Environmental Psychology

Environmental Autobiography

Environmental Autobiography is a written memoir of one's own life with an emphasis on the physical environment. To begin your own environmental autobiography, recall an environment that was important to you as a child. This environment can be almost anything: a favorite place to play, a hiding place, or a place that was off-limits that you explored anyway. It can be an indoor or an outdoor place. Relax, close your eyes, and daydream about this environment. Picture yourself in this environment at the age of 4 or 5 and write about and/or draw what you see. Describe what it looks like and any smells or sounds that you associate with it. Pay special attention to the *feelings that you experienced when you were in this place. Draw any diagrams, maps, or pictures that will help you convey a sense of what this environment was all about. Continue the essay by writing about other childhood environments that had a strong emotional impact on you and see if you can discover anything that these environments had in common.*

Kurt Lewin (1890-1947)

The Midwest Psychological Field Station
(Oskaloosa, Kansas, 1947-1970)

Some Research techniques Used in Environmental Psychology

- Experiments
- Correlational Studies
- Post-Occupancy Evaluations
- Quasi-Experimental Designs
- Archival Research
  - Selective Deposit
  - Selective Survival
- Observation of Physical Traces
- Environmental Autobiography

Quasi-Experimental Designs

- Time series Design
- Interrupted Time Series Design
- Multiple Time series Design
- Non-Equivalent Before-After Design

Simple Time Series Design

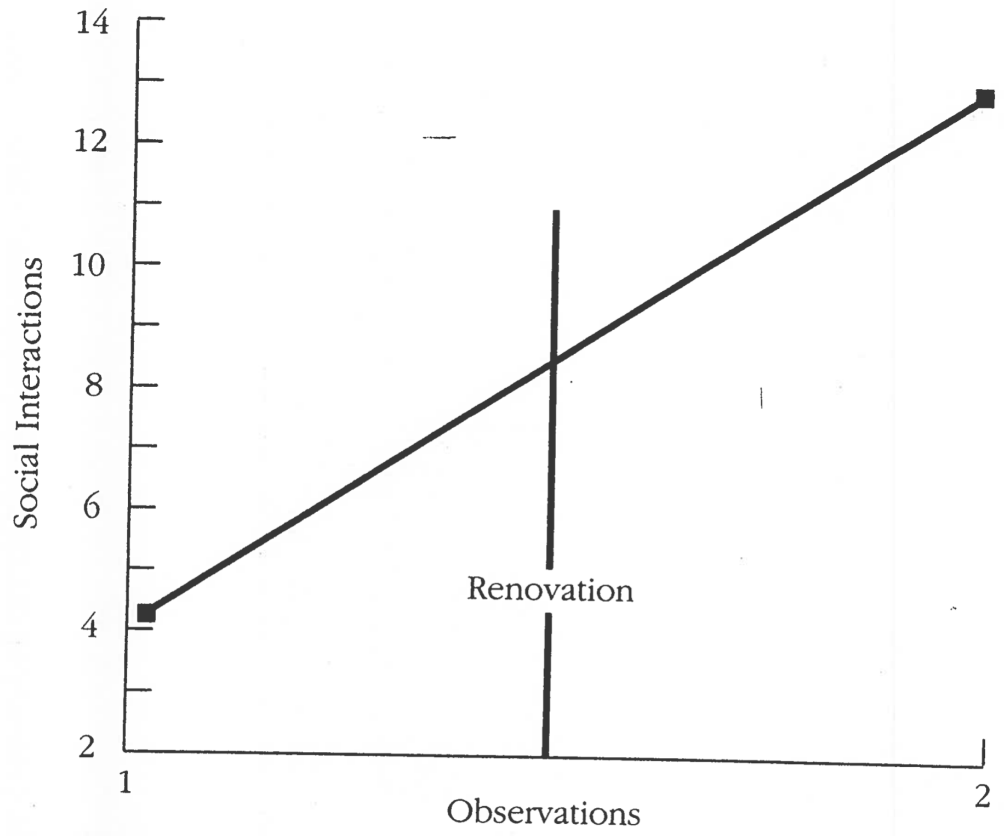


FIGURE 1-3 Data from a simple time series study

Interrupted Time Series Design

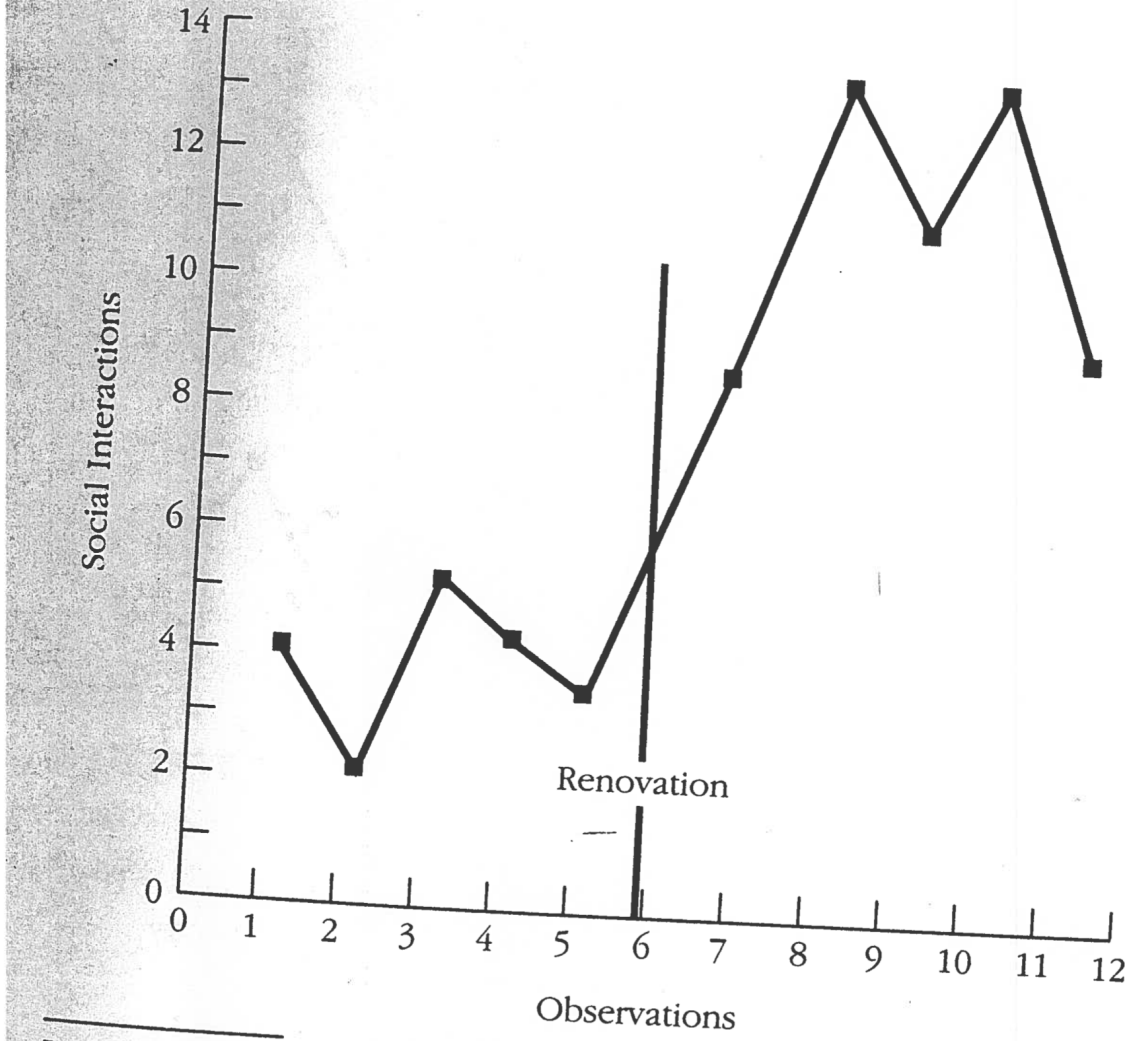


FIGURE 1-4 Data from an interrupted time series study

Multiple Time Series Design

CHAPTER 1

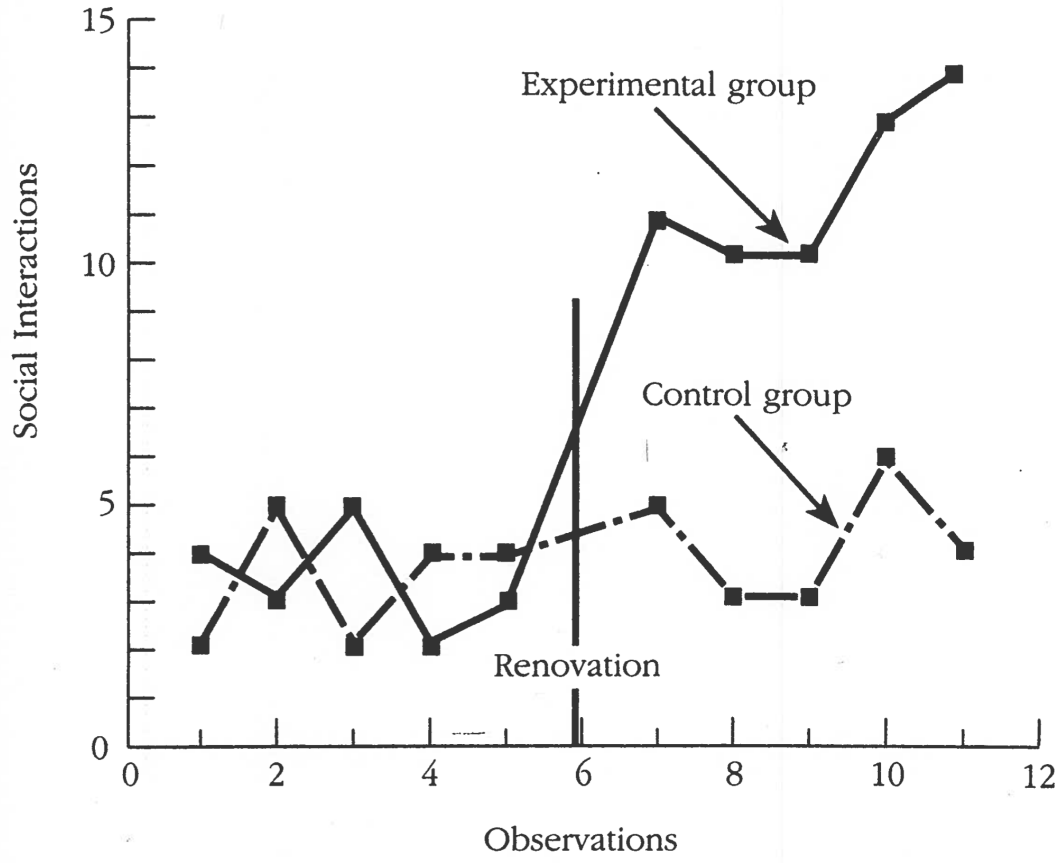


FIGURE 1-5 Data from a multiple time series study

Non-Equivalent Before-After Design

	PreTest	Treatment	Post-Test	Difference
Exp Group	O_1	X_1	O_2	$O_1 - O_2$
Control Group	O_1	X_2	O_2	$O_1 - O_2$

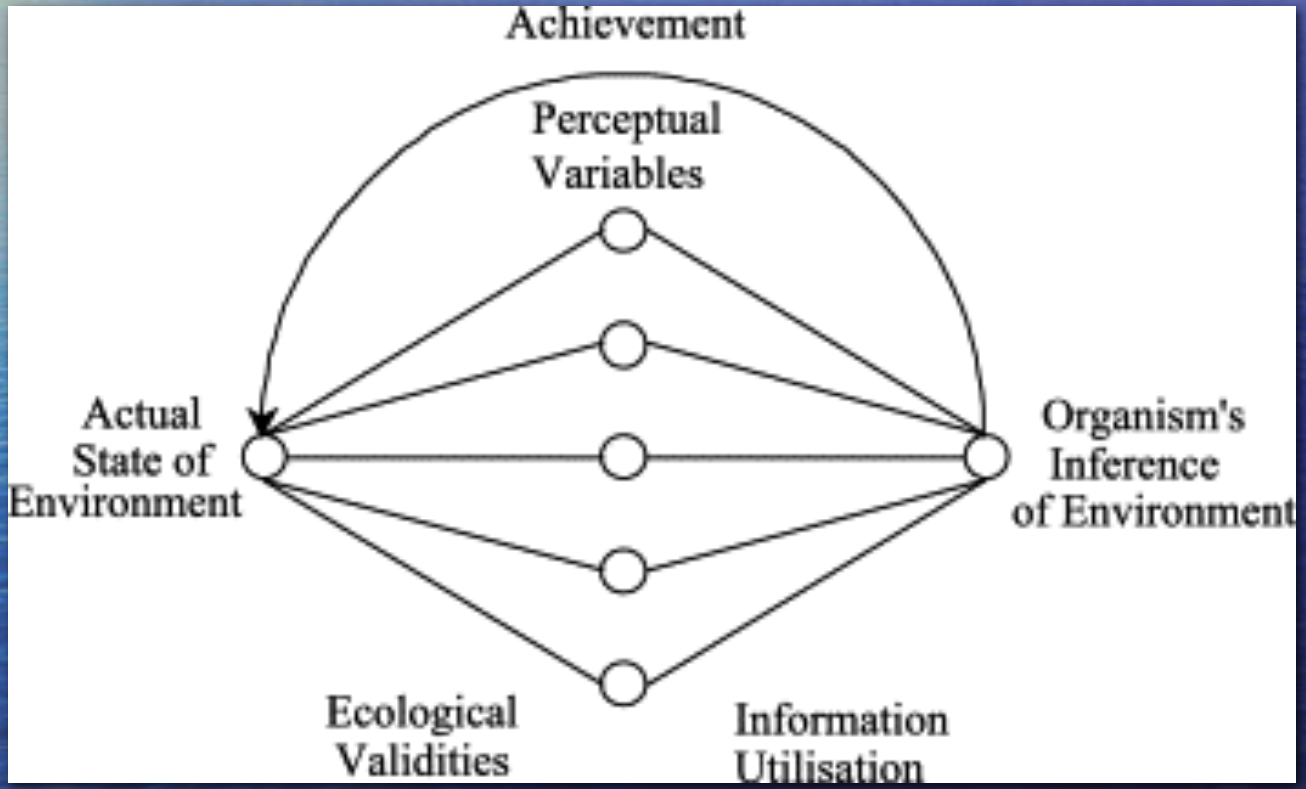
Observation of Physical Traces

- By-Products of Use
  - Erosion
  - Accretion
- Adaptations for Use
- Displays of Self
- Public Messages

Environmental Perception

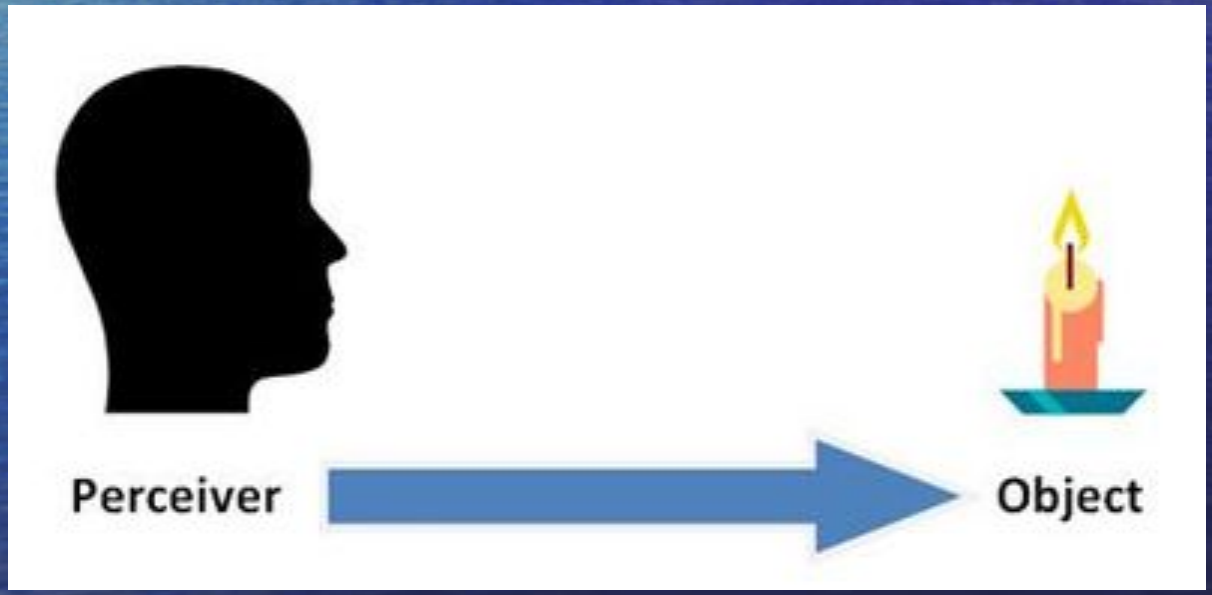
- Rationalism vs. Empiricism
- German vs. British
- Kant vs. Locke
- Top-Down vs. Bottom-Up Processing
- Probabilistic vs. Ecological Models of Perception

Probabilistic Models: Brunswik's Lens Model



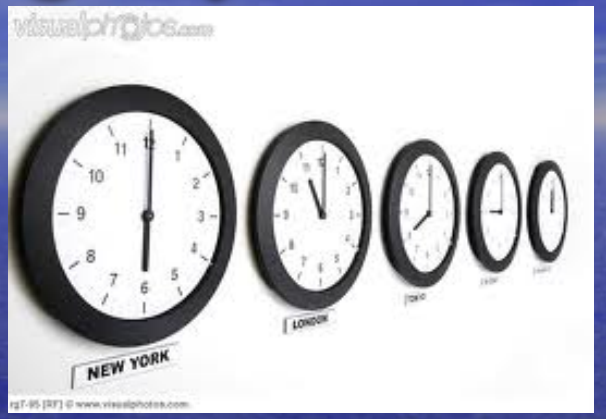
Ecological Models of Perception (J.J. Gibson)

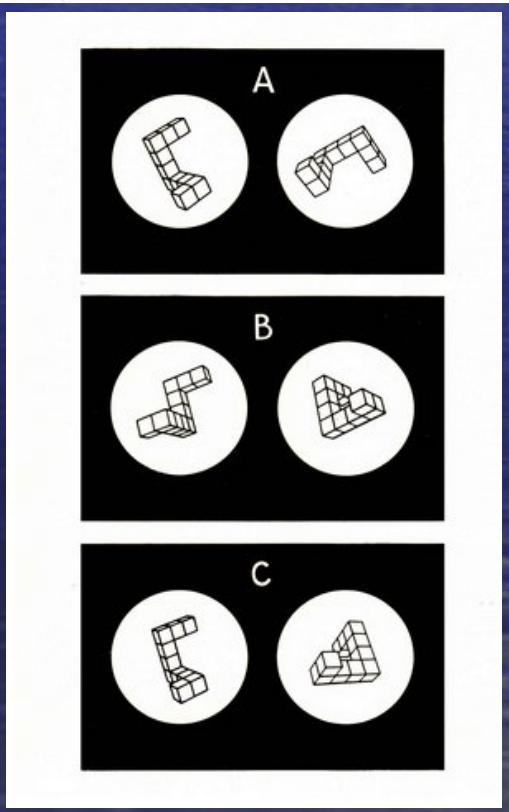
- Goal = Discover the "useful" functions of things in the environment (affordances)



Evidence for Visual Imagery

- Comparison of Mental Clocks
- Mental Rotation
- Comparing Visual Images
- Scanning and Zooming
- Mental Travel
- Selective Interference





Legibility

Legibility refers to the ease with which the features of an Environment can be recognized, organized into a pattern, And recalled.

