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# Population and Environmental Psychology Bulletin



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## WINTER 2003

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### FEATURE ARTICLES

#### Retail and Urban Nature: Creating a Consumer Habitat

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### NEWSLETTER NEWS

PEPB is an unrefereed forum for sharing news, ideas and opinions in population and environmental psychology. Opinions are those of the authors and do not reflect the official policy of Division 34 unless explicitly stated.

#### Call for Submissions

PEPB Spring 2003

#### Unthemed

Submissions Due: May 1st, 2003

Please send brief research reports, commentary and announcements, as well as suggestions for future themes, books to review, etc., to Russ Parsons: [rparsons@uiuc.edu](mailto:rparsons@uiuc.edu)

Also, I'm looking for reviewers for two books:

Devlin, A.S. (2001). *Mind and maze: Spatial cognition and environmental behavior*. Westport, CT: Praeger. (278pp)

Bechtel, R.B. & Churchman, A. (2002). *Handbook of environmental psychology*. New York: John Wiley & Sons. (722pp)

Please contact me if you're interested in reviewing either of these books.

Since the beginning of history people have gathered to exchange goods and services. From the agora, to the market, to "main street," places of commerce have been sites of complex interpersonal interaction. The multiple, daily human contacts of market centers are a part of the social fabric of any city or town. Commerce is a unique situation of human ecology, and one that has rarely been explored in studies of plant and nature benefits.

In *Street Reclaiming* Engwicht (1999) observes that "streets were historically a place of 'spontaneous exchange' – defined as the sharing of goods, culture, knowledge, friendship and support – all the commodities that make up our commercial and social economy."

The life and commerce of city streets has been altered radically with the development of strip malls, shopping malls, mail order alternatives, and the electronic shopping options provided by the computer, telephone, and fax. As U.S. growth management practices are implemented local retail districts are making efforts to revitalize and regain their competitive retail position. Physical improvements are made to recreate pedestrian-friendly, human scale streetscapes, in addition to restoring shops and infrastructure.

In a vital pedestrian-oriented retail center the streetscape provides habitat for shoppers and consumers who have diverse needs and goals. Habitat can be defined as the "place where an organism or a community of organisms lives (and exists), including all living and nonliving factors or conditions of the surrounding environment (Encyclopedia Britannica, 2002)."

Habitat, in the ecological sense, provides the basic needs of food, water and shelter for any given species. Retail business districts must also provide basic consumer needs in order to be successful. Consumers are likely to gravitate to

“habitats” that offer favorable climate, high potential for social interaction, perceptions of safety, and a large, diverse selection of goods and services (Bloch et al., 1994).

Landscape ecologists have teamed with wildlife biologists to study the spatial configuration of landscape that is conducive to habitat and biodiversity. The connectivity of basic needs is as important as their availability. As the world becomes more urbanized wildlife corridors and land patches are essential for providing animal access to life’s necessities.

In an analogous way spatial access to consumer needs is just as important as primary shopping destinations in a business district. The streetscape provides connectivity among shops, enabling (and encouraging) consumers to pursue their retail interests in multiple settings.

Natural elements – the urban forest and accessory vegetation – probably impact consumer habitat on many levels. Generally, research has revealed that urban forests provide extensive benefits for city residents. One vein of benefits research focuses on environmental improvements and enhancement such as surface water management and air quality (McPherson, 1995). In addition, passive and active encounters with nature in cities generate psychosocial benefits. Scientific evidence confirms that experiences of nature are associated with enhanced worker productivity (Kaplan, 1992), traffic stress reduction (Parsons et al., 1998), emotional stress mitigation (Ulrich, 1986) and restoration of cognitive capacities needed for basic functioning and productivity (Kaplan & Kaplan, 1989).

Emerging understanding of urban nature benefits yields insight on plants and retail. Economists typically regard direct consumption of goods to be the primary motivations of shoppers. Optimal consumer habitat has opportunities for experiential consumption of a setting, in addition to goods purchases.

Retailers have long understood the importance of store environment in enhancing the shopping experience. Marketers have studied the situational influences of product packaging and store layout on the behavior of shoppers (Engel et al. 1990). While business people are keenly interested in the presentation of their product and store they often overlook “macro” level settings - the district that surrounds their shop or office. Mattila and Wirtz (2002) extend the notion of Gestalt to consumers’ perceptions of retail environments and demonstrated that consumers perceive service-scapes holistically. The outdoor landscape can be a seamless extension of shop interiors, providing indoor/outdoor continuity for a positive shopping experience.

Urban forestry can play an important role in business districts. Interior plants and landscape may create store interiors more favorable for retail activity. Meanwhile the streetscape provides connectivity within a retail habitat, providing the experiential setting that generates initial customer appeal in the pedestrian-oriented shopping zone.

Yet some merchants and business associations are reluctant to invest in green improvements, as they are uncertain about what level of return will ensue from the commitment of fiscal resources. Urban nature is deemed a public good by economists. Easily observed measures of value, such as those expressed through market pricing dynamics, do not exist for such public goods (Prato, 1998). Exclusive ownership and use

is rare making active sales and purchase of the commodity difficult. Indirect valuation approaches, such as hedonic pricing or contingent valuation, can be employed to assess public and individual value for the presence or absence of plants in urban settings.

The evidence of tree-based environmental or psychosocial benefits in cities, while contributing to urban sustainability, may not be salient to the direct fiscal interests of merchants and retail associations. Improvements needs are many - building upgrades, street and sidewalk improvements, sanitation, security – and place extreme demands on limited fiscal resources. The role of the urban forest as human habitat is complex yet can be investigated empirically, providing the evidence for informed public decision-making that optimizes returns from green investment.

### Research Approach

A multi-phase research project was conducted to learn about tree impacts in consumer habitat. Three questions were addressed:

1. Do consumers prefer certain plant conditions in the outdoor retail setting?
2. Does the presence of trees influence consumer place perceptions?
3. Does the urban forest have an affect on consumer behavior (e.g. patronage and product pricing)?

Both qualitative interview and quantitative survey methods were employed in the studies. The interview phase was conducted in urban neighborhoods of the Pacific Northwest region of the United States. The survey phase compared business peoples’ and consumers’ responses. Data was collected in multiple U. S. cities: Seattle (Washington), Portland (Oregon), Austin (Texas), Los Angeles (California), Chicago (Illinois), Pittsburgh (Pennsylvania) and Washington DC.

The research survey evaluated several facets of public response to trees in retail settings using psychometric and econometric measures. In one section respondents (merchants and residents of nearby neighborhoods) were asked to rate varied streetscape scenes for visual quality. The scenes showed retail settings with differing amounts and arrangements of vegetation. The survey also contained sections of questions about shopper perceptions of places that have or don’t have trees. Respondents were then asked to express what they were willing-to-pay for goods in three different retail settings, each having different urban forest conditions. Demographic questions revealed the traits and characteristics of respondents.

