

CHAPTER 21

The Psychological Benefits of Nearby Nature

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INTRODUCTION

That plants are important to people is evident in many ways. Flowers are often a center piece of joyous occasions. They are no less dominant at many sad events. The significance of plants to people's well-being knows no demographic boundaries; the relationship holds for different cultures, ethnic groups, levels of affluence, occupations, ages, amount of education, place of residence, country of birth. This very volume and the national symposium it represents are further testimony to this significant relationship.

To cast this relationship in terms of "plants," however, may diminish our understanding. The focus of this paper is on a somewhat broader concept—nearby nature. An explanation of what is subsumed by this concept and the rationale for focusing on it (as opposed to "plants" or "horticulture") are the objectives of the first part of the paper. The middle section concerns the ways people relate to nearby nature—their uses of it, the satisfactions they derive from it. Neither plants nor people are all alike, however. The final section thus considers some differences among people and the implications that such differences suggest for enhancing well-being.

Although these three themes are relatively straightforward, it is impossible to do them justice in these pages. The anecdotal evidence and indirect indications of the importance of nearby nature are abundant. Many of us, however, continue to be surprised by the dearth of research in this area. Fortunately, in the last few years this important subject has received more empirical attention. Several of the chapters in this volume report on such work.

To reduce duplication, I will rely most heavily on our own research here. Even so, the present chapter necessarily glosses over many important questions. *The Experience of Nature* (Kaplan and Kaplan, 1989) provides a fuller discussion of some of these as well as references to many pertinent studies.¹

THE EXPERIENCE OF NATURE

"Nearby nature" includes one plant or many plants, and also the place created by them. It includes a street tree as well as the trees in an atrium. A parsley plant on the window sill and an herb garden are both also part of "nearby nature." So are an arboretum, a person's well-tended garden, or a less nurtured "backyard." We also include in this concept nearby fields and woods and land that has not yet been turned to development.

In other words, nearby nature is about vegetation that is proximal. It can be indoors or out-of-doors; often it is outside but viewed from inside. It can be flowers and plants as well as settings that include plants. A rose bud in a vase and an arboretum certainly range widely in scale. A street tree and a neighborhood park range widely in pertinent activities. One's own garden and someone else's flower box differ substantially in the involvement of a particular individual.

Such a broad definition runs contrary to the accepted terminology of many professional groups. For some, "nature" is reserved for wilder places and does not exist in the urban context. For others, there may be "nature" in the city, but it is what bigger parks are about. "Nature" and "horticulture" also express very different domains to professionals involved in recreation, landscape architecture, and botany.

Flora or vegetation or natural settings are the province of many distinct professional groups. For them it is reasonable and important to maintain such different perspectives. The responsibility of maintaining an indoor palm tree or bamboo grove in an urban atrium demands an expertise different from the requirements of designing a vest pocket park. The focus on "plants," or "flowers," or "parks" as separable domains is thus understandable.

The reason for emphasizing the broader concept of "nearby nature" thus requires justification. We must examine both whether there is a rationale for combining such diverse domains and whether there are gains from doing so. The key to both these issues lies in how the natural environment is experienced by people in their ordinary lives (as opposed to their professional roles) and the benefits they derive from their experience.

The Perception Puzzle

Professional training involves learning to see things in a particular way. A plant pathologist and a bonsai specialist are likely to see the same plant in distinctly different ways. Prior to their training, however, their experience of the same plant would have been different from either of their current ways of seeing. The acquired way of seeing is essential to the process of becoming an expert. In gaining such expertise, one not only learns a vocabulary that is shared by that professional group, but also a way of making distinctions, of recognizing salient characteristics, of understanding.

Experts are not usually aware that they see things differently. The processes of recognizing and categorizing generally occur effortlessly and all of us assume that our perception is no different from anyone else's. This is equally true in areas where our "training" is not formal, but rather the result of extensive daily experience. Thus people learn to recognize and categorize different kinds of settings based on repeated encounters. Doing this is a routine part of perception and is carried out without our awareness much of the time.

