ECOLOGICAL PARADIGMS AND CULTURAL LANDSCAPE CONSERVATION

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Heritage Conservation Values

- Alois Riegl, Art Historian

- The Modern Cult of Monuments (1903)
  - Reaction to increased subjectivity in art history
  - Started conversation
  - Absorbed by built environment conservationists as philosophically-based interpretation of the existence of the phenomenon of heritage care

- Defined categories of values (as applied to buildings):
  - Commemorative value
  - Historic value
  - Artistic value
  - Age value
  - Newness (contemporary) value
  - Use value
  - Aesthetics without judgment
  - Focus on individual component
  - No reference to ecology having an influence on built environment

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Cultural Landscape: Artifact?
Two Cultures Construct: Nature/Culture Dualism

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### Heritage Conservation Documents

<table>
<thead>
<tr>
<th>Document</th>
<th>Date</th>
<th>Terms/Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athens Charter</td>
<td>1931</td>
<td>monuments, sites/historic, aesthetic, scientific, artistic</td>
</tr>
<tr>
<td>Impacts of War</td>
<td>1954</td>
<td>Property of great importance, moveable/immoveable property, architecture, art, archeological sites, books, manuscripts, collections/historic, aesthetic, scientific, artistic</td>
</tr>
<tr>
<td>Beauty/Character of Landscapes and Sites</td>
<td>1962</td>
<td>Beauty, character, cultural, heritage/aesthetic (natural or man-made), cultural, moral and spiritual regeneration, economic, social</td>
</tr>
<tr>
<td>Venice Charter</td>
<td>1964</td>
<td>Historic monument, site, setting/ authenticity (materials/documentation)</td>
</tr>
<tr>
<td>World Cultural and Natural Heritage</td>
<td>1972</td>
<td>cultural heritage (monuments, groups of buildings, sites), natural heritage (physical/biological, geological/physiographical, natural sites/natural beauty)/historic, aesthetics, ethnological, anthropological, scientific, conservation</td>
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<tr>
<td>Role of Historic Areas</td>
<td>1976</td>
<td>Groups of buildings (incl. vernacular), structures, open spaces, urban and rural environments/archaeological, architectural, prehistoric, historic, aesthetic or socio-cultural</td>
</tr>
<tr>
<td>Burra Charter</td>
<td>1979</td>
<td>place, cultural significance, inter-generational equity, fabric/multiple co-existent values (historic, aesthetic, scientific, artistic, social or spiritual for past, present, future generations)</td>
</tr>
<tr>
<td>Florence Charter</td>
<td>1982</td>
<td>historic garden, historic site, architectural and horticultural composition/historic, artistic</td>
</tr>
<tr>
<td>Operational Guidelines</td>
<td>1992</td>
<td>Cultural landscape, defined landscape, organically evolved landscape [relict (fossil) landscape, continuing landscape], associative landscape/outstanding universal value</td>
</tr>
</tbody>
</table>

1985 - Biotic Cultural Resources by Ian J.W. Firth  
(collaborative work by ecologist and landscape architect focusing on history)
UNESCO Cultural Landscapes

• 1992 definition: cultural landscapes are the combined products of the interaction of people and nature

• **Clearly Defined Landscape**
  designed and created intentionally by a single person or a group. This embraces garden and parkland landscapes constructed for aesthetic reasons which are often (but not always) associated with religious or other monumental buildings and ensembles.
Organically evolved landscape - developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. The evolved landscape can be continuing to evolve as a living place or the evolutionary process has ceased and the landscape is in remnant form.

Relict Landscape or fossil landscape where the evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form.

Continuing Landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.

UNESCO Cultural Landscapes
• **Associative Cultural Landscape** - linked to cultural traditions. The inclusion of such landscapes on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent. The associative cultural landscape is the physical place where intangible aspects of cultural heritage are embodied.
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<tr>
<td>Nara Document</td>
<td>1994</td>
<td>Authenticity (qualifying tool of values), information sources/cultural diversity, heritage diversity, tangible and intangible resources, use and tradition</td>
</tr>
<tr>
<td>Declaration of San Antonio</td>
<td>1996</td>
<td>Cultural integrity, dynamic and static sites, use and function/continuing involvement of communities</td>
</tr>
<tr>
<td>Built Vernacular Heritage Document</td>
<td>2000</td>
<td>Vernacular heritage, traditional built systems/support of the community, continuing use, maintenance, intergeneration transmission of traditional knowledge</td>
</tr>
<tr>
<td>Ferrara - CL conservation</td>
<td>2003</td>
<td>Agricultural change, tourism pressure/partnerships, traditional knowledge, indigenous practices, intangible and spiritual values</td>
</tr>
<tr>
<td>Natchitoches Declaration</td>
<td>2004</td>
<td>Biodiversity, cultural diversity/interdisciplinary approach, community-based processes in planning/mgmt. of CL, traditional practices, living traditions</td>
</tr>
<tr>
<td>Historic Urban Landscape</td>
<td>2011</td>
<td>Historic Urban Landscape, sustainable development, HUL approach, HUL Toolkit/social, cultural, economic processes in the conservation of urban values, layering of values (cultural and natural), memory, cultural diversity, heritage diversity, creativity</td>
</tr>
<tr>
<td>CL Preservation Challenges in the 21st century</td>
<td>2013</td>
<td>Cultural landscape approach/CL concept adaptable (settings, scales, contexts)</td>
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</table>
Ecological thought evolution . . . . .
Classic Model of Ecological Succession

The climax community is assumed to be:

- stable
- in equilibrium
- self-perpetuating

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Contemporary succession thinking

