

The social values of forests and trees in urbanised societies

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Abstract

People. The source of environmental degradation. The culprits of resource decline. The bane of management. People. Harassed, easily angered, irritable; reluctant to trust managers; ignorant about fundamental issues. People. Lovers of nature, eager volunteers, willing stewards. Essential for any solution that seeks to protect resources for the future of all living organisms. We humans are a difficult animal. Why are we so difficult? Can we be reasonable too? Yes, there are many relatively easy ways to bring out the best in people. Sadly, they are frequently ignored or violated. Urbanization has intensified the situation. There are more demands and fewer respites. For many city dwellers there is scant opportunity for nature contact. Yet there is substantial indication that the presence of trees and green places in the proximal environment is highly valued and beneficial. It has been shown to be related to greater reasonableness and civility and on the part of tenants in low income high rise buildings. Lack of natural places has significant costs to human health. At the same time, however, the presence of natural elements may not be sufficient to support reasonable behaviour. An understanding of some basic human needs can help bridge the gap. I will focus on three interrelated needs: the need to understand, to explore, and to be able to take meaningful actions. These needs can be met even with small-scale bits of nature as well as small-scale efforts. Unfortunately, even well-intended public decisions often block opportunities for meeting these basic needs. People are often left out of the equation. Perhaps thinking of people as uncomfortable when they fail to understand their world, frustrated when they have no opportunities to explore, and eager to be listened to and given a chance to be helpful could provide insight into ways to enhance the better side of this sometimes difficult animal.

Key words: human needs, landscape management, participation, urban forestry.

1 The social values of forests and trees in urbanised societies

As the title suggests, this contribution is about the natural environment. However, it is also about a difficult animal that has run wild, certainly in the United States, but in many other parts of the world as well. This animal is all too familiar to all of us. We humans have been self-confident in transforming our planet; we have been greedy and arrogant. We want things even though we may not use them. We want to be heard but do not want to listen. People have even been known to get angry when Good People (like forest managers) try to do the Right Thing.

But humans can also be cooperative, thoughtful, and reasonable. We have an enormous desire to be helpful and useful, to feel needed and to make a difference.

How does one bring out the best in this difficult animal? I will argue that it requires an understanding of a few basic human needs and that the environment - both physical and conceptual - is central to supporting these needs. I hope this framework will help you see the vital role played by trees and forests, as well as the vital role forestry practitioners can play.

The first section of this text focuses on the concept of “nearby nature” as a more inclusive way of thinking about urban forests and trees. I will then turn to the insights we gained from extensive research on environments that people prefer. These led to our focus on seeing preference as a reflection of basic needs. The next section, The Reasonable Person Model, expands on these basic needs. The final section suggests that meeting these needs need not entail major costs or efforts.

2 Nearby nature

Cities are described as vibrant, bustling, and exciting, as well as noisy, crowded, fast, and stressful. They are rarely characterised as tranquil or peaceful. Yet we all know that there can be tranquil places in the urban context. Where are such places likely to be? Perhaps beneath the canopy of a large tree, or in a park with many trees, or in a colourful garden, or possibly by a brook or a lake.

It is hardly surprising that studies repeatedly find that such natural places are preferred and play an important role in people’s satisfaction with their surroundings. The role that trees and forests play, however, goes much beyond creating pleasant places and being enjoyable. Having nature nearby is not an amenity, but a potential response to many basic human needs (Kaplan et al. 1998).

There is a substantial research on the many ways that the natural environment “matters”. I will not focus on this literature here. It is encouraging to see this work now being extended to include the pervasive health implications of having nature nearby. Frumkin (2001) provides an excellent review of this material.

I also want to highlight some of the work by Frances Kuo, William Sullivan, and their associates at the University of Illinois, which is set in the context of inner-city neighbourhoods in Chicago. Their results have been particularly important in showing just how pervasive the effects of some trees and grass can be. Within these poor neighbourhoods and housing projects, they have found that residents with even small amounts of contact with trees and green space:

- show lower levels of aggression and violent behaviour (e.g. Kuo & Sullivan 2001);
- are more civil with each other and know more of their neighbours (e.g. Kuo et al. 1998);
- can concentrate better and take greater control of their lives (e.g. Taylor et al. 2002).

