



Relational politics and the urban landscape

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Citation for published version (APA):

Karvonen, A. (2007). Relational politics and the urban landscape. In *host publication*

Published in:

host publication

Citing this paper

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"This would be a great place to put a huge city."

Relational Politics and the Urban Landscape

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In 1956, Lewis Mumford (386) wrote that the modern city has "a tendency to loosen the bonds that connect its inhabitants with nature and to transform, eliminate, or replace its earth-bound aspects, covering the natural site with an artificial environment that enhances the dominance of man and encourages an illusion of complete independence from nature." This illusion of independence from nature is the dominant perspective of cities today, not only with the general public but also for the majority of urban theorists and practitioners. The city is understood as the antithesis of nature, a refuge from the untamed hinterlands.

However, for a small group of urban theorists and designers, the dilemma of nature and the city continues to be a central concern. As geographer David Harvey (1993, 28) succinctly concludes, “in the final analysis [there is] nothing unnatural about New York City.” His choice of New York City is a deliberate choice to stir up the debate about the presence and meaning of nature in urban contexts. Of particular interest in this paper is the nature/culture discourse in human geography over the last two decades, as well as the work of ecological planners and landscape architects who study, critique, design, and create urban environmental conditions. Both camps argue that cities do not represent a material liberation from biological necessity but rather that nature is a persistent and ever changing presence in the urban landscape.¹ In other words, “cities are built in nature, with nature, through nature” (Keil and Graham 1998, 102). In this regard, landscape theorist Anne Spirn (1984, 5) writes, “The realization that nature is ubiquitous, a whole that embraces the city, has powerful implications for how the city is built and maintained and for the health, safety, and welfare of every resident.”

In this paper, I consider post-structuralist interpretations of ecology and the overlap with the work of urban practitioners who focus on urban nature, including ecological designers and planners as well as landscape architects and planners. The post-structuralist insistence on a relational perspective has unique spatial and political implications that are particularly relevant to concepts of urban nature and have the potential to reframe the work of urban ecological practitioners. Meanwhile, these practitioners provide concrete examples of how a relational perspective can be realized in urban contexts. I begin with a brief overview of ecological practices in urban contexts and then introduce the tenets of post-structuralism, with a particular focus on Actor-Network Theory and Bruno Latour’s turn towards ecology in the last decade. Finally, I examine the power and political implications of translating this relational approach to urban ecological practice.

Tensions in Urban Ecological Practice

The contemporary opposition between cities and nature as described above has not

¹ I intentionally use the term ‘landscape’ throughout this paper to differentiate from ‘environment’ or ‘surroundings’. See Spirn (1998) for an etymology of the term.

always been so prominent. Indeed, the father of urban planning and landscape architecture, Frederick Law Olmsted, made great strides to address the relationship between urban residents and their nonhuman surroundings, creating parks and city plans that included elements of both natural and unnatural. Olmsted was a prominent figure in the sanitary reform movement in the United States in the mid-nineteenth century that promoted a connection between the moral reform of urban residents and environmental conditions (Boyer 1983). By the late nineteenth century, this organic philosophy was evident in his landscape designs and urban plans, with the Fens and Riverway project in Boston as a quintessential example of Olmsted's attempt to integrate urban residents with natural processes. Constructed on tidal flats and floodplains that had been polluted with sewage from industrial and residential sources, the project included a sewer line, a parkway, and a streetcar line, all of which allowed for the intermingling of human and nonhuman metabolic flows (see Spirn 1996). The design was a daring multi-functional experiment that involved landscape design, engineering, urban planning, and ecology to serve both infrastructure and recreational purposes.

In the twentieth century, city planners followed Olmsted's lead and used ecology as a guiding principle for urban development. Notable examples include the Garden City and City Beautiful movements of the late nineteenth and early twentieth centuries, and the Regional Planning movement of the 1920s and 1930s. These approaches involved the explicit introduction of public parks, botanical gardens, and tree-lined boulevards in an attempt to re-establish contact between nature and urban residents (Gandy 2006). However, a splintering of planning practice occurred in the 1920s as theorists and practitioners began to advance either physical or social approaches. The integrated approach of Olmsted and his progenitors was abandoned for specialized knowledge of specific elements of the urban environment.