For evolutionary reasons, legibility in environments is highly preferred.

Cognitive Mapping

Dimensions Used to Organize Cognitive Maps of Cities

(Kevin Lynch, 1960)

Paths: Routes or channels along which people move

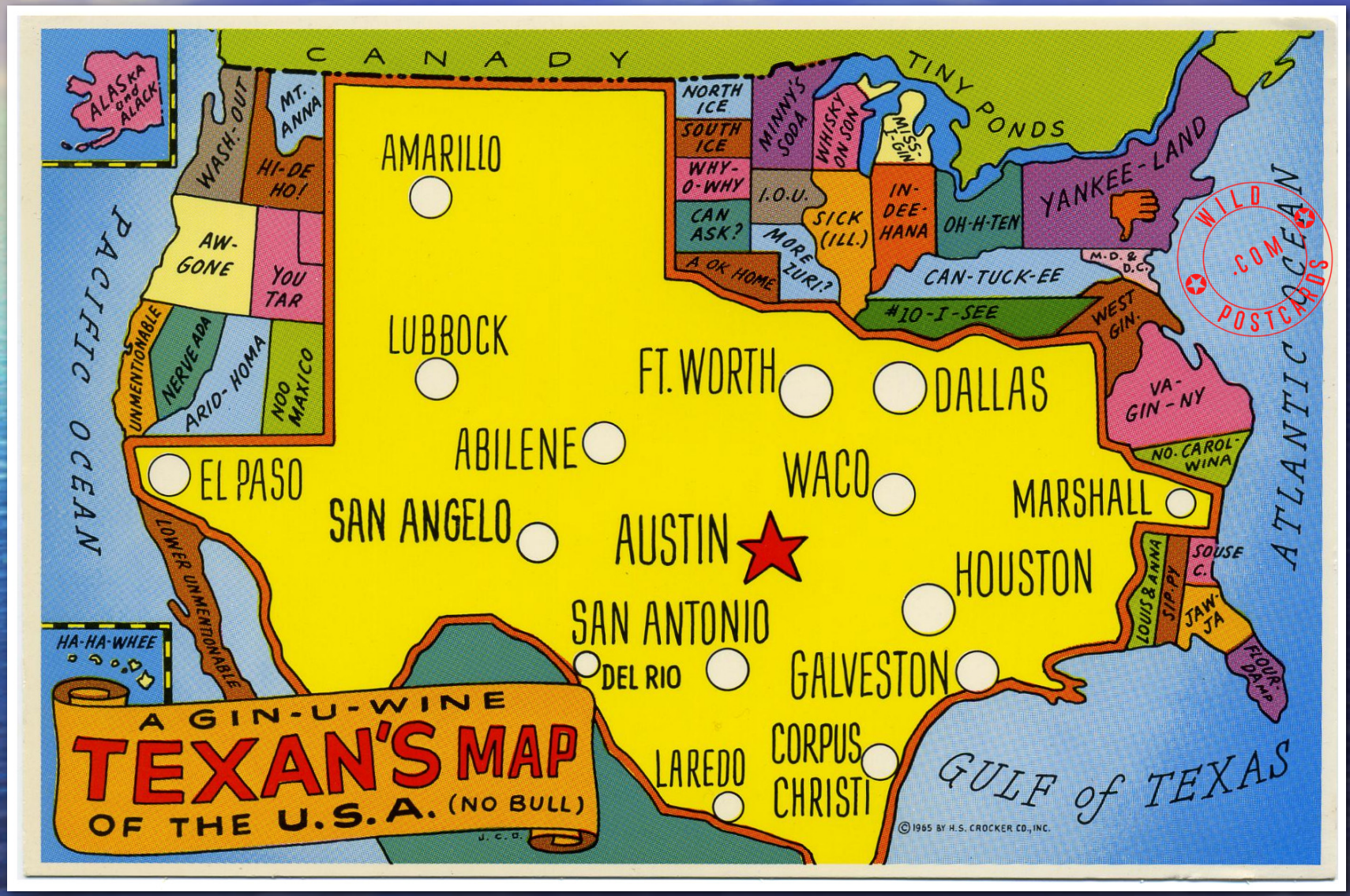
Edges: Linear elements that serve as dividing lines

Districts: Medium to large sections of city that a person can be "inside of"

Nodes: Strategic locations that serve as transfer points while traveling

Landmarks: Physical objects that are unique, prominent, & important ("You can't miss it!")

Distortions & Errors in Cognitive Maps



Piaget's Developmental Stages and Environmental Cognition

Sensorimotor Period (birth to age 2): Completely Egocentric; defines space and locations only in relation to own body; can't hold images of absent objects.

Period of Intuitive or Preoperational Thought (ages 2 to 7): Still egocentric; difficulty Building complex mental images of places divorced from self; can build crude symbolic representations of familiar environments.

Concrete Operations Period (ages 7 to 12): Less egocentric; can conceive of Objects & places apart from self; can use landmarks as reference points for Locating other objects and places.

Formal Operations Period (age 12 to adult): Comfortable using symbols, compass directions, & forms larger and more unified maps.

The Three Mountain Problem

http://www.youtube.com/watch?v=OinqFgsIbh0&list=FLppz9o_75Aq2-B3ArC2wUw

Wayfinding: The Process by which people actually navigate through the environment

Two Wayfinding Skills:

Piloting – Using visible landmarks to navigate

Dead Reckoning – Sense of direction; kinesthetic cues
Produced by walking

Things that facilitate clear cognitive maps & wayfinding

- Landmarks located near intersections
- Differentiation (Do all parts of environment look the same?)
- Degree of visual access
- Complexity of spatial layout/floor plan

Cognitive Mapping & Wayfinding in the Blind

Sex & Individual Differences in Wayfinding Ability

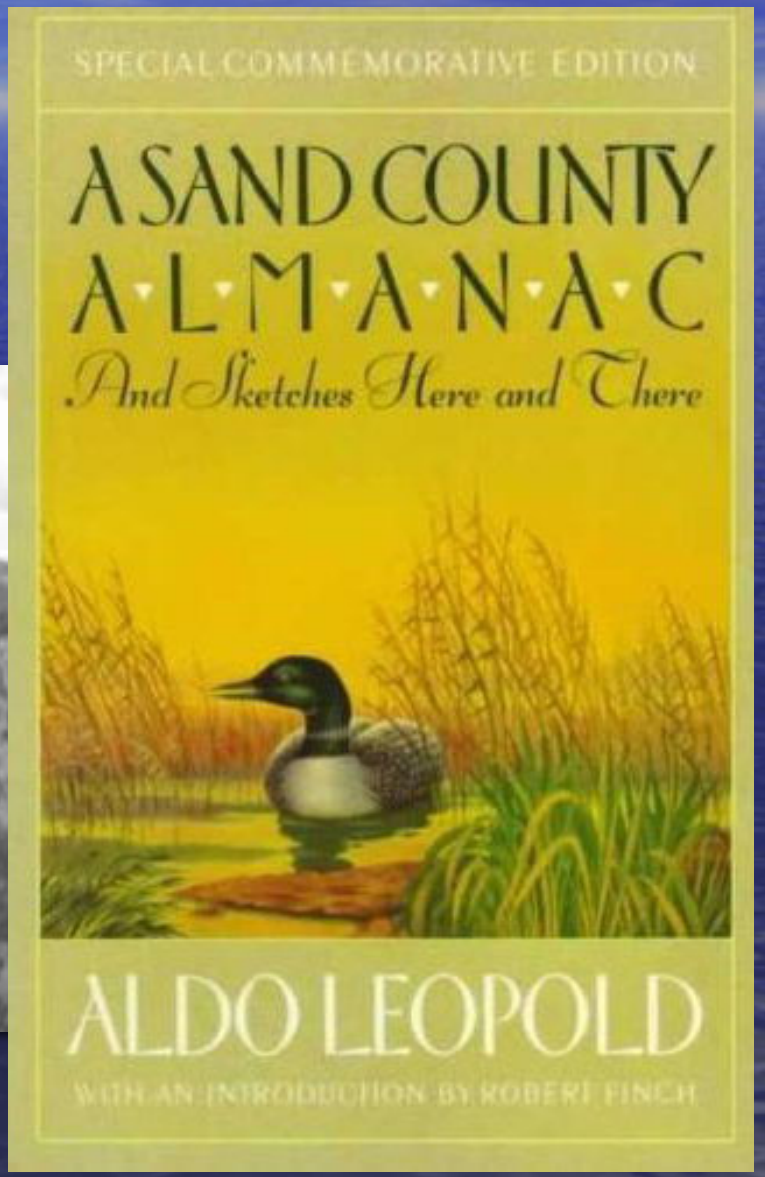
The Natural Environment

Environmental Attitudes & Values

- Historical Roots of Western Attitudes
  - Biblical
  - Medieval

Aldo Leopold's "Land Ethic"

Aldo Leopold :1887-1948



Human Exceptionist Paradigm (Dominant Social Paradigm (DSP) vs. New Environmentalist Paradigm

Vs.

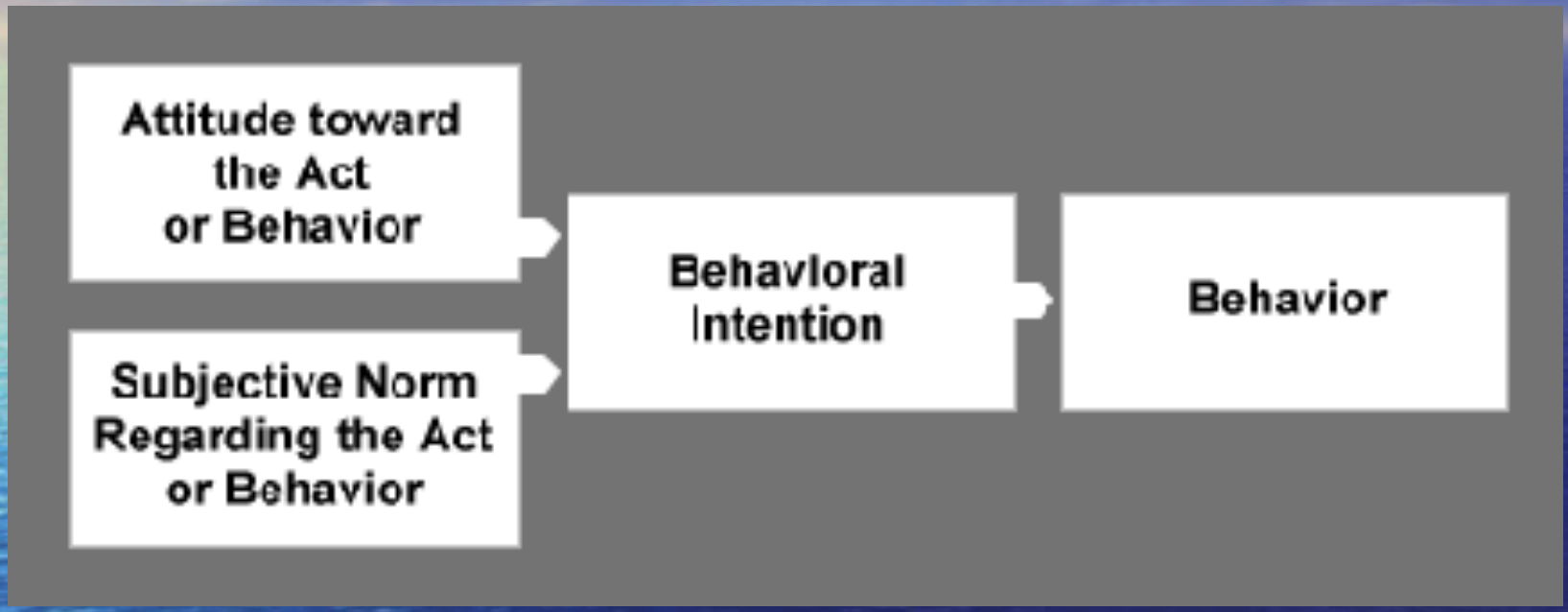
Measures of Environmental Worldviews

- Maloney-Ward Ecology Inventory (1973)
- Weigel Environmental Concern Scale (1978)
- The Environmentalism Scale (2000)
- The Environmental Worry Scale (1996)
- Connectedness to Nature Scale (2004)
- New Environmental Paradigm Scale (1978)

New Ecological Paradigm Scale (NEP)(Dunlap, et al, 2000)

- A revision of the "New Environmental Paradigm Scale" (Dunlap et al, 1978)
- How do people perceive the relationship of humans to the rest of nature?
- To what extent are people willing to do their part for conservation?
- Items on Scale:
  - http://www.prenhall.com/divisions/hss/app/social/addchap9.html

How well do Environmental Attitudes Predict Pro-Environment Behavior?



Attitudes matter, but other forces are usually more powerful!

When are Attitudes Useful Predictors of Behavior?

- When they are strong/stable
- When time between attitude assessment and behavior is short
- When the measured attitude is specific
- When the attitude is accessible
- When the individual is high in “private self-awareness”
- When the measured attitude is salient/relevant
- When other influences on behavior are minimal
  - (i.e., behavior is easy to perform!)

Why Do People Seek Outdoor Experiences?

Nature as Restorer: Relief from tension, escape from overload

Nature as Competence Builder: Enhance feelings of self-reliance& confidence; Therapeutic, enhances well-being.

Nature as Diversion: Meets needs for novelty, stimulation, change

The Expression of Central Life Values: Nature allows symbolic expression of Spirituality, mystery, unity of life

Social Pressure

Common Characteristics of Users of Wilderness Areas

- Higher Incomes
- Professional/Technical Occupations
- From Urban Areas
- More College Graduates & Advanced Degrees (teachers & students are overrepresented)

PURISM:
A Strong Desire for Solitude;
Disturbed by Signs of Human Intrusion

What are the characteristics of purists?

Purism: A strong desire for solitude; disturbed by signs of human intrusion

Men are more likely to be purists than women

More education = more purism

Urbanity as a child increases purism

A higher age for first wilderness experience increases purism

Growing up in rural areas is associated with a more utilitarian view of nature

Measuring Environmental Quality

DEQ
OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY

DEPARTMENT OF ENVIRONMENTAL QUALITY
WYOMING

DEQ
VIRGINIA DEPARTMENT OF
ENVIRONMENTAL QUALITY

ENVIRONMENTAL QUALITY MANAGEMENT, INC.
EQ

Our precision measurements promote
Environmental
Quality

Measuring Environmental Quality

- Is quality in the eye of the beholder?
- Tools for measuring EQ
  - Observer-Based Environmental Assessment
    - Perceived Environmental Quality Index (PEQI)
  - Technical Environmental Assessment (TEA)

Pedestrian Environmental Quality Index (PEQI)

A Walkable City is a Healthy City

Managing Wilderness Recreation Areas

Managing Wilderness Recreation Areas

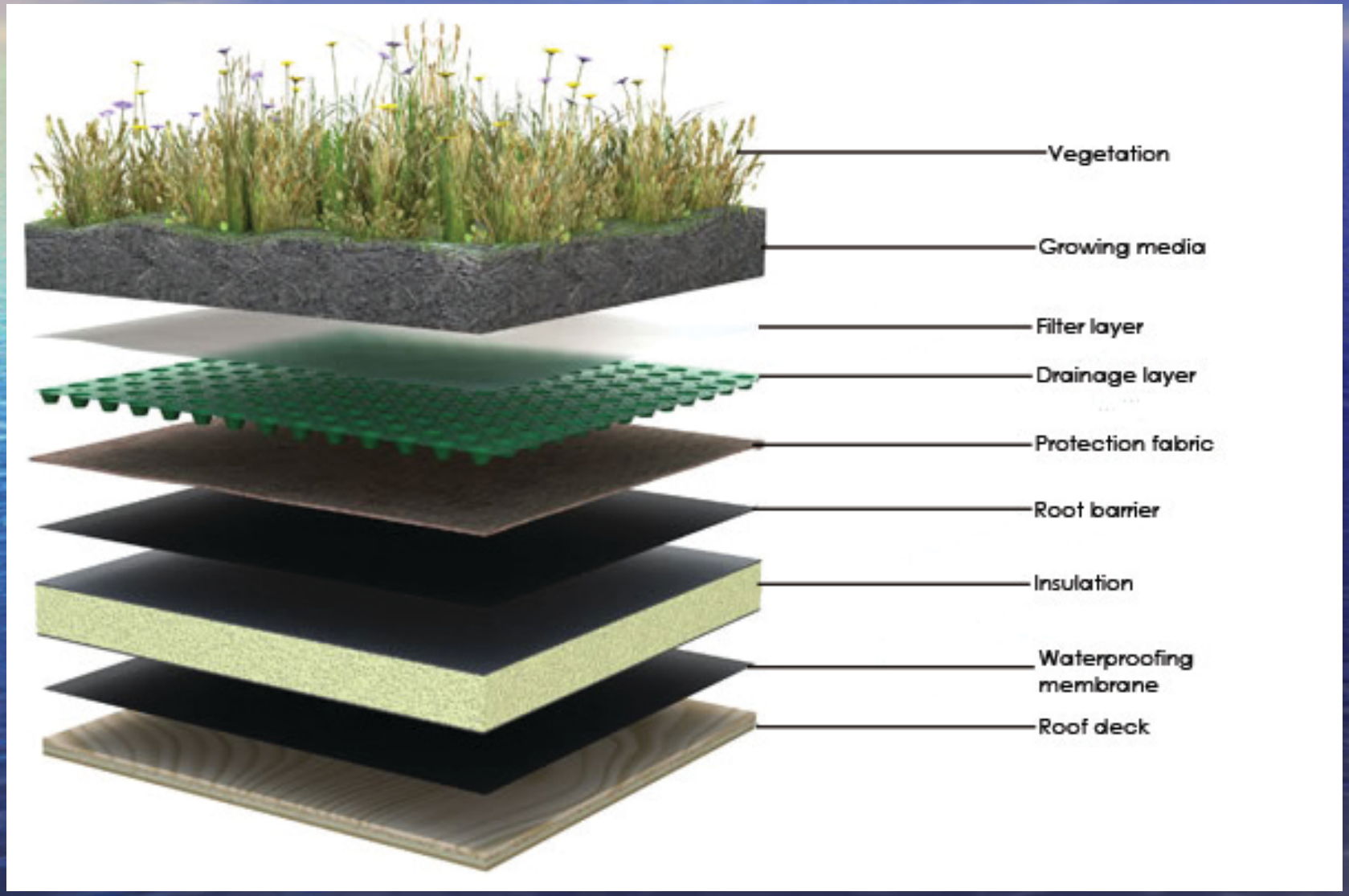
- Determine *Recreational Carrying Capacity*
  - Avoid "Greenlock!"
- Allow as little usage as possible
- Know your clientele
- Design for aesthetic satisfaction
- Plan water resources carefully
- Develop Urban Forests

Urban Forests

Urban Forests – Why?