Contact with nearby nature for these people is hardly an amenity or luxury. It has made a difference in their ability to cope with very difficult circumstances.

What do I mean by “nearby nature” and why not just talk about trees and forests? “Nearby nature” certainly includes trees and forests, but it also includes many other kinds of vegetation and other settings, such as roadside plantings, the nearby countryside, and even backyard gardens, and lawns. It encompasses much that is “green”, even in seasons when it is not.

There is growing understanding that urban forestry includes a broad range of contexts possessing “tree resources” (Konijnendijk 2000a). “Nearby nature” probably goes even beyond such a holistic view. As Konijnendijk (2000b) mentions, the expanded view calls on a great range of expertise needed to deal with the many constituencies and stakeholders. From the perspective of many experts who deal with the management of tree resources my use of “nearby nature” may seem too broad. An important lesson from many years of research, however, is that people’s perception and appreciation of the natural environment is not based on the experts’ categories.

Understanding the public’s perception, in turn, can provide essential input to the experts, leading ultimately to less contentious debate and more effective management.

What do people do in their nearby natural environment?

People engage with the natural environment for many reasons. The ones that are most obvious, and receive the most attention in the various recreation-related fields, are forms of active engagement. There are, however, many other important ways in which people engage with their nearby natural surrounding (Kaplan 1984). For purposes of the current discussion, only a few of these are mentioned.

Surveys often ask about people’s “activities”, and these usually focus on the active types of engagement, including such pastimes as walking, hiking, cycling, horse-back riding, and canoeing, among many others.

In contrast to “active” involvement, some activities might be considered more passive. For example, the construction workers at the building where I work often go outside for their lunch break. They might just sit and eat beneath a tree, or two or three might sit on a stone bench and talk to each other, or to someone else on their cell phone. Why did they choose to be outside? Does it matter that they are in a natural setting?

For many other pastimes the nature setting is central to the activity. For example, nature photography, bird watching, or checking on the plants in the garden. In terms of physical exertion these are likely to be as passive as sitting outside during one’s lunch break. However, it may be distorting to call these “passive”. The mental activity could be quite intense. Such efforts to notice and observe the natural world are important aspects of experiencing nature.

One of the most pervasive interactions people have with nearby nature comes from looking out the window. It is hardly surprising that many of us find windowless

environments to be problematic. There is substantial research to document the psychological benefits of having nature in the view from the window (Kaplan 2001). This has been shown many times over and in a variety of settings, including hospitals, prisons, dormitories, residential settings, and work places.

The striking results of these studies is not that people like to have windows, but that what you can see out the window makes a difference. In a prison study, for example, those with nature in the view used the health services significantly less often (Moore 1981). In work settings, having nature in the view was related to: fewer reported ailments, higher job satisfaction, greater patience, and less frustration (Kaplan 1993). The “nature” in the view for these people was not a snow-capped mountain, or a tranquil stream. It may have been no more than a tree, or even just some shrubs or other plants. Even these can make a substantial difference in well-being.

3 Environments that are preferred

Nearby nature includes a broad range of natural settings. Are these equivalent in terms of people’s preferences and the values they provide?

When we began our research on environmental preference, more than 30 years ago, there was very little information we could find to substantiate what we all know intuitively - that people like trees.

Our first study was motivated by research in what was known as experimental aesthetics. Rather than restrict his work to the kinds of artificial stimuli that were characteristic in that area, Jack Wohlwill (1968) carried out a study that used scenes of 14 actual environments. Wohlwill reported that, just as with artificial stimuli, people liked most the scenes with a medium amount of complexity. When we looked at his reported findings, however, we had a different interpretation. There were two outliers: the scene that was clearly most preferred was of “Lake scene with partial view of shore” and the least preferred scene showed “Factory and downtown area of small city”. Yet these two scenes were very similar in terms of their rated complexity.

