Psychological perspectives on People and Environment
Spring 2014

Lecturer:

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The course addresses four major themes:

- What is environmental psychology?
- Environmental preference and design: Psychological perspectives
- Restorative environments
- Understanding pro-environmental behaviour

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Schedule

- Tu 1.4. 17:00-18:30 U44: Theme 1: Introduction to environmental psychology (2 hours)
- We 2.4. 17:00-18:30 M117: Theme 1: Introduction to environmental psychology /First case study workshop: Guidelines and preparation (2 hours)
- Thu 3.4. 15:15-18:30 U42: Theme 2: A psychological perspective on environmental preference and design/ Restorative environments (4 hours)
- Fri 4.4. 9:45-13:00 U32: Theme 3 Restorative environments/ Second case study workshop: Preliminary findings (4 hours)
- Mo 7.4. 11:30-13:00 U53: Theme 4: Understanding pro-environmental behaviour (2 hours) Required participation
- Tu 8.4. 17:00-20:15 U35: Theme 4 Seminar: Understanding pro-environmental behaviour (4 hours) Required participation
- We 9.4. 17:00-20:15 U53: Theme 4 Seminar: Understanding pro-environmental behaviour / Second case study workshop: On paper writing (4 hours) Required participation

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Readings

- Available electronically
- Consists of articles from peer reviewed scientific journals, book chapters, working papers and unpublished material.

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Required participation. Seminar: Understanding pro-environmental behaviour

- You are required to attend thematic introductory lecture (7.4) and seminar meetings (8.-9.4) and contribute to the preparation of a group presentation at the meetings
- The seminar will focus on new research methods and publications and will give you the opportunity of interactive discussions and feedback from the teacher.

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Paper requirement: Case study

Conduct a case study, participate in workshops where you present and discuss case study in progress, and submit a written report of the case study within 16.05.2014

Supervision will be given during workshops and to a limited extent via e-mail.

The case study is conducted in research teams of two or three students.

There will be three case study workshops during the course.

The theme of the paper is chosen and developed by the students themselves but must be approved by the supervisor.

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Get to know each other: short presentation

- Who you are and previous studies
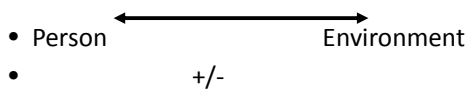- Motivation to follow this course

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Lecture 1: What is Environmental Psychology?

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Environmental psychology

* Psychological perspective on
  – Human-made environmental problems
  – Effects of the environment on people

* Person ⟷ Environment
* +/-

Why environmental psychology?

* We still do not know enough about:
  – How to make pro-environmental behaviour occur more frequently and permanentely at a sufficiently large scale
  – How to make physical environments satisfy fundamental human needs.

Why is psychology important?

* Virtually all environmental problems are human- made, for example AGW
* Thus, it is both appropriate and necessary that psychology, the science of human behaviour and well being, contributes to the solution of these problems
* Environmental psychology:
  – a response to problems within the social and behavioural sciences
  – a result of historical-political circumstances
  – a response to social problems

A couple of discussion topics

* How do most people perceive the human – nature relation? Are there geographical differences for example between the different regions in a country, between urban and rural populations, levels of education, rich and poor? If so, why?
* Reflect for a moment upon your daily physical surroundings:
  – Can you think of any favourite places?
    * What are their most important characteristics?
    * Why do you like them so much?
    * Try to come up with of both outdoor and indoor places, places in the built environment and in nature.

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Psychosocial environmental research: Some background

- The human-made world has taken the place of "nature" as a setting for our daily lives
- The "Human Exemptionalism Paradigm": Human beings as rulers of the physical world, and as exempted from the laws of nature
- Behavioural science is seldom utilised for the understanding and solving of these problems
- Strong belief in natural science and technology, but:
- Short supply of knowledge permitting the understanding of *human activities* leading to positive or negative environmental change

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Environment- behaviour research addresses problems such as

- **Increasing scarcity of global resources**
- **continued deterioration of the environment**
- **dramatic social changes**

Environment and behavior studies: A definition

- **"...the study of the mutual relations between the sociophysical environment at all scales and human behavior at all levels of analysis, and the utilization of knowledge thus gained in improving the quality of life through better informed environmental policy, planning, and design. It focuses on the interdependence of physical environmental systems and explicitly includes both environmental and human factors (Stokols & Altman 1987,p.1360).**

- **Genuinely new feature: not only the social, but also the physical environment should explicitly be taken into account**

Env. Psy.: A part of the multidisciplinary field of environment and behaviour research.

