- propelling active transpiration - people, nature and design

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Caveat emptor: I am not an active transportation expert. I am a land use planner by trade, who dabbles in psychology and design.

Today’s Goals

What I am going to suggest to you today is that:

- people have an inherent preference for certain places, especially natural places;
- exposure to nature supports positive health outcomes;
- purposeful design matters;

Therefore - active transportation networks should:

- fully utilize and incorporate access to nature
- be designed and updated using principles of environmental psychology
- Increase usership and reduce user disputes by diverse groups through design

As billed…

- Introduce the concept of environmental psychology and why it matters
- Discuss innate human connections to nature and what it means for our modern society
- Provide concrete and easily implemented examples of how you can design trails and natural areas to play on human connections to nature and place
- Show you how to design and plan for a diverse user base with seemingly different, and even contradictory, ‘use motives’

Environmental Psychology

...we hypothesise that for any landscape, or major portion of the landscape, there exists an optimal spatial arrangement of ecosystems and land uses to maximize ecological integrity. The same is true for achieving basic human needs and for creating a sustainable environment. If so, the major but tractable challenge is to discover the arrangement. (Richard Forman as cited in Thwaites et al., 2005, p.525)

Human systems are shaped and made sustainable by purposeful design.

Purposeful design is found in the interface between people and place.

What is it?

At its core, environmental psychology is the study of the relationship between people and the environment (place).

(thank you Farley Mowat)

Why does it matter?

- Understanding why certain places are important;
- Understanding the potential impacts of land use change (policy and regulatory development);
- Designing and making meaningful places;
- Designing places to support human well being;
- Designing public spaces 'right' in an era of limited resources and value assumptions related to soft infrastructure;

- Designing dementia and age friendly landscapes;
- Designing better work environments;

And on and on – in no place are people absent from place

Can you really ‘prove’ anything?

Yes, next…

Can you really ‘prove’ anything?

One of the most valuable tools available is preference testing.

It is simple – ask people how much they like different landscapes (real or using stimuli), have people rate them (quantitative) or interview them (qualitative), review for trends and themes, see what comes out on top

Has been widely studied since the 1960s/70s (era of major landscape change & growing social land ethic)

The results have been enlightening…

What do we ‘know’?

- People prefer nature; and landscapes with greater naturalness; less human intention
- That said, people like ‘orderly’ nature
- People prefer water (always)
- Preferences are consistent across vastly different socio-economic variables (age, income, background etc.)
- Divergence primarily driven by culture (big C culture) and use motives.

Sideline - Why? Two camps.

Biological / Evolutionary Origin

- Biophilia Theory (Wilson) – intrinsic link between humans and living systems
- Prospect-Refuge (Appleton) – see, but unseen; visibility and safety, savanna hypothesis
- Information Processing Theory (Kaplan) – innate (hardwired) cognitive choices to lead you away from inappropriate environments and towards desirable ones

*positive aesthetic theory – appreciation is outside of the viewer, triggers biologically pre-ordained responses

Sideline - Why? Two camps.

Social Constructivist

- Experience of landscape – preference driven by interaction of observer with landscape
- Eye of the beholder
- Shaped by knowledge, experience, social norms etc.
- Symbolic environments created by human acts of applying meaning

*subjective aesthetic theory – appreciation is based on the individual as a lens and a meaning maker

So – what's the answer Mike?

Fence sitter.

I believe we have inherent preferences for certain landscape elements, proportions and orders etc.

However the importance of people as meaning makers cannot be discounted.

Tacit knowledge – innate knowledge (not explicit/codified), shapes perception of place

Ex. 'safe' urban place - inherent response but viewer specific

So?

Wrap it all together and you start to see a clear picture of design theory and best practices which will create landscapes and places that are highly preferred by a wide segment of the population.

You can also look at what places are commonly accepted as good or even great places and deconstruct why. Often ‘good places’ have what is called a strong ‘sense of place’.

Sense of Place

Places said to have a strong "sense of place" have a strong **identity and character** that is deeply felt by local inhabitants and by many visitors.

Those characteristics that make a place special or unique, as well as to those that **foster a sense of authentic human attachment** and belonging.

Sense of place is **a social phenomenon** that exists **independently of any** one individual's perceptions or experiences, yet is dependent on human engagement for its existence.

Sense of Place

Placelessness…?

My Thesis Research

Designing Naturalized Parks

Naturalized parks: defined by the presence of natural elements and limited visibility of human intention or purposeful design.