The emphasis on the ecological aspects of urban landscapes was muted until the 1960s when it was revived by a number of influential planners, notably Ian McHarg. McHarg diverged from the organic philosophy of the nineteenth century and proposed a new ecological planning approach involving the layering of different attributes atop one another to plan cities within existing environmental conditions. This approach is the

precursor of the widely used practices of Geographic Information Science and Environmental Impact Statements, and the so-called 'layer cake' approach continues to be the favored by contemporary conservation biologists and landscape ecologists who use complex remote sensing and modeling techniques to describe the ecology of cities (for example, Collins et al. 2000, Grimm et al. 2000, Pickett et al. 2001, Alberti et al. 2003). Unlike Olmsted, McHarg positioned himself first and foremost as a natural scientist and was highly critical of the artistic focus of landscape architecture that dominated since the 1920s, noting that, "art has occult and esoteric pretensions and an intrinsic obscurantism" (McHarg 1969, 165).

McHarg's ecological science approach to urban planning has been widely criticized, particularly by those who see human/nature relations through cultural rather than scientific lenses. His critics describe the layer cake method as deterministic, utilitarian, and ecocentric; indeed, McHarg identifies himself as an 'ecological determinist' (see McHarg 2006). Landscape theorist James Corner argues that the scientific form of urban ecology treats nature as an object, leaving little room for cultural and social issues (Corner 1997). At stake are the expressive and emotive attributes of landscape that are purportedly lost in the rational view of the ecological scientist. As a result, a significant rift developed between those who adhere to McHarg's method of landscape analysis and those who see landscape as art. Landscape architect Louise Mozingo describes a continuum of ecological practitioners comprised of those who conceive and shape complex systems at one end (ecological planners) and those who attempt to create iconic landscapes as the art of our time at the other (landscape architects). She argues that in "the most skeptical extremes of this continuum, aesthetic exploration is trivial; ecological regimen is determinism not design" (Mozingo 1997, 46).²

One of McHarg's most famous students, Anne Spirn, laments the divergence of art and science in urban ecology, and is particularly critical of the specialized thinking employed by both camps. She writes:

Now pieces of landscape are shaped by those whose narrowness of knowledge,

² For a helpful collection of papers on the tensions in ecological planning and landscape architecture, see Thompson and Steiner 1997.

experience, values, and concerns leads them to read and tell only fragments of the story. To an ecologist, landscape is habitat, but not construction or metaphor. To a lawyer, landscape may be property to regulate, to a developer, a commodity to exploit, to an architect, a site to build on, to a planner, a zone for recreation or residence or commerce or transportation, or "nature preservation"...So each discipline and each interest group reads and tells landscape through its own tunnel vision of perception, value, tool and action (Spirn 1998, 23).

This segmented understanding of the world is echoed by post-structuralist theorists. Planner Jonathan Murdoch (2006, 153) argues that urban planning "needs to find ways to bring natural and social phenomena within manageable collectives. It needs to find ways of building robust relationships between entities of different types so all can be sustained over time and through space." Murdoch's perspective of ecology is inspired by the recent writing of Bruno Latour, who argues for a relational interpretation of ecology that does not rely on the certainty of scientific determinism nor the relativism of social construction. Both Murdoch and Latour advocate for an alternative perspective that rejects modern dualisms such as fact/value, human/nonhuman, and natural/artificial, and instead, look to emphasize relations between entities. Such a perspective resurrects ecology as a subversive subject, echoing Paul Sears' argument of 1964 that if ecology were "taken seriously as an instrument for the long-run welfare of mankind, [then it would] endanger the assumptions and practices accepted by modern societies, whatever their doctrinal commitments" (quoted in Steiner 2002, 1).