### Streetscape Preferences

Statistical analysis for visual quality produced five visual categories (Figure 1) based on preference ratings of thirty-two images. Preference ratings in response to the question, *how much do you like this image?* spanned from 1=not at all to 5=very much. Sample sizes for respondent groups were: resident n=258, business n=172. Principal axis factor analysis with Varimax rotation was used to extract underlying common

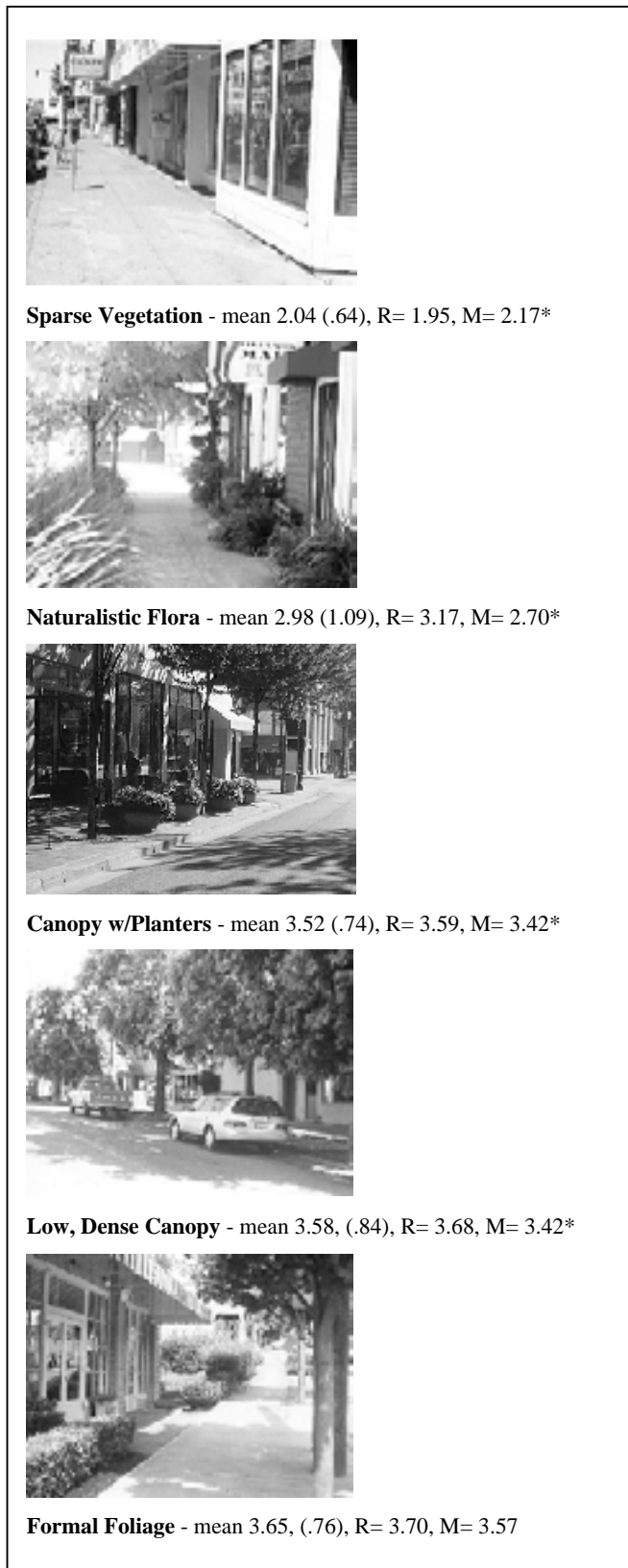


Figure 1. Mean ratings (SD) for Preference Categories.  
R = Residents, M = Merchants, and asterisk indicates statistically significant differences.

dimensions based on observed covariation of individual item ratings. Several decision rules were employed to determine inclusion of any item within a specific category: an item factor loading of at least .40, category eigenvalue of 1.00 or greater, exclusion of items with .40 loading on more than one category, and all recognized categories must have at least two items. New variables were constructed by aggregating mean values across all category items for each respondent. Means comparisons of image categories were conducted using Independent Samples t-tests,  $\alpha < 0.05$ . Comparisons of category means reveal that categories containing scenes with no vegetation or scattered small plants are valued the least. Meanwhile, larger trees are associated with higher preference; both open and dense tree canopies are valued. Finally, categories with the highest visual ratings have multi-layered vegetation and are more ordered. Trees and accessory vegetation are placed and managed to create distinct visual patterns within the streetscape.

Differences were noted in how consumers and business people react to the appearance of business settings. Business ratings of districts without trees are higher than visitor ratings, despite the grim, hard-featured character of the street setting. Then, in response to places with trees, business people consistently rated such places lower than visitors. Merchants may have less appreciation for trees than consumers, the people they wish to welcome to their shops.

### Place Perceptions

Interviews with merchants and business association staff revealed strong attitudes about the values of trees and their suitability in the retail environment. These stakeholders shared some perceptions about trees, but differed widely on many issues. Thematic analysis of the interview content generated categories of both tree annoyances and benefits.

Costs and annoyance perceptions centered on specific issues or problems that impact business profits. Small businesses with marginal profitability feel unable to extend their operating expenses to curbside. The most frequent complaint about trees is reduced visibility, implying reduced consumer access. Trees are blamed for screening signs, awnings, storefronts, and window displays from both pedestrian and automobile traffic. Engineering impacts are another category of costs. On-site exhibits of structural damage included buckled sidewalks, cracked curbs, and heaved road edges, as well as trees entangled in utility lines.

Merchants described loss of functional space as another annoyance. Trees are perceived to reduce usable outdoor space, particularly parking. A direct cost to businesses is removal of tree debris. Flowers, twigs, fruit and leaves are all materials perceived to dirty sidewalks, parked cars and even pedestrians. Security was the final annoyance category. Perceived threats to personal security of both business customers and staff is a common justification for removal of small trees and shrubs.

Rather than attending to tree by tree issues, as with annoyances, benefits reports focused on generalized psychological and perceptual dimensions. Lewis (1996) wrote that "landscaping tells stories and defines settings." Dwyer et al. (1994) report that extensive preference assessments for urban forests have revealed the "deep emotional ties between people

and trees," including sensory, symbolic and human community dimensions. Business organization staff, in particular, recognized that powerful messages of trees can be harnessed to create more profitable retail settings.

The first of four benefits categories was Positive Mood. Plants and trees, if properly selected and maintained, create a positive experiential and sensual space. The second category, Visual Identity and Unity, is about creating an imageable, distinctive place through the use of plants. These efforts are often combined with display of local cultural heritage, using murals and window displays. A distinct plant palette can also define the boundaries of the district, encouraging visitors to shop within a specific area.

A Message of Care is the outdoor extension of a business' customer service commitment. Nassauer (1995) reports that an image of care enhances visual preference for farm and residential landscapes. This also can apply to business districts. A well-designed and maintained street landscape suggests the level of attention that a consumer can expect from a business.

The last benefits category, Signal of Change, is about the visual transformations that occur in revitalizing retail centers. Trees may deliver upbeat messages to prospective customers and potential new businesses. One respondent noted that, "If things look nice . . . it sends a message to new businesses; they see it as being proactive."

Place perceptions were also explored in the quantitative survey. Respondents viewed images and graphics of three different shopping districts that varied on the character and quality of tree canopy. Respondents' answers about the qualities of shopping places statistically sorted into four categories: Amenity and Comfort, Interaction with Merchants, Quality of Products, Maintenance and Upkeep (Figure 2). A set of twenty-five Likert scaled responses were rated by respondents using a scale from "1" indicating *strongly disagree* to "7" specifying *strongly agree* with "4" as a neutral point. Data reduction entailed principal axis factor analysis with Varimax rotation with four categories emerging accounting for 65% of the total variable variance. Aggregate values variables were created for each category. Category means were compared among three streetscape urban forest conditions using one-way ANOVA and Bonferroni *post hoc* tests, alpha <0.05.

