

Ecology, Social Science, and Cultural Landscapes

I. Sharpening our focus now

A. So far, I have been lecturing about...

1. Creation of knowledge
2. Environmental studies
3. Crossing disciplinary boundaries
4. Natural and social sciences in general

B. Now I want to sharpen the focus just a bit to cover...

1. How ecological and SS ideas have influenced each other
2. Focus #1: political ecology
 - a. What it is
 - b. How it exemplifies interdisciplinary ES
3. Focus #2: the study of cultural landscapes
 - a. What it is
 - b. How it exemplifies interdisciplinary ES

C. I will be trying to...

1. Illustrate my earlier generalities in ways that will be useful to some of you

2. Lay some groundwork for Robbins and Frederica's lecture on cultural landscapes

II. How ecological and social science ideas have influenced each other

A. Mutual influence

1. Ecology has increasingly turned to SS in recent years, but this is nothing new, as Worster showed. (**quote in slide from *Nature's Economy*, p. 37**)
2. SS has been inspired and aided by borrowing from ecology in many ways over the past century, as I will show.

B. What SS brings to ecology

1. Critical analysis of the scientific process and more diverse views
2. Scientific knowledge about society, in the broadest sense
(including cultural, political, economic & other aspects)
 - a. Structure
 - b. Function
 - c. Agency
 - d. Change over time and space
3. Scientific knowledge about human behavior at all scales

4. We are making progress beyond initially simplistic explanations of anthropogenic environmental change (*slides*)
 - a. Biological explanations (*e.g., concept of population exceeding carrying capacity*)
 - b. Failings of humanity (e.g, ignorance and greed)
- C. What ecology has brought to SS
1. Prior to Ecology, philosophers, theologians & social scientists had limited interest in the natural environment, asking “What is the influence of env. on people?”
 2. Two principal concerns in Western thought
 - a. Environmental design – place of humans within designed environment (*slide*)
 - b. Environmental influences on humans & cultures (*slide*)
 - c. First, this led to search for natural laws by which the environment determines social development, i.e., environmental determinism
 3. Deterministic ideas about human/env. relations have long prevailed and continue in the popular mind

- a. At least since the time of the ancient Greeks, many philosophers have thought that climate determined much about human civilization
- b. The Greek physician **Hippocrates** (*c. 400 B.C.*) wrote that the climate of Greece was most propitious for civilization (*slide*)
- c. Historian Arnold **Toynbee** (*1889-1975*) argued the reverse in his **challenge-response theory**, i.e., that civilization has arisen in response to climatic challenges (*slide*)
- d. Some determinists have identified topography as critical influence, e.g., **Montesquieu** (*18th c. French philosopher*) thought that rugged landscapes produce individualistic peoples of the sort that create democratic societies (*slide*)
- e. Leading determinists of the late 19th and early 20th centuries (*slide*)
 - i. Friedrich **Ratzel** (*German*)
 - ii. Ellen Churchill **Semple** (*American*)
 - iii. Ellsworth **Huntington** (*American*)

- f. Popular acceptance of determinism today
 - i. Jared Diamond (*slide*)
 - ii. Students of development and environment frequently offer single-factor hypotheses (*e.g., poverty of tropics vs. U.S.*)
 - iii. Tropical diseases, agricultural pests, poor soils, violent weather
 - iv. U. S. natural resources, fewer pests, good soils, etc.
 - v. Policy makers often jump to unwarranted conclusions about failure of development projects based on difficult environmental conditions
- g. Problems with determinism (*discuss*)
 - i. Unsubstantiated, overly simplistic and usually **single-factor explanations** (*which are never sufficient in environmental studies*)
 - ii. Has usually been **ethnocentric**, i.e., arguing the superiority of one's own culture over others
- h. Possibilism (*slide*)
 - i. 19th c. French geographers proposed theory of **possibilism** - i.e., that the environment establishes

broad limits to human actions, within which many alternatives are possible

ii. Accepted by most specialists today

4. Starting in late 18th and 19th c., anthropogenic environmental degradation became focus of scientific inquiry, i.e., “What is the influence of people on the environment?” (*slide*)

a. Impasse soon reached

i. Investigations were focused on relations between two separate conceptual entities (*slide*)

ii. Questions very unsophisticated, (*slide*) thus so are answers (*Q: “How far is culture influenced by environment? How far is environment influenced by humans? A: “To a degree but not completely.”*)

b. Ecology helped social science out of its impasse (*slide*)

i. Concept of **ecosystem** posits a **dialectical** relationship (*often leading to equilibrium*)

ii. Ecology is a holistic perspective, presenting a single framework for analysis

D. Some social science applications & extensions of biological ecology

1. **Human ecology**

- a. Started in geography
 - i. Term coined in 1907 by J.P. Goode, then-chair of Department of Geography at U. of Chicago
 - ii. His definition – “the geographic conditions of human culture” – paralleled how the “trailblazing” (Worster, ch. 10) geographers developed science of ecology in its infancy (late 19th c.) by studying geographic conditions of biological communities
- b. Eventually became today’s “natural hazards” branch of geography
 - i. Studies how organism (humans) adjusts to environment (hazards)
 - ii. Focuses on perceptions and decisions of individuals in hazard-prone environments
 - iii. Stays so close to biological orientation, it tends to ignore socio-economic factors

