

Political Ecology and Bioregionalism: New Directions for Geography and Resource-Use Management

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- 지리학과 자원이용관리를 위한 새로운 방향 -

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Abstract : This paper provides an overview of political ecology, a body of theory that focuses on the links between political and economic inequality on the one hand, and environmental degradation on the other. Adopting a tripartite classification scheme that identifies three political ecology traditions - "classical", "democratic" and "poststructuralist" - the discussion shows the need for a move within the poststructuralist tradition away from a narrow and quasi-idealistic focus on discourse to a more robust philosophical engagement with ontological and epistemological issues grounded in Gilles Deleuze's development of Nietzschean materialism. From there, the author draws on numerous examples from Canada, and surveys the available literature on "bioregionalism", a relatively new intellectual tradition evolved from the North American environmental social movements of the 1970s and 1980s. The so-called "bioregional approach" stresses that administrative units need to reflect (rather than transect) eco-geographical and cultural features. Bioregionalism is described and assessed as a potential pragmatic research framework for geographers and other planners wishing to respond proactively to the call for a revamped, poststructuralist political ecology. The paper concludes that a bioregional approach to political ecology avoids the weaknesses identified by certain critics, provides scope for consideration of fundamental philosophical ideas, and as such, represents a practical development of a poststructuralist political ecology.

Key Words : bioregion, bioregionalism, political ecology, poststructuralism

요약 : 이 논문은 정치생태학이론을 정치적 및 경제적 불균등 간의 연계측면과 환경파괴에 초점을 맞춘 측면을 동시에 개략적으로 검토한 것이다. 본 논문에서는 정치생태학 전통을 '고전적', '민주적', '탈 구조주의적'으로 나누는 3가지 분류 도식을 채택하였다. 탈 구조주의 전통은 협의의 준(準)이상적인 담론으로부터 존재론적이고 인식론적인 이슈에 더 강한 철학적 참여로 나아갈 필요가 있다. 후자의 견해는 니체의 유물론에서 발전된 Gilles Deleuze의 것에 입각한다. 이러한 배경에서, 본 논문은 1970 및 80년대에 북미의 환경운동으로부터 발달된 비교적 새로운 지적 전통인 "생물지역주의"에 관한 문헌들을 검토한다. 또한 이른바 "생물지역적 접근"은 행정단위는 생태-지리적 및 문화적 현상을 갈라놓기보다는 반영할 필요가 있다. 생물지역주의는 탈 구조주의적 정치생태학의 수정 필요성에 동조하는 지리학자와 계획가들에게 잠재적인 실용적 연구의 개념적 틀로서 평가된다. 결론적으로 정치생태학에 대한 생물지역적 접근은 비평에 의해 확인된 약점들을 회피하면서, 기초적인 철학적 관념의 고려사항의 범위를 제공하고, 그로부터 탈 구조주의적 정치생태학의 실용적 발달을 이룰 수 있다.

주요어 : 정치생태학, 생물지역, 생물지역주의, 탈 구조주의, 자원이용관리

1. Introduction: Politics, Economics and Regional Geography

A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise (Leopold, 1947).

In Gaia we are just another species, neither the owners nor the stewards of this planet (Lovelock, 1988, 14).

From the air it is easier to see that the land outlives the state, that mountain ranges and rivers are free to violate the boundaries and borders of civilizations (Weyler, 1992, 21).

All regions are continuous with one another; that is to say, in no case is one portion of territory on the Earth entirely discrete from the next. The eagle may traverse even the highest mountain ranges, coastal zones harbour creatures equally at home in the water or on land, and the change from forest to grassland or tundra is a gradual transition, not an abrupt break. Similarly there is constant cultural and economic continuity and exchange between both adjacent and geographically separated human communities. Moreover, human societies are embedded in greater natural systems. As Ulrich Beck (1992, 81) argues in his acclaimed *Risk Society*, “[a]nyone who continues to speak of nature as non-society is speaking in terms from a different century, which no longer capture our reality.” This notion of ecological (and ontological) continuity has received a great deal of recent attention from philosophers (e.g., Deleuze and Guattari, 1987) and geographers (e.g., Castree, 2003; Zimmerer, 1994). This paper focuses on some of its regional implications.