- Recreation
- Improve Air Quality
- Moderate Temperature
- Decrease Noise Levels
- Control Erosion, Reduce Flooding
- Enhance “Quality of Life”
- Conserve Energy (e.g., Greenroof)

“Green Roof” and Other Uses of Vegetation in City Buildings



“Green Roof” and Other Uses of Vegetation in City Buildings

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“Green Roof” and Other Uses of Vegetation in City Buildings

The Evolution of Environmental Preferences

Biophilia & the Green Experience

- Are human landscape preferences evolutionarily determined?

Types of Environmental Problems

- Aesthetics (Litter, Vandalism, etc)
- Health (Pollution, Radiation, Noise, etc)
- Resources (Recycling, conservation,etc)

The Cause of Most Environmental Problems? - Human Behavior

- Social Traps (Immediate Reward vs. Long-Term Costs)
- Social Dilemmas (Individual vs. Group Interests)
- Commons Dilemmas (The type of social dilemma behind many environmental problems)

What Factors Predict Differences in Concern About Environmental Problems?

- Attitudes Matter – but not as much as you might think (e.g., scores on NEP)
- Very high or very low incomes are more concerned than others
- Internals (locus of control) express more concern than externals
- Women express more concern, but know less and do less
- Young people express more concern than older people
- Liberals & non-religious express more concern than conservatives and fundamentalist Christians (literal interpretation of bible = less endorsement of the NEP)

Behavioral Technology: The art (science?) of influencing socially important human behavior

- Antecedent Strategies
  - Environmental Education
  - Reminders: Prompts & Cues

- Consequence Strategies
  - Reinforcement & Punishment
  - Feedback

Environmental Education

- Most common; inexpensive; can easily reach many people
- Usually aimed at children
- May be useful for reinforcing existing desirable attitudes/behavior
- Why doesn't it work better?
  - Weak link between expressed attitudes & behavior
  - Can only deter behavior resulting from ignorance

Reminders: Prompts & Cues

- Messages that draw attention to things that people already know
- More effective than education, especially when:
  - They are polite
  - They are specific
  - They are positively worded versus telling people what *not* to do.
  - Occur close to behavioral opportunity

Consequence Strategies: Applied Behavior Analysis

- Reinforcers: Strengthen Behavior; increases its probability
  - Positive Reinforcement
  - Negative Reinforcement

*Punishment: Weakens Behavior; decreases its probability

*Schedules of reinforcement applied to environmental behaviors:
*Variable Person Ratio (VPR)
*Fixed Person Ratio (FPR)
*Variable Person Interval (VPI)
*Fixed Person Interval (FPI)

*Feedback = provides information about whether one is meeting goals

Specific Environmental Problems

- Littering
- Vandalism
- Health-Related Problems
- Resource Problems

Littering

- Factors that Contribute to Litter
  - Previous Litter (Litter begets litter)
  - Demographics
    - Young People > Older People
    - Locals > Visitors
    - Men > Women
    - Rural People > Urban People
    - People Alone > People in Groups
    - Hunters, Fishers, campers, Motorboat/Waterski > Birders, Nature Walkers, Canoeists

Prompts as a Strategy for Reducing Litter

- More Effective than Education
- Most Effective when trash disposal:
  - Is Convenient
  - Can be done soon after prompt
  - When Language is Polite
  - When language is not too forceful (may cause reactance)
  - When prompt is positively worded (e.g., “Please be helpful” vs. “Please don’t litter”)
  - Presence of trash can can serve as a prompt - they work better in clean areas than dirty ones.

*Prompts are better at getting people to throw away their own litter than at getting them to pick up the litter of others.

Examples of Research on Prompts & Litter

- Litter bags in football stadiums
- Messages on grocery store flyers
- Prompts on university cafeteria tables

Rewards as a Strategy for Controlling Litter

- Probably the most effective strategy
- “Marked Item” technique works well
- Colorful, talking trash cans collect more litter
- Examples of reward in action:
  - Kids in Movie Theaters (Free movie tickets)
  - U.S. Forest Service (Chance in $20 drawing)
  - Kids in Amusement Park (Free Ride Tickets)
  - Parks & Campgrounds(Free toys & soft drinks)

Vandalism

- Why does vandalism occur?
  - Symptom of poor fit between people & environment
  - A way of restoring equity
  - A side effect of other activities

Characteristics of Vandalized Environments

- Places obviously not under control
- Ugly, uninteresting places
- Things that are fun to break
- Graffiti begets more graffiti
- More of a problem in cities than in small towns

Ways to Discourage Vandalism

- Keep places visible & surveillable
- Keep signs of control & authority figures obvious

Health-Related Environmental Problems

- *Acute* versus *Chronic* Health Effects
  - Acute effects occur immediately: Headaches, rashes, convulsions, death
  - Chronic effects take longer to appear: Cancer, heart/lung disease, genetic defects, nerve disorders

Air Pollution

Air Pollution as an Example of an Environmental Health Problem

- Hundreds of different air pollutants, each with its own health effects:
  - Carbon monoxide & Carbon Dioxide (Greenhouse Effects)
  - Dust
  - Asbestos
  - Lead
  - Radioactive substances
  - CFC's (Breaks down ozone layer)

*More than 200,000 deaths per year are attributable to air pollution

*Even low levels of pollution has negative impact on mood, reaction time, manual dexterity, ability to concentrate

Why Don't People Act?

- 50% of pollution in urban areas comes from vehicle exhaust, people don't want lifestyle change
- People adapt to air pollution & do not notice it (unless they move or it suddenly changes)
- People do not spontaneously list it as a problem and think that their own area is less polluted than others
- People feel helpless & accept it fatalistically

Recycling & Reclamation

- Reclamation is the use of old products in new ways (e.g., old tires as paving material or artificial reefs)
- Recycling is the reuse of material for the same product.

Energy Conservation

- Education & Prompting alone do not work
- Public Commitment + Feedback about savings *does* work
- Signaling energy consumption above a critical level can work
- Reinforcement techniques are most effective for encouraging use of mass transit

The Ambient Environment

The Three-Factor Theory of Emotion
(Mehrabian & Russell, 1974)

- Arousal-Nonarousal
- Pleasure-Displeasure
- Dominance-Submissiveness

The Three-Factor Theory of Emotion
(Mehrabian & Russell, 1974)

Factors	Components (Factor loading values)
Pleasure	contented – melancholic (0.817) hopeful – despairing (0.811) relaxed – bored (0.803) satisfied – unsatisfied (0.715) happy – unhappy (0.679) pleased – annoyed (0.653)
Arousal	frenzied – sluggish (0.832) excited – calm (0.707) wide-awake – sleepy (0.68), jittery – dull (0.666) aroused – not aroused (0.647) important – awed (0.531)
Dominance	dominant – submissive (0.696) in control – cared for (0.687) autonomous – guided (0.663) influential – influenced (0.590)

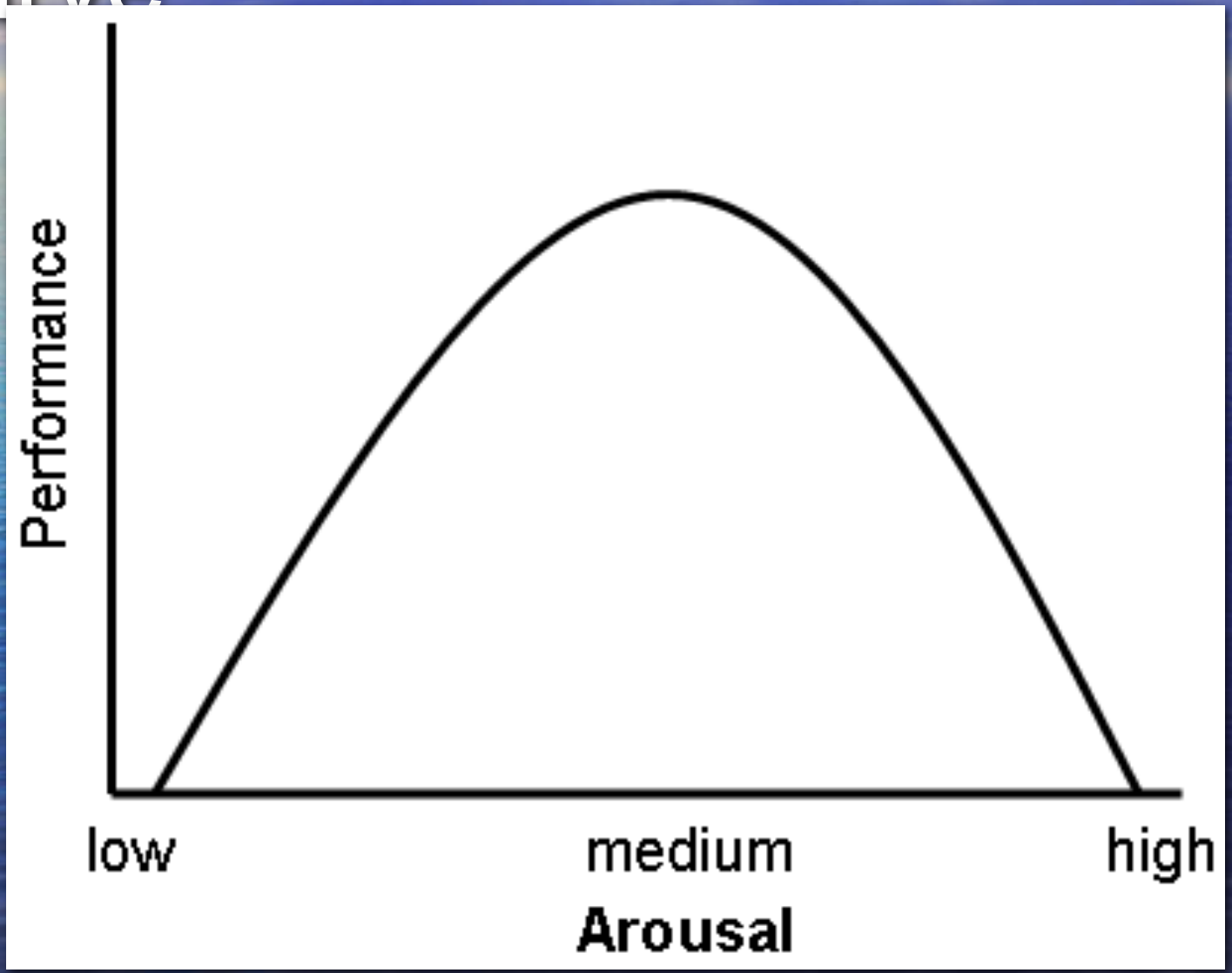
The Concept of “Environmental Load”

- The “information rate” of the environment
  - The amount of sensory stimulation

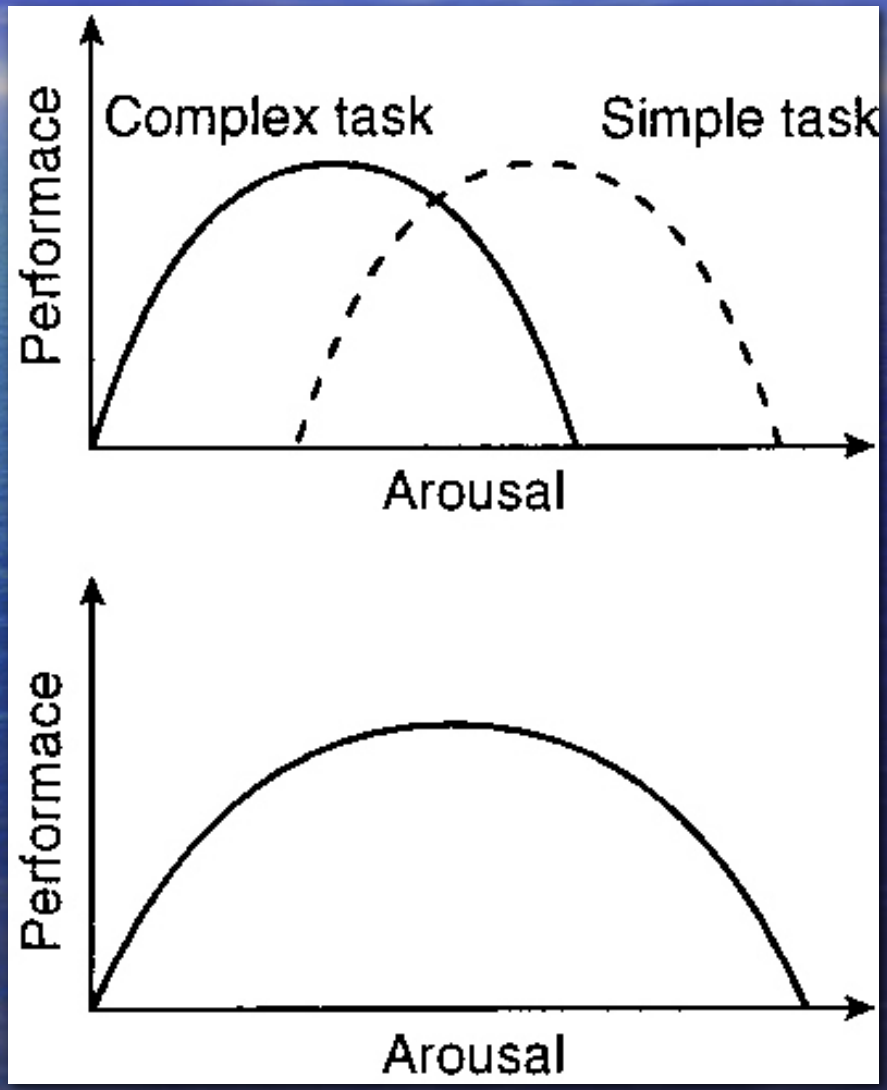
Environmental Load Depends Upon Three Things:

- Intensity
- Novelty
- Complexity

The Performance-Arousal Curve



Performance-Arousal Curve



Personality Mediates our Response to the Environment

- Relevant Global Measures of Personality
  - The Environmental Response Inventory (ERI)
- Relevant Single-Factor Measures of Personality:
  - Sensation Seeking (arousal-seeking)
  - Stimulus Screening (arousability)
  - Sensitivity to Stimulation

The Environmental Response Inventory (ERI) - McKechnie, 1974)

- A Global Measure of Personality used to predict behaviors of interest to environmental psychologists
- It measures responses on 9 different dimensions

The 9 Dimensions of the ERI

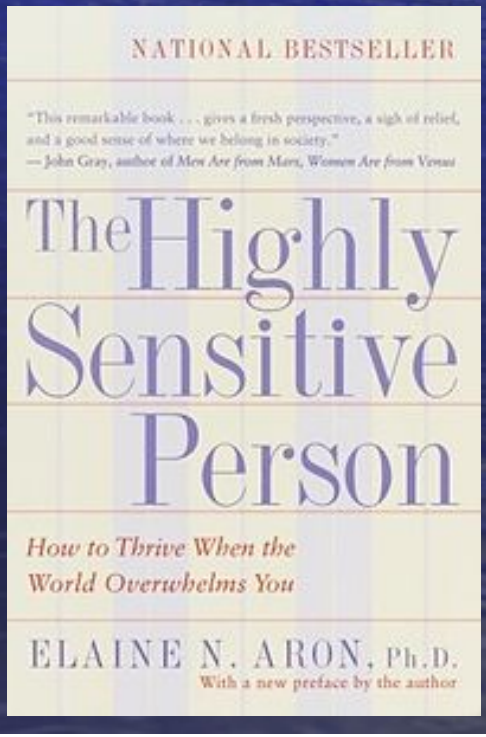
- Antiquarianism: Do you enjoy historical places and things that convey a sense of great age?
- Communality: How much do you crave human contact? How involved are you with friends and neighbors?
- Environmental Adaptation: Should we change the environment for the benefit of human beings?
- Environmental Trust: How comfortable are you exploring new environments and spending time in environments that lack human influence?
- Mechanical Orientation: Are you interested in how machinery works? Do you enjoy manual work?