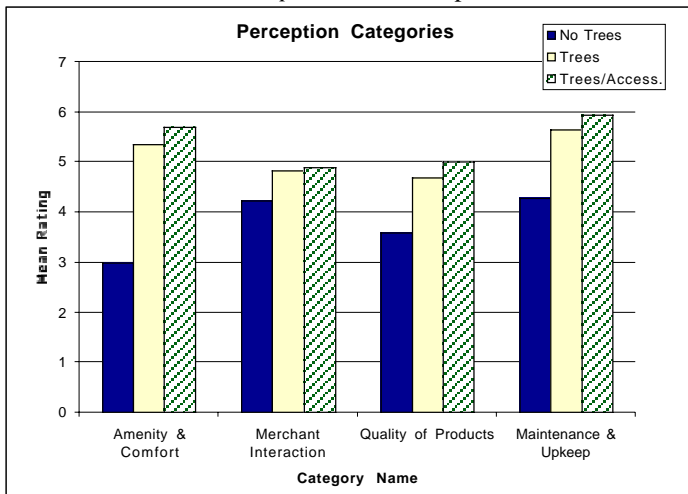


Figure 2. Comparison among treed and treeless shopping districts

Consumers' ratings on each of the perceptual categories were significantly higher for districts that had street trees and other landscape improvements. For instance, Amenity and Comfort ratings were about 80% higher for a tree lined sidewalk compared to a non-shaded street. Also, Quality of Products ratings were 30% higher in districts having trees over those with barren sidewalks. Interaction with Merchants items included customer service issues; ratings were about 15% higher for districts with trees.

**Patronage Behavior**

Psychologists have debated the relationship of attitudes and behavior; both were explored in these studies. Respondents were asked to give projections of their behavior within the three hypothetical shopping districts, including travel time, travel distance, duration of visit, frequency of visits and willingness-to-pay for parking. Two-way contingency analysis tables evaluated the relationship of variables to streetscape conditions using X<sup>2</sup> tests and Cramer's V statistics, alpha <0.05. On all categorical response scales, higher measures were reported in the districts having trees. For instance, Figure 3 demonstrates the inverse response pattern seen in all scales; people are less willing to spend more time in unvegetated settings while greater visitation times are associated with the presence of trees.

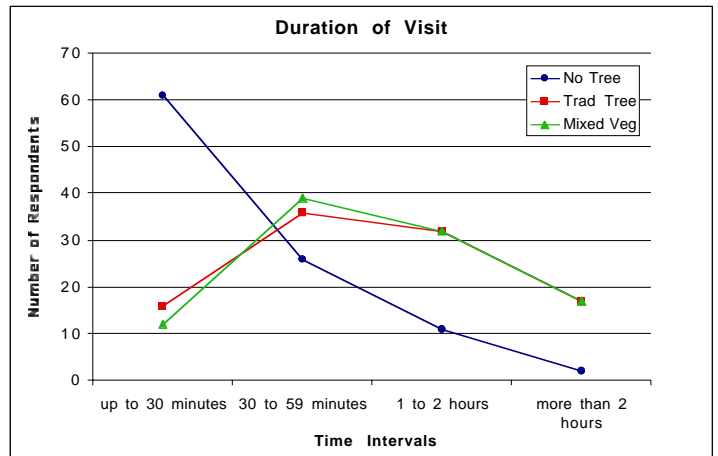


Figure 3. Estimated duration of visit to shopping areas with/without trees and other vegetation

The higher response (for settings with trees) at the mid-array categories may represent a threshold typical of local shopping areas. In addition, respondents claimed they would be willing to pay more for parking in a well-landscaped business district. This suggests that greater revenues from shaded parking could offset the costs of parking space loss, a frequent objection to trees by merchants.

The inverse response pattern was consistent across all patronage behavior variables. "No trees" responses are concentrated at the low end of each of the variables' categorical arrays and diminish in frequency moving toward the high end of the arrays. Conversely, responses based on the presence of trees are less frequent at the lowest end of the arrays, increase in frequency, and then slightly decline at the variables' higher value levels but remain at higher frequencies than the no-green settings.



## Product Pricing

The bottom line is the top interest of most business people. Do trees influence how much people are willing to pay for goods? Contingent valuation methods were used to assess how natural amenities relate to customers' price valuations. Respondents were asked to indicate the price they would be willing-to-pay for each of 15 items. Three index variables were constructed by aggregating stated values for all items within each product index class (convenience, shopping and specialty) for each participant (after removing outlier values to avoid strategic behavior effects). Means comparisons between district conditions (one-way ANOVA and Bonferroni *post hoc* tests) disclosed significant differences,  $\alpha < 0.05$ .

Within each district, shopping goods (e.g. watch, light jacket) mean values are greater than convenience goods (e.g. lunch sandwich, flower bouquet), with specialty goods (e.g. new glasses, art print) commanding the highest stated values (Figure 4). These pricing trends are consistent with marketing literature (Kinnear et al., 1995) in that these goods classes typically contain products of ascending value, quality and consequently, price.

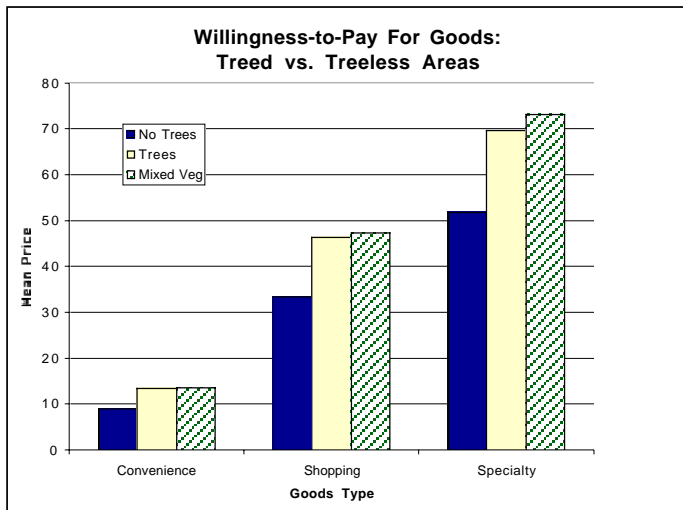


Figure 4. Willingness to pay for convenience, shopping and specialty goods in treed and treeless areas.

Respondents reported willingness-to-pay less for equivalent goods in business districts without trees. Price differences between tree and no-tree conditions are considerable: approximately fifty percent for convenience, forty percent for shopping and thirty-five percent for specialty goods. Analysis using weighted standard scores across all products generated a more conservative 11.95% difference between tree and no-tree conditions. Given the low profit margins of most retail businesses, trees provide a significant "amenity margin."

## Discussion

Marketing studies have evaluated the role of "atmospherics" on consumer intentions and behavior, finding that indoor environmental elements such as music, product layout and lighting all contribute to store image (Zimmer & Golden, 1988). In turn, store image influences consumers' perceptions (Dodds et al., 1991).

This combination of studies was an initial effort to understand atmospherics of the pedestrian-oriented retail streetscape and learn more about the indoors/outdoors interface and consumer response. The results reveal a surprisingly consistent relationship between green streets and consumer response.

In terms of preferences, shoppers favor trees and accessory vegetation that is well-kept and orderly. The public appears not to distinguish different tree canopy configurations in their preference for trees (though more study is needed, as this may be an instrument artifact).

The presence of trees has been favored in visual assessment studies of sites throughout the urban to wildland landscape gradient. An interesting outcome of this study is that inferences about many aspects of the shopping environment are made based on vegetation character. Respondents interpret traits of the district beyond that revealed in the test images, including interaction with merchants, probable service levels and product quality.