- Env.psy. shares the following characteristics with this field (*cf.* Moore, 1987):
  - the application of existing social theories and methodologies to research on human-environment problems,
  - the formulation of new concepts and methods, and
  - the application of research findings to the amelioration of environmental problems through environmental policy, planning, and design.

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EP - a result of:

- **Application of existing psychological theories**
- **Formulation of new concepts and methods**

What is environmental psychology all about?

- A psychological perspective on:
  - Anthropogenic environmental change
  - The effects of the physical environment on humans
- The concept "environmental psychology": First used by Egon Brunswik, an important predecessor of environmental psychology

Perhaps the most important single contribution from environmental psychology?

- Liberating the individual from the physical isolation in which it has been studied:
  - The individual is given a new role in relation to the environment:
    - No longer exclusively related to other humans
    - New orientation towards other life forms
    - Away from the psychological (over)occupation with the self

Area of interest of e.p. in relation to the characteristics of the environment considered

	Degree of human influence	
	Minimum (natural environment)	Maximum (built environment)
Small scale	Tree	Room
Large scale	Park	City

Motivations for research and practice in environmental psychology

1. Environmental problems (pollution, energy shortage, substandard buildings):
   - Assumptions built upon environmental psychology constitute an important alternative to narrow economic arguments
2. Curiosity: how people behave in and experience their natural/daily suroundings and how this may be explained

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Definitions

- Various def. emphasize different aspects:
  - phenomena or processes of overt *(physical) human behaviour*, often labelled "spatial behaviour", or
  - phenomena or processes of *implicit (cognitive-symbolic) human behaviour*, labelled "environmental perception and -representation"

Selected definitions

- Stokols & Altman (1987): "...the study of *human behaviour and well-being in relation to the sociophysical environment*" (p.1)
- Bell *et al.,* (1990) "...the study of the *interrelationship between behaviour and experience and the built and natural environment*"(p.7).
- Bonnes & Secchiaroli (1995): "... *the area of psychology which is concerned with the relationships between psychological processes and processes of the socio-physical environment*"
- Cassidy (1997): "The study of the transactions between individuals and their socio-physical environments".

Current paradigm: The transactional approach to environmental psychology

- What is a transaction?
  - "**a communicative action or** *activity involving two parties or things that reciprocally affect or influence each other"* (Merriam-Webster's Online Dictionary").
- A transactional approach is well suited to people-environment problems, as it represents a holistic position, treating *persons-in-environments* as the basic unit of analysis without any further dividing into smaller entities.

Further transactional definitions of psychology

- *"The study of the changing relations among psychological and environmental aspects of holistic unities."* (Altman & Rogoff, 1987)

- *"Environmental psychology is the study of transactions between individuals and their physical settings. In these transactions, individuals change the environment and their behaviour and experiences are changed by the environment".* (Gifford, 2002)

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The transactional paradigm in envirnmental psychology

- **some philosophical aspects**
- **the transactional world view**
- **the transactional approach to environmental psychology**
- **research applications of the approach**

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Philosophical approaches to psychological phenomena (taken from Altman & Rogoff, 1987)			
Dewey & Bentley	**Pepper**	**Altman & Rogoff**	**Definition of psychology**
Self-action	Formism	Trait	Study of the individual, mind, or mental and psychological processes
Interaction	Mechanism	Interactional	Study of the prediction and control of behavior and psychological processes
	Organicism	Organicism	Study of dynamic and holistic psychological systems in which person and environment components exhibit complex, reciprocal, and mutual relationships and influences
Transaction	Contextual-ism and Selectivism	Transactional	Study of the changing relations among psychological and environmental aspects of holistic systems

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Aristotle's fourfold classification of causation in natural phenomena (Rychlak, 1977).

- **Material causation**
  - psychological causes would be intrinsic qualities or material essences of the phenomenon
- **Efficient cause**
  - antecedent and consequent factors, typical of contemporary interactionist world views.
- **Final causation**
  - predetermined causes, teleological
- **Formal causation**
  - patterns, form or organisation of a phenomenon under a given set of conditions

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General Comparison of Trait, Interactional, Organismic, and Transactional World Views (adapted from Altman & Rogoff, 1987)				
			Philosophy of Science	
	Unit of analysis	Time and Change	Causation	Observers
Trait	Person, psychological qualities of p.	Assume stability, change due to preestablished teleological mech.	Emphasises material causation	Observers are separate, objective and detached
Inter-actional	Psych. qual. of p. and soc. or phys. env., treated as separate	Change results from interaction of sep. p. and e. entities	Emphasises efficient causation	Observers are separate, objective and detached
Organ-ismic	Holistic entities composed of separate p. and e. components	Change results from interaction of p. and e. entities. Assumes system stability as goal	Emphasises final causes (teleology)	Observers are separate, objective and detached
Trans-actional	Holistic entities composed of "aspects"	Stability/change intrinsic and defining features	Emphasises formal causation	Relative: Observers are aspects of phenomena [29]