The Dimensions of the ERI

- Need for Privacy: Do you enjoy isolation and solitude?
- Pastoralism: Do you wish to preserve nature and stem the development of natural environments?
- Stimulus Seeking: Do you seek out and enjoy intense physical stimulation?
- Urbanism: Do you like cities and high-density living?

Sensitivity to Stimulation

- The "Highly Sensitive Person" Scale (HSP) - Aron & Aron, 1997
- Reflects individual differences in sensitivity to stimulation
  - Lower sensory thresholds
  - Related to Introversion



Sensation Seeking

Biological Correlates of Sensation Seeking

- Strength of Initial Orienting Response
- Levels of Monoamine Oxidase (MASO) in brain
- Amount of Testosterone
- Genetics (identical twin studies)

Sensation Seeking Scale
(M. Zuckerman, 1971; 1974; 1979; 1983)

- There are Four Components:
  - Thrill & Adventure Seeking
  - Experience Seeking
  - Disinhibition
  - Boredom Susceptibility

Sensation Seeking Scale

EXHIBIT 1

SAMPLE ITEMS FROM ZUCKERMAN"S SENSATION SEEKING SCALE

1. A I like "wild" uninhibited parties.
   B I prefer quiet parties with good conversation.
2. A There are some movies I enjoy seeing a second or even a third time.
   B I can't stand watching a movie that I've seen before.
3. A I often wish I could be a mountain climber.
   B I can't understand people who risk their necks climbing mountains.
4. A I get bored seeing the same old faces.
   B I like the comfortable familiarity of everyday friends.
5. A A sensible person avoids activities that are dangerous.
   B I sometimes like to do things that are a little frightening.

(etc.)

Stimulus Screening & Arousability

(Mehrabian, 1976)

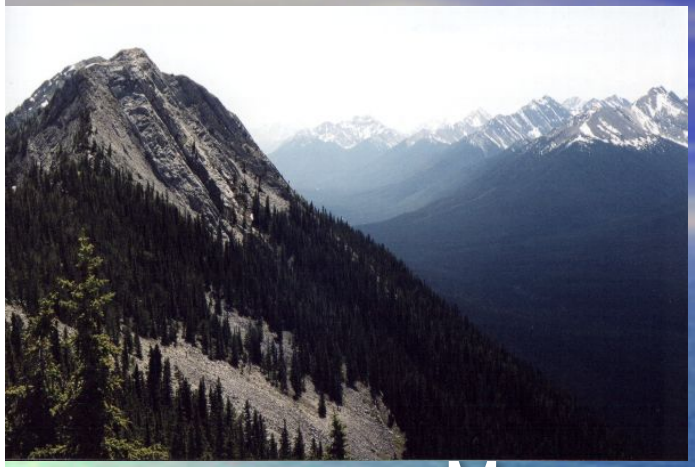
- “Screeners” versus “Nonscreeners”

Climate & Elevation

- Anecdotal Reports about Climates with Warm, Dry Winds
  - Depression, Nervousness, Irritation
  - Increase in Traffic Accidents
- Changes in Barometric Pressure Associated with Behavior Changes
  - Suicide rates
  - Disruptive School Behavior
- Atmospheric Electricity
  - Suicides, accidents, & crime become more frequent
  - Lab studies show that ionization intensifies mood

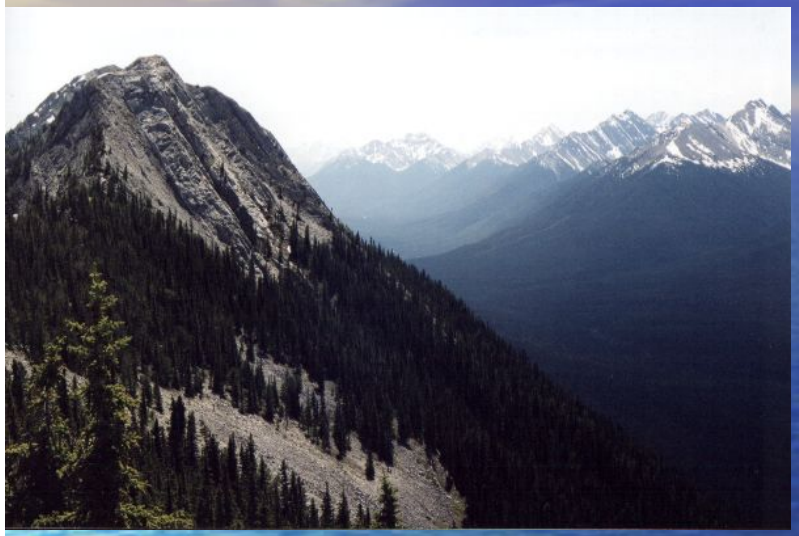
Short-Term Effects of High Altitude Living

(Lower air pressure, thinner oxygen)



- More red blood cells
- Hemoglobin increases, plasma decreases
- Retina's sensitivity to light decreases
- Increased desire for sugar
- Adrenal activity increases/thyroid activity decreases
- Testosterone & sperm production decreases
- More uncomfortable menstrual periods
- 33% increase of suicide risk over 6500 feet; thinner air exacerbates mood disorders

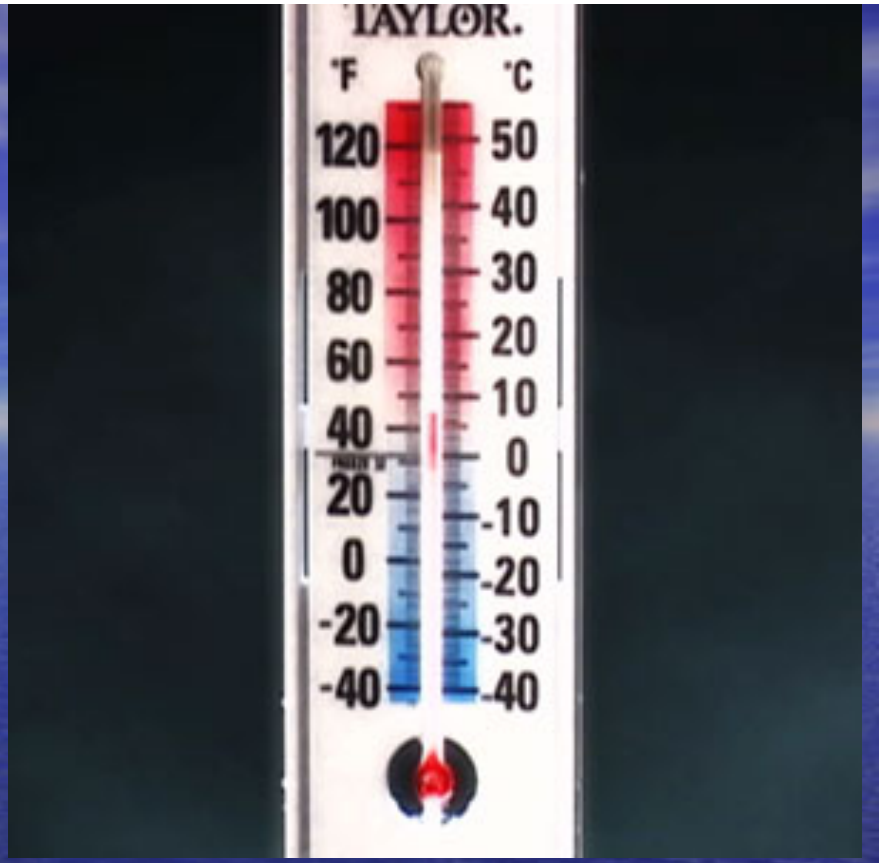
Long-Term Effects of High Altitude Living



- Larger lungs and chest
- Different blood pressure patterns
- Enlarged hearts
- Low birth weight
- Slow growth & sexual maturation

TEMPERATURE

Ambient vs. Effective Temperature



Heat is especially problematic in cities
(may be 10-20 degrees hotter)

Heat waves increase death rates; heat stress induces exhaustion, headaches, irritability, Heart attacks, coma.

Heat & Violence: A relationship?

Effects of Illumination

- Strong preference for natural over artificial lighting
- Turning down lighting lowers noise levels
- Light is especially important in work environments – especially for older workers.
- Table lamp lighting encourages interaction more than overhead lighting.
- Light is arousing, but darkness releases social inhibitions.
- The Moth Effect: People usually choose to sit facing the source of lighting.

Seasonal Affective Disorder (SAD)

Depression common in fall and winter;
People become “Light Hungry”

SYMPTOMS:

- Low energy levels
- Weight gain
- Sleeps a lot
- Social withdrawal

Phototherapy for SAD
(Seasonal Affective Disorder)

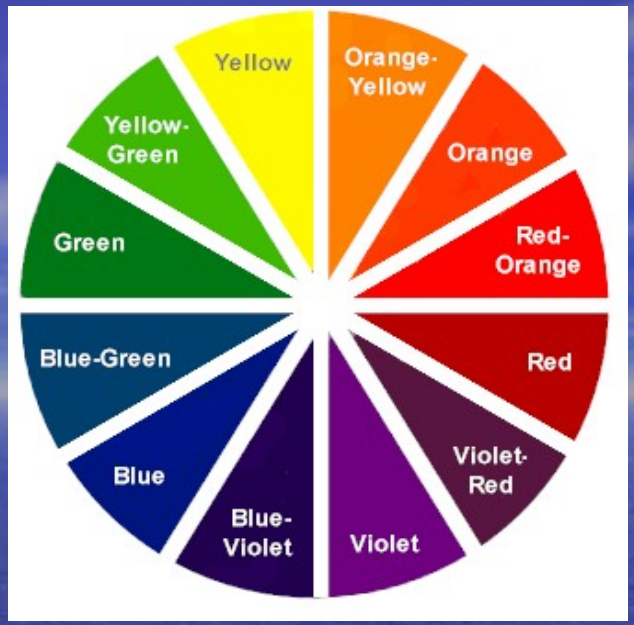
Phototherapy for SAD
(Seasonal Affective Disorder)

McClatchy Newspapers

Seasonal affective disorder sufferer Louise Schneberger, 42, sits in her dining room in front of what she calls her "happy light."

Phototherapy for SAD
(Seasonal Affective Disorder)

Components of Color



Brightness: Intensity of Light

Hue: Wavelength of reflected light

Saturation: Amount of white light in stimulus

Brightness & saturation increase pleasure

Light & cool colors usually preferred over dark, warm colors

Warm colors are more arousing than cool colors (especially red, apparently!)

Moods are attributed to colors

Blue = serene, soothing, calm, comfortable
Red = exciting, confident
Orange = distressed, upset
Black = despondent, powerful
Purple = dignified
Yellow = cheerful

Noise

- The most annoying kind of noise is:
  - Loud & intermittent
  - High Frequency
  - Intermittent
  - Uncontrollable

Negative Effects of Prolonged Exposure to Noise

- Hearing Loss
- High Blood Pressure, Strokes, Ulcers
- Higher Admission Rates to Mental Hospitals
- Disruption of tasks requiring focused attention, memorization, or vigilance

School or Homes in Flight Paths of Major Airports or near Elevated Trains:

- High Blood Pressure
- Lower Math Achievement Scores
- Less Persistence at Problem Solving

- Exposure to high levels of noise affects social behaviors
  - Less Altruism
  - More Aggression

Environmental Stress

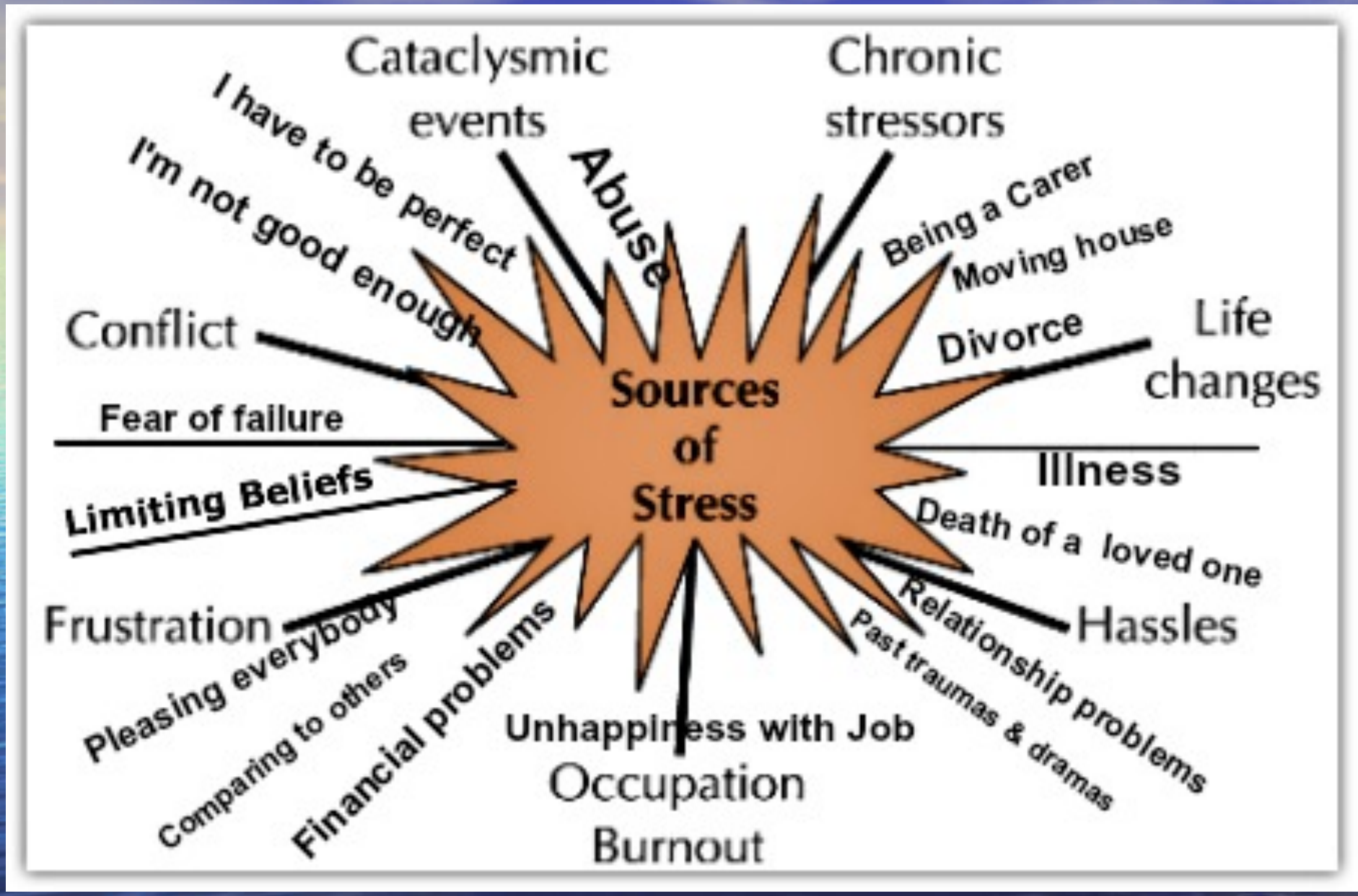
Occurs when the demands of the Environment do not mesh with the Capacity of individuals to deal With these demands

General Adaptation Syndrome (GAS)

- Stage 1 – Alarm
- Stage 2 – Resistance
- Stage 3 – Exhaustion
- Stress has been shown to be a contributor to infectious diseases
- Stress can be “Chronic” or “Acute”

Environmental Stress

- In addition to ambient environmental stressors, what else contributes to stress?


Sources of Stress
Cataclysmic events
Chronic stressors
Abuse
I have to be perfect
I'm not good enough
Being a Carer
Moving house
Conflict
Divorce
Life changes
Fear of failure
Illness
Limiting Beliefs
Death of a loved one
Frustration
Relationship problems
Hassles
Pleasing everybody
Comparing to others
Financial problems
Unhappiness with Job
Occupation
Burnout
Past traumas & dramas

Environmental Hazards and Natural Disasters as Sources of Stress

Extreme & Unusual Environments

The Eclipse Experience

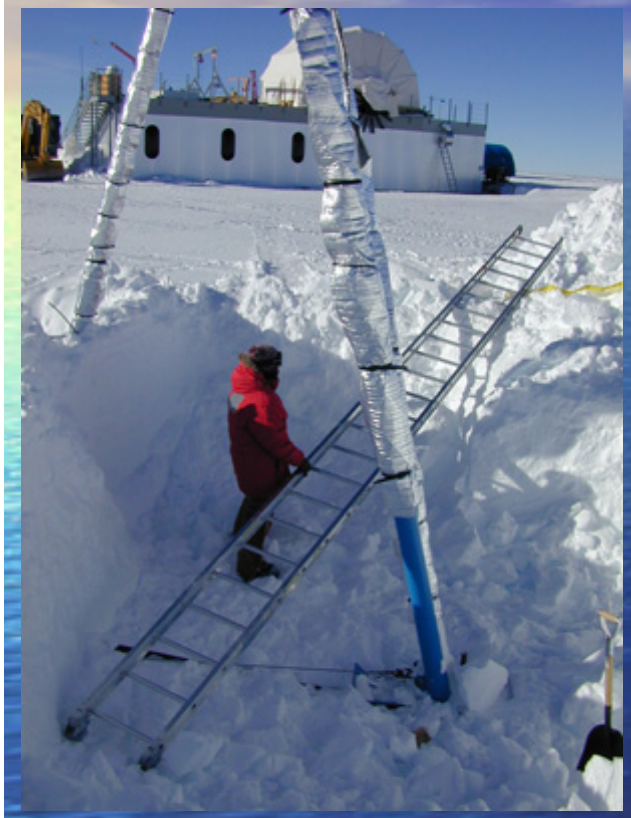
Sense of Unreality - dreamlike

Time perception changes

Feelings of Detachment

Feeling of Euphoria as it ends

Antarctic Work Stations



Symptoms:

- -Appetite & Sleep Changes
- -Weight Gain
- -Sense of Time Changes
- -Attention/memory/concentration suffer
- -Depression/Insomnia
- -Irritability/Hostility
- -Psychosomatic Complaints
- -Social Withdrawal
- -Increased hypnotizability/daydreaming
- -Negative Moods peak in 3rd Quarter

Outer Space Environments

Windows & Videos depicting natural scenery are well-liked

Painting Spacecraft interiors with natural floor-ceiling relationships helps

Sources of Stress in Spaceflight

Problems caused by weightlessness:

- -Fluids move to upper part of body
- - Slower Reflexes, Less Coordination
- - Atrophied Muscles
- - Rapid loss of minerals/fragile bones
- - Space Adaptation Syndrome (Space Sickness)
- - Readjustment to Earth's Gravity

Fear of Equipment Failure

Incessant Machinery Noise

Sensory Deprivation Studies

Sensory Deprivation Studies

R.E.S.T: Restricted Environmental Stimulation Technique

R.E.S.T: Restricted Environmental Stimulation Technique

The Sensed Presence

A perception or feeling that another Person is present, usually to help.