This paper describes two responses to this ontological continuity. At the theoretical level, “political ecology” has sought to discern deeper structural (and poststructural) reasons for ecological degradation. At a practical level, “bioregionalism” has proposed political structures that can account for the interdependence of humans and nature.

Social scientists, most notably anthropologists and geographers, developed “political ecology” to trace the links between political and economic issues on the one hand, and environmental degradation on the other. The initial focus was on communities in the South, with a decidedly Marxian flavour. More recently, political ecologists have worked with democratic and poststructuralist theories to provide more nuanced analysis.

The political movement, “bioregionalism”, emerged in North America in the 1970s among environmental social movements (ESMs), and similarly represented an effort to realign politics and ecology (please see Aberley, 1999, for a detailed history). In the following discussion, I draw on Canadian and international scholarship, and make reference to several Canadian examples, to argue that bioregionalism represents a coherent, normative theory for scholars and communities seeking solutions to problems identified by political ecology methodologies.

In particular, I argue that bioregionalism can be a practical response to issues raised by poststructuralist political ecology research. In short, if a revamped poststructuralist political ecology can identify heretofore-unseen roots of environmental problems, then bioregionalism may well provide practical solutions. I conclude by making suggestions for research into the applicability of bioregionalism to the Korean context.

2. The Meaning and Importance of Political Ecology

Political ecology studies have typically attempted to establish a correlation between political disempowerment, economic dependency, and environmental degradation (Blaikie, 1985; Peet and Watts, 1996; Blaikie and Brookfield, 1987; Hayward, 1994). Political ecologists pay particular (but not exclusive) attention to land tenure, resource access, and the use of technology (where this, as it so frequently is, is

determined by economic relations). Contemporary political ecologists are keenly aware that the biosphere is interconnected and interdependent, and that with the globalization of human activities on the planet, it is unlikely that any natural causes (short of those originating in outer space) are uninfluenced by human activity. Put another way, though critics have argued that political ecology pays insufficient attention to the role of "natural causes" (Vayda and Walters, 1999), if we heed Beck and acknowledge that humans are a part of nature, then the phrase "natural cause" no longer has much heuristic value.

In their superb review of the political ecology literature, Peet and Watts (1996, 5) note that "[f]orged in the crucible of Marxian or neo-Marxian development theory, this new 'political ecology' was inspired not by the isolated rural communities studied by ecological anthropologist [Roy] Rappaport [e.g., 1979], but by peasant and agrarian societies in the throes of complex forms of capitalist transition." In a similar vein, Tim Hayward (1994) defines political ecology as a theory of the real relations between politics and ecology, and argues that its broad thrust is to prescribe a deeper ecological understanding to inform our management of human economics. According to Hayward, political ecology arose not as a reaction to human ecology or ecological anthropology, but rather as an attempt by political economists working in the Marxian tradition to incorporate the productive aspects of nature and the problems of environmental degradation into their analysis. Peet and Watts (1996, 4) trace the first appearance of the term to the 1970s, where political ecology "emerged as a response to the theoretical need to integrate land-use studies with local-global political economy." More than anything else, political ecology research has made clear the fact that ecological sustainability is unlikely to be achieved in the absence of global social justice.

1) Three Traditions of Political Ecology

It is possible to divide political ecology into three

inter-related traditions. These are outlined below.

(1) Classical Political Ecology

What we shall call the "classical political ecology" tradition is explicitly Marxist, concerned with dialectical relationships between political economy and ecology, and is exemplified by Piers Blaikie's (1985) *Political Economy of Soil Erosion in Developing Countries*. Blaikie identifies issues such as land tenure, income distribution, access to capital, etc. as causal factors in the problem of soil erosion in the poor states of the South. Moreover, he discusses the problem of economic marginalisation as rural communities have been alternately incorporated into or excluded from the global economic system. In both cases, traditional, local economic relationships have been disrupted, and this frequently has had negative ecological repercussions.

In the subsequent *Land Degradation and Society* (Blaikie and Brookfield, 1987) -- the book widely acknowledged as the definitive collection of political ecology writing in the 1980s - contributors working from diverse academic perspectives including human geography, sociology, natural resource studies and development studies, draw the links between economic and political disempowerment and the degradation of soil. They make it clear that political ecology is best understood not as an attempt to bring more politics into *ecology* (such a move would quite understandably be anathema to natural scientists), but rather the opposite: to bring more ecology into *politics*, especially in the fields of political economy and development studies.