2. Cultural-historical ecology (*slides*)

- a. Developed by Carl Sauer and others in the “Berkeley School” of cultural geography, starting in the 1920s

- b. Description and explanation of landscape features relying mostly on human and natural history, with emphasis on culturally-specific land use patterns
 - c. At first, rejected adoption of ecology from biology
 - i. Culture deemed uniquely human attribute and human treatment of env. is expression of culture (*unlike all other animals*)
 - ii. But central focus is human modification of nature, so it uses and extends biological findings in order to discover what is anthropogenic (*e.g., savannas*)
 - iii. Also shares ethical concern of organismic ecology for conservation of natural resources and rural landscapes
 - iv. In fact, it is weakest in social analysis, not ecological.
3. **Cultural ecology** (*slides*)
- a. Started in anthropology by Julian Steward in 1940s
 - b. Sees human cultural forms as adaptive responses to resource needs (*for subsistence*)
 - c. Compares cultural forms of different peoples in similar environments, searching for common patterns of adaptation and equilibrium.

- d. Criticized for assumption that subsistence is principal influence on cultural forms
- e. Also has tendency to be deterministic

4. Human systems ecology (*slides*)

- a. Developed by anthropologist John Bennett in late 1970s but has no current practitioners
- b. Bennett called for a normative cultural ecology, using action-oriented research to solve environmental and associated social crises.
- c. Blends ecology with understanding of social institutions (*as in PEEP*), as well as other interests of cultural ecology
- d. Says anthropology's attention to traditional cultures in ecological equilibrium completely out of balance with modern condition of disequilibrium
- e. **Ecological transition** – natural systems have become absorbed into human systems
- f. Focus on systems (*natural and social*) leads to solutions that require structural change.
- g. Bennett says democracy is an obstacle

5. **Political ecology** a relatively recent approach

- a. I will provide a broad, very simplified overview of political ecology as more recent example of SS + ecology; one which is particularly suited to our objectives in PEEP.
- b. This leaves most of the rich details about the theoretical and methodological tools of PE, along with analysis of its strengths and weaknesses to our seminar discussion.

III. Political Ecology

- A. PE is an exploding young field that may, at first, appear incoherent, due to a variety of uses of the term (*slide w/ Blaikie's statement about why p.e. is like the wheel*)
 1. Pedagogical methodology (*slide*)
 - a. In MES (Murphy, Perkins & Rainey, 1992)
 - b. In TESC undergraduate programs since year one (1971-2)
 2. Historiographical methodology (*slide of Perkins 1997*)
 3. Use by scholars studying social movements, including environmental activism and green politics

- B. Transdisciplinary study of anthropogenic env. change, with emphasis on the integration of biophysical sciences, political economy + historical and cultural studies, broadly speaking
- C. Systems approach, with ecosystem and social systems understood as interactive
- D. Recognizes that degradation can be socially functional while being ecological maladaptive.
- E. Combines many scales of analysis
 - 1. Social: individual, household, etc. to national & global
 - 2. Ecological: micro-habitat to biotic regions (*avoids global because it is context sensitive*)
 - 3. Temporal: medium- to long-term necessary to encompass history of human-environment interactions
- Normative research, i.e., a search for policy options to achieve conservation with social justice
 - 1. Conservation biology postulates that biodiversity is good
 - 2. Political Ecology postulates that social justice is good, referring to the distribution of power and well-being
- G. Ample research framework and agenda, as illustrated in Robbins (*series of slides*)

1. Multiple methodological approaches
 2. Rich theoretical guidance for choosing research questions and methods, and interpreting results
 3. Contextualized explanation, grounded in field studies and observations
 4. Normative approach much needed at this historical juncture
- H. Overview of common, empirical methods in PE
1. Objective is to explain environmental change (*first, conceived as “degradation,” though Robbins suggests “production”*) (*slide*)
 2. Significant redefinition of environmental problems as social problems first and foremost
 3. Typically, inductive, starting with fieldwork (*“where the hoe meets the earth”*) and proceeding to theory and (sometimes) policy (*slide*)
 4. Now, as Robbins demonstrates, it has become both inductive and deductive, due to increasing theoretical clarity and coherence (**see Robbins, pp. 206-7 for summary**).
 5. Playing with Kites and Legos of explanation
 - a. Blaikie’s chain of explanation & lego story (*slides*)
 - b. Campbell & Olson’s Kite (*slide*)

- i Intended to provide an analytical structure to unify the many "factors" (*as Blaikie and Brookfield call them*) that must be considered in political ecology and to clarify the relations between factors, at different levels of analysis, on different time scales, and over space.
- ii A device for managing the virtually limitless variables taken into consideration by political ecology:
 - "1. *Categorization Phase*: What elements within each point of the Kite can be identified as affecting the issue under study?
 - "2. *Process Phase*: What connections exist between the elements identified above? What processes do these connections reflect? How do the factors of Scale, Space, Power and Time influence the interpretation of those connections and processes?" (*C & O, p. 25*)
- iii They stress the role of power, which, in later versions became the tail on the kite (*David's Thailand story*).