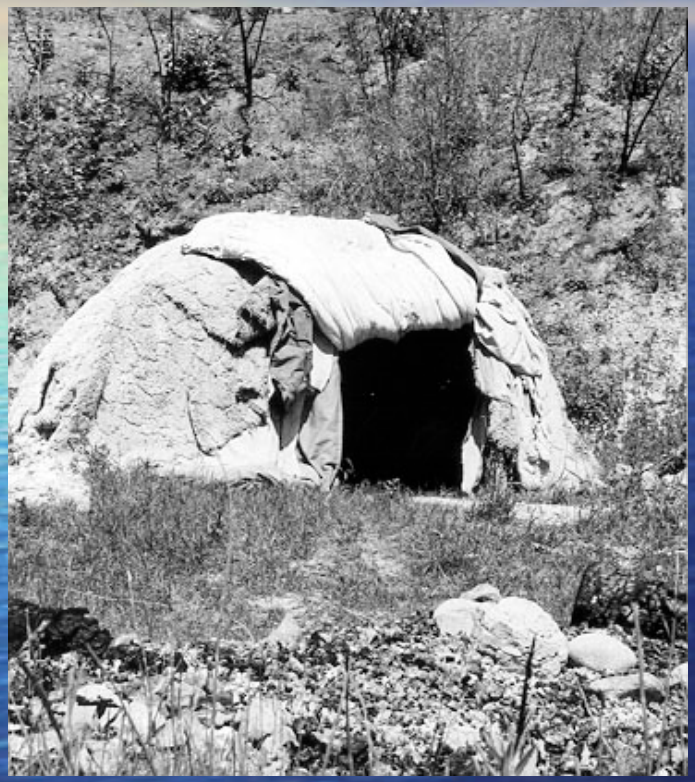
Can range from a vague feeling to A flesh & blood entity

May be a god, spirit, ancestor, Or person known to observer.

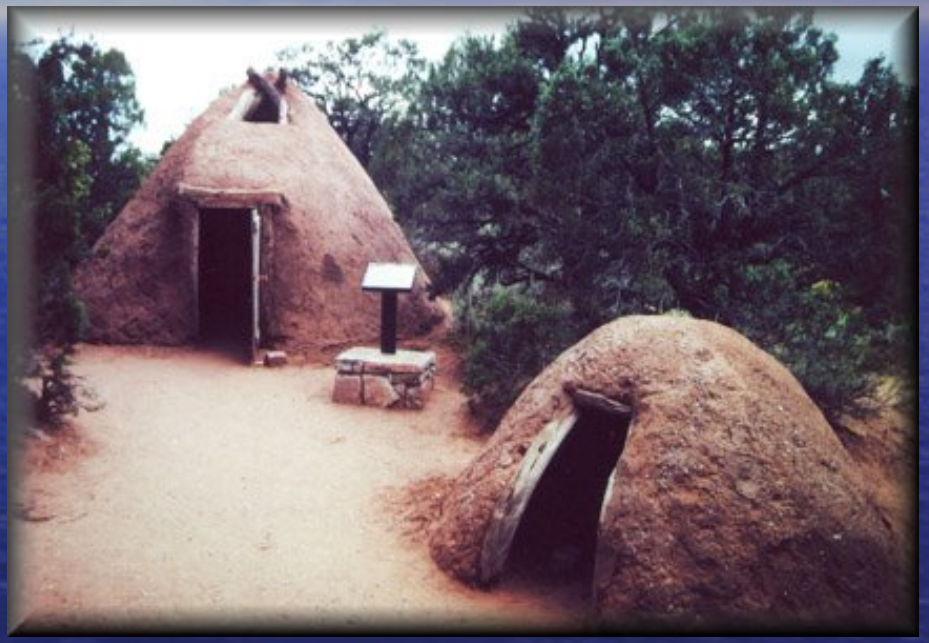
Why Does a Sensed Presence Appear?

- Motion of Boats
- Atmospheric/Geomagnetic Activity
- Changes in brain chemistry triggered by:
  - Stress
  - Lack of oxygen
  - Monotonous stimulation
  - Buildup of hormones
- Shifting of attention from external, ambient stimuli to internal information we have less experience processing.

Sweat Lodges



Crow Sweat Lodge



Navajo Sweat Lodge

The Vision Quest

Different Forms of Privacy

- Solitude - Opportunity to separate from others
- Intimacy - Freedom to be alone with others
- Anonymity - Be free from identification/surveillance in public
- Reserve - Ability to limit communication about self

Functions of Privacy

- Intimate Communication
- Sense of Control, Autonomy, Self-Identity
- Emotional Release

Functions of Territoriality in Animals

- Decreases aggression through clear marking of boundaries
- Decreases aggression through the “Prior Residence Effect”
- Regulates Mating Systems (e.g. –Lek Systems)
- Prevents overloading of resources
- Reduces spread of disease

Uganda Kob: Territoriality

Uganda Kob: Territoriality

Functions of Human Territories

- Preserve & Regulate Privacy
- Manage & Communicate Personal Identity
- Organize Social Systems

Types of Human Territories

- Primary Territories
- Secondary Territories
- Public Territories

Brown & Altman (1983)

- Do physical characteristics differ for burglarized and nonburglarized homes?
  - 102 burglarized houses from police records and 102 randomly selected nonburglarized homes from the same neighborhoods
  - Analyze traces on site using 215 categories
  - Compare traces for burglarized and nonburlarized homes

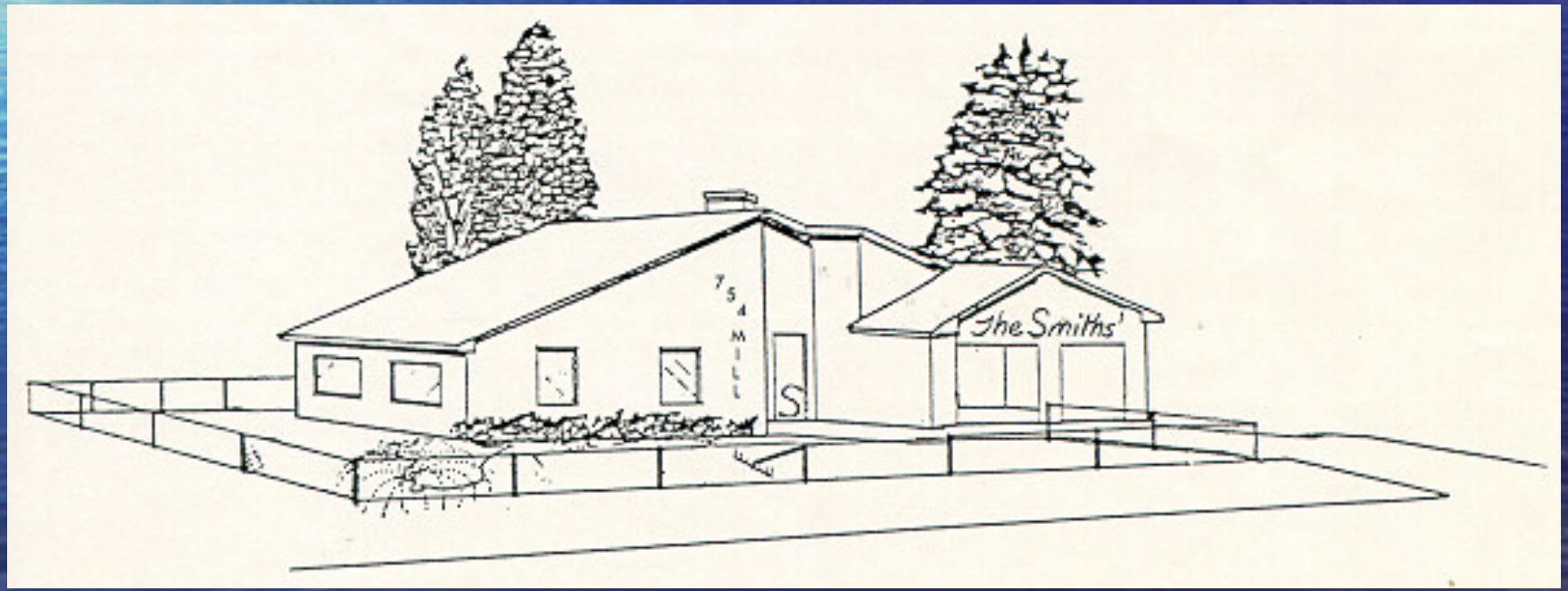
Analyze This House

- Symbolic Barriers?
- Actual Barriers?
- Traces of Presence?
- Detectability?

Analyze this House

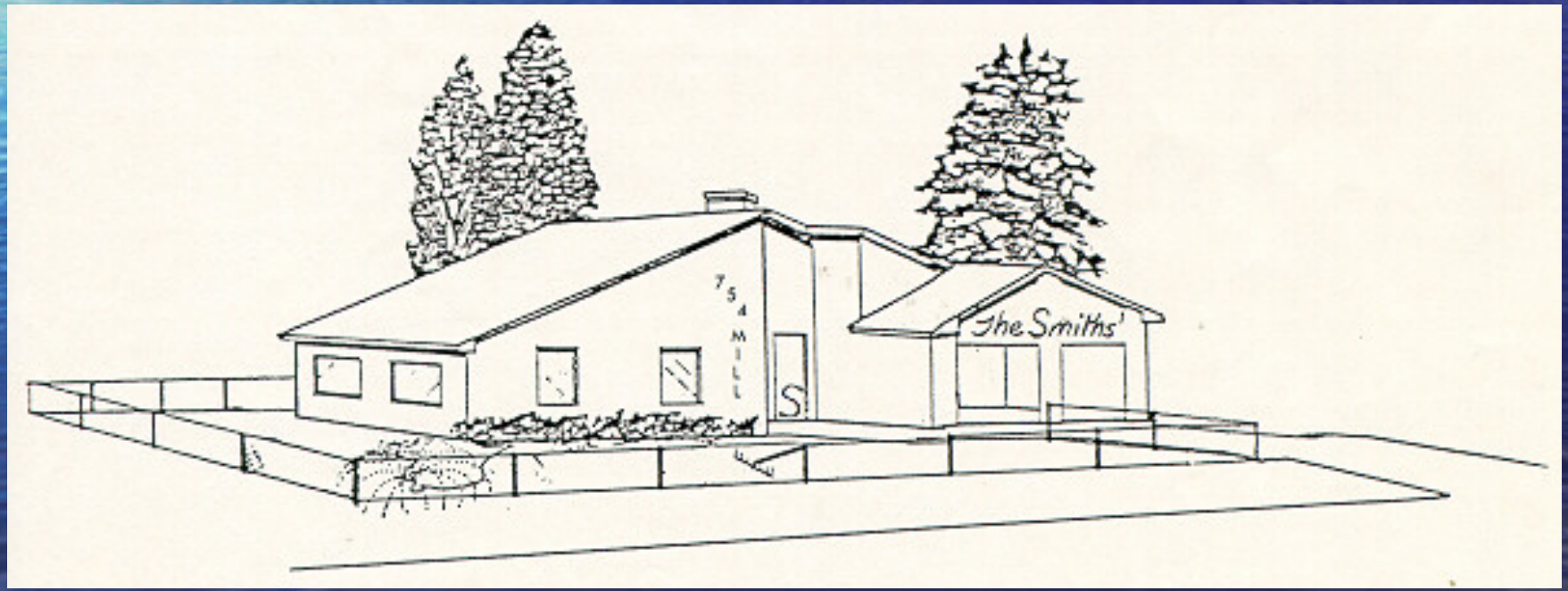
Nonburglarized House

- **Symbolic Barriers -** house is personalized (e.g., name and house number displayed)



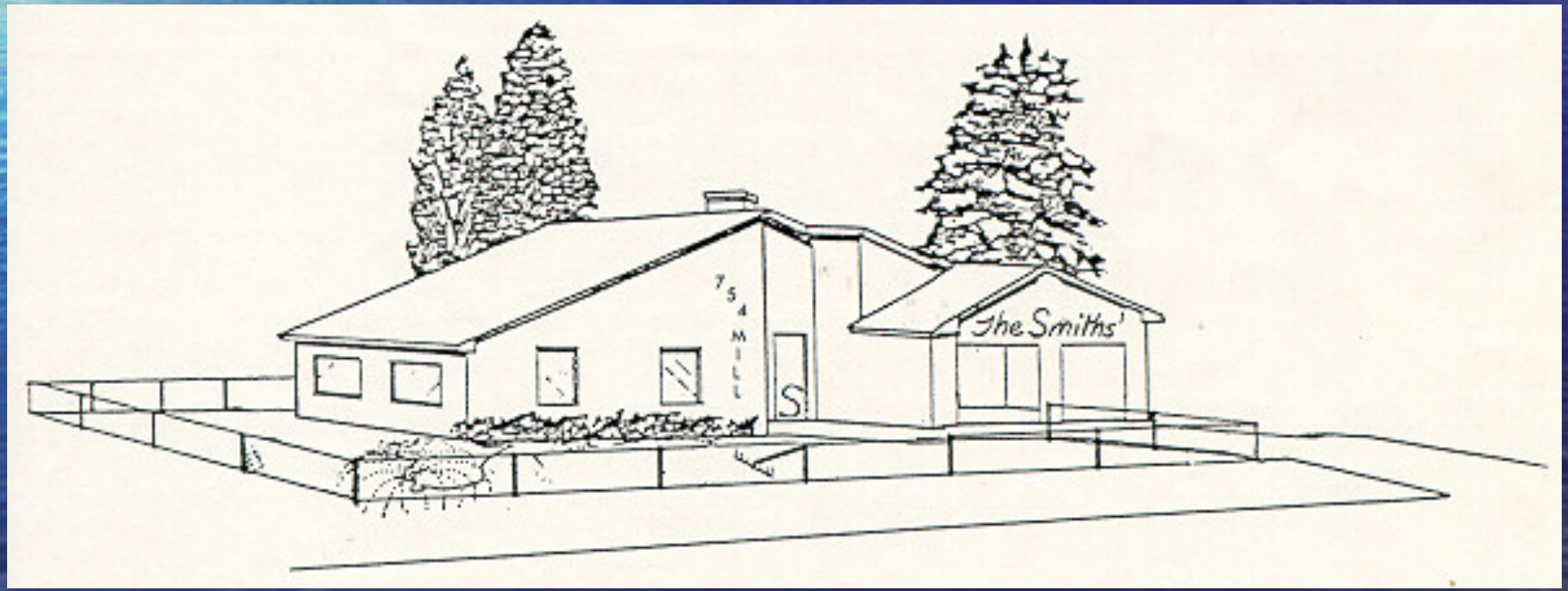
Nonburglarized House

- **Actual Barriers** - yard barriers such as walls and fences



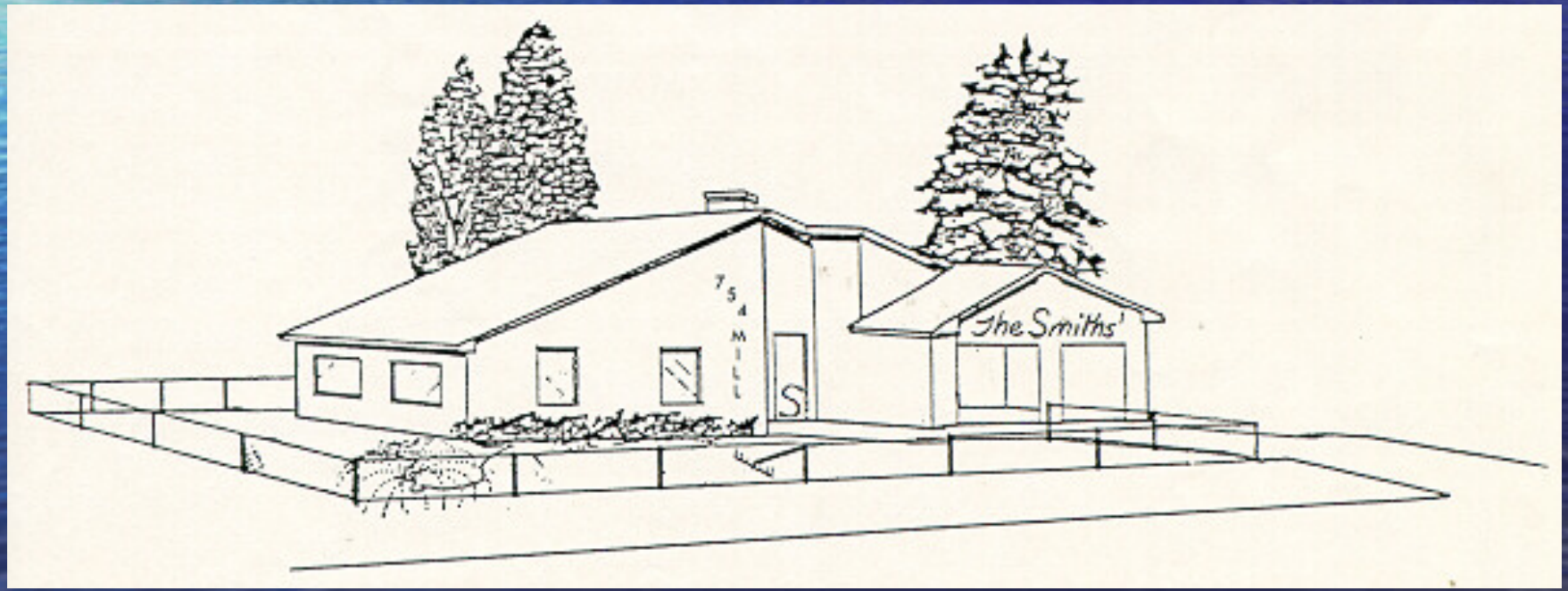
Nonburglarized House

- **Traces of Presence -** indicators that people are home (e.g., sprinklers, toys). Also more likely to have a garage.