(2) Democratic Political Ecology

The second tradition involves greater attention to political (as opposed to merely economic) relations. This tradition, which Light (1997) has called "democratic political ecology", is well represented by Richard Black's (1990) article on "regional political ecology" in Portugal. Black complains that Blaikie and Brookfield have fallen short of demonstrating a

dialectical relationship between local and “wider” political processes. He suggests that they have focused too narrowly on how the global and state-level political and economic systems affect local politics and ecology, but ignores the cybernetic loop by which local conflict influences extra-local politics. However, Broad and Cavanagh (1993), in their much-cited *Plundering Paradise*, illustrate how both economic and democratic disempowerment of local fishers has intensified ecological problems. In the process they also pay attention to the cybernetic relationship between various geographic scales.

Andrew Light, editor of *Philosophy and Geography*, suggests that democratic political ecology may be a pragmatic alternative to both the deep ecology of environmental ontologists such as Arne Naess (1993 [orig. 1982]), and the historical materialism of social ecologists including Murray Bookchin (Light, 1997). This approach focuses on political empowerment and education of resource users rather than preservationism on the one hand, or a prioritization of human economic well-being over ecological values, on the other.

(3) Poststructuralist Political Ecology

Finally, the poststructuralist political ecology tradition first emerged in the work of Arturo Escobar (1996). Escobar reminds us that ecological problems are also a result of discursive configurations, as capital actively “re-invents” nature in its own image. He urges that political ecologists remember that prior to physical degradation of the environment there are almost always complex discursive and cultural articulations that presage it. This is what Alf Hornborg is talking about in his discussion of the proposed construction of a granite super quarry on Cape Breton Island. As Hornborg (1994, 251) puts it, “[t]urning a mountain into gravel is facilitated by first breaking it down conceptually.”

In later work, Escobar (1999) engages more explicitly with “constructivism” - the argument that nature is socially constructed rather than simply

given in some essential form. In particular, he argues that “biodiversity” is a discursive construction (a “signifier”) related to, but distinct from, the actual biological diversity that it signifies, and that this construction has political and ecological ramifications. He suggests that in subscribing to a view of biodiversity as linked to territorial defence, cultural difference, and (limited) political autonomy, ESMs are articulating an alternative political ecology framework, one that we have discussed above as “post-structuralist”.

Latour (2004) has echoed Beck’s (1992) counsel that nature is not something separate from society. He adds that to do so is to risk privileging the interests of particular power groups and to foreclose on the possibility of democratic resolutions to environment-based conflicts. Finally, Castree (2003), like Deleuze, calls our attention to the relational nature of nature.

2) Responding to an Important Critique of Political Ecology

Political ecology as a theoretical approach has not been without its detractors. In a relatively recent article entitled “Against Political Ecology,” anthropologists Andrew Vayda and Bradley Walters (1999) propose an “alternative” to the political ecology program, one that they dub “evenemental ecology” or “event ecology”. Their program would work backwards from particular environmental problems, mapping causal chains in order to identify the ultimate causes of the problems in question. This alternative is necessary, they argue, due to what they claim is the failure on the part of political ecologists to consider sufficiently the complexities leading to environmental changes. They assert that this oversight arises from the preoccupation on the part of political ecologists with the political and economic context of human activities in specific places, leading to a program of “question-begging research” since political ecologists “as a general rule” simply assume a priori the primacy of politics and econom-

ics in effecting environmental change, and thereby miss other important factors and the interactions among these factors (168). Vayda and Walters argue that their new approach will avoid this allegedly inherent sloppiness on the part of political ecologists.

In their critique, Vayda and Walters argue that political ecologists err in ascribing a *necessary* causal weight to political factors. Nor is it only political ecologists whom they assail, but in fact any social scientists whom they deem guilty of holding "a political ecology view of [resource] access" (169). A social scientist who holds such a view is, according to this argument, anyone believes that issues concerning resource users' access to the resources or ecosystems in question are pertinent to determining what might constitute sustainable use. This is a perplexing objection, as the importance of access to sustainability does seem self-evident. However, since parts of Vayda and Walters' paper seems to be devoted to a romantic image of local economic and political elites, it may be understandable why they object to a focus on the exclusion of poor people from natural resource use and its management. The political empowerment of the poor would certainly prove inconvenient to a project dedicated to granting exclusive environmental decision-making to elites.