- Can be differentiated from more formal parks by the public
- Have a stronger association with important values including ‘sense of naturalness’, ‘freedom’, ‘socialize’ and ‘beneficial to wildlife’
- Are important for health as restorative landscapes
- Despite importance/value, little is understood as how to optimize the design of naturalized parks

Research Goal

To determine best practices in naturalized park design.

How

- Three subject groups (use motives) – environmental, civic, accessible.
- Identified 4 design paradigms: natural state, visible stewardship, people places and physical accessibility
- Using a computer, modeled three landscape types common to naturalized parks- trail, water, open area
- Created landscapes that implemented each design paradigm across the consistent background
- Asked subjects to rate preference, naturalness, likelihood to use and perceived accessibility (the what); held in-depth interview (the why)

Literature Review

Overview of the fields of planning, urban design, landscape architecture, leisure and recreation studies, aesthetics and environmental psychology

Preference

- Natural preferred / Human-made less preferred
- Landscape elements are important
- Subject variability based on use and value orientation

Naturalness

- Increased naturalness increases preference
- Indications of relationship between perceived naturalness and ecological health

Literature Review

Use

- Non-use of parks important to guard against
- Subject preference differs based on use and value orientation
- Relates to Gibson's affordances

Accessibility

- Impacts of accessible design on a park/natural landscape not well studied
- Some indication of convergence in path preference
- Mullick (1993) significant starting point – 5 questions

Preference
4.60-3.27

Research Findings - Preference

- Landscapes with least perceived human intention most preferred.
- Contextual fit of elements important. Benches, fences, and lights less preferred vs.. interventions using natural elements (rock)
- Landscapes perceived as Interesting and exciting highly preferred – focal points and mystery – winding vs. straight path
- Landscapes perceived as more private were preferred – wider paths more chance to see other users, incompatible users
- Open areas with poor microclimate less preferred

Naturalness
5.00-2.67

Accessibility
4.67-2.80

Research Findings - Accessibility

- Path availability, type and form was most critical element in judgment of accessibility
- Provision of a place to rest was important

- Interesting cognitive elements – such as the fence. More 'controlled' environment – feels more safe and secure and therefore accessible
- Confidence in unknown territory ahead
- Rocks for resting and fences for leaning

Use
4.13-3.27

Research Findings - Use

- Participants sought balance between naturalness and accessibility, preference and practicality

- Consensus possible

Environmental subject liked accessible landscapes - support use with her young kids. Value of access to allow exposure to nature for kids was driving balance.

*IMPORTANT – sometimes people don't even know their own use motives until they explore them – don't assume!

Research Findings - Preference

Research Question #3 – Best Design Paradigm?

- This research demonstrated that no single design paradigm was ‘best’
- Some elements of each were identified as being important

  Natural

  Accessible

  Exciting/Interesting

  Maintained/Safe

Research Findings

- ‘upper end’ ratings indicate broad preference for naturalized parks; archetype among users
- ‘fitting balance’ is important, people/nature
- greater consensus across groups than expected
- interesting new results – cognitive accessibility; fit of fence in naturalized parks/barrier – assessments of fit were very detailed/naturalized specific;
- visualizations are a good tool for this type of research
- further work on accessibility in natural parks is important given visual landscape implications, but important social value