The array of judgments made about a setting may be explained by a concept derived from social psychology, "attribution theory." Social perceivers assemble various bits of information, and mediated by perceiver dispositions, form impressions of other people they encounter. Leyens and Fiske (1994) note that, "people continuously build impression theories and use them in their commerce with other people."

Diverse information about a person is integrated to form a coherent impression and guide decisions about how to interact with a person (Wyer & Lambert, 1994). Observed traits are the indirect cues used to interpret feelings, personality, character and likely behaviors. Consequent information and experience will be used by the observer to confirm or modify the impression. Rapid cognitive assessment of others provides a basis for inference and evaluation of new acquaintances.

Built settings appear to evoke similar evaluative responses. Respondents' open-ended descriptors of retail settings go beyond physical traits and include inferences about social and psychological interactions. Social psychological concepts of "social attribution" and "impression formation" readily translate to consumer/environment interactions.

Prior research on nature and city streets supports the finding that both evaluative appraisals (Nasar, 1987) and affective response (Sheets & Manzer, 1991) are enhanced by the presence of trees. Economists once proposed that purchase choices are driven by rational considerations such as the utility function of one product over another. Research of indoor settings has shown that shopping environments can evoke emotional responses in consumers and that such emotions, in turn, influence shopping behaviors and outcomes (Machleit & Eroglu, 2000).

Another study examined how various characteristics of retail environments influence consumers' emotional responses in the shopping environment, and how these emotions, in turn, influence consumers' store attitudes. Store characteristics have a pronounced effect on consumers' in-store emotions, and these emotional experiences serve as critical mediators in the store characteristics-store attitudes relationship (Yoo et al., 1998).

Perceptual responses appear to be related to patronage behaviors and price acceptance thus having implications for

business revenue. The patronage variables specify consumer behaviors that can potentially enlarge a customer base for districts having trees, thus generating additional revenues. For instance, greater travel distances were reported for the without-trees districts; an expanded trade area radius within dense urban populations suggests a larger customer pool. Also, higher reported prices for goods in business districts with trees (12% or more) is a substantial amenity margin given that retailers operate on a 1-2% profit margin.

### Conclusions

Cost-benefit analysis premised on consumer expressed values will be a future research focus. Contingent valuation studies of wildland or open space natural resources typically aggregate reported price statements across a selected population, region or households to assess non-market benefit values (Tyrväinen & Väänänen, 1998). Comparing direct costs of installation and management of a streetscape to the summed indirect benefits valuation reveal net public goods value. These can inform decisions about allocating funds for tree installation and stewardship (Prato, 1998).

As in natural habitats, diverse living and nonliving factors are needed for a viable retail system. Pedestrian-based retail centers must contain an aggregation of a wide variety of businesses in a short six to twelve block distance (Starkie, 2002). Regional economic conditions must be favorable for small business capitalization and start-up. Sanitation services and parking availability must be planned.

Once a foundation of positive conditions is in place streetscape improvements can enhance the desirability and attractiveness of consumer habitat. In the United States retail consolidation of the 1990s by regional malls and "big box" stores has driven shoppers to turn to unique, identity shopping zones that are more integral to their communities (Starkie, 2002). Smart growth urban planning practices are encouraging people to return to cities; many new residents enjoy the conveniences and variety of urban living. Traditional Euclidean land-use zoning has given way to mixed-use developments that blend residential and commercial functions.

Retail settings are part of an emerging interest in community-oriented development, that is, human habitat at the macro scale. Civic commerce includes the amenities that create space and place, and provides the appealing environment that links and supports member retailers. This research suggests that the urban forest is an essential component of a viable, vital retail place. Extensive evidence of the benefits of trees has been documented but most of the science has been conducted in residential settings (Dwyer et al., 1994). This research extends understandings of the human dimensions of trees to the retail context. Additional interpretations of results can enable better planning and management of streetscape nature to better serve retail needs and interests.

*Editor's Note: This article, which is based on a paper presented at the 2002 People-Plant Symposium, Amsterdam, is published on the Plants for People web site:*

<http://www.plants-for-people.org/eng/science/f.htm>

*It is used here with the author's permission.*

## Rural Communities in Urban Environments

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### Squatter settlements and slums

Slum dwellers in Mumbai are people from rural India who have migrated to Bombay to gain economic stability. Their aim is to have a roof over their heads in the city. In the slum dwellings they live surrounded by neighbours and friends of many years acquaintance on whom they can depend in a crisis. This feeling of security overrides any expectation of larger, spacious or luxurious houses or surroundings. These people are engrossed in earning enough money to feed, clothe, educate and secure the future of their families. The development pattern across slums is similar, with dwellings typically built in clusters around a small central court or on either side of an alley.

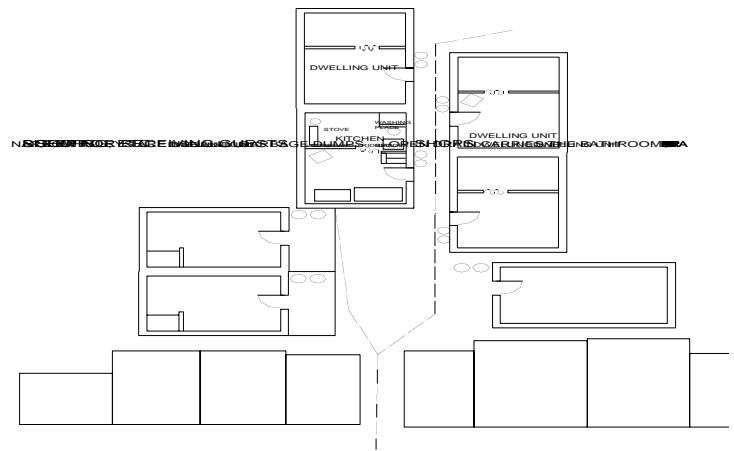


Figure 1. Part layout of a slum showing plan of units.<sup>1</sup>

### Dwellings and Lifestyles

Squatter settlements comprise ground and first floor structures made of asbestos and corrugated iron roofs and walls built of bricks, stones, or mud, whichever are available locally, and plastered with inferior quality cement or lime plaster. Ventilation is provided by small vents in the kitchen above the stove. The door is always kept open, with a cloth curtain to maintain visual privacy. Each tenement is usually one room, 12' long and 10' wide, with a smaller subdivision of 6' by 6' to the rear, which serves as the kitchen. The kitchen also has a washing place that serves as the bathroom for bathing, for washing hands and feet, and for washing utensils and clothes too. The first floor is usually a large wooden loft accessible by a ladder from the front room. It serves as the sleeping quarters for

<sup>1</sup> Source: Author. This is a typical layout of a cluster in most slums. Clusters as these are positioned close to each other to form an impenetrable layout, which houses a massive population. The shops are also mostly temporary structures. The circles shown outside each dwelling are water storage drums. The author observed slums in Mahakali and Mulund in Bombay.



Plate 1. Washing place in a squatter dwelling

the inhabitants. There is usually an iron bed for visitors to sit and for the owner to sleep on at night. Most of the dwellings have a steel cupboard and utensils in the kitchen, a television, refrigerator, cotton mattresses stacked on the loft, some shelves and a showcase to display photographs of the family deity and other prized possessions.

The men usually leave the house at dawn to return at night.

During the daytime, women and children are the only occupants of the house. They supervise smaller children while elder children may go to school or to work with their father. Evening recreation is obtained by watching popular television programmes and exchanging stories with neighbors. The squatters also visit their local temples or other places of worship for religious reasons and to meet fellow worshippers as well as get a breath of the cooler evening air. On the way home, they shop for fresh vegetables from the corner vegetable seller.