Since people are not aware of their perceptions, it is difficult to ask about them directly. To study how people experience the natural environment, however, it is necessary to know about these invisible perceptions. Our research program for the last two decades has addressed this issue through an intermediate concept: *preference*. People have no difficulty whatever in indicating how much they like something. By analyzing the patterns of these judgments, it is possible to learn about perception or categorization. Thus the preference judgments are not only useful in their own right, as an indication of the kinds of things or settings that people favor, but also as a way to understand how the things or settings are experienced.

The Nature Category

People react to what they experience in terms of commonalities, in terms of classes or categories. A scene is generally perceived as a particular instance of a larger class of scenes. By asking people to indicate their preference for each of many scenes (which have been carefully selected to sample particular kinds of settings), one can determine some of these commonalities. By then comparing the results of numerous studies, it is possible to begin to understand how different kinds of settings are experienced.

The basic approach we have taken, then, involves using photographs or slides of different kinds of settings and asking study participants to rate each scene on a 5-point preference scale. This is a task that people of different cultures, ages, educational levels, and backgrounds have all performed easily and enthusiastically. Statistical procedures are available for extracting the common themes, based on the pattern of responses. We have called these procedures *category-identifying methodology* (CIM) because they indicate which scenes "belong" to a common theme or category. The interpretation of what the underlying common elements are for each category, however, cannot be achieved by mechanical computation. These are the responsibility of the researcher.

The Experience of Nature presents synopses of dozens of studies that have used this approach. The findings of each of these studies address some specific kind of setting, such as roadsides, common urban settings, or residential environments. An analysis of the kinds of categories that have emerged across the various studies is the basis for the idea of "nearby nature." In other words, it is from such analyses that we have come to the conclusion that "nature" is a critical component in how people experience the environment.

The categories that emerge from the various studies fall into two major types. One of these can be described as based on *content*; the other focuses on *spatial configuration*.

A major underlying theme in many of the content-based categories concerns the balance between human influence and the natural area. Thus the perception of settings is strongly influenced by the degree and kind of human intrusion. Scenes that are dominated by buildings tend to form discrete categories, as do scenes that are relatively low in such influences. The presence of a road, or cars, or telephone poles does not detract from the perception that the scene is largely natural. (These items are, however, likely to lead to lower preference judgments.)

Even more striking than the particular content domains, however, are the categories for which content is not the distinguishing characteristic. In these cases, it is the spatial configuration or organization of the scene that appears to account for the categorization. The "space" in question here is not the two-dimensional space of the picture plane, but the inferred three-dimensional space of the scene that is depicted. These categories suggest that an underlying criterion in making a preference judgment is an evaluation of the scene in terms of the presumed possibilities for action, as well as the potential limitations.

The spatial configurations categories can be further distinguished in terms of the degree of openness and the extent of spatial definition. The "wide-open" theme has been evident in the CIM results of many studies. The scenes comprising this category generally lack any particular differentiating characteristics and the sky occupies a considerable portion of the scene. Farmland, unused roadsides, bogs, marshes, and shorelines all provide examples. Scenes that *lack* openness also emerge as a separate category. Here too there is a lack of focus or of differentiating characteristics, but rather than giving a sense of endless open space, the view is blocked.

The categories that are strong on spatial definition can often be characterized as "parkland." These are settings that are relatively open, but have some distinct trees that greatly enhance the sense of depth. As a group, these categories tend to be among the most highly preferred kinds of natural settings.

Summary

The results of our research suggest that whereas plants are of great importance to people, the specific plants are not the major focus of the way people experience the environment. Essential to perception is the presence of vegetation and the context created by it. The degree to which the setting is natural and the arrangement among the elements of the setting are particularly salient in people's implicit categorization (R. Kaplan, 1991).

Thus the broad, somewhat nebulous designation of "nearby nature" reflects the breadth of the human experience. Of course people can, and frequently do, make distinctions among the various kinds of settings that are included in this concept. A flower arrangement is not a park. The point, however, is that the kinds of experiences people have and the benefits they accrue from the different kinds of "nearby nature" have some striking similarities. Examining the broader concept, therefore, may be more useful for understanding the nature of the human experience.

THE NATURE OF THE EXPERIENCE

Many indirect sources of evidence point to the role that natural settings play in satisfaction and well-being. One can, for example, use dollar expenditures as an indicator. People spend great sums of money for plants, flowers, landscaping, and recreational pursuits. One can also use time expenditures to gauge importance. Many hours are devoted to hobbies and activities that are nature-related. Other indirect measures can be derived by examining the kinds of settings that are attractive to tourists and by looking at how people arrange their home environment.