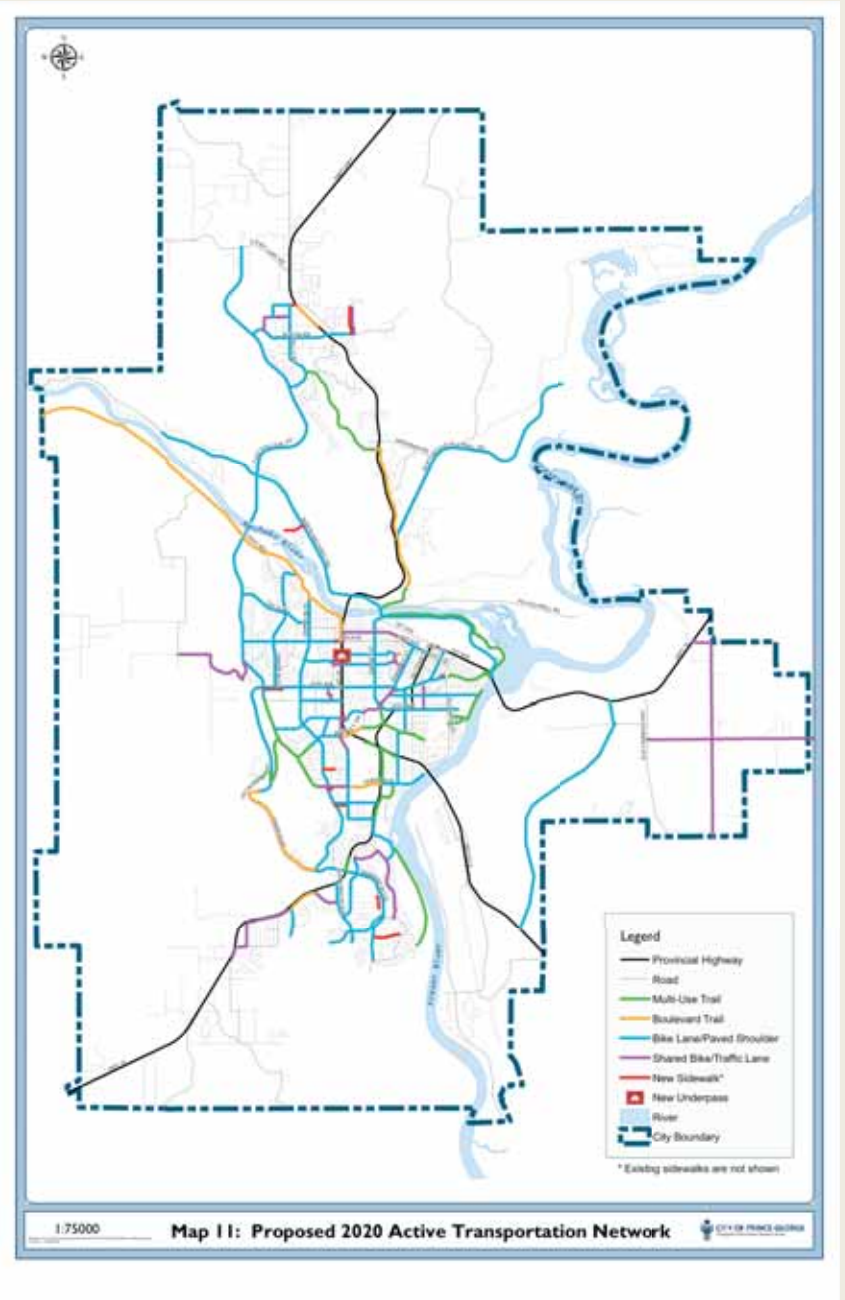
Research Findings - Accessibility

- ‘standard accessibility’ reduced preference and perceived naturalness
- ‘appropriate’ accessibility was important to support use
- moderate accessibility generally enough

Theory to Practice

Big Picture

- Not every place can be ‘special’ (sense of place), but strive to improve everyday places and connect special places;
- Use natural areas as the backbone for active transportation networks (preferred, high use, passive health benefits);
- Support network nodes at points of interest;



To Do List…

Avoid straight paths. Straight paths are perceived as having a low level of naturalness. Winding paths support naturalness, ‘mystery’ and excitement;

To Do List…

Always co-locate with water. People innately like water and want to spend time near it (view, sound, microclimate).

To Do List…

Consider using appropriate fencing – supports ‘order’, creates feeling of safety (enclosure) and comfort in ‘next’ landscape

To Do List…

Design to achieve contextual fit;

To Do List…

Avoid visual clutter. Reduces accessibility, especially among those with cognitive or visual impairment;

To Do List…

Where intervention is required limit the scale of that intervention to the minimum required to achieve the required goals. Always consider ‘fit’;

X

To Do List…

Use diverging paths to generate interest and excitement;

To Do List…

Use focal points to create landmarks, visual interest and support wayfinding;

To Do List…

Use gateways and path definition to generate visual interest, support user comfort and support wayfinding;

To Do List…

Use subtle maintenance clues to demonstrate ‘care’ and purposefulness, without lowering naturalness;

