades by scholars in architecture, planning, geography, sociology, anthropology, political science, and environmental studies to challenge positivist tendencies towards a single definition of sustainable development. Inspired by post-colonial, feminist, and post-structural critiques of modernity, these authors share a belief that sustainable development involves a plurality of logics and practices rather than one ideal approach. The notion of pathways rejects the predefined norms and universal assumptions that underpin the
majority of theoretical and empirical work on sustainable development and instead embrace the pursuit of sustainability as discursive, contested, and multiple. With respect to cities, the pathways approach has been used to interpret urban development and planning processes (Haughton 1997, Guy and Marvin 1999, 2000, Pinderhughes 2004, 2008), architecture (Guy and Farmer 2000, 2001, Farmer and Guy 2002, Guy and Moore 2005, 2007), energy (Marvin et al. 1999, Guy 2004, 2006, Rydin et al. 2013), food (Allen et al. 2003), transport (Evans et al. 2001), social movements (Gottlieb 2001, Hess 2007), and environmental politics (Taylor 2000, Jamison 2001, Moore 2007, Leach et al. 2010). Hess (2007: 4) argues that pathways “make it possible to avoid drawing premature boundaries when confronted with the fluidity of goals and repertoires of action.” And Guy and Marvin (2001: 31) add that pathways are helpful in “the recognition that a wide diversity of sustainable urban futures are likely to coexist within a single city.”

By recognizing diversity as a condition to be analyzed rather than suppressed, the pathways approach interprets sustainability as an inherently discursive notion. Leach and colleagues (2010: 168) argue that, “a pathways approach aims to uncover diversity, broaden out the debate and open up possibilities for ways forward.” Such a perspective can be used to identify coalitions of actors and shared development agendas as well as expose the frictions and tensions between different conceptions of “the good city,” “the green city,” and “the sustainable city.” It highlights that there are a range of possible options or potential trajectories that might be pursued via a selected suite of technologies, policies, and strategies. Pathways reveal the contrasting visions and aspirations of various stakeholders in achieving more sustainable urban conditions and serve to widen the debate on sustainability by considering how different interests are represented or overlooked in specific activities. The approach encourages us to consider why an activity was undertaken, who was included and who was excluded in decision-making processes, and how new conditions were realized. It shifts the emphasis of sustainable development away from idealized solutions and towards the processes of defining problems, negotiating interests, formulating and undertaking actions, and assessing the outcomes.

At the same time, the pathways approach does not suggest that the multiple perspectives on urban nature and sustainability are equal. Instead, it provides a framework to unpack embedded political, cultural, and social assumptions. Pathways are useful for making sense of the messy processes of sustainable development in particular times and places. In this way, the approach provides a heuristic device or conceptual window that is more flexible and fluid than traditional models of sustainable development (Guy 2012). There is an understanding that pathways are not mutually exclusive or static; instead, they represent a range of options that overlap and interact. The pathways approach encourages a comparative sensibility among theorists, policymakers, practitioners, and the general public (Jamison 2001). The purpose of identifying pathways is not to identify the best or most effective route to a singular future but to recognize the multiplicity of ways that interventions in cities could produce different urban futures. As Leach and colleagues (2010: 168) conclude, “a pathways approach thus offers a way to overcome the kinds of simplifications that have limited options and stultified debate about sustainable development.”

With respect to urban nature, the pathways approach provides conceptual guideposts to follow when analyzing how greening projects or agendas are being interpreted and acted upon. The approach reinforces the idea that “there is no singular nature as such, only natures. And such natures are historically, geographically, and socially constituted” (Macnaghten and Urry 1998: 15). To understand this diversity, it is helpful to situate and unpack the various interpretations and motivations of the actors involved beyond ecological and aesthetic interpretations to understand the social, cultural, and political implications. Likewise, it opens up the greening of cities to more than environmentalist agendas to embrace multiple modes of interpretation and intervention. Pathways shift the gaze of
urban nature practitioners and researchers from products—green roofs, community gardens, rainwater harvesting policies, restored waterways, and so on—to the messy and contested processes that constitute urban development (Guy and Marvin 2000, 2001). In this way, the pathways approach situates urban nature in particular social and physical contexts and highlights the centrality of place in the ecologizing of cities.