The transactional approach: Philosophy of science

- Aristotle's formal causation:
  - A pattern, shape, outline, or recognisable organization in the flow of events or in the way that objects are constituted… (Rychlak, 1977, p.6)
- Pragmatic, eclectic and relativistic
- The observer is inseparable from the phenomenon, and must be seen as an aspect of the event.

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Examples of transactional approaches in psychology and environmental psychology

- **Gibson's theory of perception**
  - Animal and environment are defined and changes in a thoroughly mutual way
  - The concept of affordances
    - The psychological and behavioural utility of the environment for the organism
- **Kurt Lewin**
  - Psychological processes take place within physical and social situations which constitutes a "life space" or psychological "field"
- **Roger Barkers behaviour *setting*:**
  - "A bounded, selfregulated and ordered system composed of replaceable human and non-human components that interact in a synchronized fashion to carry out an ordered sequence of events called the setting program" (Wicker, 1979, p.12).

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Roger Barker et al.s ecological psychology

- How the environment of the "real everyday world" influences the environment of children and those who live with them.
- The behavior setting:
  - Unit of analysis according to which both individual behaviours and spatio-physical attributes appear to be "naturally" organised in the environment
  - Definition: "…bounded standing patterns of human and nonhuman activity with integrated systems of forces and control that maintain their activities at semistable equilibria… …entities within the ecological environment."
- Problem: absence of the phenomenological/subjective perspective

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***Shared qualities of transactional approaches to* psychological phenomena**

- Holistic
- Persons, processes, and contexts define each other mutually and function as aspects of the whole, not as separate elements.
- Temporal factors are intrinsic aspects of phenomena
- Less emphasis on universal principles.
- Emphasis on formal causation
  – explain, describe and understand the pattern of relations among *the three P's* - People, Places and Psychological processes.

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An example of transactional research: Changing environmental behaviours (Werner, 2000): strategies to change home owner's use of

toxic chemicals

- Four basic assumptions:
  – Unity between people and the physical environment of their homes: toxic chemicals gives serves purpose of as tool to reach the goal of a well maintained garden and a sign of modernity and prosperity.
  – Attitudes of individuals are closely related to and influenced by their social group: learning about neighbours positive experiences with non-toxic alternatives
  – Behaviour is connected with the physical environment: information about behaviour, such as on how new behaviour may fit into existing behavioural patterns.
  – Persuasive messages should emphasise positive experiences related to actual performance of the behaviour ... in this case related to use nontoxic alternatives.
- Aim: Destabilise the total system, including the image of the home, behaviour and products used to obtain this image, and the social context of friends and neighbours.

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A set of principles or stages for transactional research (Werner et al. 2002)

1. Begin with a question that interests you
2. Think of the phenomenon as a whole identify the four aspects of people, psychological processes, physical environments and time
3. Explore the possible breadth of the project
4. Seek mutual definition between aspects
5. *Collect data "reflexively"*
6. *Draw on multiple perspectives and participants to gather information*
7. *Apply formal cause on the phenomenon*
8. Decide on the scope of the project.

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Some historical background

- **Late 1960s: Growing dissatisfaction with 'egocentric' design: personal monuments rather than buildings centred on the needs of their users.**
- **Post war Britain: rebuilding not any longer guided exclusively by functional criteria**
- **Users' appraisals seen as a necessary in design, and psychologists were called in to conduct them.**

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Important historical milestones

- **1964: The term "environmental psychology" introduced in New York by William Ittelson.**
- **1968: The Environmental Design Research Association (EDRA) was founded in the US**
- **1968: The first doctoral program in environmental psychology opended at the City University of New York.**
- **1969: The journal "Environment and Behavior" began publication in the US**
- **1981: The European equivalent, the International Association for the Study of People and their Physical surroundings (IAPS) was founded, name later changed to the International Association for People - Environment Studies.**
- **1981: The "Journal of Environmental Psychology" appeared in Britain.**
- **1987: The "Handbook of Environmental Psychology" was published.**