To Do List…

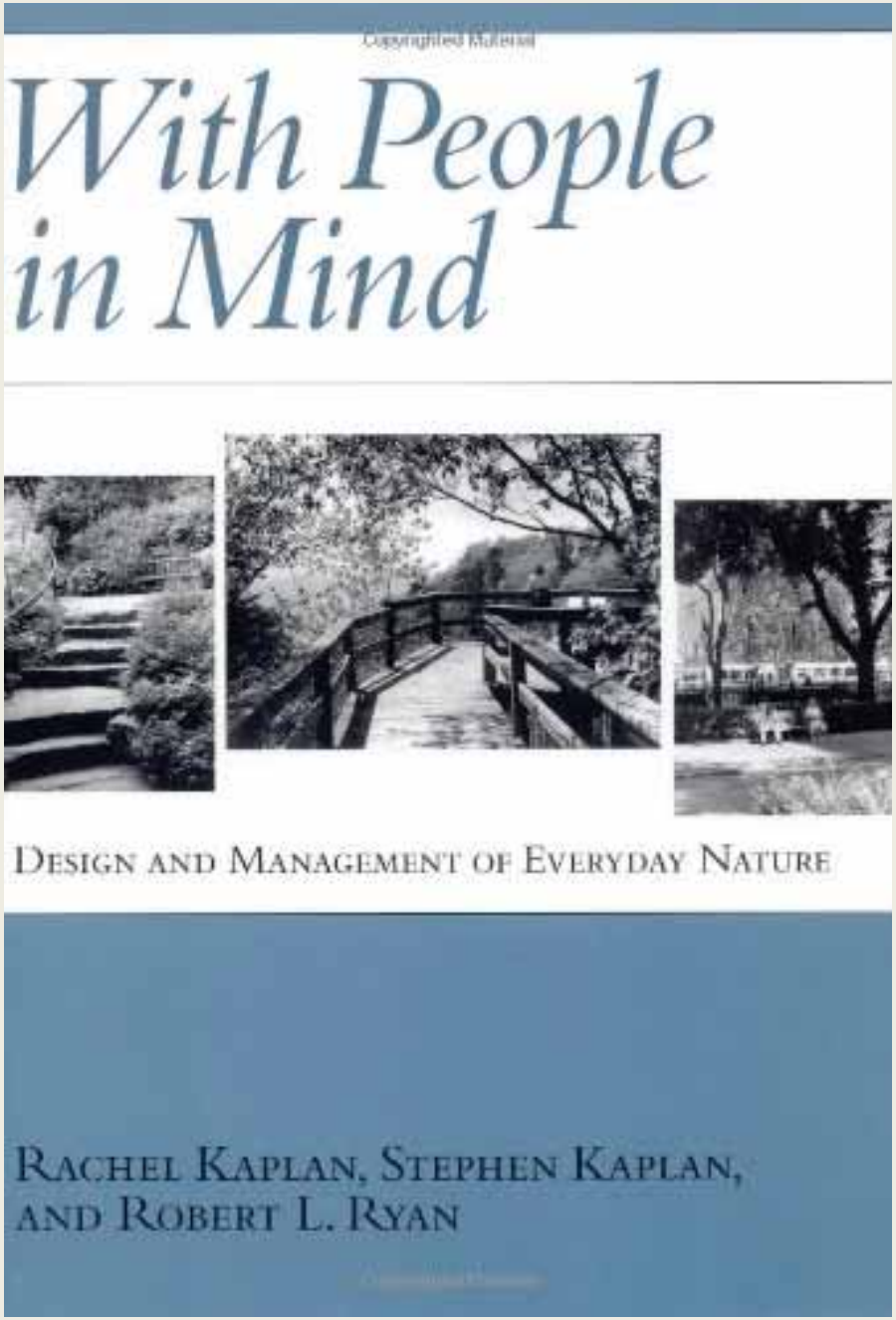
Create a sense of enclosure to support feelings of safety, privacy and microclimate;

To Do List…

Engage areas with mystery or character; (winding path, ‘off the beaten path’)