**Questionnaire**

A total of 30 families were asked questions on their lifestyle, desires and their homes. On observing their lifestyle and what makes them happy, it is evident that they find pleasure and comfort in the company of their neighbors, friends and family. The juxtaposition of so many dwellings each inward looking into a small courtyard or a common alley has over the years allowed people adjust to each other and form sustainable communities. It provides security and help for lonely old people, women and children, and also security against any threat to the community. They celebrate festivals of all faiths together, visit each other for respective festivals and replicate the atmosphere of village life away from their rural villages. It was interesting to note that families continue to follow their traditions and even in a mixed community, there is a difference in cooking and eating habits, hygiene and maintenance of kitchens and homes. This may be explained by the fact that each family still has strong ties with their respective villages. Summer holidays are normally spent at each one's village. Visiting relatives strengthens and renews these habits. The squatters show a great deal of tolerance and respect for others' customs and habits, though they do not adopt each other's ways. This has preserved the diversity in the community.

Apart from these general lifestyle observations, two questions in particular generated the most variety across respondents. These questions focused on what they liked/disliked about their current living arrangements, and

specifically asked whether they might prefer living in an apartment block. Most of the respondents thought for a time before saying that they would prefer to live in an apartment. The reason being that their vision of an apartment mainly includes spacious rooms. The younger generation was quick to affirm that they would like to live in an apartment block. The older people were more cautious and enquired whether they would be with the same neighbours, and in the same area they were currently living. Their questions were also about the cost of living in an apartment and many feared that they would not be able to sustain a higher cost of living. One person stated that he would not like to live in a building for fear of being trapped in a building collapse.



Plate 2. The narrow alley is covered by overhang of roofs. It serves as a communal place to meet neighbours and exchange news.

**High-Rise Rehabilitation Scheme for Mumbai Squatters**

As a part of the government scheme to eradicate slums in Mumbai, slum dwellers were offered free one-room kitchen apartments equal in area to the size of their present squatter settlement in exchange of the development rights of the slum land to builders chosen by the government. The slums were cleared and a number of apartment buildings were put in their place. These buildings, in addition to rehousing all the residents of the slum, had additional development of larger flats to be sold for commercial gain and to cover the cost of the free housing. The incentive to new buyers was that they could have residences in the prime areas of the city. Each building is five storeys and had three modules. There are four flats per floor in each module. The top floors of each of the buildings have accessible terraces. Distance between buildings is about 3.0 meters, and there is no space allocated for parking motorcycles, rickshaws or cars.

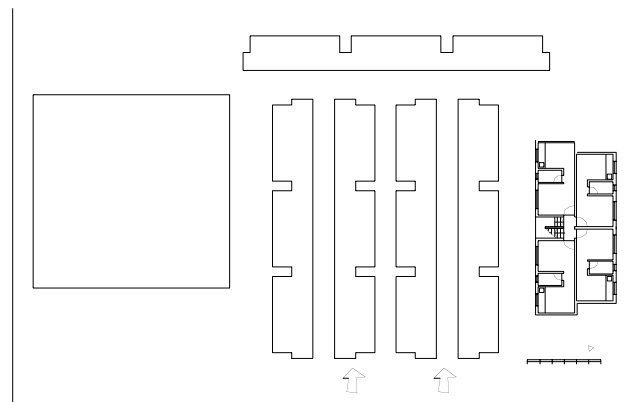


Figure 2. Schematic Layout of Rehabilitation Scheme



There was a sense of resentment among the rehabilitated families. They felt cheated out of the relatively spacious area they were used to living for 25 years compared to the box-like existence they were facing in a corner of what they deemed was their land.

They were also resentful of the other amenities provided for the commercial flat owners, such as a water storage tank ensuring a 24 hour water supply, parking, cross ventilation for most rooms and no other adjacent building in the front close to their building. The rehabilitated flats received less water than what they had in their prior dwellings. Many of the respondents said that they were forced to fetch water in buckets from their old neighbours still living in the undemolished part of the slum to meet their household needs. They also had to store water drums inside their homes, as there was no common alley to do so.



Plate 3. A kitchen in rehabilitation flat.

In addition, now they were forced to pay higher rents to the government, which was not brought to their notice before. Many of them confessed that with higher rents, society charges, electricity and water bills they were not able to afford the cost of living in their new homes and were contemplating selling their newly acquired flats and moving back to their native villages. But the decision brought a great deal of stress because the question of children's future was in jeopardy. With respect to the design of the dwellings, many of the respondents said that they preferred to have the toilets away from the house because it was difficult to maintain cleanliness in absence of water. They complained of noise nuisance from the alleys between buildings being used as a cricket pitch by teenage children. The residents of the ground floor had to always keep curtains drawn for privacy, thus cutting off light and air in the process. Respondents on higher floors said they were relatively happier for the distance from the ground ensured privacy. In addition they were closer to the terrace and used it as a replacement for the courtyards in front of their homes. None of the respondents knew their new neighbours, they said that doors remained shut all day and hardly any greetings were exchanged between families residing on the same floor. Nearly all the families on the lowest floor wished to go back to the squatter houses they had before.

## BOOK REVIEWS

### Psychology and Environmental Change

Review of: Nickerson, R. S. (2003). *Psychology and environmental change*. Mahwah, NJ: Erlbaum, 318 p.

Reviewed by Richard D. Barnes, Department of Psychology, Randolph-Macon Woman's College.

Like it or not, we are entering the century of the environment, when science and politics will give the highest priority to settling humanity down before we wreck the planet.

-- E.O. Wilson (1998, p. 2049)

The above quote, cited in the concluding comments of *Psychology and Environmental Change*, characterizes the sense of mission and urgency conveyed by Raymond Nickerson in this timely and significant volume. In recent years, the multifaceted problems of environmental change have been very much in the public consciousness. Scientific and political debates on issues such as global warming, air and water pollution, energy production, and resource management have raged, and concepts such as sustainability and biodiversity have become integrated into everyday discourse. Given continued increases in world population and limitations on resources, the next century may very well be a crucial time for the environment and for our species, as E. O. Wilson suggests.

Where is psychology in this critical debate? Nickerson argues persuasively that psychology has much to offer to the understanding of environmental change and to development of strategies for addressing environmental problems, but that as a discipline psychology has not confronted the issue of environmental change in a focused and coherent way. As recent discussion in this forum on the future of Division 34 illustrates, psychologists conducting research on environmental issues are diffused across a variety of disciplinary and interdisciplinary organizations. In addition, psychological research on the interaction of human behavior and the environment has tended to focus on the immediate social and physical environment, rather than the larger global environmental context. In particular, environmental psychology traditionally has focused on the built environment, rather than the natural environment. Work in environmental cognition and in assessment of environmental quality is somewhat an exception to this trend, but that work has not addressed the impact of human behavior on environmental change.

A primary contribution of Nickerson's book is that it brings work from across a broad range of psychological topics to bear on the complex issues of environmental management and change. Work in traditional areas of psychology such as attitude change, social influence, altruism, decision-making and risk assessment, consumer behavior, and human factors are applied to issues such as pollution, energy conservation, recycling, and sustainable agriculture. A major issue that Nickerson touches on but does not address in depth is that of population growth. While acknowledging the crucial influence of population growth on environmental change, he prefers to



leave detailed discussion of that thorny topic for another forum, instead focusing on ways to encourage efficient use and management of environmental resources.