History: Early research in environmental psychology

- Kurt Lewin, one of the pioneers of environmental psychology, established a research field labelled psychological ecology
- Maslow et al (1950s): photographies of persons evalued more positively in a beautiful room than in an ugly one
- **Three early directions**
  - "Architectural psychology"
  - The interest from geographers
  - The ecological-naturalistic approach

Important early research: 'architectural psychology'

- **Humphrey Osmond (1957):'sociofugal' and 'sociopetal'settings.**
- **Robert Sommer (1969): 'human territoriality' and 'personal space'.**
- **Paul Silvadon: the role of the design of the psychiatric hospital for the improvement/healing of patients.**
- **Urban planning: Kevin Lynch (1960): "The Image of the City"**

Broad research themes in environmental psychology

- **Fundamental psychological processes:** How perception, cognition, and personalit filters and structures the experience of the environment
- **The social management of space:** territoriality, overpopulation, private space, personlig space
- **More complex behaviours:** related to work, learning and everyday life in cities and other types of communities
- **Design issues:** related to architecture, landscape architecture, and physical planning
- **General social issues:** Psychological components of issues such as resource management etc.

Basic principles of environmental psychology

- Holistic orientation: Relations between environment and behaviour studied as one unit
- Interactionist or person – in – context perspective: Environment – behaviour relations are characterised by interdependence or reciprocal relations
- Applied orientation:No sharp boundaries between applied and basic research
- Multi-disciplinary perspective
- Multi-level analysis
- Research emerges from the field/from people's natural environments
- Application of many different research methods
- Humans are seen as active and relatively autonomous
- Systems oriented

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- **Characteristics of environmental psychology:**

- **Environment-behaviour relationships *are studied as a unit***
- **Environment-behaviour relationships are *inter*relationships**
- **No sharp distinctions between applied and basic research.**
- **A clear interdisciplinary appeal**

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- **Environmental Psychology and Psychological tradition**

- **Main problem: the development of adequate theoretical instruments for environmental-psychological research with not only external relevance, but also internal relevance for the psychological tradition**

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Challenges for environmental psychology

- *Application:* The translation of research into practice is still problematic
- *Appropriate research methods:* Existing methods are still not matching the complexities of contextualism.
- *Building a more coherent theoretical core:* depending upon further theoretical integration and development

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Gifford's (2007) organizing model

Reality	Measures	Plans	Outcomes in the setting	Outcomes later
The setting	S_{1-n}		Behaviour	Behaviour
The person	P_{1-n}	Goals, decisions, Intentions	Cognition and Emotion	Cognition and Emotion
The social-cultural script	SC_{1-n}		Well - Being	Well - Being

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A short sketch of types of theories and approaches

- *Theories postulating a central psychological behaviour-regualting mechanism*
- *a) Stimulation theories*
- Ex.:
  - arousal theory (Berlyne, 1960; Mehrabian & Russell, 1974),
  - overload- theory (Cohen, 1978; Milgram, 1970),
  - Understimulation (Suedfeld, 1980),
  - Stress theory (Stokols, 1979; Campbell, 1983):
- *b) Theories focusing on (a lack of) control over environmental stimulation*
- Ex.:
  - personal control (Barnes, 1981)
  - psychological reactanse (Brehm, 1966): Theory assuming that we will also mke an attempt at recovering our lost freedom
  - Learned helplesness

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Theories (continued)

- ***Theory based on the behavior –setting concept:*** Person-environment relations are explained primarily according to the social and physical characteristics of the settting (cf Wicker, 1987).
- ***Holistic (integral) theory:***
  - *Interactionism*
  - *Transactionalism*
  - *Organismic* theories
- ***The operant approach*** **(Geller, 1987**): based on Skinner's principles and is applied on problems such as littering, energy conservation og behavioural change

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•The spatio-physical environment in the tradition of the psychology of perception

- **The theory of isomorphism: affirms the existence in all individuals of innate neurological mechanisms which tend to ensure the correspondence between the two types of environment.**
- **The New Look psychologists: a functionalist perspective - both the physical-objective environment and the activities and actions of the subject in the environment recover their full dignity as objects of investigation**

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The spatio-physical environment in the tradition of social psychology

- *Kurt Lewin and psychological ecology*
  - **a specific problematic area for psychological research, primarily for understanding the situation or the psychological field at a given time**
  - **the physical environment is placed explicitly next to the social environment as a component of psychological investigation**
  - **phenomenological viewpoint: the pre-eminence of perceived reality**

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Related developments

- **Behavioral geography: a conception of man-environment relationships much more complex than that traditionally employed by geographers.**
- **The ecological-naturalistic field, environmental problems and the UNESCO MAB (Man and Biosphere) programme.**
  - **recognized the need to assign to the human factor a central role in the ecological-naturalistic approach.**