While Wohlwill did not think the content mattered, we felt it was important to examine that issue. Our first study included 56 scenes selected to represent four categories: “nature” and “urban”, as well as “nature with human influence” and “mostly human influence, with some nature”. The results did not show a strong relationship between complexity and preference. They did show very strong differences based on content. The nature scenes were far preferred to the urban ones. (Kaplan et al. 1972).

The study also instructed us about people’s *perception* of nature. Using statistical procedures that are based on similarities in ratings, we found that “nature” included not only the scenes selected to represent “nature”, but also those in the “nature with human influence” category. It included an unpaved road, and even a car parked on it. It did not, however, include scenes where the trees are along a residential street.

That study led to many dozens more. These were done by many different researchers, in many places around the world, and have led to a much richer sense of what affects preference. One of the surprises from these studies was substantial consistency in preference, with two exceptions: The first is that teens are often different (Kaplan & Kaplan 2002), and the second is that expertise can make a difference. Resource managers, landscape architects, and architects, for example, have shown clearly different patterns in their preferences (Kaplan & Kaplan 1989).

The consistency helped us see that “preference” is not about making something pretty or beautiful - not about amenities - but about something much more basic. People’s preferences reflect ways that the environment can help meet their needs.

Preference and informational needs

It may be easiest to present examples of the needs that the environment can support by using images from some of studies, as these were the way our own intuition was sharpened. (These images, however, are not included in this written form of the presentation. Many of the concepts mentioned here are explained more fully in Kaplan & Kaplan 1989) We found that people tend to prefer:

- Scenes where it would be easy to locomote, to move about.
- Whether or not one has physical access, people prefer scenes where there is visual access, where one’s view is largely not obstructed.
- At the same time, however, a wide open scene may not be preferred. Though the view is not obstructed, there may be insufficient complexity.
- People like scenes that make it easy to figure out where they are. We have referred to this as „legibility“, a dimension that Kevin Lynch (1960) first talked about in his *Image of the City*. Landmarks and distinctive places increase legibility.
- One of the most consistent findings in our research has been high preference for scenes that invite you to keep going “deeper into the scene” not only because there is a path, but because there is a sense you will learn more. This is what we have called “mystery”. It often involves some partial obstruction - a screen, or deflection, or the bend in the path that permits one to see enough to wonder what is beyond.
- Finally, coherence has been another factor in preference. Coherence involves the ease of making sense of the elements comprising the scene or situation.

What do all these themes have in common? Are there some underlying needs that are satisfied by environments that permit visual access and locomotion, that provide legibility and offer mystery, that are coherent and not lacking in complexity?

The many studies suggested to us that the environment is a vital source of information. People prefer environments where that information fulfils two basic qualities: it is understandable and it permits exploration. In other words, people have strong needs to make sense of things, and at the same time, they want to venture beyond what they understand.

People are consumers as well as producers of information - not just information provided in written form or on television. The environment is a rich and important source of information. We are constantly and very rapidly processing that infor-

mation and making assessments of how the environment will support our needs. Will I learn new things? Will I get lost? Will I get eaten?

There is good reason to believe that our evolution in the natural world has made a difference in human preferences. Being attracted to water and to trees may have such origins. The inclination to prefer settings that are understandable and permit exploration also makes sense from that perspective.

4 The reasonable person model

These concepts were developed in the context of our research on environmental preference. We have found, however, that they have much wider applicability. These same themes are important to human functioning in many other contexts.

One can readily appreciate the importance of the concepts of understanding and exploration by considering situations where they are blocked or made difficult. Think about the intense emotions that can accompany such situations: People strongly dislike being confused or disoriented. They avoid places where they have gotten lost in the past. They go to great lengths to seek out information. They feel helpless if they have no basis for predicting an important future state.