Post-Structuralist Ontology

Interactivity points towards our connection with the world: everything we know about the world we know because we interact with it. Positionality refers to our locations as humans living in certain times, cultures, and historical traditions: we interact with the world not from a disembodied, generalized framework but from positions marked by the peculiarities of our circumstances as embodied human creatures. Together, interactivity and positionality pose a strong challenge to objectivity, which for our purposes can be defined as the belief that we know reality because we are separated from it. What happens if we begin from the opposite premise, that we know the world because we are connected to it?

Katherine Hayles (1995, 48)

In exploring the nature/culture dilemma, a number of scholars from related disciplines have trespassed the boundaries of the natural and built environments, notably environmental historians (e.g., William Cronon, Carolyn Merchant), urban ecological practitioners and designers (Anne Spirn, Robert Thayer), and urban geographers (David

Harvey, Neil Smith). I group these scholars loosely under the term 'urban ecology' as a study of how the material and nonmaterial relate in urban contexts.³ Although most of these individuals would probably resist the post-structuralist label, they share a common perspective of urban nature as a particular arrangement of humans, nature, and technology rather than a strict replacement of the natural with the unnatural. In other words, urbanization is not the 'end of nature' as many would argue but rather a transformation into a different spatialization (Braun 2005a, 640).

The principal argument of post-structuralists on urban nature centers on the ontological division between society and nature (e.g., Braun and Castree 1998, Latour 1998, Castree and Braun 2001, Whatmore 2002, Latour 2004, Murdoch 2006). They argue that ecology can be understood not as a scientific endeavor but rather as a political endeavor that involves both humans and nonhumans. In this regard, Braun and Wainwright (2001) argue that what counts as nature should never be a closed question because speaking about nature with some level of certainty entails foreclosing on other possibilities. The post-structuralist view of ontology is one that is not defined by immutable essences but rather as "precarious achievements, although no less consequential for being so" (Braun 2005b, 835). An implication of this perspective is that politics is not limited to traditional political institutions but is enlarged to include practices that are generally seen as being outside of the political realm. Thus, the design and construction of a building or landscape is just as much a political act as passing a piece of legislation or voting for an elected official because it involves a particular interpretation of the relationship between humans and nonhumans.

Feminist scholar Donna Haraway describes the activity of questioning such seemingly self-evident ontological assumptions as a "queering" strategy that opens them to critical scrutiny (Haraway 1994). Not surprisingly, the 'queering' of these ontological categories induces the wrath of both those who do not subscribe to an environmental ethic as well as those who see themselves as custodians of the wild (Whatmore 2002). The idea that

³ The term 'urban ecology' is often attributed to the work of Chicago School sociologists in the early twentieth century. These scholars adopted terms from ecological science to describe metaphorically the social and cultural patterns of cities, a strategy that is very different from urban ecology work in the social sciences and the humanities since the 1980s. The Chicago School is criticized by contemporary scholars for its neglect of the nonhuman aspects of cities. See Wolch et al. 2001 and Braun 2005a.

nature no longer transcends the built environment but is entirely and inextricably implicated with it is antithetical to contemporary environmental advocates that often attempt to strengthen the perceived boundaries between the human and nonhuman. Historian William Cronon sums up the environmental history agenda of human/nature relations that is closely related to the ontological politics of post-structuralists. He writes about the problem of nature or wildness:

If wildness can stop being (just) out there and start being (also) in here, if it can start being as humane as it is natural, then perhaps we can get on with the unending task of struggling to live rightly in the world – not just in the garden, not just in the wilderness, but in the home that encompasses them both. (Cronon 1995, 90)

Cronon and urban environmental historians share with post-structuralists the understanding that nature is not 'out there' but is inextricably bound up with humans. Ontological politics thus revolve around the negotiation of the messy relations between humans and nonhumans.

