



Center for  
**LifeLong  
Learning  
& Design**

University of Colorado at Boulder

Wisdom is not the product of schooling  
but the lifelong attempt to acquire it.  
- Albert Einstein

Session 14

**Seeking Parallels for Putting People Ahead:  
“The Behavior-Environment and the Human-Computer Interactions”**

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## Assignment:

1. Read “Part I” and “On the Nature of the Environment” by Barker in Proshansky et al. (eds.) Environmental Psychology: People and Their Physical Settings. Be prepared to discuss.
2. Read “Part I” and “The Potential Environment and the Effective Environment “ in Gans, People and Plans. Be prepared to discuss.
3. Visit the site: <http://www.hotelpuntaislita.com/>

## Class exercise

- “cognitive mapping of virtual environments” based on the Web site for the assignment

# Slides Presentation – Environment-Behavior Relationship

## Initial Discussion from readings

- E    B = H    C ?
- If not what is/are the differences?

**Note:** while we may not be able to get to draw or discuss all these relationships, please try to think about them.

# Behavior

## Behavior

- Fundamental processes
  1. Perception
  2. Cognition / Affect
  3. Expressed Behavior (spatial, verbal)
- Direction and purpose – Transportation study in Bogota
- Nesting and continuity – Circuits and boundaries

## Contingent nature of behavior

- Motivation
  1. Human needs – the driver (A. Maslow's 1958)
- Competency
  1. Various kinds
  2. Change and evolution (growth and decline)
- Experience
  1. Learning, knowledge constructions, values and attitudes
  2. Time and change

# Environment

## Environment – defining it

- “*That which surrounds the system under analysis*”:
  1. *Behavioral components* – individual, group (institutions, organizations)
  2. *Physical components* – natural and designed/built systems
  3. Interrelationships and time (change evolution)

## Environments in planning theory:

- Settings
  1. “Fit” – “Is” “should”
  2. Objective and subjective (crime rates and perceptions of safety)
  3. User satisfaction – relative problem
- Processes – Behavior
  1. Decision making
  2. Participation
  3. Design and Learning
- Outcomes
  1. Adoption and adaptation *by* the individual
  2. Adaptation *of* the individual
  3. Relocation of the individual

# Environment Cont'd.

## Environment – relative notions

- Types: Potential vs. Effective
  1. A designed artifact is a potential environment – the light post in West Philadelphia
  2. An artifact in a culture is an effective environment – the basketball court in West Philadelphia
  3. Effective environments are both - adopted and adapted by users
- Determinism vs. affordances
- Environmental Press - environmental “fit”
  1. Competency vs. press

# Ecological Psychology – Barker and others

## Environmental Psychology

- Problem focused scientific endeavor – interdisciplinary
- Nature of the Problems
  1. Individual's use and adaptation to physical environment (vice-versa)
  2. Conceptualization of the human physical setting
  3. Problem is on-going and change is intrinsic (co-evolution)

## Behavior Setting

- Activity pattern - behavior
- Milieu - environment
- Synomorphic relationship – one structure
- Penetration – from leader to observer:
  1. a continuum of participatory behavior (designer      consumer)

## Ecological environment

- Order of the perceptual environment
  1. Not one but many systems
  2. Boundaries and interconnections to be discovered
  3. Nesting assemblies
- Direction and purpose of the perceptual environment
  1. Behavior of comprising entities is not purposeless
- Incommensurability in the perceptual environment
  1. not in nature's units, only in science      notions of microsimulation

# Behavior-Environment & Human-Computer Parallels?

## Environment – discussion of readings

- Think about systems such as the ones we have discussed: EDC, Virtual Reality, Ubiquitous Computing, the Web (e-Commerce), SimCity
- Effective computational environment?
- Potential computational environment?
- Determinism vs. affordances in computational systems?

## Behavior and valid theoretical structures in HCI

- Conceptualization – human virtual settings as human behavior settings
  1. Do virtual settings both, determine and emerge as outcomes of behavior and experience?
  2. Does rate of change alters nature, meaning and relevance of virtual settings?

## Discuss its relationships with concepts discussed in our course such as:

- Design
- informed participation
- collaborative learning
- consumer vs. designer argument
- games and simulations
- the books that you are reading



## Other Seminal References of Interest:

1. Lewin, K. (1951) Field Theory in Social Science (psychological ecology)
2. Barker, R. (1968) Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior.
3. Proshansky et al. (eds.) (1970) Environmental Psychology: People and Their Physical Settings
4. Lang, J.T., et al. eds. (1974) Designing for Human Behavior
5. Altman, I. (1975) Environment and Social Behavior
6. Moore, G.T. and Golledge, R.G. (1976) Environmental Knowing: Theories, Research and Methods.
7. Bronfenbrenner, H. (1977) Toward an Experimental Ecology of Human Development.
8. Rapoport, A. (1982) The Meaning of the Built Environment: a Nonverbal Communication Approach.
9. Stokols, D. and Altman, I. (1987) Handbook of Environmental Psychology
10. Bonnes, M. and Secchiarioli, G. (1995) Environmental Psychology