It is useful to consider the kinds of involvement that people seek with respect to plants and natural settings. One would assume that active recreational pursuits, in a nature context, would be beneficial. After all, people seek opportunities for being in natural places. Hiking and gardening are among the most popular outdoor pursuits, in terms of the numbers of people who participate.

Perhaps less obvious is that many of the benefits from nearby nature do not entail such active involvement. Examination of the research that has demonstrated the important role that the natural setting plays in satisfaction and well-being points to two forms of involvement that seem particularly salient. One of these involves opportunities for noticing or observing; the other derives from the knowledge that the opportunity is available—even if it is not "used" or directly seen.

The View from the Window

A great deal of satisfaction derived from nature does not involve being in the natural setting, but rather having a view of it. It is hardly surprising that studies on windowless settings (including schools, hospitals, work environments) suggest that they are unpreferred (Verderber, 1986). The several studies that have shown health benefits related to nature have all been based on opportunities for noticing and observing, rather than on activities that are performed in nature. Moore (1981) and West (1986) both reported that prison inmates used health-care facilities significantly less often if the view from their cells was toward natural areas. Ulrich (1984) and Verderber (1986) found recovery in the hospital setting to be significantly enhanced by the quality of the view from the patient's room.

Residential satisfaction has also repeatedly been shown to be related to the availability of nearby nature. Fried's (1982, 1984) work is particularly noteworthy in this context. In a carefully drawn, national survey, he found that the strongest predictor of local residential satisfaction was the ease of access to nature. This was also the second most important factor

(after marital role) in life satisfaction. The pattern of these findings was particularly strong at the lowest status levels. Thus, for lower social class positions, the satisfaction with the physical setting is even more powerful in explaining life satisfaction than is the case as social status increases.

Similar results, though not from a national survey, were reported by Frey (1981), who found neighborhood satisfaction strongly affected by the availability of nearby nature. Neighborhood satisfaction, in turn, was a significant aspect of participants' perceived degree of life satisfaction.

Neither Fried's nor Frey's studies specifically address the view from the window. It is to be expected, however, that much of the satisfaction derived from the nearby trees and natural areas stems from seeing them from one's dwelling. A study based on nine multiple-family housing projects (Kaplan, 1983) asked specifically about the view from home. Participants' satisfaction with their community was strongly related to having views of gardens; views of woods and trees were particularly important factors in several other neighborhood satisfaction measures.

The importance of opportunities to see nature is not limited to special populations (such as long-term hospital patients or inmates), nor to the home setting. The role of nearby nature in the work environment has received only minimal empirical attention. Our initial study in this context (S. Kaplan, et al., 1988) found that workers with a view of natural elements, such as trees and flowers, experienced less job pressure and were more satisfied with their jobs than others who had no outside view or who could see only built elements from their window. Employees with nature views also reported fewer ailments and headaches.

A study we are currently conducting includes 616 individuals whose jobs are largely sedentary. Their positions vary widely in pay and responsibility but have in common that their working day is spent indoors, generally in a limited area. Once again, the results show that opportunities to see natural elements is a strong positive factor in enthusiasm about work and in satisfaction with the work situation.

Thereness

Consider the following finding in the study about nature in the workplace. The participants were asked how difficult is it for them to see outside from their desk or workstation and how likely are they to look out a window in the course of the day. It is not surprising that both the ease of seeing out and the likelihood of looking out are key issues in the employees' satisfaction with the view from their workspace. Of course, satisfaction is also affected by what they can see, and the ability to see more natural elements enhances the satisfaction. What may be more surprising, however, is the relative importance of these factors. The difficulty of seeing out plays a far more substantial role than does the likelihood of looking out.² In other words, knowledge that a view is available is in itself important, even if one does not take advantage of the opportunity to do so.

We have referred to this phenomenon as "thereness," an appreciation of the natural setting by virtue of its availability, whether or not one partakes of it (R. Kaplan, 1978). It is an important aspect of the contribution of nearby nature that is easily overlooked if the evidence one seeks is from aggregate measures such as dollar expenditures or is based on respondents whose active involvement with a natural setting is a condition for their participation in a study.