Actor-Network Theory

Bruno Latour is famous in social science circles for developing Actor-Network Theory (ANT) in the 1980s with Michel Callon and John Law, among others.⁴ Early ANT studies adopted ethnographic methods from anthropology and sociology to study natural scientists in their laboratories. This approach has been highly influential in the fields of Science and Technology Studies, anthropology, sociology, and other related disciplines by revealing the social shaping of scientific production. However, ANT departs from a purely social constructivist approach to science because of its continual insistence on the importance of materiality. In other words, ANT does not completely reject realist explanations in exchange for a social construction of the world but rather subscribes to a co-constructivist agenda that includes both the material and immaterial.

A key insight of ANT scholars is that the realist/constructivist debate between natural scientists and social scientists revolves around different understandings of epistemology without questioning their shared ontological assumptions which takes for granted the

⁴ For a recent introduction of ANT, see Latour 2005.

dichotomies of human/nonhuman, nature/society, and so forth (Braun and Wainwright 2001). Both are essentialist accounts of the world, although they emphasize opposite ends of a shared ontological spectrum.⁵ In contrast, ANT scholars are explicitly anti-essentialist, arguing that essential categories present us with an impoverished account of the world (Bingham 1996). The world is not comprised of purified categories but rather messy and unruly hybrids. Epistemology and ontology are inextricably intertwined; how knowledge is created is intimately related to our perspective on how we view the world. ANT proponents raise these epistemological and ontological questions in an attempt to provide more reliable accounts of the world.

Of particular relevance to this paper is the ANT agenda to unsettle the human/nature binary by transcending the constructivist/realist debate. From the realist perspective, nature is fixed and universal while from the constructivist perspective, nature is whatever we want it to be, a *tabula rasa* upon which societies can write at will (Castree 2001). Both continue to adhere to an ontological perspective that nature is somehow separate from humans (Castree 2001, Bakker and Bridge 2006). Latour refers to this distinction between the external laws of nature and the conventions of society as the *modern constitution*, where the world is cleaved into two incommensurable parts, leading to a fractured perspective (see Latour 1993). In the modern constitution, environmental debates are reduced to partisan conflicts over facts or values, often in the guise of growth vs. preservation, jobs vs. endangered species, and so forth.

The insidious appeal of the modern constitution and dualist thinking is particularly evident in the modern perception of the city, where the division between the natural and the artificial is not merely accepted but is explicitly embraced. Peggy Bartlett (2005, 1) notes that urban culture “celebrates a sophisticated distance from the messy realities of farm and wilderness. As Woody Allen famously asserts, ‘I am two with Nature.’” In other words, our entire understanding of cities is predicated upon the opposition between the constructed human world and the unconstructed natural world. This perspective continues to be upheld, despite the increasing understanding that cities are highly dependent on ‘nature’s services’ of air, water, nutrient, and sunlight (Daily 1997).

⁵ The division between realists and constructivists can be seen in almost any social science department (human vs. physical geography, physical vs. social planning, etc.).

Environmental actors embrace this dualism through preservation activities that attempt to diminish the impact of society on nature by zoning society out of nature via urban growth boundaries, the preservation of natural areas, and so forth (Murdoch 2006). The built environment of cities effectively serves as the social pole while the rural environments serve as the natural pole (Whatmore 1999). Landscape theorist Elizabeth Meyer (1997, 46) adopts the post-structuralist critique of dualisms when she argues that:

The continuation of the culture-nature and man-nature hierarchies by designers when they describe the theoretical and formal attributes of their work perpetuates a separation of humans from other forms of life, vegetal and animal. This separation places people outside the ecosystems of which they are a part and reinforces a land ethic of either control or ownership instead of partnership and interrelationship.

Haraway (1991, 129) argues that any critical engagement with the 'question of nature' must begin by building theories whose "geometries, paradigms and logics break out of binaries, dialectics, and nature/culture models of any kind." The central problem with binaries or dualisms is that they reflect one particular way of seeing that is supposedly the quintessential 'order of things' (Bingham 1996). Put another way, Whatmore (1999, 24) notes that the "categorical insistence on an either/or, constructionist/realist approach to the question of nature itself echoes the binary mode of thinking that sets up an opposition between 'the natural' and 'the social' as the absolute and only possibilities in a purified world of black and white." This parallels arguments by feminist science scholars such as Sandra Harding (2000, 129) who reject the notion that there is "one world, one and only one possible true account of it, and one unique science that can capture that one truth most accurately reflecting nature's own order."