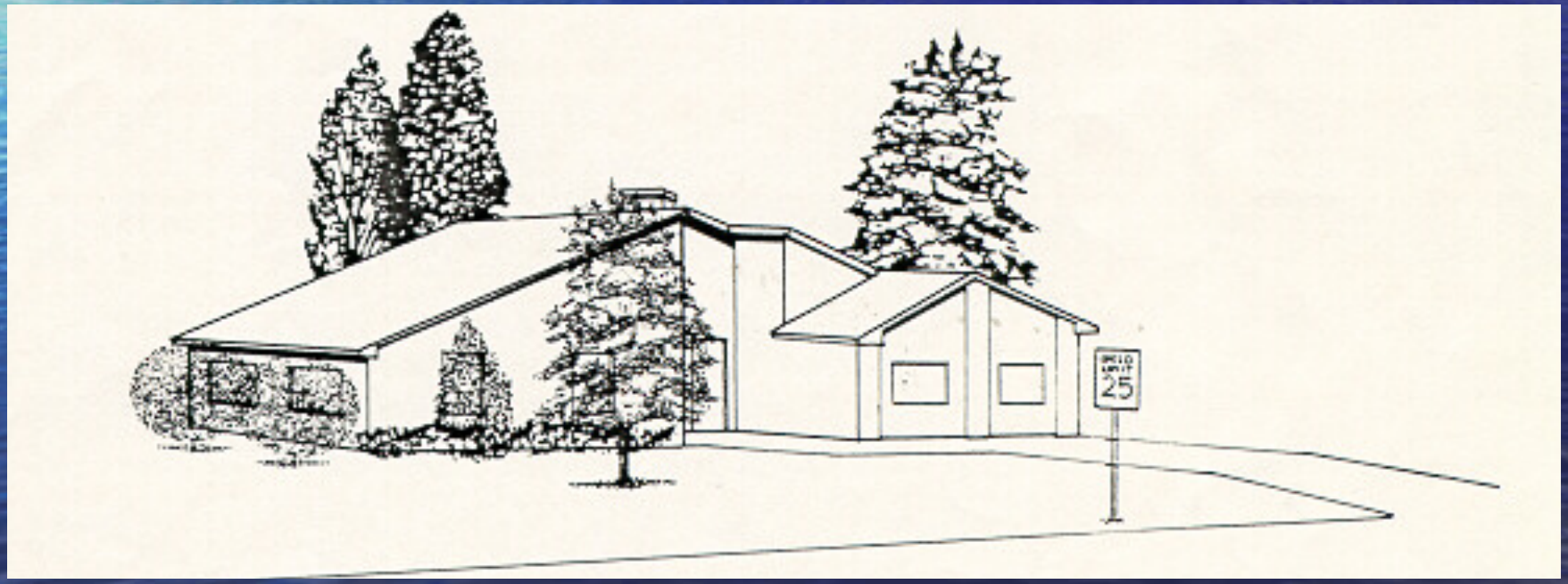
Nonburglarized House

- **Detectability** - view of neighboring houses is unobstructed



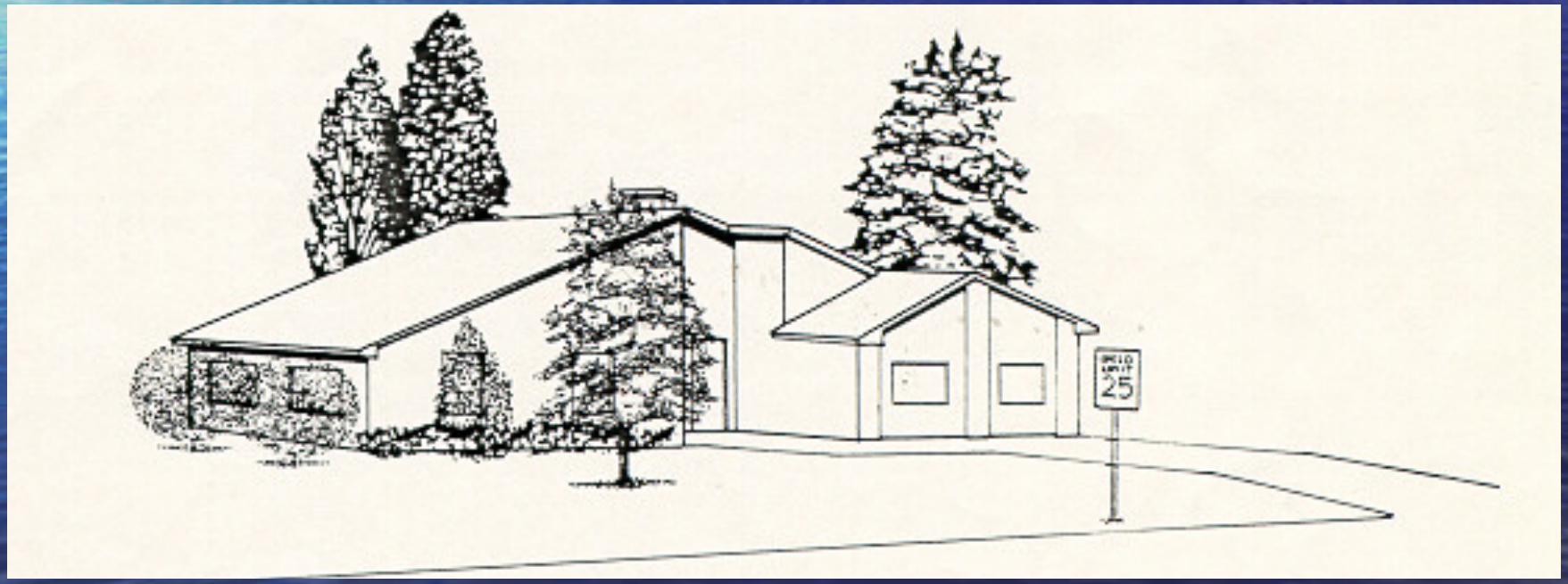
Burglarized House

- No traces of presence (items or garage), symbolic barriers, or actual barriers



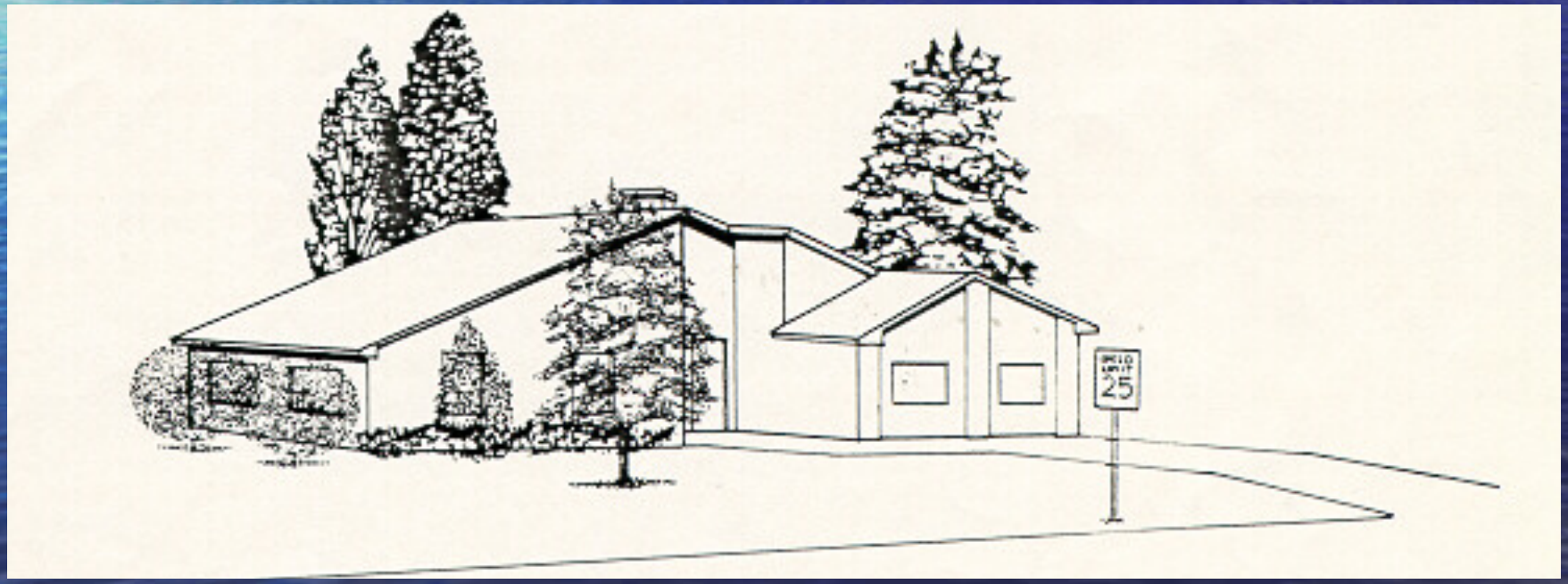
Burglarized House

- **Symbolic Barriers** - more likely to have public street signs



Burglarized House

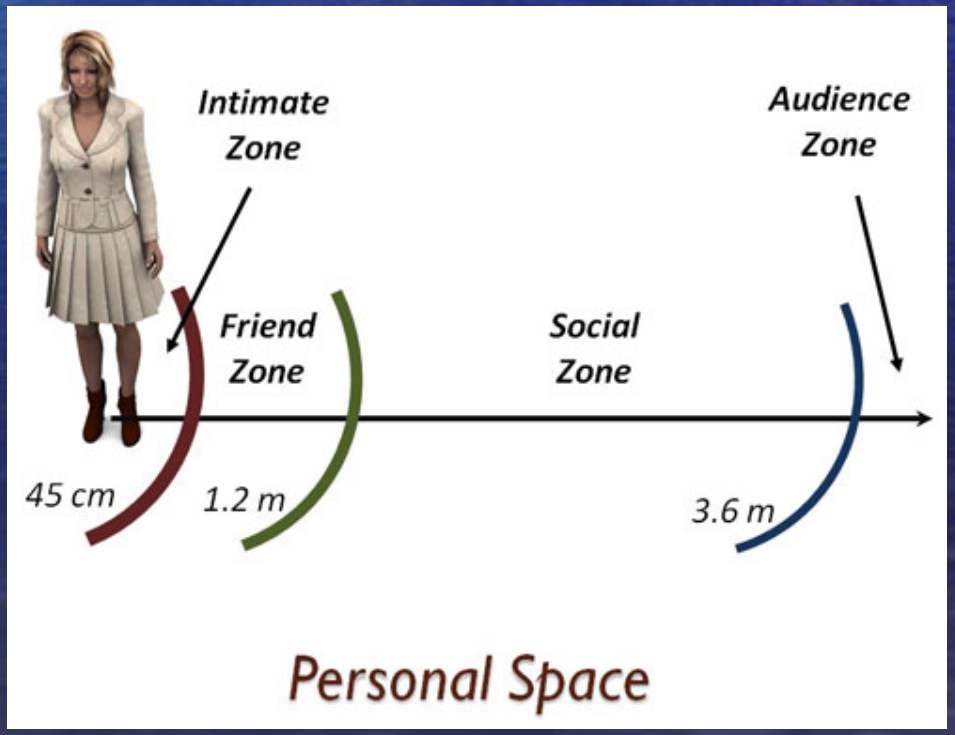
- **Detectability** - view of neighboring houses is obstructed (often by landscaping)



PERSONAL SPACE

Hall's Interaction Distances for Americans

- Intimate Distance: 0 -18 inches; not appropriate in public
- Personal Distance: 1.5 - 4 feet; touching possible; common among friends
- Social Distance: 4 - 12 feet:
  - Close (4 - 7 feet): working; impersonal business
  - Formal (7 - 12 feet): formal business
- Public Distance: 12 - 25 feet; reserved for strangers & public figures



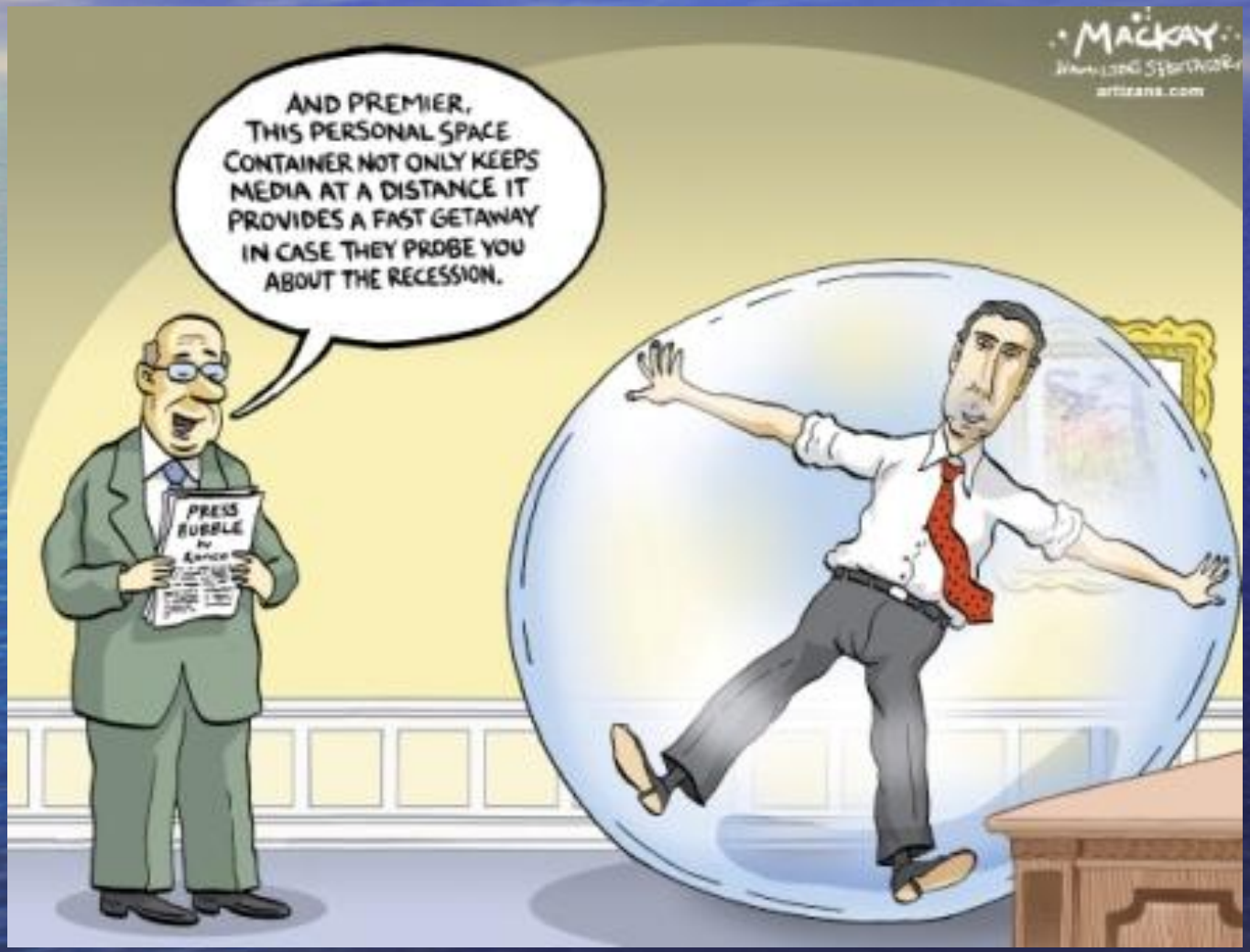
Intimate Distance

Personal Distance

Social Distance

Public Distance

How Does Personal Space Work?



How Does Personal Space Work?

- Violations of space are stressful
- Grows larger/smaller with circumstances
- Bigger behind than in front
- Everyone keeps males farther away than females

Functions of Personal Space

- Self-Protection (Body Buffer Zone)
- Adjusting Sensory Input
- Communication & Regulation of Intimacy

Nonverbal Immediacy Behaviors

- Smiling
- Eye Contact (Mutual Gaze)
- Interpersonal Distance
- Body Orientation
- Touching
- Posture

Equilibrium Theory

- Also known as “Affiliative-Conflict Theory
  - Argyle & Dean, 1965
- Immediacy behaviors act as a system to regulate level of intimacy in interactions

Patterson's Arousal Model of Nonverbal Intimacy (1976)

How do we manage turn-taking in conversation?