Fruits of Labour…

High Line, NYC

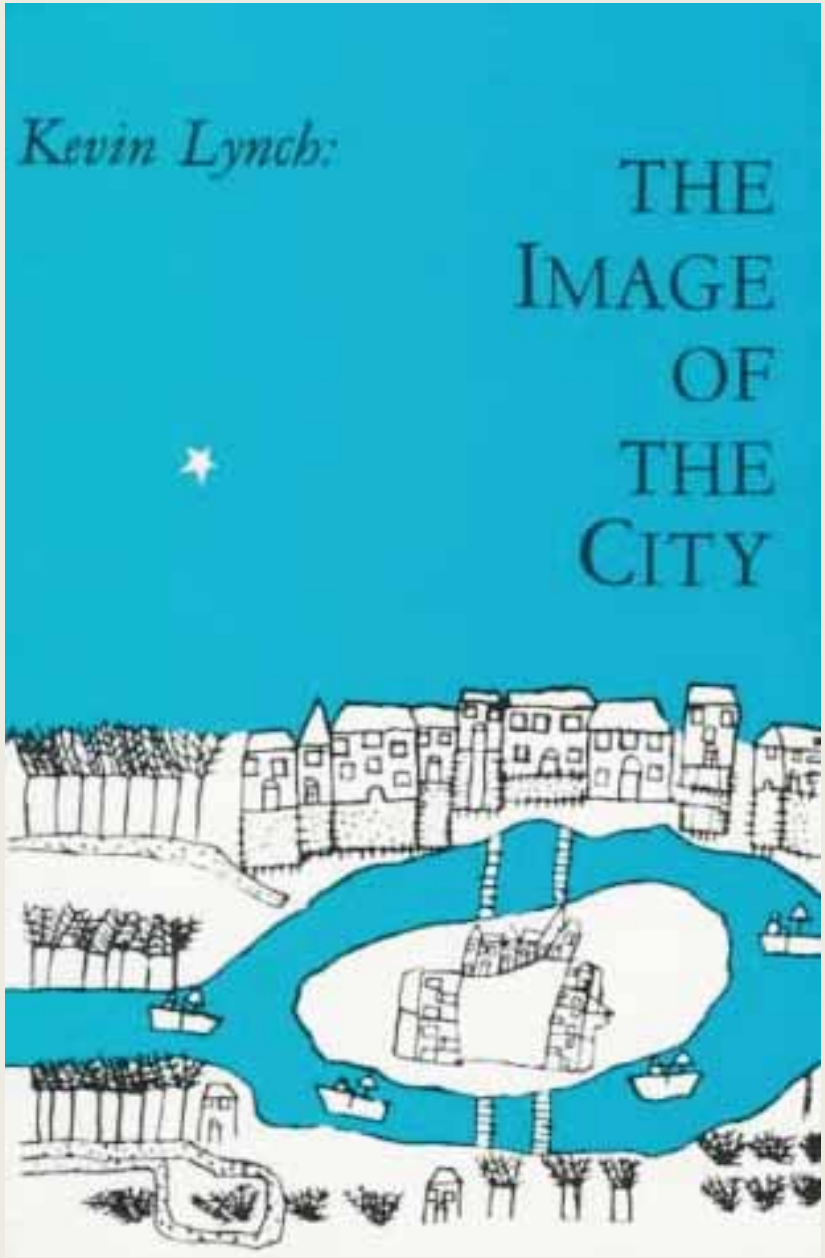


Resources

With People in Mind: Design And Management Of Everyday Nature

Kaplan, Kaplan, Ryan 1998

One stop shop, full of practical and implementable ideas



Resources

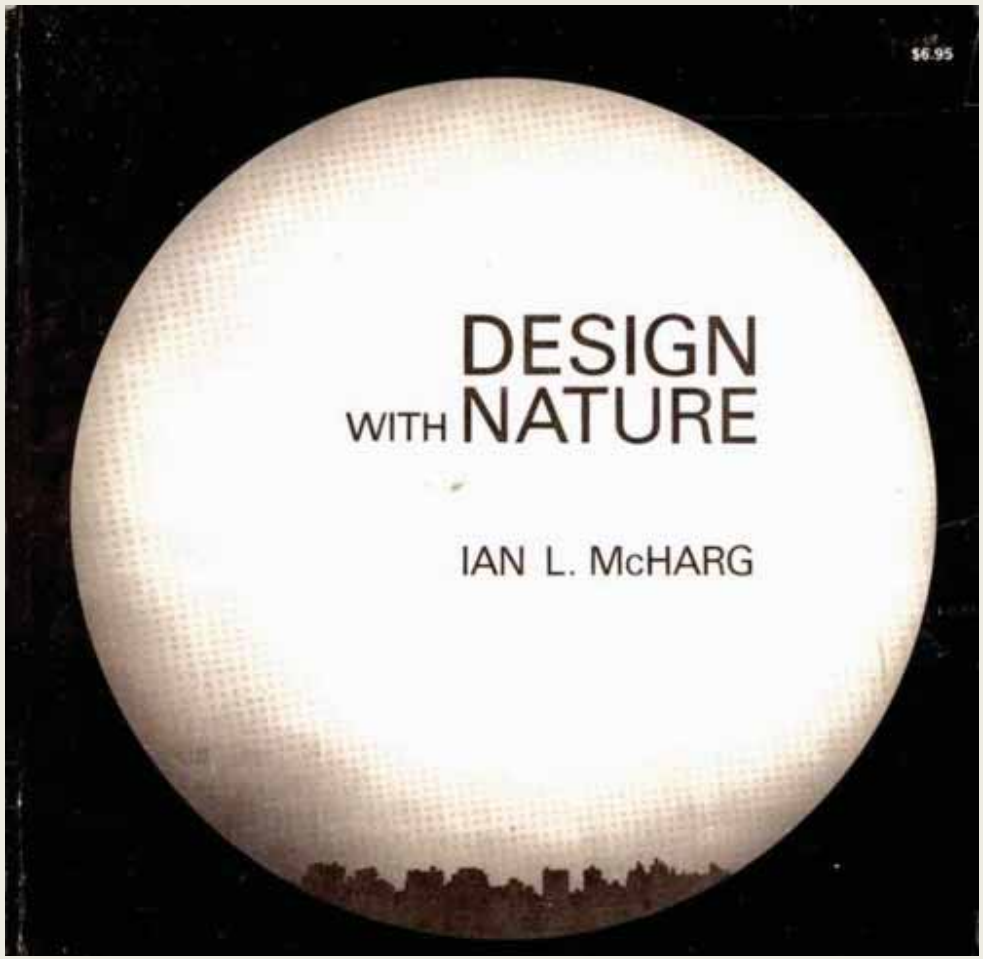