Another difficulty is that Vayda and Walters seem to have misunderstood the thrust of the political ecology project. When they propose that their "evenementalist" alternative would entail working backwards from a specific set of environmental events or changes in order to uncover the chain of causes and effects lying behind them, they have falsely assumed that political ecologists do not already do such inductive work. Nothing could be less accurate. However, political ecologists also work forward deductively from political and economic factors and decisions to attempt to predict the ecological impacts of inequitable power relations.

The task of political ecology is not to explain environmental change *per se*, but rather to investigate the

ways in which political and economic factors can have causal influence on such change. In this sense, political ecology should be regarded not as an attempt to replace human ecology, but rather as an important addition to the toolbox that human ecologists and other social scientists have at their disposal. More importantly, because political ecologists work both backward from ecological problems to political-economic causes, and forward from political-economic events and decisions to ecological processes, they are in a position to identify ecological impacts of said events and decisions *before they occur*. As such, political ecology enables social scientists to be *proactive*, to "close the barn door", as it were, *before* the horses have run off.

Vayda and Walters are not, however, entirely wrong, and political ecology is certainly not without its weaknesses. While it is supposed to look openly at the myriad influences of politics and economics on ecological degradation, it has indeed typically approached ecological problems with a rather narrow ideological slant. The field is still dominated by Marxian economics, whereas alternative understandings of global economics might yield alternate explanations of the economic causes of ecological degradation. Similarly, one might draw attention to the long and uncomfortable silence in the political ecology literature about aboriginal peoples, and the attendant theoretical import of Fourth World theory (Stea and Wisner, 1984). Another critique might be offered as to how little of the ecological anthropology literature appears to have penetrated the thinking of political ecologists, with the result that the influence of politics and economics on cultural ecological *values* (and *vice versa*) has been inadequately explored.

Poststructuralist political ecology focuses on relational politics, relational identities, and the fact that human communities are, at the most fundamental level, parts of the natural systems they inhabit. The epistemological implications of poststructuralism make it clear that the kinds of knowledge employed

in resource-use management are independently important, while simultaneously dependent upon political economy and democratic empowerment. As will be shown below, a bioregional approach to political ecology responds proactively to the post-structuralist challenge.

3) Activism and Relationships

As noted earlier, Black (1990) is concerned that political ecology has paid insufficient attention to the cybernetic relationships between different geographical scales. A poststructuralist political ecology resolves this problem by focusing explicitly on the inextricable relationship between the local and the global. Noel Castree (2004) aptly calls this unity the "glocal". This relational approach to identities avoids an intellectual retreat to the modernist ontology of Marxian dialectics.

On the activist front, Escobar (1999) is describing a kind of "activist" political ecology quite in keeping with its Marxian roots. Here, discourse becomes a weapon for preserving not only biological diversity, but also cultural autonomy. This is an important point that helps to map out strategic directions for ESMs and aboriginal activists alike.¹⁾ However, as a strategic move, this idea of linking the discourse of "biodiversity" to territorial defence is fraught with danger. Such a move can simply be rejected or putatively refuted by those who oppose local sovereignty or who desire unfettered access to natural resources and ecosystems. Escobar's move may be quite acceptable for anthropologists or political scientists, who frequently become involved in political struggles. Geographers, on the other hand, have a disciplinary responsibility to do much more than analyse discourse and suggest how discourses may be mobilised for political (or even ecological) ends. In this regard, discursive analysis alone falls short of the full potential of the poststructuralist arsenal.

4) The Nature of "Nature"

In this vein, Bruno Latour (2004) has recently

argued that political ecology has to "let go of nature", since the very idea of "nature" as something different from society is false. In Latour's view, by persisting in treating nature as a separate domain we allow ourselves to distinguish illegitimately between "fact" and "value", and, in effect, remove "due process" from the political order. What he means by this is that the 'experts' who define "nature" and "naturalness", along with their political agendas, remain hidden, operating secretly in the political process. Moreover, a separate nature allows (or indeed requires) the imposition of a hierarchy of objects that in practice is nonsensical. As noted earlier, Ulrich Beck has reminded us that nature and society are interconstitutive.