Interactional Synchrony

- Postural Reciprocation In Cohesive Groups
- Turn Yielding
  - Decrease loudness, slow tempo & drawl last syllable, an utterance trailer, unfilled pause, end gesturing, gaze at partner
- Turn Maintaining
  - Increase loudness, fill pauses, continue gestures, touching/holding gestures, avert gaze
- Turn Requesting
  - Upraised index finger, inhalation, straightening/tightening of posture, preening, simultaneous talking, rapid head nodding, verbal pseudoagreement
- Turn Denying
  - Stay relaxed, maintain silence, avert gaze

Quasi-Courtship Behavior

Quasi-Courtship Behaviors

- Courtship Readiness
- Positioning for Courtship
- Actions of Invitation or Appeal (Flirting)
- Qualifiers of Courtship Behavior (Metacommunication)

Factors that Influence Nonverbal Communication

- Status of Individuals
- Sex of Individuals
- Cultural Background of Individuals

Status & Nonverbal Behaviors

- High Status People:
  - Control more space
  - More touching
  - Look more while speaking, less while listening
- Low Status People:
  - More tense posture
  - More smiling
  - More looking while listening, less while speaking

Sex Differences in Nonverbal Behavior

Sex Differences in Nonverbal Behaviors

- Females:
  - Require less space & shorter interaction distance
  - More direct body orientation
  - More eye contact
  - More smiling
  - Use gaze & interaction distance to express attraction
- Males:
  - Require more space & greater interaction distance
  - Less direct body orientation
  - Not as much eye contact
  - More touching

Cultural Differences in Nonverbal Behavior

Cultural Differences in Nonverbal Behavior

- "Northern European" Cultures
  - More "distant," less intimate
- "Mediterranean" Cultures
  - More intimate

Density versus Crowding

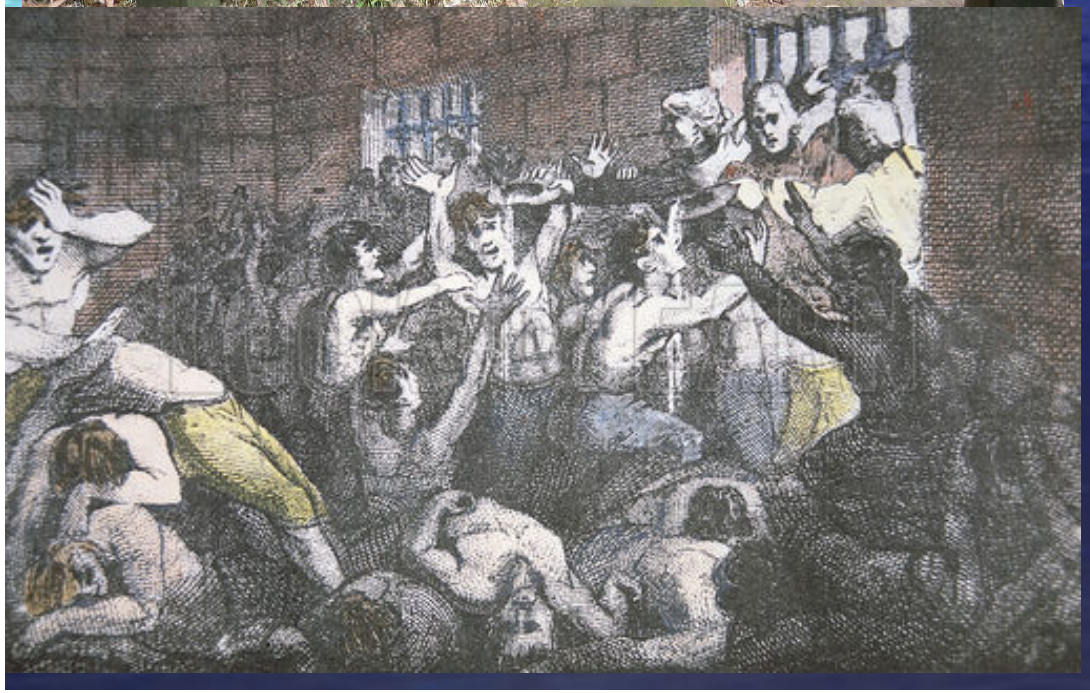
Density: Objective measure; number of people per unit of space

- Social Density: Different numbers of people occupying the same physical space
- Spatial Density: Same number of people, different size space

Crowding

- A subjective, psychological state.
  - Perception of too many people in space
  - Negative Feelings


4. BLACK HOLE OF CALCUTTA



Animal Studies on Density

Chesapeake Science

VOLUME 1 *June, 1960* NUMBER 2

Factors in the Mass Mortality of a Herd of Sika Deer, *Cervus nippon*[1,2]

JOHN J. CHRISTIAN, VAGN FLYGER, AND DAVID E. DAVIS

ABSTRACT

A six year population study on sika deer, *Cervus nippon*, introduced in 1916 on James Island in Chesapeake Bay, Maryland, provided unique results because of the unusual completeness of the data due to an islandic situation. A density of one deer per acre was reached in 1955. In 1958, 60 percent of the population, mainly young and females, died during January and February. Gross and microscopic studies were made on 18 deer, shot and autopsied in 1955, 1957–60, plus one recently dead at the time of the die-off.

Adrenal weight increased, especially in the young, from 1955 to 1958 and then dropped 50 percent following the die-off. Inhibition of growth observed before and during the die-off vanished afterwards. Changes in the adrenal *zona glomerulosa* and medulla suggested overstimulation and a severe imbalance of fluid-electrolyte metabolism as the cause of the die-off. These changes may have been secondary to prolonged hyper-stimulation of the cortex as a result of excessive population density and its resultant social pressures. An inclusion hepatitis and glomerulonephritis are described which involved all deer, especially after 1958, but not in 1955. These diseases were ruled out as causal factors in the die-off, as were malnutrition and poisoning. The deer were apparently in good nutritive status throughout.

It was concluded that physiological derangements resulting from high population density produced the observed effects.

Introduction

For many years the physical deterioration and increased mortality of deer herds which often occur in winter have been attributed, with few exceptions, to malnutrition or starvation (Latham, 1950; Leopold *et al.*, 1951; Longhurst *et al.*, 1952; Dasmann, 1956; Swank, 1956). However, competent observers occasionally have suggested that malnutrition may not be the common critical factor (Cheatum, 1952) but that other and more subtle agents may be more important than food. In fact, malnutrition often is an *ex post facto* diagnosis, with critical studies lacking (Longhurst *et al.*, 1952). The deer are dead and appear to be in poor condition—therefore they must have starved. Actually, the diagnosis of malnutrition usually is based on macroscopic changes in the carcasses, changes that are known to be non-specific and that can be induced by a variety of factors which impose unusual demands on physiological adaptive processes. Evidence will be presented here to show that at least in sika deer, *Cervus nippon*, population density, not food, can be the major factor that limits both physical condition and numbers.

Material and Methods

This study concerns the herd of sika deer on James Island, Maryland, a tract of 280 acres located off the Eastern Shore of Chesa-

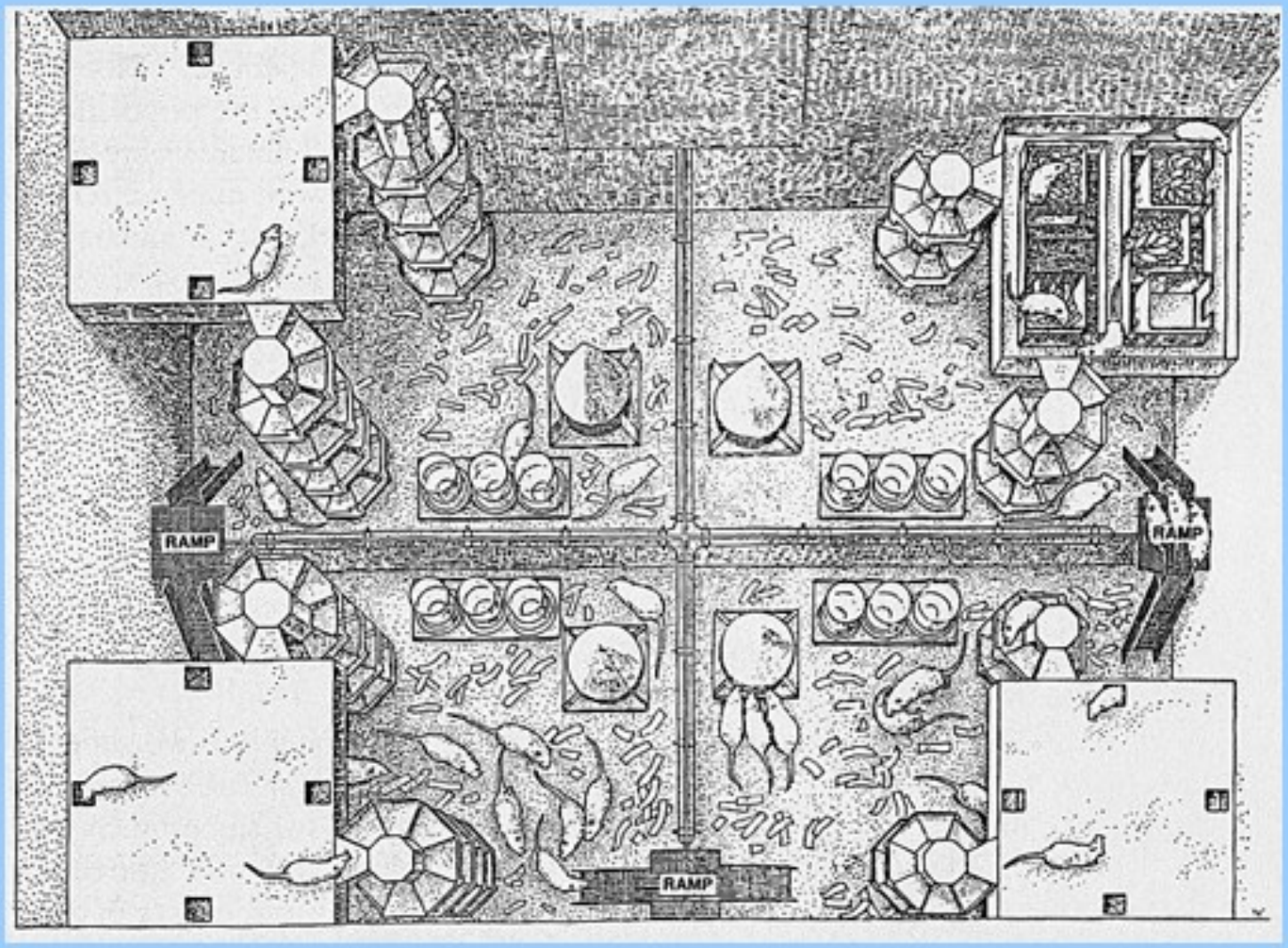
[1] Supported in part by the Naval Medical Research Institute, Bethesda, Maryland, and in part by a grant from the National Heart Institute.
[2] Contribution No. 146, Maryland Department of Research and Education, Solomons, Maryland.

Animal Studies on Density

- Calhoun's (1962) studies on rat colonies
  - Unlimited food & water
  - Population stable at 80 by moving out infants
  - Layout of colony caused high density in 2 out of 4 of the pens
  - "Behavioral sink" – area in which the averse effects of high density are intensified
- Results for Males
  - Hyperactive and aggressive
  - Passive & withdrawn
  - Cannibalism
  - Pansexual behavior
- Results for Females
  - Break down in normal sexual and maternal behavior (80-96% infant mortality)
  - Social withdrawal

Low Density

Low Density



High Density

High Density

Effects of High-Density on Humans

- Studies of Short-Term Crowding
  - Lab Studies: Effects on emotion, task performance, social behavior
- Studies of Long-Term Crowding
  - Prisons
  - College Dormitories

Theories of Crowding

- Ecological Models: Overstaffing vs. Understaffing
- Overload Models: Sensory Overload
- Density-Intensity Model: Intensifies whatever is happening.
- Arousal Models: Arousal from situation (ambient stimuli, invasion of space, etc) is attributed to other people, resulting in perception of crowding.
- Control Models: Decreased feelings of control & freedom.

Moderators of Density Effects

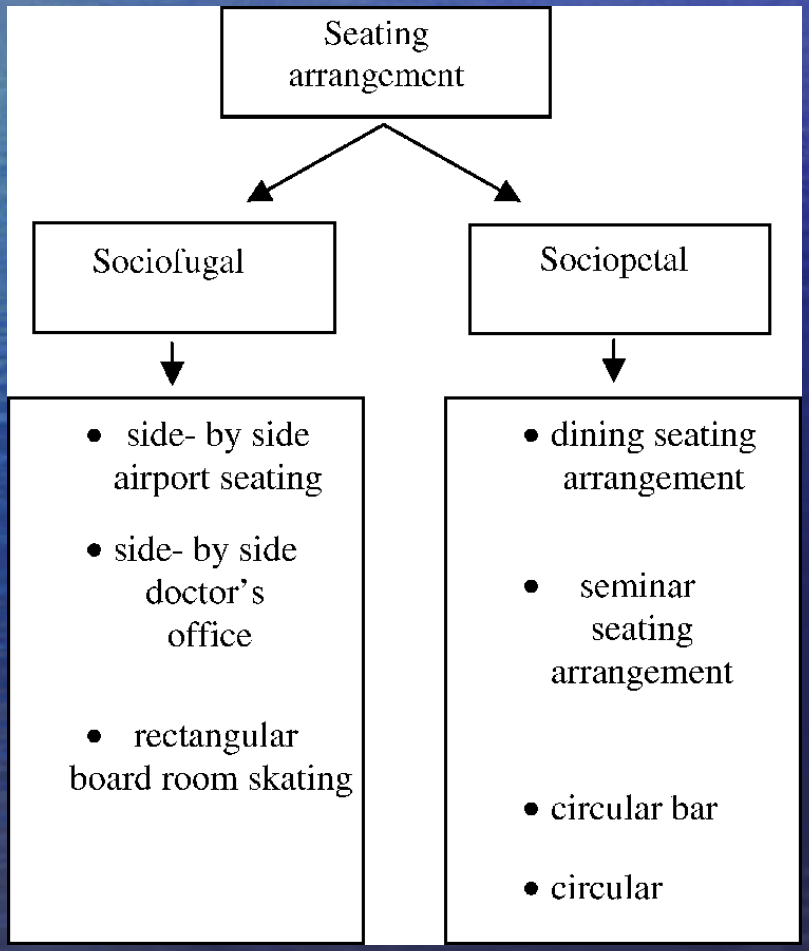
- Gender
- Age
- Scarcity of resources
- Personality
- Cultural Background
- Architecture
  - Amount of floor space
  - Amount of Sunlight
  - Height of ceilings

Architecture Sets up Expectations for Behavior

Architecture Sets up Expectations for Behavior

Architecture & Behavior

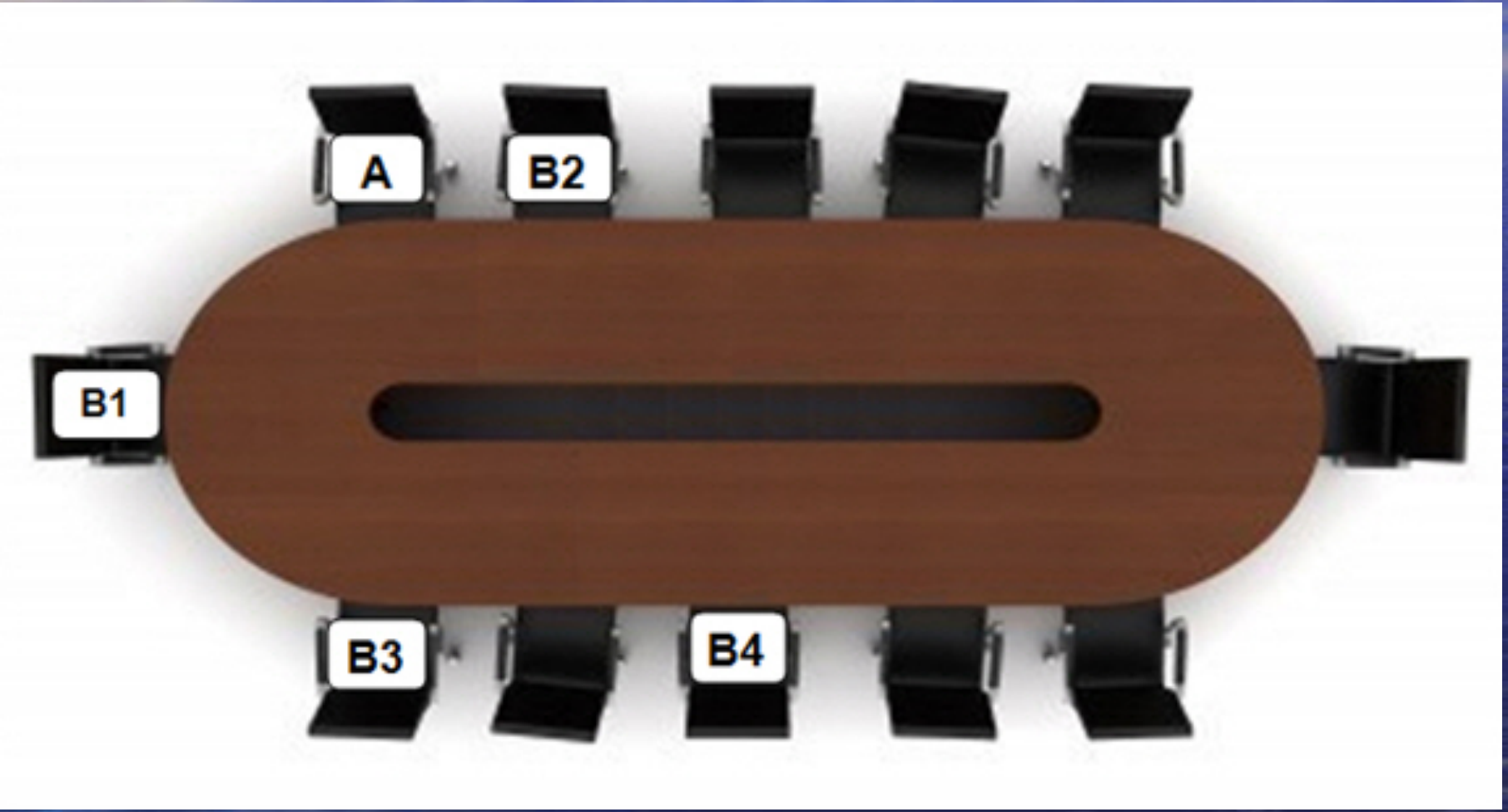
- Interactions in spaces are very much influenced by the physical arrangements of those spaces