The structure of *Psychology and Environmental Change* is straightforward. Early chapters provide a sobering review of the evidence on global warming, pollution, and decreases in natural resources and biodiversity. Emphasis is placed on laying out the evidence for environmental problems and the role of human behavior in exacerbating those problems. Nickerson then applies research on attitude assessment and change and behavior change to issues of energy conservation, recycling, waste production, and littering. Several chapters deal with the application of work in human factors to development of energy efficient technologies, use of resource-light technologies, and design of products for endurance and recyclability. Later chapters address issues of consumerism, risk assessment and cost-benefit analysis, and the book concludes with a discussion of social dilemmas.

*Psychology and Environmental Change* is appropriate for professional audiences as well as graduate or upper-level undergraduate seminars in psychology or environmental studies. My institution, like many others in recent years, has established an environmental studies program that primarily focuses on the natural science and economic aspects of environmental issues. A consideration of the influence of human behavior on environmental problems needs to be a central part of environmental studies, and Nickerson's book provides a framework for that discussion. Nickerson's writing is generally clear and engaging, although in a few places the need to provide extensive supporting examples and citations interrupts the continuity of the writing, obscuring the main point that is being made. Interesting and practical examples are interspersed throughout the discussion. In each chapter Nickerson points out gaps in the existing research literature and discusses promising directions for future work.

Nickerson is right on target in pointing out the failure of psychology as a discipline to be engaged in the pressing issues of environmental change. However, he is optimistic in describing the potential for psychology to contribute both to the understanding of environmental problems and the development of strategies to address them. Even in the face of incomplete research, psychology can inform public debate over strategies for dealing with urgent environmental problems. This book should be required reading for economic and political decision-makers who shape environmental policy. One may hope that this volume is the first of a growing number of books addressing psychology's contributions to issues of environmental change.

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### American Hazardscapes

Review of Cutter, S.L. (2001). *American hazardscapes: The regionalization of hazards and disasters*. Washington, D.C. : Joseph Henry Press.

Reviewed by George W. Doherty, President, Rocky Mountain Region Disaster Mental Health Institute; O'Dochartaigh Associates.

Awareness of the losses (human and infrastructure) and costs of natural disasters has risen in recent years. Most people have at least some knowledge of the effects of events such as hurricanes Andrew and Georges; the Northridge and Loma Prieta earthquakes; flooding in the midwest; tornado damages; wildfires in New Mexico, Colorado, California and Wyoming; and the effects of extended drought. However, historical data on human, infrastructure and economic losses is fragmented and incomplete. Studies on vulnerability and mitigation remain vague and unintegrated. Planning is hampered by a lack of adequate baselines; a uniform method of data collection, analysis, and hazard assessment; and a general lack of commitment to loss reduction assessments.

*American Hazardscapes* is an edited volume which attempts to review the background and history of risks and hazards, discuss theories and concepts, present methods and current models of data collection, discuss trends in disaster losses, identify the most hazardous areas of the United States, and concludes by suggesting a number of courses of action for the next two decades. It presents a brief history of mapping and the spatial analysis of hazards and risks; describes the availability, quality, and usefulness of national data sets on hazard events and losses; presents a retrospective look at trends in hazard events and losses over the past 24 years; and examines the geographic variations in hazard events and losses at the state level.

Cutter begins by presenting a background and history of risk assessment and discusses the divergent paths taken within the hazards and risk research communities. This provides an overview and introduction to the ensuing examination of the evolution of American hazardscapes and attempts at understanding the variability in and delineation of hazard-resistant or hazard-prone places.

Hill and Cutter present an overview of vulnerability and hazards assessment. They discuss what these concepts mean and how they are measured. They begin by asking some leading questions: "Why is it that some places appear to be more disaster-prone whereas other communities seem to be somewhat immune from the impact of natural hazards? What makes some places more vulnerable to natural hazards than others? Is it that some communities are simply more at risk, or they have more people who lack adequate response mechanisms when the disaster strikes, or is it some combination of the two?" (p. 13). They review some of the contemporary hazard assessment tools and techniques used to help understand societal vulnerability to hazards. They do an excellent job of examining the range and diversity of the current methods used to assess environmental risks and hazards and societal vulnerability to them. They point out two important considerations about the next generation of models and methodologies which they did not discuss: explicit discussion of the underlying and contextual factors which increase the vulnerability of people and places (e.g., urbanization, demographic shifts, increasing wealth, increasing poverty, labor markets, cultural norms and practices, politics, business, and economics); and, the issue of how current hazards and risk assessment methods and practices could actually contribute to the relocation of risk and vulnerability (geographically or in the

future). A chapter that discussed and addressed these areas would have added to this volume in a very positive manner.

Hodgson and Cutter provide information on the fundamental concepts used in mapping (scale, resolution of geographic data, and characteristics of spatial databases). They also provide a brief history of mapping and, specifically, hazards mapping. They conclude with a discussion about the role of advances in technology and their influence on mapping and the spatial analysis of societal response to hazards. Of particular interest in their discussion is information gathered by the Geographic Information System (GIS), which is defined as a computer-based method for collecting, storing, managing, analyzing, and displaying geographic information. GIS allows diverse geographic data sets to be put together in overlays, thus allowing relationships between the different data "layers" to be analyzed. SDSS and other specific systems are also discussed. Websites for many of these resources are provided which is a valuable resource.

Thomas looks at the need for systematic primary data collection, centralized data and information dissemination, the meaningfulness of collected data, some of the issues involved in sharing data, and the available databases used for estimating loss. She presents a summary of data sources on natural hazards that includes internet addresses, dates covered, variables included, and the limitations of each database. This information alone is a valuable resource for those interested in research as well as those who wish to become better informed about various hazards and their effects. She suggests the need for a systematic effort to develop loss estimation procedures, collection of comparable data across hazards, georeferencing of all data, and the archiving of resulting databases to assess collective progress toward hazard loss reductions.

Mitchell and Thomas present data and history about trends in disaster losses over a 24 year period in the United States. Their discussion is supported by numerous databases and graphical representations. They present discussions for most specific hazards for which data is collected, both natural and hazardous material spills. They report data on fatality, injury, and damage losses for 14 threats. Emotional, cultural, and ecological losses were not addressed. Again, a chapter that specifically addressed these areas would have made this a more complete volume. Mitchell and Thomas also call for a centralized, national data collection effort which focuses on gathering identical physical, social, and spatial loss variables.

Hazard events and losses vary geographically. Thomas and Mitchell examine regional patterns and losses for the United States. In addition to natural hazards, they also discuss the distribution of actual and potential hazards resulting from hazardous material spills, nuclear power plants, toxic releases, and relict hazardous waste sites (Superfund). They conclude that we must learn the lessons from the historic and geographic trends in hazard events and losses and use this knowledge to develop more sustainable options for vulnerability reduction and hazards mitigation nationwide.

Cutter concludes this volume by presenting suggestions for the courses of action needed for the next two decades. She suggests that improvements in vulnerability science and reducing losses from disaster rests on compilation of adequate data in order to monitor successes and failures. The

political will to make tough choices and decisions is an additional suggestion. She states that the reduction of our vulnerability to hazards should be based on public policies which are guided by the best science, information, and data available at the time, and not by political expediency.