Unfortunately, overcoming modern dualisms is not simply a matter of "adding things together" and creating a comprehensive or integrated model, although many planning practitioners and theorists have proposed such activities through integrated planning, integrated environmental management, and so forth since the 1970s. According to post-structuralists, the rejection of dualisms requires a deep and thorough deconstruction of our most basic and dearly held ontological assumptions and a subsequent construction of new ontological frameworks that rely on relations (Murdoch 2006). In Latour's (2004,

220) ideal world, “relativism would disappear with absolutism. There would remain relationalism, the common world to be built.”⁶ As such, ANT is a project intended to transcend the realist/relativist debate and embark on the project of assembling a hybrid world (see Latour 2003, 2005).

The ontological proposal described above suggests that social scientists should not only consider human relations but also how humans relate to the material world. Humans are situated within a complex array of heterogeneous relations where nature and society are outcomes rather than causes, they are wrapped up in the co-construction of material and non-material imbroglis (Murdoch 2001, 118). Latour (1998) describes this process of relating as a new form of political activity, one that is not based on general theories grounded in social or natural imperatives but on the relationships between entities. Here, nature does not merely serve as a backdrop for human activities nor does nature determine human existence but is instead an active participant in the making of human societies (Murdoch 2001).

It is the relational emphasis at the heart of ANT that Latour connects with the notion of ecology.⁷ In Latour’s view, the importance of ecology is not its scientific certainty nor its empirical data gathering practices but rather in its ability to relate elements of the world together. As Latour (2004, 232) clearly states: “It is on these associations and not nature that ecology must focus.” Relations are central to most if not all ecological discourses as well as theories of globalization, complexity, and chaos, among many others. Over a century ago, John Muir wrote, “when we try to pick out anything by itself, we find it hitched to everything else in the universe” (quoted in Worster 1990, 15). It is this hitching process that is a central element of ecological or relational thinking.

Relations are also central to urban ecological practitioners in mediating natural and social flows. Landscape architect Forster Nbudisi (1997, 10-11) summarizes this position,

⁶ Latour often writes about processes of ‘building’ and ‘construction’ and is frequently labeled as either a social constructivist or a deconstructivist, although he distances himself from both camps (see Latour 2003).

⁷ Murdoch (2006) notes that ANT is not the only post-structuralist theory that is relational or ecological. See Graham and Healey (1999) for an overview of relational thinking as it relates to planning theory and practice.

stating that “The underlying wisdom here is that we need to understand the character of the landscape not only in terms of its natural processes, but also in terms of the reciprocal relationship between people and the landscape. The important word is *relationships*” (emphasis in original). Anne Spirn (1984: 239) makes a similar argument for a relational perspective, arguing that “it is not sufficient to understand either the processes of the social system or the processes of the natural system alone. Both mold the city's physical environment, which forms the common ground between them.” Thus, they advocate for a relational perspective that foregrounds *processes* over objects and subjects.

The Importance of Hybrids

Post-structuralists who challenge modern dualisms recognize the world to be comprised not of subjects and objects but of impure entities, what Latour refers to as *hybrids*, *quasi-objects*, and *quasi-subjects*, and Haraway calls *cyborgs*. There is a perpetual “insistence on the mongrel nature of the world” (Bakker and Bridge 2006, 16). Hybrids are not a construction of post-structural theorists but are ever present in the world; we have simply chosen to ignore them and instead perceive the world as purified categories. As such, post-structuralists insist that we cannot help but be hybrid and connected. It is important to note that the emphasis on hybrids is not an attempt to invalidate distinctions between entities but rather to deconstruct essentialist categories and recognize the embeddedness of these entities in heterogeneous networks, assemblages, or rhizomes.⁸

A paradox of the modern world is that as we draw the distinctions between society and nature, they continually contaminate one another in ordinary daily activities. For example, the city continues to reach out beyond its urban boundaries to infiltrate rural areas (and vice versa) through resource extraction, rural housing, agricultural production, air and water pollution, and so forth (Murdoch 2006). Meyer (1997) argues that landscape architecture should be understood as a hybrid activity that cannot be easily described using binary pairs as opposing conditions, and instead, should be understood as a cyborg or hybrid of human and nonhuman processes. She describes

⁸ Note the overlap with deconstructivists such as Gilles Deleuze and Felix Guattari.