**Urban Nature Pathways in Manchester**

To illustrate the multiplicity of contemporary urban nature projects today and to show how the pathways perspective can be used to interpret them, I briefly summarize three urban nature projects in Manchester, England. Manchester has an international reputation as “the first industrial city” and its rapid development in the nineteenth century was one of the earliest and most vibrant examples of the promise and pitfalls of industrial economic development. The rapid rise in Manchester’s global economic trade activities was accompanied by increasingly polluted and unhealthy living conditions for the lower and working classes in the city, serving as an early example of the tensions between international flows of capital and quality of life for local residents (Platt 2005). In short, Manchester serves as a quintessential example of the “unsustainable” urban conditions that proliferated in the Global North in the twentieth century. Today, Manchester is often touted as the “second city” of England with a strong emphasis on international business and creative culture (Peck and Ward 2002, Williams 2003, Hebbert 2010, Hatherley 2011), but like many cities in northern England, it continues to reflect its early industrial legacy with a lack of green space in the urban core and a large number of derelict buildings and empty sites.

In the following sections, I describe three projects in Manchester that are aimed at greening the city in different ways. My intention is not to frame these projects as exemplars of urban nature that can and should be replicated around the world nor am I arguing that these projects will rescue Manchester from its industrial past. Instead, the projects serve to illustrate a few of the innovative ways that urban nature is being interpreted for and applied to particular physical and social conditions. Each project embodies implicit and explicit assumptions about desirable future conditions for Manchester and constitutes new forms of socio-material organization to realize those futures. By considering the motivations of stakeholders and the methods of organization and action, we can derive more general lessons about what nature can potentially achieve in contemporary cities.

**Manchester Garden City Initiative**

In 2010, employees at international design firm BDP initiated a program to address the lack of green space in the city center. They realized that through voluntary efforts and the application of their collective landscape and urban design expertise, they could realize a more livable urban environment for workers and residents. The Manchester Garden City Initiative was initiated with a clear and understandable brand complemented by a handful of simple design proposals to create temporary and permanent niches of urban agriculture, biodiversity, and recreation in the city center (CityCo 2013). The volunteers at BDP reached out to CityCo, a non-profit membership organization of city center employers, to generate funding, materials, and volunteers for construction and maintenance of their proposed projects. The program appealed to CityCo’s mission to support and enhance the local economy of Manchester through physical interventions. As a result, a coalition of design and economic development interests was born. In May 2011, the Manchester Garden City Initiative completed its first project in the Piccadilly Basin neighborhood consisting of a wall of wildflowers to serve as an aesthetic partition between a public canal path and an adjacent parking lot. The wall served double duty as a home for insects and native plants, enhancing the biodiversity of the city center. Subsequent projects included an urban orchard, pocket parks, children’s play areas, and temporary spaces for events (Figure 1). A volunteer states, “Manchester, being the first industrial city in the world, there’s always been a lack of green spaces. So I think that anything that introduces more
green spaces, more places to relax in a nicer environment and increase the biodiversity, is a great idea” (quoted in BBC 2011).

Manchester Garden City Initiative follows an “urban acupuncture” strategy (Sim 2009 and Villagomez 2010) to green the city by completing small projects in interstitial spaces. The projects are attractive to the design and business communities because they can be undertaken with relative ease and lack of disruption. Their aim is to create a beautiful and bio-diverse city through collaborative activities between property owners, businesses, employees, and residents in the marginal spaces of the city center. It encourages corporate citizenship by allowing property owners to take collective responsibility for enhancing and maintaining their surroundings while providing city center workers and residents with an improved public realm. In short, it encourages Mancunians in the city center to be deliberative and active neighbors by pursuing complementary goals of quality of life and social cohesion. This can be described as a “business/community pathway” that involves landscape design, corporate social responsibility, and community development.