The Image of the City

Lynch 1960

How people make sense of place. Short and easy. You will never look at the urban landscape the same way again.

(He was a planner too)

Resources

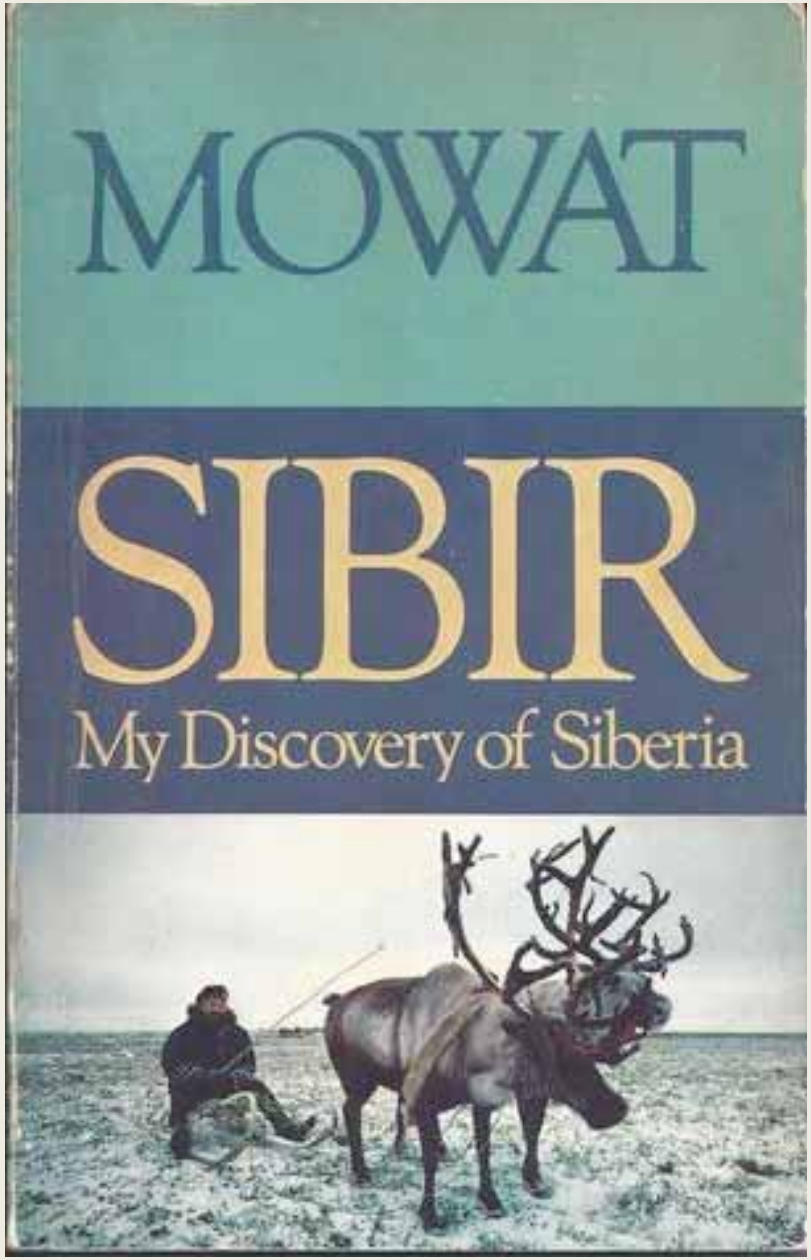


Design with Nature

McHarg 1969

The Godfather of ecological planning.