This book provides a good overview and background for psychologists and other mental health professionals who have interests in the effects of natural and man-made hazards on different populations. For those who study the areas of population and environment, it provides a basis for looking at how better to help plan for improved management of geographic areas that are at risk for natural hazards. Large aggregates of people in areas that are subject to hazards such as hurricanes, floods, earthquakes, wildfires, etc. could benefit from planning that involves better designed buildings, homes, and other supportive infrastructure. This is an increasingly dangerous world with increasing numbers of people who are at risk for losses. How to mitigate against such losses is an area of study that can be constructively undertaken by psychologists whose interests are in the environment and population demographics. Learning how to interact better with our environment (e.g. rural-urban interfaces) can improve the quality of life for all.

## ANNOUNCEMENTS

### Conferences/Workshops/Publications

#### **5th Biannual Conference on Environmental Psychology**

Dear colleagues,

On behalf of the Environmental Psychology Division of the German Association of Psychology, I would like to invite you to its...

5th biannual conference on environmental psychology

...which will take place August 31 until September 3, 2003 in Eindhoven, The Netherlands.

Papers from all areas of environmental and conservation psychological research are welcome and will be accepted for presentation. Two renowned scientists in environmental psychology will give keynote addresses: Terry Hartig (Institute for Housing and Urban Research, Uppsala University, Gävle, Sweden) will speak about "Time-series analyses of the effects of ambient stressors on health," and Peter M. Todd (Max Planck Institute for Human Development, Berlin, Germany) will speak about "Ecological rationality: Using the (information) environment to make good decisions." There will be plenty of opportunity to meet with German and European experts and peers.

The congress languages will be English (German is an option for junior colleagues in specially assembled working groups and poster sessions). The call for papers will be sent out in January, 2003. The deadline for submissions will be March 15, 2003.

More information can be found at  
<http://www.tm.tue.nl/jfschouten/dgp/>

<http://www.tm.tue.nl/jfschouten/dgp/>

I am looking forward to seeing you in Eindhoven  
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www: <http://www.tm.tue.nl/mti/kaiser.htm>

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### Natural Forests in the Temperate Zone of Europe

The Swiss Federal Institute for Forest, Snow and Landscape Research WSL in Birmensdorf (Switzerland) and the Carpathian Biosphere Reserve in Rakhiv (Ukraine) jointly organise an international conference on

NATURAL FORESTS IN THE TEMPERATE ZONE OF EUROPE - VALUES AND UTILISATION

It will be held from October 14-18, 2003 in Mukachevo, Ukraine (Transcarpathian Oblast).

The objectives of this conference are to

- review the status quo and the state of knowledge about natural (old growth) forests in the temperate zone of Europe,
- analyse the value and benefits of natural forests for ecology and society,
- assess the economic potential of natural forests and forest reserves,
- intensify the international and interdisciplinary co-operation in research on natural forests, and
- promote and support the long-term protection and conservation of old-growth forests.

The main topics will be

- Value of natural forests as reference
- systems,
- Value of natural forests as largely pristine habitats in an anthropogenically modified landscape,
- Socio-economical values of natural forests, and
- Protection and management of natural forests.

For more detailed information, please visit the conference website with online registration

[http://www.wsl.ch/forest/waldman/rakhiv\\_2003/](http://www.wsl.ch/forest/waldman/rakhiv_2003/)

Or, contact Brigitte Commarmot [rakhiv\\_2003@wsl.ch](mailto:rakhiv_2003@wsl.ch) (in English) or Dr. Fedir Hamor [cbr@rakhiv.ukrtel.net](mailto:cbr@rakhiv.ukrtel.net) (in Ukrainian or Russian).

We would highly appreciate if you forward this announcement to any colleague who might be interested in this conference.

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### Project for Public Spaces Events

Cycling along Manhattan's Hudson River Park  
 Rafting along the Vltava River in the Czech Republic, or  
 Touring London's vibrant East End...

YES - you can do this AND learn the art of placemaking (designing places according to people's needs) through our extraordinary line up of conferences, workshops and tours.

Project for Public Spaces is a membership organization that helps communities and designers make great places. With 27 years of placemaking experience behind us, we are at the forefront of the international movement to create more livable towns and cities. Find out more by browsing through our 2003 line up below.

Thanks a lot,  
 Harriet Festing <[hfesting@PPS.ORG](mailto:hfesting@PPS.ORG)>

HOW TO TURN A PLACE AROUND: New York, NY  
[http://pps.org/nyc\\_training.htm](http://pps.org/nyc_training.htm)

April 24-25 - Based on PPS' 25 years of experience in placemaking this course shows participants our unique approach to revitalization.

HOW TO CREATE SUCCESSFUL MARKETS: NY, NY  
[http://pps.org/training/markets\\_training.htm](http://pps.org/training/markets_training.htm)

April 24-25 - Starting markets in your neighborhoods. Essential for anyone interested in using public markets to revitalize communities.

HOW TO TURN A PLACE AROUND: London, UK  
[http://208.45.47.25/london\\_training.htm](http://208.45.47.25/london_training.htm)

June 5-6 - PPS returns to London after its tremendously successful course in last November. The course is presented in partnership with the Prince's Foundation.

GREAT PARKS/GREAT CITIES: New York.  
<http://pps.org/GPGC/>

June 21-25, 2003 Celebrating 150 Years of Central Park 8th International Urban Parks Conference, an international conference for people who care about parks and their role in making cities more livable. Central Park's immense achievements and influential history will serve as a starting point for exchanging lessons from around the world. Explore the past, present and future of parks with 450 people from around the world.

THE GREAT PLACES HIKE AND BIKE RIDE 2003: In the greenways and villages of the Czech Republic June 28-July 9 - Our new tour designed with our Czech partners -cycling,

hiking, canoeing and rafting through the breathtakingly beautiful countryside. Web pages not yet up.

#### PLACEMAKING IN THE CZECH REPUBLIC [http://208.45.47.25/Czech\\_Tour.htm](http://208.45.47.25/Czech_Tour.htm)

August 29-September 7 - The return of our popular Czech tour to Prague and the provinces of Bohemia and Moravia, which received rave reviews last year.

#### HOW TO TURN A PLACE AROUND: New York, NY

[http://pps.org/nyc\\_training.htm](http://pps.org/nyc_training.htm)

October 23-24 - Based on PPS's 25 years of experience in placemaking this course shows participants our unique approach to revitalization

CONTACT Kumar, [kumar@pps.org](mailto:kumar@pps.org) phone: 212 620 5660 for more details on these courses.

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### Current Research and Practice: Residential Environments

The Residential Environments Network of the Environmental Design Research Association (EDRA) will host a full day interactive seminar focusing on current research and projects involving residential environments. Leading researchers and practitioners investigating and creating residential environments will discuss recent work that can inform the development of enhanced residential spaces. Practitioners and researchers interested in residential environments are invited to participate in this enlightening seminar. Members of AIA attending this seminar will receive 8 CEUs. The following people will make presentations at this event:

- Sherry Ahrentzen, University of Wisconsin-Milwaukee, "More than 'Just Home': Six Situations of Live/Work in North America"
- Gary Evans, Nancy Wells, Annie Moch; Cornell University; "Housing and Mental Health"
- Robert Marans, University of Michigan, "Defining and Measuring Residential Quality"
- Lorraine Maxwell, Cornell University, "Critical Attributes of the Home Environment from a Child's Perspective"
- Dale Mulfinger, SALA Architects, Inc., "Cabins . . . Designs for Private, Personal Spaces"
- Julia Williams Robinson, University of Minnesota, "Degrees of Institutionality in Housing: Spatial Structure of Selected Housing Types"
- Andrea Faber Taylor, University of Illinois, "Residential Nature and Healthy Functioning Children: Exploring Potential Connections"

This seminar will run from 8:30 am to 4:30 pm, May 21, 2003 in the College of Architecture and Landscape Architecture Building, University of Minnesota, Twin Cities Campus (Rapson Hall, 89 Church Street SE, Minneapolis, MN 55455). It will cost \$110 and people who register for the entire EDRA conference (\$290 EDRA members, \$390 non-members) will be able to attend this event at no additional cost. To register in advance go to <http://home.telepath.com/~edra/home.html> or call

the EDRA office at 405-330-4863. Attendees may register at the event.