Sow Sew

A second urban nature project in Manchester takes a markedly different approach. In 2010, designers Rob Thomas and Chris Wilkins won a design competition for public art in the New Islington area of East Manchester (Thomas Wilkins Design 2013). This area of the city was the original site of mills and warehouses that supported the industrial economy of the city and served as the heart of “Cottonopolis” from the mid-nineteenth to the mid-twentieth centuries. After World War II, the neighborhoods in East Manchester withered as industry and employment left, leaving a patchy urban landscape of crumbling mills, derelict housing, and empty lots (Grant 2010). Thomas and Wilkins’ Sow Sew project recognized an opportunity in the downturn of the property development cycle to
temporarily grow flax on vacant land (Figure 2). Flax is a hearty plant that can grow in less than ideal conditions and requires little maintenance beyond weeding. As an organic and local alternative to cotton, flax has advantages of lower environmental impacts due to the use of fertilizers and pesticides as well as transportation impacts of importing foreign materials into England (MERCi 2013).

The project was spearheaded by a local non-profit organization, the Manchester Environmental Research Centre Initiative (MERCi), with the aim of reviving local industrial production in a more sustainable manner (Mallett 2011). The first crop of flax was harvested in 2011 and then processed, dyed, and donated to local artists to create clothing, bags, banners, and other items under the label of “Made in Manchester.” This process has since been repeated on other vacant lots in East Manchester to build a long-term local culture of raw material production and artistic design.

The Sow Sew project builds upon contemporary ideas of temporary use to create a productive landscape in derelict or overlooked spaces (Urban Catalyst 2003, 2007, Haydn and Temel 2006, Andres 2013). There is an understanding that these open spaces will most likely be developed in the coming years but they can be used in the meantime to promote economic, cultural, and ecological goals. It taps into the temporal rhythms of urban change—economically with respect to the property development cycle and ecologically with respect to the seasonal growing and harvesting of flax. Moreover, the creation of industrial production creates a new identity for East Manchester that resonates with the historical activities in the area. A key element to the project is the intermediary role that MERCi plays in connecting the various stakeholders including the landowner, growers, processors, and artists. The project can be described as an “industry/artistic pathway” because it provides a basis for a new local economy to emerge that is based on sustainable natural resource production and local skilled workers.
Biospheric Project
A third urban nature project in Manchester is actually located just a short walk across the River Irwell in neighboring Salford. The Biospheric Project was initiated in 2010 and involves a partnership between Manchester Metropolitan University, Queens University Belfast, Salford City Council, and the Manchester International Festival. Initiated by urban ecologist and “eco-preneur” Vincent Walsh, the project is a combination of scientific laboratory, urban farm, and social experiment (Arden 2013, Biospheric Project 2013). The project is housed in an empty printworks building and includes a plethora of horticultural experiments including a wormery, aquaponics, vertical gardens, mushroom growing, and roof gardens (Figure 3). Scientists and volunteers are conducting a wide range of studies to provide proof of concept for the latest ideas about industrial ecology, closed-loop systems, and regenerative design (Lyle 1994) and to develop strategies to scale up and roll out these ideas to other locales.