What happens when people find themselves in environments where their understanding and exploration are severely restricted? They may feel helpless and fearful, angry and distrustful. The same person who was kind and generous before may now appear to be substantially less reasonable.

Directed Attention Fatigue

Failures to achieve understanding and exploration are not the only impediments to reasonable behaviour. When people are tired they are often less reasonable. Closer analysis, however, shows that the tiredness is not physical, but mental. Here again, the environment can contribute to the human condition.

As presented more fully by Stephen Kaplan (2003), the environment makes many demands on our attentional capacity. The ability to pay attention, to focus on tasks and demands, is fragile. Even under the best circumstances we become mentally fatigued; we can only direct our attention for a limited amount of time before we need a break or a change in activities. Directing our attention is much more difficult when there are distractions, when we need to juggle a variety of demands at the same time. Urban life is rich with such distractions.

While the environment can be a source of increased demands on our directed attention, it can also play a role in recovery. A powerful way to restore one's mental fatigue is to be in the presence of fascination (Kaplan et al. 1998). Nearby nature offers many opportunities for fascination. Many of these entail little more than noticing or observing - raindrops on a leaf, a bird on a branch, signs of spring on the tree outside the window. As Kuo (2001) points out, trees and the green spaces in inner-city neighbourhoods offset the attentional demands of that environment and contribute to the residents' ability to cope with poverty.

Meaningful action

The core hypothesis of what we have called The Reasonable Person Model (Kaplan & Kaplan 1989; Kaplan 2000) is that people are more likely to be reasonable in the context of environments that support their information processing needs.

Understanding and Exploration are two of these needs. There is one more basic informational need to add to the story. It is the pervasive human requirement to be able to take meaningful action. People can feel restored, have an understanding of a situation, and a chance to explore, but even these may not be sufficient for reasonable behaviour. People also want to be heard and feel they can make a difference. That does not mean they want control of a situation, or that they always need to be part of the action. There are many circumstances, however, when the possibility of making a difference is a key human element.

Once again, it is perhaps easier to understand the concept by looking at the consequences of its absence. The opposite of making a difference is a sense of helplessness; it is a sense that one does not matter; that one's needs will not be considered; that one is blocked from being helpful. These can be deeply demoralising. Fortunately, it often takes only small steps to help people feel that they can make a difference.

Understanding, exploration, and meaningful action are presented here as three separate needs; in many contexts, however, they are strongly interrelated. Making a difference often requires exploration. Exploration often is an effort to extend one's understanding. Understanding can be critical for taking action. The difficult animal we talked about earlier, the one that can be uncontrolled and contentious, can be quite cooperative and helpful when we are sensitive to these few basic needs.

5 Small things that can make a big difference

Attending to these needs need not cost a great deal. It often does not require huge pieces of land. And it does not call for high tech tools. It does, however, challenge some of the ways most of us have learned to do our work and some of the things we take for granted.

What if we accepted the propositions I have offered? It would seem relatively straightforward to offset mental fatigue by having trees and "nature" nearby. This simple step could go a long way toward ameliorating personal and societal malaise. It could contribute to physical and mental health, make the workplace more satisfying, and offer greater sense of community in the residential context. If one is privileged to live and work in the midst of a lovely city with an abundance of green places it may be difficult to recognise that for many millions of urban people the contact with nature is minimal. They may rarely see trees or green places from their homes, at work or school, or even on their routine travels between these places. Despite its relative simplicity, however, even this solution is far from being realised.

Even if it were feasible to provide trees in front of all windows, it is worth con-

sidering the implications of the other basic needs that comprise the Reasonable Person Model. While having a tree planted outside the window would have great value, involving people in the process could make it even better. What are some of the added values?

People would feel included in some of the decisions that affect their lives. They might be asked about the kinds of trees they prefer. They might be included in efforts related to planning and maintaining the tree. People could be given a chance to learn about trees and their needs, about rationales for selecting particular trees.