Olmsted's Riverway and Fens project (discussed above) as a 'both/and' project, not a recreational facility nor a wastewater treatment facility but a multi-functional, multi-faceted facility with multiple overlapping meanings. As such, it requires a perspective that focuses on the relationships between the elements of the project rather than on the elements themselves.

Emergent Properties of ANT

One of the most controversial ANT claims is that agency is not exclusive to humans but rather emerges from associations or relations between humans and non-humans (Murdoch 1997). Thus, we cannot fall back on autonomous forces favored in natural science accounts nor the prominence of human will as favored in social science accounts (Whatmore 1999). With a decentered notion of agency, humans and nonhumans are coagents and it is their relations that perform agency (Michael 2000). The challenge to ANT analysts is to shed the commonly held preconception that human subjects are the only ones with agency and instead, examine the linkages between humans and nonhumans to understand which will perform more robust agency and which will fall apart (Latour 1987). Groundwater flow, atmospheric currents, gravity, and other so-called "natural" actions conspire with social actors to perform agency.

In addition to agency, a second emergent property of ANT is that of space. Following on the work of David Harvey, Murdoch (1998, 358) argues that "spatial properties cannot be distinguished from objects 'in' space and space itself can only be understood as a 'system of relations'." The post-structuralist emphasis on space as a product of relations rejects the understanding of space as preceding everything else. From an ANT perspective, space is constructed within networks, and while it is partly physical, space is wholly relational (Murdoch 1998). This is a direct challenge to the structuralist geography of well-ordered topographical or Euclidean spaces. Latour (1993, 118) describes the problem with a topographical understanding of technological networks as follows:

Between the lines of the network there is, strictly speaking, nothing at all: no train, no telephone, no intake pipe, no television set. Technological networks as the name indicates, are nets thrown over spaces, and they retain only a few scattered elements of those spaces. They are connected lines, not surfaces.

John Law, an ANT scholar who has taken a special interest in the spatial implications of this approach, adds to Latour's critique and forwards ANT as a method for waging war on Euclideanism (Law 1999). A topographic understanding of space relies on superficial spatial coherence and a bounding of the city that disguises the relational complexities that lie underneath a smoothed and uncontested surface. Instead of focusing on space as a well-ordered network with absolute and fixed coordinates—*topographic* space—we should instead investigate *topologic* space that favors an emphasis on relations (Murdoch 2006). Thus, space is no longer an empty container waiting to be filled by social or natural activities but rather an active presence held together by stable links or relations (Law 1999). Geographic analysis then becomes the study of associations or networks while urban planning becomes the process of reconfiguring these associations (Murdoch 2006).

Graham and Healey (1999, 626) note that planners as a whole tend to uphold the modern perspective of space and time as “objective, external containers within which human life is played out”. Multiple flows and perspectives are collapsed into a single, homogenous surface that suppresses difference and is in effect a power-laden act of domination (Harvey 1996). However, a small number of urban ecological practitioners have promoted a topological understanding of cities by defining space through the connectedness of landscape and humans. The noted ecological planning project of Village Homes, built in the 1970s by Mike and Judy Corbett, is an example of topological space realized in a residential development. The project consists of 220 clustered solar houses with a natural drainage system and small private lots connected by commonly owned joint areas. Village Homes can be understood as a project that challenges commonly held notions of public/private and social/natural by paying close attention to the movement of people, water, energy, air, materials and so on (see Thayer 1994, Corbett and Corbett 2000). The design focuses less on the individual elements of the development and instead, emphasizes the interrelations between the material and social metabolic flows.