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Wednesday 2.4
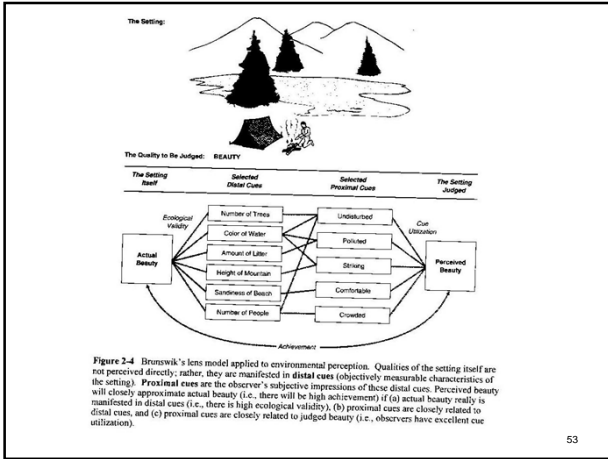# Environmental perception

- **Perception**
  - Experience of the world through the senses

- **Object perception**
  - Experience of isolated stimulations or objects in a laboratory situation and their characteristics; colour, form, depth and apparent movement

- **Environmental perception**
  - The basic psychological process through which we collect information on the environment
  - Perception of large scale, "real-world" environments (landscapes, buildings, cities, etc)
  - A holistic approach to these environments and to the responses to them
  - Connection to a situation via an aim or an intention is characteristic of enviromental perception

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Environmental perception: Early theoretical positions

- **Probabilistic functionalism (Egon Brunswik, 1956)**
  - Stimuli are assigned probabilities based on their ecological validity, i.e. how useful they are in making correct perception possible
  - The perceiver and the environment are given equal importance
  - Perception understood as an attempt at extracting a useful image of the environment is related to the functionalistic aspect of the theory

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Figure 2-4 Brunswik's lens model applied to environmental perception. Qualities of the setting itself are not perceived directly; rather, they are manifested in **distal cues** (objectively measurable characteristics of the setting). **Proximal cues** are the observer's subjective impressions of these distal cues. Perceived beauty will closely approximate actual beauty (i.e., there will be high achievement) if (a) actual beauty really is manifested in distal cues (i.e., there is high ecological validity), (b) proximal cues are closely related to distal cues, and (c) proximal cues are closely related to judged beauty (i.e., observers have excellent cue utilization).

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Ecological perception (J.J. Gibson (1950, 1966, 1979)

- Environmental perception as based upon innate mechanisms
- Perception of environments is relatively *direct: The se*nses are systems directed towards a direct gathering of information (a modern form of "naiv realism")
- Perception is *holistic:* Vi respond to *meaning already present* in an ecological structured environment
- *Affordances*: The *invariant functional properties of an object* ("useful" properties that do not change)

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Descriptions of aesthetic responses to various environments (Berlyne (1960, 1972, 1974)

- *Collative stimulus properties:* triggers exploratory responsers (*ex: complexity, novelty, incongruence,* surprisingness*)*
  - *Diversive exploration*
  - *Specific exploration*
  - *Uncertainty - arousal*
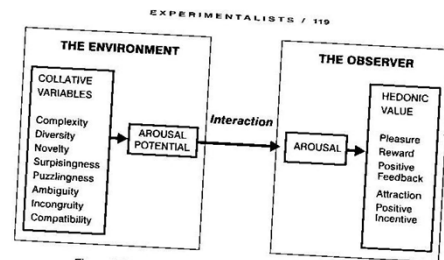 - *Hedonic value*

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Berlynes model

Figure 3.1 A schema of aesthetic response to environment (after Berlyne 1971, 1974)

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Hedonic value

Hedonic Value
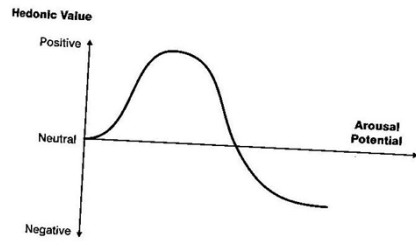
Positive

Neutral — Arousal Potential

Negative

Figure 3.2 Characteristic pattern of aesthetic response to increasing levels of arousal potential (after Berlyne 1971, 1974)

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Environmental perception: Perception of whole scenes, places, landscapes…