Figure 3 Visitors explore the roof garden at the Biospheric Project, an industrial building in a low-income area of Salford. Photograph by Andrew Karvonen

Beyond scientific experiments, the Biospheric Project aims to support local residents in buying and eventually growing their own food. The experiments are large enough to supplement the project’s local food store (78 Steps) and home delivery service (Whole Box) and provide residents with ready access to local, healthy food. The social mission of the Biospheric Project is directly related to its location in a severely deprived neighborhood. The project received £300,000 of funding from the local government to improve public health through the promotion of better eating habits. Walsh’s aim is “to develop an action-led research laboratory in an area of urban deprivation where it is really needed, because the access to food on this estate is so poor” (Rawsthorn 2013). This approach mirrors the Sanitary City movement of the mid- to late nineteenth century when sanitarians applied the latest scientific findings to alleviate conditions of urban poverty (Melosi 2000, Pincetl 2010). Rather than water, wastewater, and air, the emphasis of the Biospheric volunteers is on food and nutrition through community outreach and engagement. The project serves as a “living lab” of innovation by
pushing the boundaries of what nature can do from a horticultural as well as social standpoint. It can be described as a “science/public health pathway” that recognizes synergies between horticultural innovation and the alleviation of poverty.

These three projects are well-known examples of urban nature in Manchester today. They are inspired by a wide range of ideas for how the city can leverage its existing social and material infrastructure to green the city in different ways. The Manchester Garden City Initiative exploits niches in the highly built up city center, Sow Sew targets vacant land as a temporary opportunity for growing, and the Biospheric Project reimagines an abandoned industrial building to promote scientific experiments and improved public health. The projects tap into different networks of stakeholders to complement and expand upon the conventional work of the local government to introduce green and blue infrastructure to the city. Traditional environmental and community groups are joined by the private sector, artistic and cultural groups, public health advocates, and others, demonstrating how urban nature can encompass a wide range of motivations and strategies.

Table 1 provides a summary of the above three examples to compare and contrast the motivations and strategies of each pathway. The Manchester Garden City Initiative creates new relationships between companies that are situated in the city center and residents who call the city center home, the Sow Sew project brings together horticulturalists with local artists to create new industrial products, and the Biospheric Project involves academic researchers and volunteers who are testing new ideas about urban agriculture and then using this knowledge to improve the public health of the surrounding deprived community. This comparison shows how contextual conditions drive each project and how the stakeholders interpret nature in various ways to achieve their desired goals.

Table 1. Three Pathways of Urban Nature in Manchester, England

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Manchester Garden City Initiative</th>
<th>Sow Sew Project</th>
<th>Biospheric Project</th>
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<tbody>
<tr>
<td>Contextual opportunity</td>
<td>Interstitial spaces</td>
<td>Vacant land</td>
<td>Vacant building</td>
</tr>
<tr>
<td>Drivers</td>
<td>Convivial urban environments</td>
<td>Natural resources and skills</td>
<td>Food production and social equity</td>
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<tr>
<td>Role of nature</td>
<td>Beauty and biodiversity</td>
<td>Historical reminder and natural resource</td>
<td>Food production and public health</td>
</tr>
<tr>
<td>Key actor</td>
<td>Corporate citizen</td>
<td>Skilled artist</td>
<td>Natural scientist</td>
</tr>
<tr>
<td>Aims</td>
<td>Placemaking and community building</td>
<td>Revival of local economy and support of artist community</td>
<td>Production of scientific findings and social learning</td>
</tr>
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</table>
These projects are not intended to encompass all urban nature activities in Manchester; indeed, there are numerous other pathways that involve regulatory innovation, artistic expression, cultural capital, local agriculture, and so on. Furthermore, these pathways are not autonomous; they overlap and combine to form distinctive, context-bound approaches to urban nature. For example, the notion of ecological science is common to all of the above projects although its plays the most prominent role in the Biospheric Project. Likewise, the idea of “community” is strong in all three examples, although what constitutes community varies across each project. And all of the projects build upon the existing conditions in Manchester. They are bottom-up, context-specific and place-bound (Moore and Karvonen 2008), although they do take inspiration and ideas from projects in England as well as around the world. The projects are all relatively new and it is unclear if they will thrive and grow in the long term or fade away as new projects and initiatives emerge. If nothing else, they serve as inspiration for others interested in creating better urban conditions in Manchester and elsewhere.