An important implication of the topologic understanding of space is that it rejects the

possibility of omnipresent, universal rationalities. Whatmore (1999) argues that topologic geographies cannot be other than plural and partial, a perspective that is congruent with the messiness of reality. Furthermore, we cannot adopt a vantage point outside of these networks, what Haraway refers to as the 'God Trick'. We are always inextricably in the middle of the landscape and are thus, only afforded partial perspective. The partial perspective of post-structuralist thought is a potential source of friction with proponents of ecology. The common trope of universality is seen as suspect because of its tendency to totalize relations and develop yet another grand theory of everything (Thrift 1999). As such, ANT distances itself from notions of pre-modern holism and notions of a single entity comprising all relations (such as James Lovelock's Gaia Hypothesis).

Rather than moving further and further away from the world to obtain a fuller view, a topological understand of space requires urban ecological practitioners to adopt microscopic view that looks at how hybrid entities are hooked together. Thus, topological interpretations of space problematize topographic concepts of local and global (see Latour 1993). Murdoch (1997) argues that ANT geographies substitute notions of micro/macro and global/local with longer or shorter chains of association that comprise networks. It is these chains of associations that urban ecological practitioners can strengthen and elucidate.

The Power and Politics of Relational Thinking

Conventional notions of power assume that it is held and wielded by particular social actors or resides within a particular social system such as capitalism or culture (Castree 2001). ANT scholars reject this essentialist understanding of power and instead, understand it as a dispersed outcome from relations of humans and nonhumans. Like agency and space, power is a relational product; it is performative and emerges from within networks as opposed to residing outside of these networks and outside of relations (Murdoch 2006). This represents possibly the greatest tension between ANT and conventional social theories because it blunts the conventional weapons of political actors. One cannot appeal to scientific certainty nor to moral principles because these are essentialist categories that precede relations.

The ANT notion of *translation* describes the process of aligning the goals of actors and artifacts into a coherent and stabilized network (Murdoch 2006). There is thus a convergence of interests between actors and artifacts, and power becomes an effect of successfully enrolling and representing other actors or artifacts (Castree 2001). To 'explain' power and trace power geometries requires an examination of how collective action comes about, a study of the associations from which power emerges (Murdoch and Marsden 1995).

Latour (2000) argues that the process of assembling networks is what should be rightly called politics. The common work of politics and the sciences is to stir "the entities of the collective together in order to make them articulable and *to make them speak*" (Latour 2004, 89, emphasis in original). So Latour is arguing that a relational approach designates a very different form of public organization, one that considers the material and nonmaterial simultaneously. By rejecting the essences of the human and nonhuman, we can transcend partisan politics and instead, focus on propositions and habits (more humble versions of essences) of hybrids. Negotiation is a key tenet of Latour's relational politics and he argues, "One could not negotiate with essences; one can do so with lists of interchangeable habits" (Latour 2004, 177).

It is at precisely this juncture in Latour's work that planning practitioners can be of service. Latour's prescription for a politics of negotiation is familiar in planning circles, although not to ecological planners, but to communicative planners who attempt to foster stronger social relations (e.g., Innes 1995, Healey 1997). As communicative planner John Forester (1999, 3) notes:

In cities and regions, neighborhoods and towns, planners typically have to shuttle back and forth between public agency staff and privately interested parties, between neighborhood and corporate representatives, between elected officials and civil service bureaucrats. They do not just shuttle back and forth though. Trying to listen carefully and argue persuasively, they do much more. They work to encourage practical public deliberation—public listening, learning and beginning to act on innovative agreements too—as they move project and policy proposals forward to viable implementation or decisive rejection.

Forester's planning politics is one of negotiation and mediation between different social

actors. The planner is a broker of information between different stakeholders and actively engages in finding compromises. Communicative planners focus on the social actors in planning processes, an approach that shares with ANT a relational understanding of social ordering and agency (Graham and Healey 1999). The challenge of ANT is to extend the communicative planning model to include nonhuman actors and recognize that agency is a product of relations rather than human actors.