- **General purposes:**
- *Describe* <u>how</u> different scenes typically are perceived
- *Analyze:* <u>why</u> scenes are perceived differently
- **Landscapes**
  - Classic definition: …"the totality of physiographic and cultural (man-made) phenomena which *meet the eye in a single view…a selected, framed section of the surroundings*.
  - examples
    - *Cultural landscapes: urban, rural*
    - *Natural landscapes*

Environmental perception: Some important contributions

- ***Models emphasizing emotional responses to the surroundings :***
- ***Habitat theory (Orians, 1980)***
  - The usefulness of strong, spontaneous emotional responses to useful and less useful habitats
  - Tropical savannah as the optimal environment for early humans
- ***Prospect-refuge theory (Appleton,1975)***
  - *Refuge*: environmental attributes serving as shelter or hiding places
  - *Prospects*: view
- ***Ulrich's psychoevolutionary model* (Ulrich, 1983; Ulrich *et al.*, 1991)**
  - Affective responses directly elicited by environmental attributes
  - Use of physiological measures

Experimental aesthetics

- Substantial agreement among subjects on aesthetical judgements
  - *de gustibus non est disputandum:NOT* confirmed by research

Landscape preferences: A psychologial perspective

If…
environmental preferences varied randomly from individual to individual
Then….
Environmental aesthetics would become trivial and of only passing importance:
– **Generalisations would be difficult**
– **Preferences would not reflect basic human needs, only habits, trends, and sociocultural customs**

Evolutionary psychology:
A metatheory for the field of landscape aesthetics?

Is there a *need for synthesis* in the field of environmental psychology in general and in landscape aesthetics in particular?

What should constitute the basis for this synthesis?

Modern evolutionary psychology

- Leaves room for cultural and individual variations, because:
- Universal human preferences exist only in the form of psychological mechanisms, not (necessarily) as manifest (observable) behaviour

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Some general characteristics of evolutionary psychology

- There is a **<u>universal human nature</u>**, to be identified in the form of psychological mechanisms, and not as manifest, cultural behaviour
- These **<u>evolved psychological mechanisms</u>** are the result of natural selection through evolutionary time, thus, they are primarily adapted to hunter/gatherer conditions, and not necessarily to modern conditions.

The constructivist assumption

- Differences can be attributed to the backgrounds of individuals or groups
- Expecting variability in landscape preferences

Functionalist-evolutionary assumption

- The existence of cross-cultural, universal patterns
- Supported by visual preference differences produced by the landscapes in question (in the absence of individual or group differences)

The fragmented state of the field

- Research is often guided by (false?) dichotomies:
  - "nature versus nurture"
  - "cultural versus biological"
  - "innate versus learned"
- A metatheoretical perspective would have the potential of
  - conceptual integration
  - making existing evidence more useful
  - increasing the chances of coming up with more interesting questions for further research.

Evolved psychological mechanism

- Exists in the form it does because it solved a specific problem of individual survival or reproduction recurrently over human evolutionary history
- takes only certain classes of information or input
- transforms that information into output through a procedure (e.g., decision rule) in which output (a) regulates physiological activity, provides information to other psychological mechanisms, or produces manifest action and (b) solves a particular adaptive problem.

Landscape preferences qualify as evolved psychological mechanisms because they:

- solved adaptive problems in human ancestral environments;
- are triggered only by a narrow range of information;
- are characterised by a particular set of procedures or decision rules;
- they produce behavioural output that presumably solved the adaptive problem in ancestral times

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Processes and products of development as identified by developmental and phenomenological methods (after Bourassa, 1990)
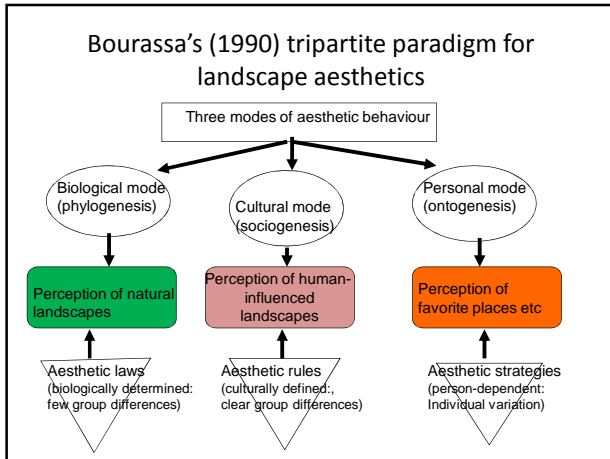
- _____
- Process of   Product of
- development   development
- _____

- Phylogenesis------------------> Umwelt
- Sociogenesis------------------> Mitwelt
- Ontogenesis-------------------> Eigenwelt
- _____