Thereness is a particularly vulnerable source of satisfaction. When people's appreciation of a resource is based on their cognitive state—knowing that it is there—rather than on actual use, it is all too easy to assume that the resource does not "really" matter. Neighborhood parks often lie vacant, yet people want to live near them. Human beings are readily dismayed by the lack of choices and prosper from hope and opportunity.

Summary

The psychological benefits that nearby nature offers are based on many forms of involvement. Although being in nature and nature-based activities are important sources of satisfaction, the experience of nature is often derived from far more subtle pursuits. The availability of flowers, plants, trees, and nature places and the perceived adequacy of opportunities to be in contact with nature have been shown in several studies to be important components of well-being. The knowledge that such settings and opportunities to see nature are available to be enjoyed is in itself a source of satisfaction.

THEME AND VARIATION

The theme of this paper is the importance of nearby nature to human satisfaction and well-being. Anecdotal and more systematic evidence suggests that nature does indeed play a significant role in well-being. Although the pervasiveness and consistency of this relationship is remarkable, it certainly does not suggest a universal pattern without variation. All plants and natural settings are not equivalent in their effects, nor are all people equivalent in their responses to nature. It is important both to recognize the pervasiveness of the importance of nature and to acknowledge the variations on the theme.

The variation in response to nature is closely related to familiarity and experience. This would suggest that the role that nearby nature plays differs in the course of the life cycle. Where one lives, one's cultural heritage, as well as one's travels would lead to different experiences. Furthermore, formal training and expertise can have direct bearing on one's familiarity with plants and natural settings. Although these factors would be expected to make a difference, the research literature that speaks to these issues is scant. Clearly this is an area in need of further investigation.

Life Cycle

Extensive empirical work is not required to tell us that the very young and the very old differ in their recreational patterns. Activities that involve the nearby natural environment may be of great importance at both ends of the life cycle, and to every age in between, but the likely "uses" or forms of involvement are different.

The experiences highlighted in the previous section—*noticing nature and appreciating its "thereness"*—are hardly the domain of toddlers. They are evident, however, at many later stages of the life cycle and are strongly expressed among the elderly (Talbot and Kaplan, 1991).

The Balling and Falk (1980) study on preferences for different biomes shows some fascinating age-related variation. The two youngest age groups in their study (ages 8 and 11) showed stronger preference for savanna scenes than for the deciduous and coniferous forests that were more characteristic of their personal experiences. For all other age groups, these three biomes were equivalent in preference. The preferences of the 15-year old group were also noteworthy. They were consistently lower in preference for each of the five biomes included in the study. Medina's (1983) study also showed distinctly lower preferences for nature scenes among people of this age group. The findings are suggestive of a developmental pattern among urban adolescents; they call for further research to answer many questions.

Background Variables

Traditionally, social scientists include a variety of questions about the study participants' background. These questions establish the demographic composition of the sample and explore whether background accounts for differences in participants' responses to other items. Thus, research on the role of plants in well-being might include questions about the respondents' rural or urban background, length of residence at the current location, ethnicity, income, etc.

From such questions, Fried (1982, 1984) derived the findings about the particular significance of nature access for lower income groups. Similarly, several studies have explored ethnic differences. The results suggest that the theme of the importance of nearby nature holds true across groups, and that variations on this theme exist as well. In particular, the black individuals sampled seem to have a stronger preference for the more managed or manicured, neater and more orderly settings of nearby nature (Kaplan and Talbot, 1988).

Cross-cultural studies have frequently demonstrated strong similarity in environmental preference. This may not be surprising when the cultural and environmental patterns are similar. Yang and Kaplan (1990) found strong similarities even for dissimilar cultures and for distinctly different landscape styles. Koreans and western travelers in Korea were asked to indicate their preferences for scenes showing Korean, Japanese, and Western styles. The category-identifying methodology (CIM), described above, revealed remarkably similar perceptions for the two samples: the Japanese landscapes were the most preferred. Particularly noteworthy was the low preference expressed by the Korean sample for their own characteristic landscape style.