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Sub-fields of Ecology

- Community Ecology — 1890s
- Population Ecology — 1920s
- Evolutionary Ecology — 1930s
- Systems Ecology — 1950s
- Landscape Ecology — 1980s
- Historical Ecology — 1980s
- Restoration Ecology - 1990s

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Figure 2.21  Energy flow through grazing and detritus food chains. Most energy fixed by producers flows through decomposers, particularly in terrestrial systems.
Landscape Ecology

- **Patch**
- **Corridor**
  - (forest, savannah, wetland, and prairie communities = patches or corridors within agriculture mosaic)
- **Matrix**
- **Mosaic = agriculture**
Historical Ecology
(Using Ecology to “Read” the History of a Landscape)

Ecological Communities

• Composition – what species are present.
• Structure – sizes and proportions of species relative to one another.
• Distribution – arrangement of species on the land

Ecological Processes

• Disturbance – evidence of events that “reset” the succession.
• Succession – more or less orderly sequence of ecological communities.
• Climax – equilibrium state
Restoration Ecology

Restoration Ecology (conceptual/philosophical theories)
suite of scientific practices of an emerging subdiscipline

Ecological Restoration (applied)
ensemble of practices that constitute entire field of restoration
(restoration ecology, human and natural sciences, politics,
technologies, economic factors, cultural dimensions)

. . . begrudging humility to recognize humans choose the starting point, and a hopeful end point of ecological restoration . . .
Ecosystem Reference Concepts

- An ecosystem “reference condition” represents some target, benchmark, standard, model or template from which or to which another ecosystem can be compared.

- Highly variable number and character (resolution, accuracy, precision) of parameters can be chosen.

- Qualitative, quantitative, biotic, abiotic, cultural?
Transdisciplinary Ecological and Cultural Restoration

Figure 1. Major auto- and cross-estastic cycles and feedback loops in the emerging information society of our THIE (Grossmann & Naveh 2000).

Figure 2. The evolutionary and historical relations between nature, humans, landscapes, and culture as determined by human land uses.

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CURRENT AND FUTURE DIRECTIONS

- Resilience Thinking
- Adaptive Management
- People, Governance, Scale
- Goals: social responsibility, ecological integrity, historical reliability

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Concepts:

1. We all live and operate in social systems that are inextricably linked with the ecological systems in which they are embedded.

2. Social-ecological systems are complex adaptive systems. They have the potential to exist in more than one kind of regime (alternate stable states).

3. Resilience is the capacity of a system to absorb disturbance; to undergo change and still retain essentially the same structure, function and feedbacks.
Key points of resilience thinking . . .

- Though social-ecological systems are affected by many variables, they are usually driven by only a handful of key controlling and often slow-moving variables.

- Along each of these key variables are thresholds; if the system moves beyond a threshold it behaves in a different way, often with undesirable and unforeseen surprises.

- Once a threshold has been crossed it is usually difficult and in some cases impossible to cross back.

- A system’s resilience can be measured by its distance from these thresholds. The closer you are to a threshold, the less it takes to be pushed over.

- Sustainability is all about knowing if and where thresholds exist and having the capacity to manage the system in relation to these thresholds.
How can we understand the trajectory of the system?

- Know the drivers that cause the system to cross thresholds between alternate regimes.
- Know where the thresholds might lie.
- Enhance aspects of the system that enable it to maintain its resilience.
  - Move the threshold
  - Move the current state of the system away from a threshold
  - Make the threshold more difficult to reach
Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs.

Its most effective form – “ACTIVE” adaptive management – employs management programs that are designed to experimentally compare selected policies or practices by evaluating alternative hypotheses about the system being managed.
The central tenet of adaptive management involves a continual learning process that cannot conveniently be separated into functions such as research and ongoing regulatory activities and probably never converges to a state of blissful equilibrium involving full knowledge and optimum productivity.
Adaptive Management Basic Assumptions

- Knowledge will never be adequate to completely understand any ecosystem;
- Many of the questions managers ask can only be answered by experience and experiment;
- Knowledge does not accumulate, it gets discarded;
- Analyses get simplified;
- Nothing is certain;
- Much of what we know about ecosystems is wrong, we just don’t know what.
Adaptive Management: differentiating characteristics

1. Acknowledgement of uncertainty about what policy or practice is “best” for the particular management issue;
2. Thoughtful selection of the policies of practices to be applied;
3. Careful implementation of a plan of action designed to reveal the critical knowledge that is currently lacking;
4. Monitoring of key response indicators;
5. Analysis of the management outcomes in consideration of the original objectives; and
6. Incorporation of the results into future decisions.

www.for.gov.bc.ca
Adaptive Management Quotes

- “Adaptive management is learning to manage by managing to learn...”
  Bormann, et al., 1994

- “Adaptive management embodies a simple imperative: policies are experiments; learn from them.”
  Kai Lee, 1993

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People, Governance, Scale

- Shared sense of place as foundation for a common vision,
- Integrating heritage and ecological conservation with other community goals,
- Entrepreneurial in capitalizing on current social trends to re-vitalize economies and guide change,
- Larger scale can be beneficial,
- Cooperation across sectors,
- Cooperative governance through partnership networks.

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Site Application

- Focus less on one-time repair and more on cyclical replacement and management
- Cocreative restoration - historic and ecologic?
- **Choosing** to restore natural and human relationships
- Good restoration means including local involvement as part of decision making to provide mixture of habitats and promotes biodiversity, wild nature and culturally meaningful landscapes.

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References

- ICOMOS International Scientific Committee on Cultural landscapes website (http://ip51.icomos.org/landscapes/)
- International Union for Conservation of Nature (IUCN) website (http://www.iucn.org/)

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