Modes of existence and corresponding modes of aesthetic experience

- Mode of existence | Mode of aesthetic exp.
- _____
- Umwelt-----------------------> Biological
- Mitwelt-----------------------> Cultural
- Eigenwelt---------------------> Personal
- _____

Modes of aesthetic experience and their manifestation as aesthetic constraints and opportunities

- Mode of aesthetic   Constraints and
- experience   opportunities
- _____
- Biological------------------> Laws
- Cultural--------------------> Rules
- Personal--------------------> Strategies
- _____

Bourassa's (1990) tripartite paradigm for landscape aesthetics

Three modes of aesthetic behaviour

- Biological mode (phylogenesis)
- Cultural mode (sociogenesis)
- Personal mode (ontogenesis)

Perception of natural landscapes

Perception of human-influenced landscapes

Perception of favorite places etc

Aesthetic laws (biologically determined: few group differences)

Aesthetic rules (culturally defined:, clear group differences)

Aesthetic strategies (person-dependent: Individual variation)

Effects of landscape exposure on visual preference and environmental perception

- Landscape exposure and place of residence during childhood has proved to influence preferences
- Long time residency in a particular area results in a more detailed perception of a landscape compared to visitors
- But: residents in the same area often hold different preferences
- Preference changes with age

Some assumptions for evolutionary preference research

- Because children have less experiences, it is easier to track their innate dispositions
- The importance of experience/learning increases with increasing age.

Balling & Falk (1982):

- Findings lending some support to a hypothesis that humans have innate preferences for savannah-like environments:
  - Innate preferences for savannah-like surroundings are most clearly seen in children
  - With increasing age and experience savannah preferences decrease and at the same time preferences for familiar surroundings will increase
  - Preferences for savannah-like landscapes are never over-shadowed by preferences for the familiar

Elisabeth Lyons (1983):Follow-up of Balling and Falk

- **Familiar landscapes (**temperate deciduous forest) **were the most preferred, but in children preferences for savannah-like scenes were at a similar level (it is** unclear whether preference ratings for familiar landscapes were *significantly higher than the* savannah ratings)

- Lyons chose to conclude that no evidence was found supporting the hypotheses that landscape preferences are shaped by innate or evolutionary factors

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Similarities in landscape preference between cultures

- Yang & Brown (1988) compared Coreans with Western tourists:
  - Both groups preferred japanese landscapes and scenes with water
  - The groups were also similar with respect to the least preferred scenes

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Bourassa's (1990) tripartite paradigm for landscape aesthetics

- Biological factors:Nature dominated landscapes
- Cultural factors (learning, socialisation, group membership): Human influenced/built/urban landscapes
- Personal factors: Individual preferences

Empirical support

- Responses to landscapes may be seen as independent from conscious processes
  - Thus, there is the possible existence of separate innate and learned responses to landscape
- Research on landscape preferences suggest biologically based mechanisms

Environmental cognition

- Further processing – storage, organising, recall of environmental information
- Legibility (Lynch):how easy a setting is recognised and organised
  - Influenced by edges, nodes and transportation channels

Kevin Lynch:
THE IMAGE OF THE CITY
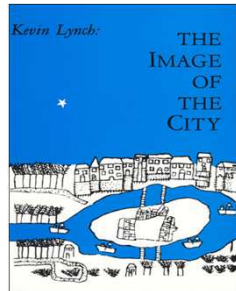
Legibility

- *The ease with which people can understand the layout of a place.*
- Five elements: **paths, edges, districts, nodes and landmarks**.

Paths:

- familiar routes followed- "*are the channels along which the observer customarily, occasionally, or potentially moves. They may be streets, walkways, transit lines, canals, railroads ..*"

Districts

- areas with perceived internal homogeneity: "*medium-to-large sections of the city, conceived of as having two-dimensional extent, which the observer mentally enters 'inside of,' and which are recognizable as having some common identifying character*"

Edges

- Dividing lines between districts:
  - *"the linear elements not used or considered as paths by the observer. They are boundaries between two phases, linear breaks in continuity: shores, railroad cuts, edges of development, walls ..."*

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Landmarks

- point of reference
  - *"They are usually a rather simply defined physical object: building, sign, store, or mountain".*

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Nodes

- - centres of attraction that you can enter –
  - *"points, the strategic spots in a city into which an observer can enter, and which are intensive foci to and from which he is travelling.*
    - *primary junctions, places of a break in transportation, a crossing or convergence of paths, moments of shift from one structure to another*
    - *concentrations, which gain their importance from being the condensation of some use or physical character, as a street-corner hangout or an enclosed square"*