6. “The political ecology of...” often meant “a political economic critique of...” [Pol. Econ. being the study of underlying political and economic structures]. This meant three things (*slides*)
 - a. Social contestation, access and power - Seeing society as a set of institutions, groups and individuals with different, often competing interests
 - b. Distribution - Asking who benefits and who loses from a given environmental or land use policy
 - c. Values - Recognizing that most environmental issues require us to make moral and political choices between competing interests
- I. Post-structural PE began in 1990s, including attention to...
 1. Discourse about the environment by different social groups
 2. Struggles over symbolic representations of nature and the role of different social groups in nature
 3. Postcolonial representations of the identities, cultures, and environments of formerly colonized regions of the world
 4. Local-level advocacy beyond class struggle, centered around gender, race, culture, & different varieties of environmentalism
 5. Critical analysis of development discourse

J. Several troubling tendencies in the field, currently being debated

(slides)

1. While it has always included practitioners with strengths in biophysical as well as social sciences, this may become increasingly marginal within PE as whole. That would significantly diminish its contributions to ES.
2. The hatchet is more prevalent than the seed.
 - a. There are institutional and cultural barriers within academia that cause most PE scholarship to be simply in-house.
 - b. Geographers like Simon Batterbury and Peter Walker are calling for an “engaged political ecology” that effectively brings our work to policy makers and the public.
3. Field research ignored wealthy countries, which are largest consumers and polluters in world. This is now changing, slowly.
4. Openly anthropocentric, with human rights ranked well above non-human rights. This is unlikely to change in the foreseeable future.

K. Significance of political ecology for us *(slides)*

1. Provides a wealth of lessons and models for conducting transdisciplinary work to address social and environmental problems, using tools from both social and biophysical sciences
2. Demonstrates the good news that environmental and social problems are almost always caused by social factors, rather than laws of nature.
3. Teaches us that, as Robbins argues, "... apolitical ecology is ultimately impossible" (p. 49)

IV. Cultural Landscapes – a much older field, newly enriched by increasing interdisciplinarity

A. Cultural landscape analysis in general

1. We can study the physical features of the earth's surface to understand what people have done with pieces of the planet (*backyards, cities, hunting grounds, agricultural fields, etc.*)
2. We study **cultural landscapes** as areas where human modification is evident.
3. Alternatively, we can assume human influence everywhere and study **landscapes**, with culture assumed to represent an

important set of causal variables, to explain the landscape anywhere to some degree.

4. This is part of the range of viewpoints described in *Landscape Interfaces* (used in PEEP last year), which is strongly focused on European approaches to landscape analysis & conservation
(slide)
5. Michael Jones, in that book (p.39), shows how the concept developed over 100 years, “from definitions that distinguish between natural and cultural landscapes as means of attempting to separate the roles of natural forces and human agency in landscape change, to a conflation between landscape and cultural landscape in which both are seen [as] expressions of a complex interaction between human ideas, social structures and the physical features of the human environment, in which natural forces and human agency are inextricably entwined.”

B. “Berkeley School” of Cultural Geography

1. Foundations laid by 19th c. German geographer Friedrich Ratzel developed by Carl Sauer into 20th c. “Berkeley School” of Cultural Geography. *(slide)*

2. Rich literature developed through the 20th c. following & developing this tradition

C. “New Cultural Geography”

1. Developed from critiques of the Berkeley School
2. Culture a black box (e.g., Peter Jackson’s *Maps of Meaning*, 1989)
3. Social justice ignored (e.g., Don Mitchell’s “Cultural landscapes: just landscapes or landscapes of justice?” *Progress in Human Geography* 27, 6 [2003] 787–796.)

D. Looking at landscapes

1. Understanding of biophysical environment and society essential
2. As Jones points out (p. 32), cultural landscapes have both physical and cognitive dimensions.
3. Taxonomies a useful step
 - a. Poorly defined but helpful nonetheless (all science simplifies complex world through classification, e.g., species, regions, etc.)
 - b. Examples of landscape classifications
 - i. **Landscapes of production**
 - Agricultural landscapes

- Logging landscapes
- Mining landscapes
- Industrial landscapes

ii. **Landscapes of consumption**

- Tourism landscapes
- Preservation landscapes
- Resort landscapes
- Retail landscapes (i.e., malls)

iii. **Symbolic landscapes** – powerful representations of cultural and ideological values and stories

- Disneyland's Main Street
- Marlboro Country billboards
- Class suggestions of other symbolic landscapes
- *PowerPoint pictures of PNW*

4. Interpretation combined with empirical observation. For example, think about varying interpretations of the Bonneville Dam/Celilo Falls landscape [*PowerPoint slides 6 - 8*]
5. Real landscapes are complex but contain a wealth of information [*PowerPoint Picture of Hanford Reach, slide 9*]

VI. Cultural Landscape Photos on Web

A. The Great Mirror (<http://www.greatmirror.com/>)

B. The Geo-Images Project

(<http://geoimages.berkeley.edu/GeoImages.html>)

C. Google Earth