Some of the added values may also accrue to the professionals who are working with these individuals and groups. These practitioners could learn about what is important to the citizens, how they value their neighbourhood, and how to engage them in future projects.

There are many other potential benefits though their impact may be difficult to document. For example, there could be ramifications at future times, such as increased interest in other stewardship projects or possibly even in careers related to these activities. Ramifications might also extend spatially and socially as people might become acquainted with neighbours and find things to share with them. They might have greater pride in where they live and work toward improving their community.

Examples

These are not crazy ideas that came to me in the middle of the night. Different aspects of these notions are being used in a great variety of contexts with exciting ramifications. They are clearly manifestations of urbanization, borne of needs and opportunities for creating and managing trees where the people are. Kennedy et al. (1998) provide an excellent analysis of how this transformation has necessitated a major paradigm shift in “values, beliefs, and management”.

Here are just a few examples of programs and approaches that incorporate opportunities for individuals to participate in ways that enrich their own lives, improve their communities, and enhance the urban forest.

Engwicht's (1999) book, *Street Reclaiming: Creating Livable Streets and Vibrant Communities*, provides superb ideas for meaningful action that at the same time enhances exploration and understanding. Although the book's focus is not on the natural environment, the realisation of many of the suggestions for reducing traffic readily makes it possible to increase the availability of trees and green spaces.

Inerfeld & Blom (2002) describe community-level efforts to establish shared green spaces. The “community greens” provide the benefits of nearby trees and a park-like setting, adjacent to people's residences, as well as enhancing the sense of community. The focus here is not only on the green areas, but on the shared ownership and management. Managing shared areas can provide many opportunities for fulfilling the human informational needs mentioned earlier. It should also be said, however, that shared ownership can involve some frustrations (Austin & Kaplan in press).

Another form of shared “nature” comes in the context of neighbourhood tree-planting projects. These have sprung up in numerous cities and often generate considerable media coverage because of the festive atmosphere at planting time. Austin’s (2002) study involved an examination of the efforts by the leaders of some of these projects and by those who looked after the trees and plots where they were planted in the months and years after the big day. The simple act of planting a tree can have far-reaching effects for the community.

Tree plantings and many other forms of environmental stewardship rely heavily on volunteers. It is not only the physical settings and the sponsoring environmental organizations that benefit from these efforts. For the volunteers these are ways to make a difference and to feel they are part of something larger. Our studies on the psychological benefits of such activities (e.g. Ryan et al. 2001) have shown important satisfactions participants derive from “helping the environment” and from learning about the flora and fauna. At the same time participation leads to further explorations and to activities that create and preserve additional natural areas.

The National Urban and Community Forestry Advisory Council (NUCFAC), was created by the US congress to promote and enhance sustainable urban forests for all communities. Funded by the US Forest Service, this agency’s goals include “cultivating appreciation of the social, economic, environmental and aesthetic value of trees and community forests” (NUCFAC 2001). Their funded projects as well as promotional material (e.g. www.communitytrees.org) have increased awareness of the many ways in which trees enrich the lives of individuals and communities.

There are, of course, many other examples, varying widely in scale, sponsorship, and forms of involvement. A key ingredient in all of these is the opportunity for people to participate (Konijnendijk 2000a). At the same time, participation is a potential source of trepidation and frustration for forestry professionals whose backgrounds have ill-prepared them for the challenges (Kennedy et al. 1998). As many of you may have discovered, however, even a little bit of participation can go a long way toward having a reasonable animal to deal with. You may even have been surprised to find out that it makes your own job more interesting and fulfilling.

Permitting people to explore, to figure out what they need to know, to play a role in decisions that affect their lives - these are key ingredients in creating environments that support human needs. Add to these some trees and nature places, then perhaps we can look forward to improvements both in the urban environment and in the outlook of the people who live there.

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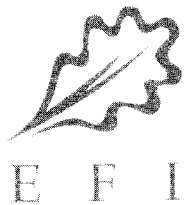
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