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Influences on spatial cogniton

- **Life stage**
- **Sex**
- **Spatial-cognitive biases**
- **Physical factors**

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Theories

- Transactionalist constructivists: the individual "creates" the world
- Hippocampus: A physiological perspective on cognitive maps

Environmental cognition

- Further processing – storage, organising, recll of environmental information
- Legibility (Lynch):how easy a setting is recognised and organised
  – Influenced by edges, nodes and transportation channels

Influences on spatial cogniton

- **Life stage**
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- Hippocampus: A physiological perspective on cognitive maps

Some applied areas

Central applied issues

- To what extent have practising environmental psychologists contributed to positive change in society?
- To what extent have environmental psychologists contributed to lasting behavioral change in large segments of the population ?
- To what extent have environmental psychology influenced various practices in ways that have improved daily life for many persons?

Environmental /participatory design

- Involve a broad range of residents in defining the project from the start
- Design of neighbourhoods shold focuse upon the creation of social public spaces, places that should be accessible in many different ways
- Neighbourhoods should e involved from the very beginning in planning and design, in change and in generating a vision for the place

Applied behavioural analysis applied to recycling, littering and energy waste in residences

- DORITE (Geller, 1992):
- D: **D**efine target behavior
- O: **O**bserve target behavior
- R: **R**ecord the frequency of the target behavior
- I: **I**ntervene with a program that changes the consequences of performing the behavior
- T: **T**est the effect of the program by comparing the frequency of the behavior before and after the program
- E: **E**valuate the program.

Spatial cognition in everyday life

- **Spatial cognition** : cognitive maps – pictorial and semantic representations of how places are built up an arranged
- May be used to improve quality of life:
  - Use of color coding and well planned numbering systems in complex buildings, such as hospitals.
  - Design of undergground-and bus maps: remove unnecessary details
  - Clearly visible landmarks and clear passages imporves spatial understanding in big cities
    - Example: the design of Ciudad Guyana, a planned city in Venezuela

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The effects of commitment: The case of energy saving

- Enterprises randomly asignd to one of three groups:
  - Mild commitment
  - Strong commitment
  - Control condition
- Results:
  - Control condition resulted in the least amount of energy saving
  - Strong commitment lead to less energy saving than mild commitment: too strong pressure, feeling of coercion, psychological reactance

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Green design

- Holistic solution: building a green community on the basis of a group of concerned persons
  - Early example from Davis, California: Michael og Judy Corbett's project "Village Homes"
- Interior design
  - Recycling systems in the home or the office facilitating "automatic" recycling

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Social design

- Systematic incorporating of people's needs and ideas into the building itself
- Promoting as many user-oriented design principles and concerns as possible
- Participatory design
  - Determining people's preferences without asking them implies regarding them as passive, incompetent and / or unwilling to participate in the design process
- Cheaper than other methods
  - Documented savings due to avoiding errors

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Effects of residential environment on persons with developmentaldisabilities

- Location: Belchertown State School, Belchertown, Massachusetts, USA
- Participants:
  - Designers: Fridmann & Rausch
  - Researchers: Kent, Knight, Wheler, Weitzer, Zimring

  See Cherulnik (1993): Applications of environment – behavior research

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Effects on future design/planning and knowledge

- The results were often cited by environmental psychologists and by some designers
- The results support a functional rather than a morphological (i.e.concerning concrete physical properties) conceptualisation of normalisation through environmental design

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Landscape perception research

- *Possible findings*
  - *consensus* on the preferences for a given landscape, or
  - *divergences*
- indicate:
  - the public's wish to preserve certain landscapes,
  - intrusions a landscape can "take" before quality is seriously diminished

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Conflict manangement

- Consistent and permanent divergences among individuals and groups
- High potential for conflicts when dealing with landscapes high in historical, ecological, symbolic or economic value

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General purposes of landscape perception research

- *Describe* how landscapes typically are perceived
- *Analyse:* explanations for the observed perceptual patterns

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Specific applications

- Studying the "perceptual gap" between experts and the general public
- Relations between preference and beneficial effects of natural elements and settings:
  - the Attention Restoration Theory

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New social praxis supported by the research described

- Norway: "Green care" / "Into the courtyard"
- Sweden: G*reen rehabilitation/ therapeutic gardening*
- English speaking countries: H*orticultural therapy / healing gardens*

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Application of psychology to the aesthetics of the built environment (based on Stamps, 2000)

- Basic issues in design review
- New methods for addressing those issues
- An attempt to substitute vague terms with unambiguous, clear terms

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