**Greening the Twenty-First Century City**

The pathways approach to urban nature is useful for making sense of the multiple ways that nature is being interpreted and enacted in cities today. It shifts the focus away from idealized, universal notions of urban nature to emphasize the physical and social contexts that are being reoriented to realize change. Once we understand that nature is not something outside of cities or restricted to the work of environmentalists and community groups, we can begin to understand urban greening activities as social, cultural, and political interventions. Manchester’s urban nature projects are context-specific and build upon the industrial past of the city and its historic development that is largely built up and devoid of green space. These projects bring together unique groups of urban stakeholders around specific ideas about how to green the city. In this way, they create ‘working landscapes’ that simultaneously celebrate the past while producing new conditions (Cannovò 2007). Looking across these examples, several lessons emerge that can be useful for urban greening projects in other locales.

First, urban nature projects frequently involve collaboration between complementary and strategic stakeholders. By expanding the notion of nature beyond aesthetic and ecological ideas, a variety of public, private, and third sector partners come together to work side by side on a particular project. Reflecting on the pathways approach, Guy and Marvin (1999: 272) note that “new and sometimes unlikely partnerships may be formed in the pursuit of alternative urban futures.” Agyeman and colleagues refer to this as “joined-up sustainability” (Agyeman et al. 2003, Agyeman 2005), a transdisciplinary perspective that trespasses across conventional conceptual boundaries to realize synergies between related agendas. This suggests that urban greening is ultimately about building relations, both socially and materially (Gandy 2002, Karvonen 2011, Karvonen and Yocom 2011).

A second lesson of urban greening from the Manchester projects is the need for brokerage and intermediation. Gottlieb (2001: 232) celebrates those activities “where movements and agendas emerge and coalesce” but this requires individuals and organizations to identify commonalities and nurture relations between potential collaborators. The Manchester projects were possible because the participants embraced a collaborative attitude and were guided by intermediaries who could look across all of the agendas and identify commonalities (Brand and Karvonen 2007, Karvonen and Brand, 2009, 2013, Guy et al. 2011). The emphasis on partnerships and more open visions of “the green city” suggests the need for advocates of urban nature to be flexible and pragmatic in their activities. Identifying windows of opportunity becomes more important than realizing idealized models of urban nature.

A third lesson from the Manchester projects is the need for a clear narrative to describe such projects. With the multitude of actors and agendas participating in these projects, it was essential for each be
able to convey the aims of the project succinctly and accurately. As Beauregard (2003: 68) notes, “Stories are told not just to express understandings and intentions to listeners but also to reshape them.” Contemporary urban nature projects can be confusing and opaque to those who view nature through conventional lenses of recreation or ecological science. This suggests that a key challenge of ecologizing the city in the twenty-first century is to be able to tell a coherent story that can appeal to a wide range of stakeholders. The Manchester projects are cognizant of the importance of storytelling and have developed strong narratives that go beyond “green is good” to advertise the multiple ways that their projects benefit a range of urban stakeholders.

Ultimately, the pathways approach challenges all urban stakeholders from residents and activists to policy makers, practitioners, and private companies to identify and develop strategies that resonate with their social and physical contexts. At its best, the greening of cities constitutes a new form of civic politics and new modes of citizenship (Light 2003, Dobson 2003, Hester 2006, Karvonen 2010, 2011, Karvonen and Yocom 2011) with multiple forms of urban nature fueling civic association and attachment to place (Hinchliffe et al. 2005, Hinchliffe and Whatmore 2006). Pathways are intended to reveal the motivations of various stakeholders, reflect on decision-making processes, negotiate compromise, and critically assess the results of all urban greening projects. It is through this process of reflection and communication about what and how we hope to achieve urban nature in cities that we can leverage the diversity of urban nature to realize more livable and resilient cities of the twenty-first century.


References