The overall theme for the EDRA 2003 conference is "People Shaping Places Shaping People." The theme focuses on the spirit of ongoing efforts in a region nationally recognized for its social concern and support of education and research. The culture of the Twin Cities of Minneapolis and St. Paul has been shaped by its cold climate, its lakes and the Mississippi River; its people have in turn created an urban environment with one of the highest qualities of life in America. The Twin Cities are a vibrant cultural and ethnic center on the Upper Mississippi, in which both the public and private sectors have supported exciting new architectural design and sustainable developments. The metropolitan area offers an extremely rich set of diverse environments to experience and learn from, and the University of Minnesota has new buildings by Frank Gehry, Antoine Predock, and Steven Holl.

Conference subthemes include:

- Cultural settings in a globalized world (workplaces, shopping centers, parks, museums, centers for the performing arts, etc.)
- Cooperative design involving the public, researchers, and practitioners
- User-Centered design
- Design for ecology and long-term sustainability
- Ethnic communities and places
- Representing space and human activity
- Design knowledge and design education
- Shaping places for all ages and abilities

EDRA is an international, interdisciplinary organization founded in 1968 by design professionals, social scientists, educators, facility managers, and students. The purpose of EDRA is the advancement and dissemination of environmental design research, to improve understanding of the interrelationships between people, their built and natural surroundings, and to help to create environments responsive to human needs.

EDRA conferences are major, annual, international events. Highlights include integrative symposia, research and design presentations, exploratory workshops, interactive poster sessions, open-ended working groups, films, video and slide/tape presentations, and other special events tied into the conference theme of that year.

For additional information, please contact Sally Augustin at 920-208-6582 or [sallyaugustin@yahoo.com](mailto:sallyaugustin@yahoo.com).

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### Research Design Connections

Architects, interior designers, landscape architects, facilities managers, and lay people are paying more attention to the influence of the physical environments that they create on the physical and psychological experiences of the individuals that use the spaces they produce. These space designers often voice the concern that they are not well enough informed about



lessons being learned from current research in environmental design and thus are not able to reflect this new knowledge in their designs. To provide relevant information from current design research and design practice to these people as conveniently as possible, the newsletters Research Design Connections and PlaceCoach Digest have merged.

The new publication will retain the name Research Design Connections and PlaceCoach Digest will be a supplemental section in the new Research Design Connections.

Articles in the current issue of the new Research Design Connections focus on topics such as controlling crime through design, wayfinding, and the effect of indoor plants on creativity. Other articles report on designing children's environments, catalytic buildings, ambient stress in workplace environments, and the use of fractals in design. Each issue includes comments from a recognized thought leader in the "Expert's Corner" and reviews of relevant books.

Research Design Connections is targeted to people interested in the physical environments that surround them or others and the influences that these spaces can have on life experiences. The audience for this publication is people who plan, design, manage, make, or use places for people. Information about the influences of the physical environment on experience is difficult to gather - some of it is published in arcane, hard to find journals, some is available only through conversations with researchers. Research Design Connections gathers information from these scattered sources and presents it to readers in one convenient, concise package. The editors also endeavor to stimulate thought among interested parties by synthesizing material from various sources and presenting it in straightforward prose.

Jean Marie Cackowski, editor of Research Design Connections, states that "Our highly trained editors extract the essence of each article or talk reported, emphasize its connection to a design solution, and present this information using easily understood tables, graphs, and photos. An exception editorial board, comprised of career practitioners and researchers who have an interest in increasing the flow of information between theory and practice, guide this process."

Research Design Connections is published quarterly. The cost for a subscription is \$63 a year for addresses within the United States and Canada. Contact Research Design Connections for the cost of subscriptions outside the United States and Canada.

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### Healthcare Garden Design Certificate of Merit Program

Chicago Botanic Garden, Glencoe, Illinois  
February 24-28 and October 20-24, 2003

#### Program Description

Healthcare garden design is an emerging area of specialization in which several professions converge to create environments of care. In this two-part professional development program, you will discover effective ways to apply the latest research into

evidence-based designs to achieve specific patient health outcomes. You will learn to design garden environments of care that maximize the effectiveness of clinical treatments for illness and disabilities, and to create passive garden experiences that significantly reduce staff stress and absenteeism, improve patient health, increase client satisfaction and strengthen the bottom line.

Through readings, discussion and group projects, you will gain a thorough understanding of the unique attributes of, and the strategic planning process for, a range of healthcare gardens: therapeutic, enabling, wellness, restorative and contemplative. You will learn to seamlessly connect gardens to such spaces and functions as emergency, critical and intensive care departments; pediatric, geriatric and cardiac care units; cancer, AIDS treatment and women's centers; physical rehabilitation, long-term care, skilled nursing, assisted living and Alzheimer's facilities; psychiatric centers and other mental health facilities; correctional and substance abuse facilities and continuing care and independent living retirement communities.

Program instruction will be provided by experts from all the professions involved in creating a healthcare garden, and you will work in multidisciplinary teams that reflect the real world of healthcare garden design. Your learning will be reinforced through engaging case studies, design charettes and tours of the Chicago Botanic Garden as well as pioneering healthcare facilities in greater Chicago.

#### Program Design

This two-part program will meet for 4-1/2 days in February and again in October 2003. Each session includes lectures, group projects, case studies, tours and other engaging learning activities. You will have the option of completing an independent project and/or taking an exam. Satisfactory completion of the independent project and/or an exam may be required for continuing education credit from professional associations.

The optional independent project allows you to select from a variety of assignments or choose to develop an individual project proposal. In either case, the goal of the independent project is to provide you the opportunity to customize the learning experience to suit your professional interests and specific learning objectives. Mentors will provide advice, feedback and evaluation.

#### Who Should Participate

- Landscape architects, garden designers, architects and interior designers
- Healthcare executives and board members, program administrators, facility managers, project planners, development and marketing directors, and consultants
- Nurses and nurse supervisors, therapists, extended care providers, activity and recreation directors and patient advocates
- Graduate students in related fields

Further info at: [www.chicago-botanic.org/certificate/hgd.html](http://www.chicago-botanic.org/certificate/hgd.html)

## BRING A FRIEND INTO DIVISION 34!!

### Population and Environmental Psychology

Members of Division 34 receive this newsletter three times a year. You're probably a member, if you received this issue by mail -- but maybe you have friends and colleagues who are not members. Professionals who are members of related organizations can join the Division even if not members of the American Psychological Association. Our dues are only US\$9.00, with the first year FREE. We encourage students to join as student affiliates. All members, associates, and affiliates are eligible to vote and to hold office in Division 34.

To join, complete this form and mail to: Susan D. Clayton, Ph.D., Secretary, the Department of Psychology, the College of Wooster, Wooster, OH, 44691.

I wish to join APA Division 34:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

E-mail: \_\_\_\_\_

Circle one: I wish to join as:      APA Member              APA Fellow              APA Associate  
   Student Affiliate                              Non APA Member

Circle all that apply: I am also a member of:      EDRA   PAA   APHA   AMA   IAPS   MERA

Other associations: \_\_\_\_\_



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