Natural and social scientists are crucial to this assembly process, although their specialized knowledge comprises only a part of the relations that comprise the network or collective. As Latour (2004, 138) writes, "So, the sciences are going to put into the common basket their skills, their ability to provide instruments and equipment, their capacity to record and listen to the swarming of different imperceptible propositions that demand to be taken into account." The tendency of these individuals should not be to fall back on certainties of natural science nor of social analysis but rather to work towards elucidating relations, both contested and consensual. Jonathan Murdoch (2006, 185) summarizes this form of planning as "one that is amenable to multiplicities of various kinds and one that is prepared to entertain future trajectories of development, which are somehow open and somehow disordered."

In this view, the value of the urban ecological practitioner (and planners in general) is not in the specialized knowledge that they bring to the table, either social or natural, but rather their ability to mediate human and nonhuman processes. Such experts can be understood to be, as Winston Churchill famously stated, "on tap, rather than on top" (quoted in Stilgoe et al. 2006, 17). Occupying a humble yet crucial position, the urban ecological practitioner becomes the sustainer or maintainer of the collective or assemblage (see Brand and Karvonen 2007). The practitioner does not 'know best' but rather looks to the collective to learn what is in the best interest of the collective (Murdoch 2006, 157).

A Call for New Ecological Imaginaries

The relational perspective described above is slow to be adopted by planners and practitioners but has the potential to create new power and political geometries (Graham

and Healey 1999). These new geometries continue to be a project under development; clearly there is an idealistic tendency to treat politics as merely a process of negotiation. As Murdoch (2006, 157) notes, “Latour's work on political ecology is strong on *re-conceptualizations* of science and politics in the wake of political ecology but is weak on the specific steps that might be taken to shift scientific and political *practices* in the desired direction” (emphasis in original). In other words, there is a need to put these ideas of relational politics into practice in real world projects.

Urban ecological practitioners can help in this regard, as there are multiple examples of a relational approach that can forward the post-structuralist political program. Environmental justice advocates are adept at revealing the linkages between environmental pollution and low-income urban residents (e.g., Agyeman et al. 2003, Agyeman 2005, Hess 2007), sustainable design/build programs at U.S. architecture schools engage architects-in-training with their clients and creates a venue for engagement with the future residents as well as the material processes of building (Bell 2004, Moore and Karvonen [forthcoming]), and ecological restoration projects in urban areas engage residents in the physical processes of revitalizing degraded natural features such as creeks and streams (see , Light and Higgs 1996, Spirn 1998, Higgs 2003, France 2005, Light 2006,). These approaches involve small, multi-faceted, deliberate interventions by stakeholders with an overarching goal of making legible the connections between the human and nonhuman, the material and the social, the natural and the built. Spaces of political negotiation are at once social and material, and the role of the urban ecological practitioner is to strengthen the relationships through negotiation and action. These practices do not enshrine nature but rather attempt to reconstruct civil society in partnership with nature and represent a socio-natural political program (Schauman 1997, Katz 1998, Desfor and Keil 2004).

To conclude, perhaps a first step in making the political program of post-structuralist ecology more explicit is to create what Murdoch and geographer Matthew Gandy refer to as *ecological imaginaries*. It is within these imaginaries that partnerships are formed between humans and nonhumans with each serving to reinforce the integrity of the other (Murdoch 2006). Gandy proposes that the construction of new ecological

imaginaries is a key step in reconfiguring urban processes. He writes:

The urban ecology of the contemporary city remains in a state of flux and awaits a new kind of environmental politics that can respond to the co-evolutionary dynamics of social and bio-physical systems without resort[ing] to the reactionary discourses of the past. By moving away from the idea of the city as the antithesis of an imagined bucolic ideal we can begin to explore the production of urban space as a synthesis between nature and culture in which long-standing ideological antimonies lose their analytical utility and political resonance. (Gandy 2006, 72-3)

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