Sociopetal Seating

Sociofugal Seating

Ecology of Seating at Tables



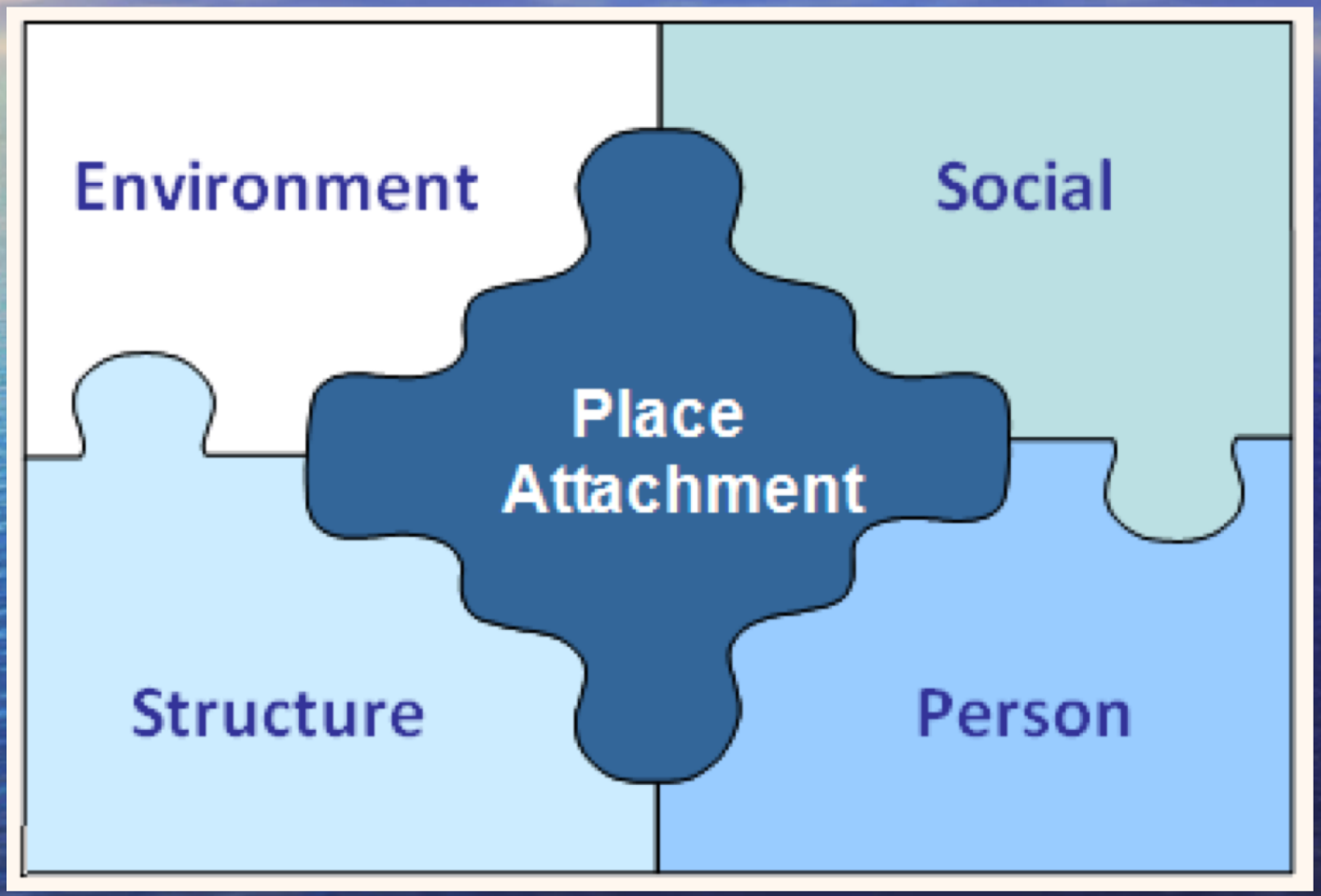
Rooms: Architecture & Furnishings

Rooms: Architecture & Furnishings

Sommer's Study of Nursing Home Behavior

	# Brief Interactions	Sustained Interactions
Old Arrangement	47	36
New Arrangement	73	61

Attachment to Place/Topophilia



Topophilia/Rootedness (Attachment to Place)

- Generic Place Attachment: Attachment to regions or specific types of environments.
- Geographic Place Attachment: Attachment to a specific town or house.

Levels of Place Attachment

- Lowest = Know of place; no strong feelings or memories
- Personalized = memories of place inseparable from personal experience
- Extension = Place elicits highly emotional, psychologically involving memories
- Embodiment = Most intense; blurs boundaries between self and environment.

Factors Related to Place Dependence

- Congruence between individual needs and resources of setting
- Perceived choice to stay or leave
- Attractiveness of alternatives
- Demographics (children, older people, limited mobility, lower socioeconomic class)
- Passage of time
- Strong social networks

Consequences of Strong Place Dependence

- Greater satisfaction with one's home
- Greater expectations of future stability
- More detailed knowledge of history/geography of locale
- Greater investment of time & resources to place
- Tragic sadness if forced to leave

The Concept of “Home”

An emotionally based, meaningful relationship between people and their dwelling places

Classification of Homes

- Permanent versus Temporary

Classification of Homes

- Homogenous versus Differentiated

Classification of Homes

- Communal versus Non-Communal

Classification of Homes

- Identity versus Communal (express individuality vs. conform to community standards)
- Openness versus Closedness (to outsiders)

The House as a Symbol of the Self

Single Family Homes

- Houses express individual qualities
- Houses define group membership
- Houses signify socioeconomic status
- People buy houses to bolster images of themselves

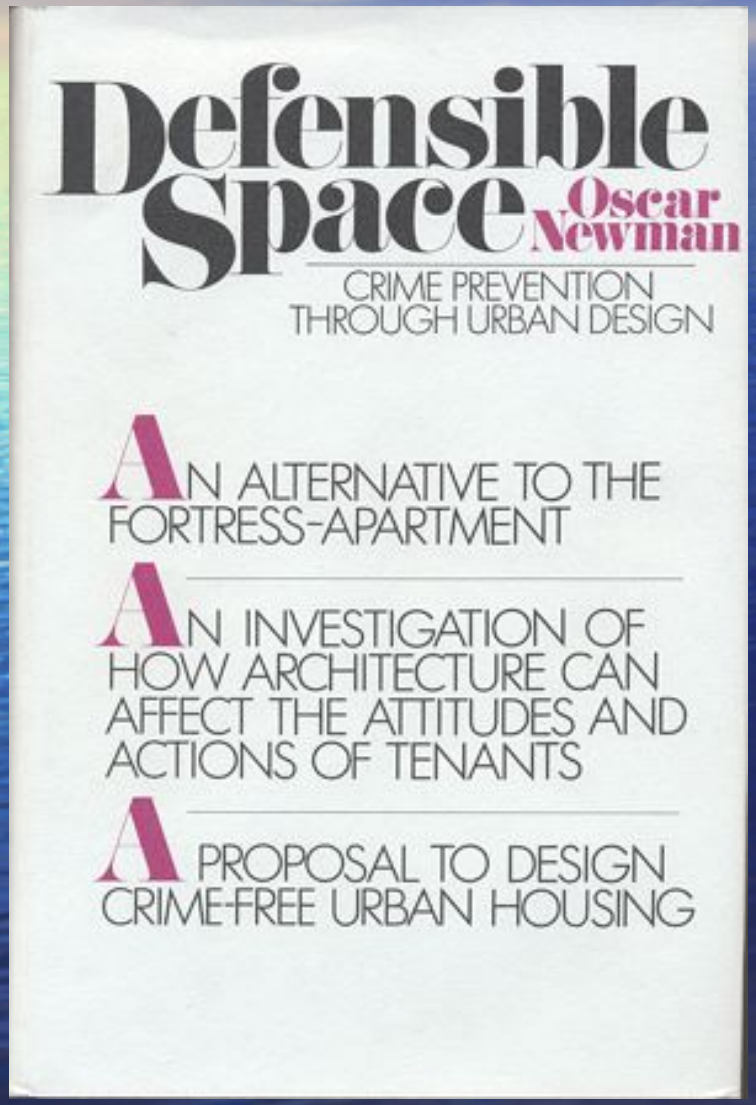
Research confirms that we can make accurate judgments of others based on their house

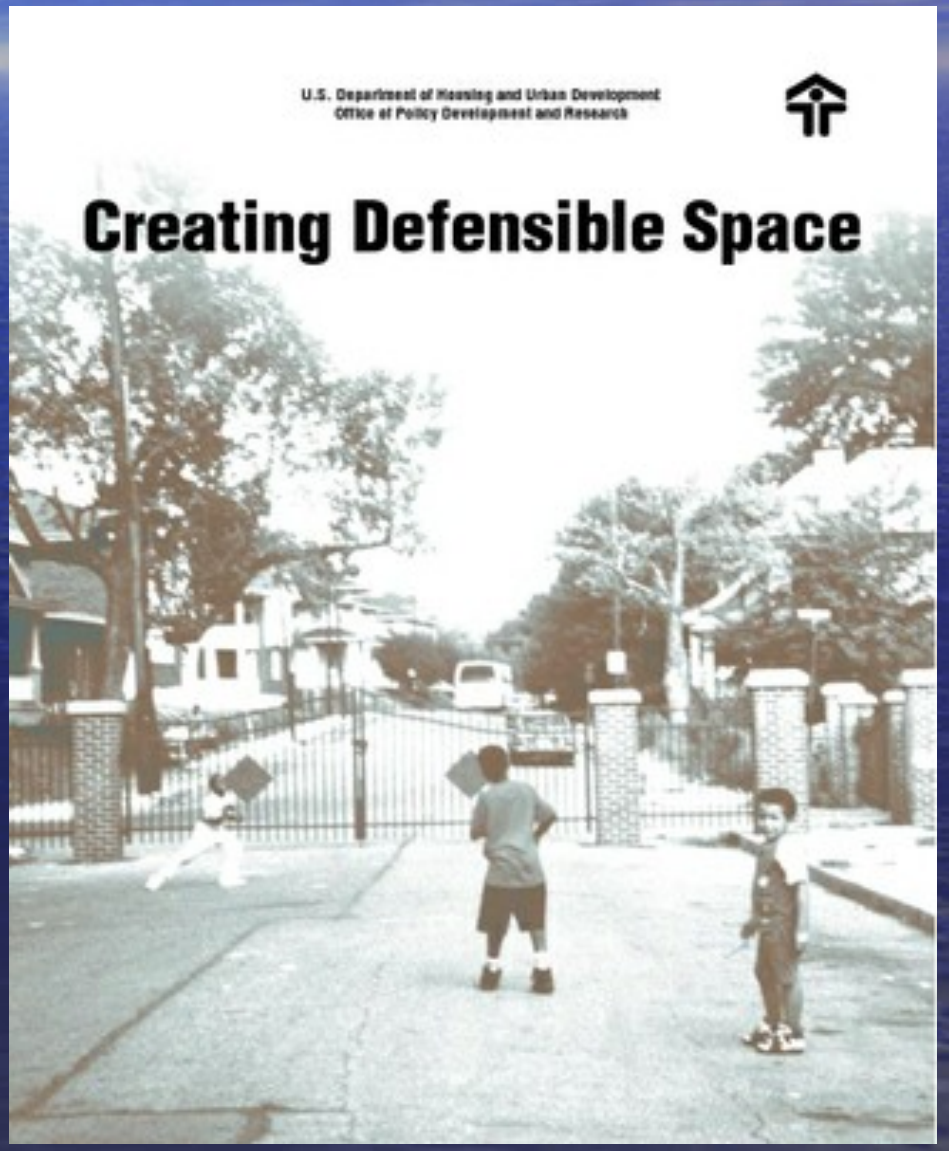
Haunted Houses?

Apartment Living

Public Housing – Bronx, NY

DEFENSIBLE SPACE






ADVANCE
DIVISION
NO LOITER!!

Dormitories

Housing for the Elderly

NEIGHBORHOODS

Dimensions of Neighborhoods

- Type and Amount of Interaction
- Sense of identity residents derive from neighborhood
- Connections between neighborhood & outside world

Types of Neighborhoods

- Integral
  - Much face-to-face contact
  - Cohesive & active
  - Maintains connections to outside community
- Parochial
  - Like above, but insular & protective; No involvement with outside world
- Diffuse
  - Informal interaction is rare (formal organization may exist)
  - Wide range of resident connectedness to outside world
- Stepping Stone
  - Everyone's allegiance is to outside groups
  - Formal interaction
  - No commitment; everyone expects to move on
  - May have strong "identity"
- Transitory
  - A complete lack of identity; otherwise like stepping stone
- Anomic
  - Completely disorganized; no connection to each other or to outside world
  - May be little turnover

Correlates of a Strong Sense of Community

- Length of Residence
- Satisfaction with Community
- Number of Neighbors Identifiable by First Name
- Enhanced Sense of Security
- More Territorial Marking
- A Preponderance of Single Family Homes

Predictors of Neighborhood Satisfaction

- Density
- Social Compatibility of Neighbors
- Accessibility to Shopping, Schools, etc
- Noise & Traffic
- Was Neighborhood Freely Chosen?
- Church Affiliation

CITIES

System Overload in Cities

Reducing Stimulation becomes a priority

Norms of Non-Involvement to avoid unnecessary interaction become common

Compared to people in small towns, urban dwellers:

- -are less helpful (non-emergencies)
- -engage in less eye contact
- -have fewer ties to relatives, neighbors, church groups
- -more ties to friends & coworkers
- -walk & transact business more quickly
- -are more likely to suffer from anxiety, depression, & schizophrenia

Environmental Psychology in the Workplace

- Human Factors & Ergonomics
- Physical Environment & Job Satisfaction
- Ambient Effects on Work Performance
- Worker Perceptions about the environment & work motivation
- The psychological importance of work environments (status, privacy, etc)

The Physical Environment & Work Performance

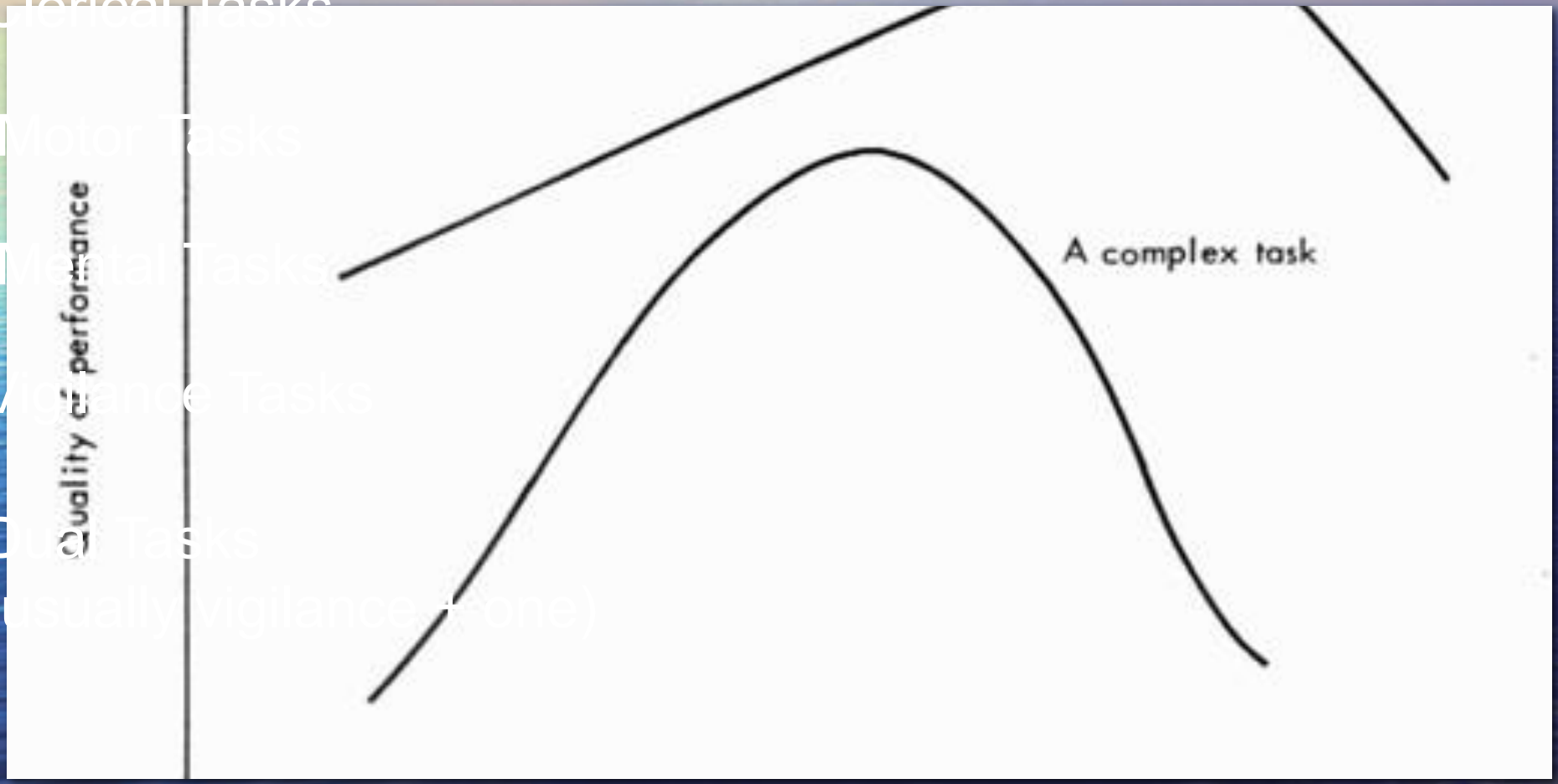
Clerical Tasks

Motor Tasks

Mental Tasks

Vigilance Tasks

Dull Tasks
(usually vigilance tone)



Traditional Offices

*More Privacy

*Higher Satisfaction

Open-Plan Offices

*Less Privacy
*More Social Activity
*Noisier
*Flexible
*Low Cost
*Intended to foster communication & cohesion
*Social facilitation may help with simple tasks

Variations on Open Plan Offices

- Cubicles
- Flex-Offices
- Combi-Offices

Characteristics of High Status Offices

- Corner Locations
- Hard to reach & Controlled Access (higher floors; secretaries)
- Visual Privacy
- Near Power Centers
- Larger Office & Larger Desk
- Windows
- Paintings/Artwork/Decorations
- Nicer Furniture & Carpeting
- Formal & Informal Interaction Areas in Office
- Private Office