(People movement is an ecological system too!)

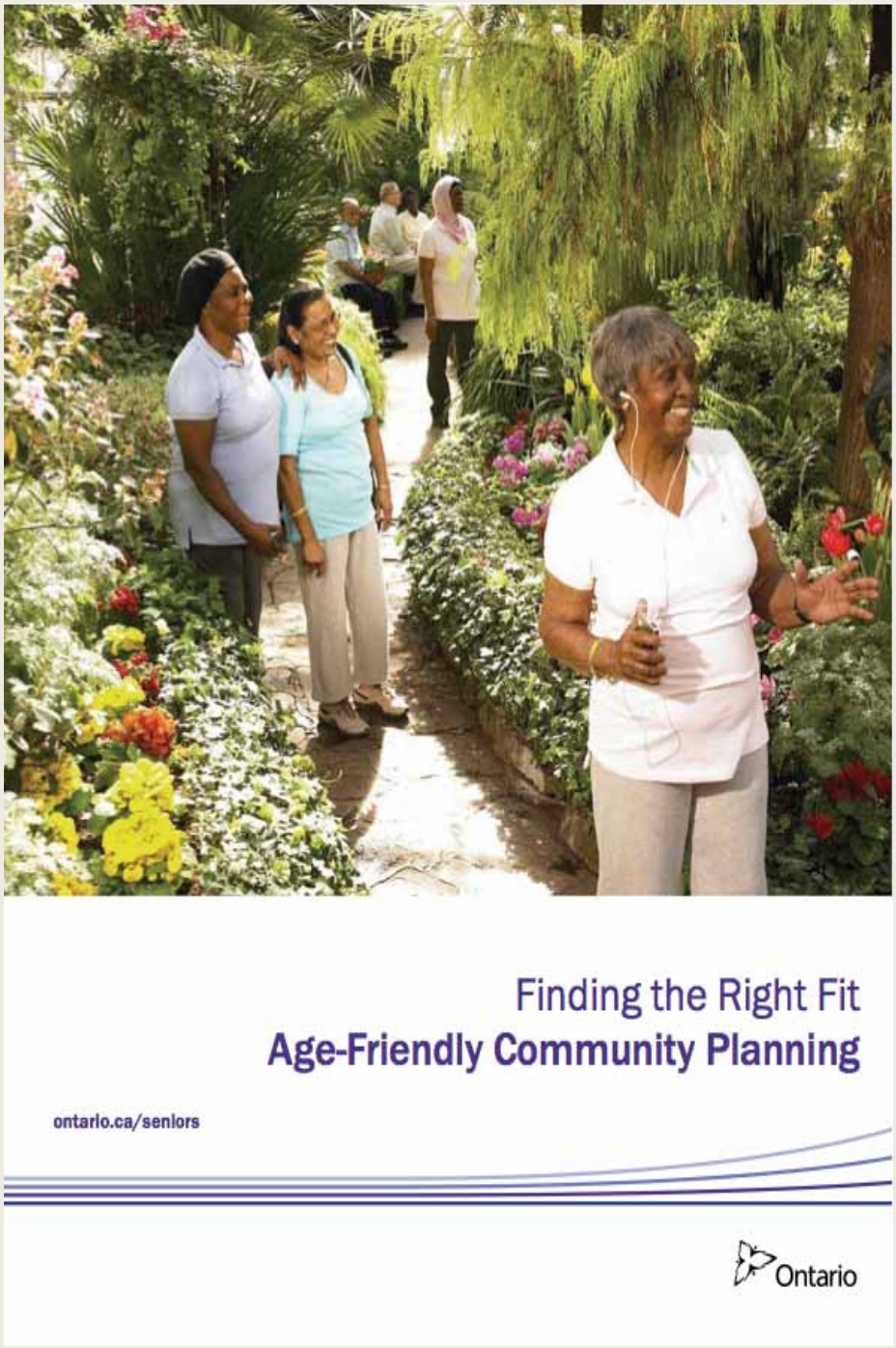


Resources

Sibir: My Discovery of Siberia

Mowat 1973

A great introduction to Mowat and a fascinating journey through 1960s USSR exploring the relationship between people and place. 'Place-based' living