The Trained Eye

If indeed, as suggested above, professional training involves learning to see things in a particular way, one would expect that those with plant- and nature-related expertise would have reactions different from others'. Extensive experience with horticulture, botany, silviculture, landscape architecture, gardening, turf management, or any of the many other professions and avocations pertinent to this theme would surely not diminish one's sense of the importance of the natural world. Such experience can, however, affect how one sees nature, what one considers important, and the satisfactions one derives. In fact, the role of knowledge or expertise is likely to be a particularly significant source of variation for our central theme. The consequences of failing to acknowledge that expertise makes a difference can have unfortunate, though unintended, consequences.

In *The Experience of Nature* (Kaplan and Kaplan, 1989; chapter 3), we discuss several studies that deal with the role of knowledge in people's responses to nature. Members of special interest groups are likely to differ from the population as a whole in their concerns and priorities. Environmental planners and resource managers differ from citizens in the different categories they use for identifying what needs attention in the natural settings. Managers of residential settings may make decisions that run counter to the preferences of the residents. It is certainly not difficult to think of other examples in which someone else's judgment ran counter to our own, in which someone "in charge" was insensitive to the implications of what was to them a reasonable decision.

It is more difficult, I suspect, to recognize that when we are the experts the same situation occurs. In other words, we are less likely to be aware of the consequences of our own expertise than of others'. We are generally unaware of our perceptions and of the bases for many of the actions we take. Thus, all too easily, decisions are made that undermine the availability of the natural environment, or worse yet, that destroy nearby nature because of a different set of priorities.

Experts are necessary and their contributions are vital. Nonetheless, the limitations inherent in expertise can have harmful (though unintended) consequences. The implication here is not to do without experts, or to do without the contribution of those on whose behalf the expertise is sought, but that participation by untrained individuals who are impacted by the experts' decisions is an essential part of the process.

Summary

The pervasiveness and consistency of the importance of nature is perhaps more striking than are the variations on the theme. Nonetheless, it is important to acknowledge variations: in the expression of what is important, in preferences for different plants and nature settings, in priorities and urgencies with respect to nature. Rather than assume that all people are alike, or that one group knows what another group prefers or needs, the expression of both the theme and the variation is vital.

SOME IMPLICATIONS

Nature is many things. It comes in many colors, forms, sizes, and availability. It calls for different forms of involvement, permits different degrees of intensity. It bestows a great variety of pleasure and joy. Why or how nature is beneficial may not be self-evident; that nearby nature is important, however, is unquestionable for many people. It is important in different ways for different people and for the same person on different occasions and in different phases of life.

This is nature nearby, not the distant wilderness, wild rivers, and scenic mountains. This is nature that is unspectacular and ungrand. Unless, of course, one sees grandeur in the changes that the seasons bring, in the opening of a bud, in the way one's garden takes shape. Without a tree nearby, one cannot witness the seasonal variation, one cannot struggle to catch a glimpse of the birds, or watch the antics of the squirrels chasing each other. Without a spot of ground nearby, one cannot help it take shape nor imagine the wonders it will yield next summer.

There are many places where nature is removed to make way for housing. There are many places where people live that offer no view of nature. There are many places where people work that have no plants or even pictures of plants. Such conditions represent, at best, a serious misunderstanding of the role of nearby nature in human well-being. Nature is not merely an amenity, luxury, frill, or decoration. The availability of nearby nature meets an essential human need; fortunately, it is a need that is relatively easy to meet. A garden patch, some trees nearby, and a chance to see them can all be provided at minimal cost and for enormous benefits.

NOTES

¹Reference to "our" research program refers to collaboration by Stephen Kaplan and myself with numerous individuals over the past 20 years. Many of these were students who worked with us and have continued in this area of research subsequently. Others contributed by their searching questions. Janet Frey Talbot has been a colleague in this work for a very long time. In addition, we and I have been most fortunate to have the continuous support of the U.S. Forest Service through numerous Cooperative Agreements with the Urban Forestry Unit of the North Central Forest Experiment Station. Even more than the funding, we have cherished the encouragement and enthusiasm of the Unit's Project Leader, John F. Dwyer.

²Regression analysis shows that these three items account for almost half the variance ($R^2=.49$) in explaining an index of Satisfaction with View (based on three other items). Beta coefficients are: $-.53$ for how difficult it is to see out, $.24$ for seeing natural elements, and $.16$ for likelihood of looking out.

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