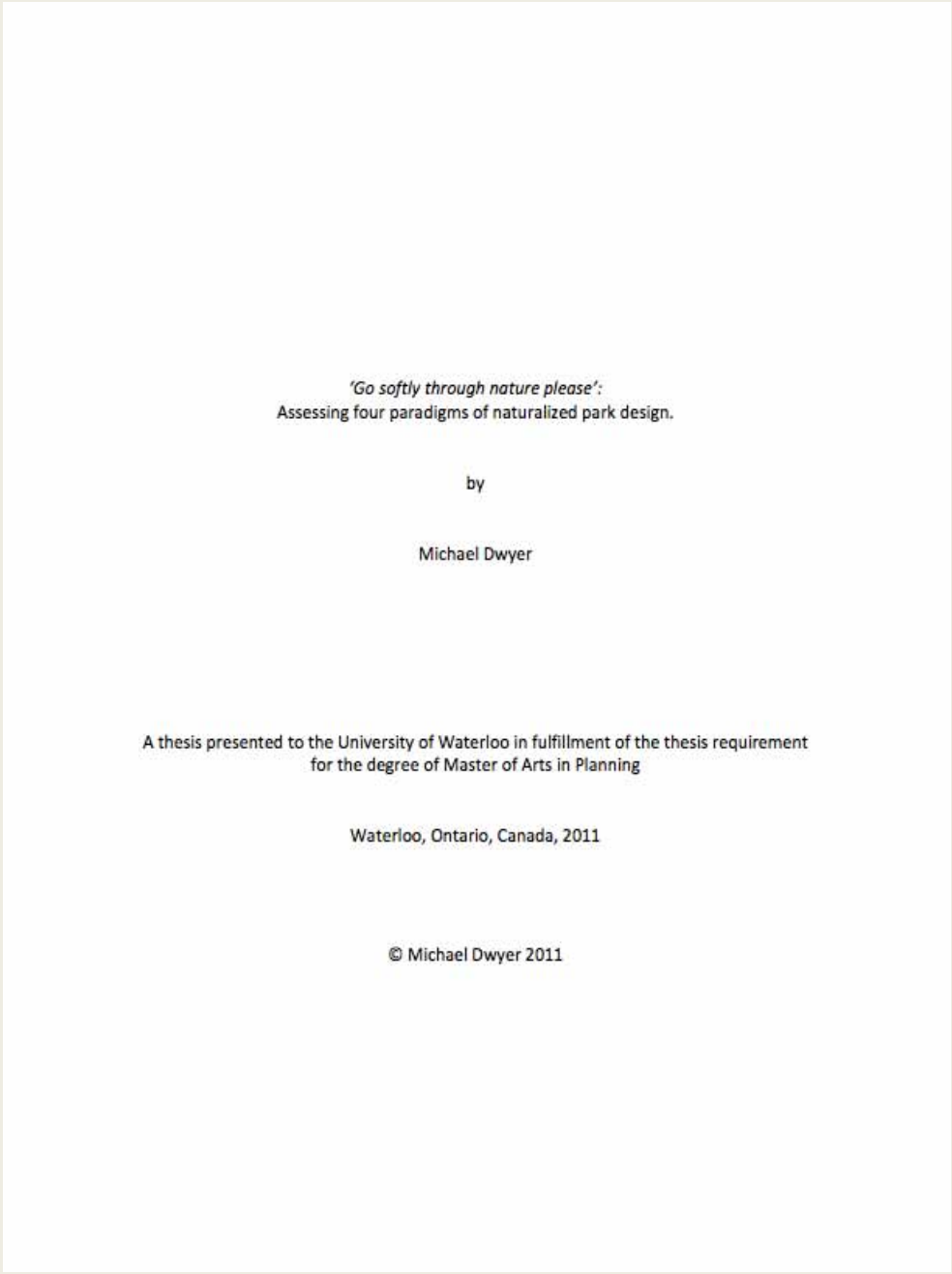
Resources

Finding the Right Fit: Age-Friendly Community Planning

The Ontario Seniors' Secretariat (OSS) 2013

How to plan in, with and for an aging society.

(Free!)



'Go softly through nature please':
Assessing four paradigms of naturalized park design.

by

Michael Dwyer

A thesis presented to the University of Waterloo in fulfillment of the thesis requirement for the degree of Master of Arts in Planning

Waterloo, Ontario, Canada, 2011

Resources

'Go softly through nature please': Assessing four paradigms of naturalized park design.

Michael Dwyer 2011

Available through UWaterloo online

(Free!)

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Thanks

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