5) Strengthening the Poststructuralist Political Ecology Tradition

What geographers can do to add to a revamped poststructuralist political ecology is to highlight the implications of poststructuralist philosophy and their relevance to ecological and natural resource-use management issues.²⁾ In effect, our task is to educate policy makers, ESMs, local communities and the general public about the idea of continuity that demonstrates the inseparability of humans and nature, and the unique epistemological advantage local peoples have in managing ecosystems and the use of natural resources. My own work has made such an effort at both the theoretical and practical levels, with a geographic focus on aboriginal communities in a region of eastern Canada (Hipwell, 2001; Hipwell, 2004). I draw especially on the work of Gilles Deleuze, alone (1983; 1994 [orig. 1968]; 1990) or in his collaborations with Felix Guattari (Deleuze and Guattari, 1987; Deleuze and Guattari, 1994).

Working from his interpretation of Nietzschean materialism, (e.g. Nietzsche, 1927; Nietzsche, 1989) Deleuze outlines a poststructuralist ontology in which the supposedly discrete "objects" (Deleuze calls them "identities") presumed to exist in classical

European philosophy (from Plato to Marx) are revealed to be illusions. In Deleuze's construction, all things are mutually constitutive, interpenetrating, and continuous. In a recent article I note that this ontological theory bears strong resemblances to the ancient Chinese philosophy of Taoism (Hipwell 2004). Similar conclusions have been drawn by contributors to Graham Parkes' edited collection *Nietzsche and Asian Thought* (Parkes, 1991)

As seen earlier, important work has been done in developing the poststructuralist tradition of political ecology. In the discursive realm, Escobar (1996) has emphasised that natural relations are created in no small part by what we say about them. Thus, discourse analysis can become a valuable tool for understanding how various actors 'construct' ecological relations, or how the way we speak about human-environment relations can *affect* those relations.

Future work on a poststructuralist political ecology must go further, however. Thinkers such as Gilles Deleuze have shown that ontologically, all things are related, inter-penetrating, and mutually constitutive. In this relational ontology, human communities must be regarded as a part of the natural systems they inhabit (Lao-Tzu, 1992; Zimmerer, 1994; Deleuze and Guattari, 1987). This in turn means that analysis must focus on relationships as much as on "objects", and that traditional notions of causality will often turn out to be too linear and simplistic to be of heuristic value. Finally, relational ontologies have important ethical implications, which in many important regards undermine anthropocentrism.

This philosophical work also has critical implications for our understanding of epistemology. Deleuze (1994) has shown that the relational nature of ontology renders inadequate intellect-based, scientific approaches to understanding natural phenomenon. Deleuze (1983) argues that "wisdom of the body", or intuitive knowledge, must be restored as a legitimate epistemological approach. Although conventional ways of knowing have and will contin-

ue to have an important place in natural resource-use and ecosystem management, Deleuze's philosophy makes it clear that the intuitive, "local-traditional ecological knowledge" (Lo-TEK) of resource users must play a central role, and that its epistemological status, extensively denigrated in modernity, must be restored. Since the type of knowledge used in resource management is politically and economically determined, this issue must too be within the purview of political ecology. In the next section, we will explore an approach that will facilitate the inclusion of Lo-TEK, while simultaneously addressing other poststructural challenges.

3. Bioregionalism

A bioregion is a living organism (Aberley, 1993c, 100).

Bioregionalism is a geographical approach to political ecology that suggests that in order to achieve globally agreed-upon objectives of peace and environmental sustainability, units of political administration and resource-use management must be re-designed. Bioregionalism combines cultural and eco-geographical territories into "bioregions" which overlap and are inter-nested with other bioregions. It is an approach that has arisen in response to worsening ecological problems and the continuing economic decline of rural communities. It can be seen as a form of "re-inhabiting" the world, an approach which restores to local communities the decision-making power which has over the past century been progressively usurped by larger "network systems" (McTaggart, 1993), including state governments, technical 'experts', and global capital. More than just a scheme for local political empowerment, bioregionalism also includes explicitly environmental values, rooted in an awareness of the human place within the larger natural world. Combining insights from contemporary ecological theory with geographical and political regionalism, bioregional-

ism suggests that political boundaries should be adjusted to better reflect ecological, economic, and cultural realities.

1) Bioregionalism Explained

As suggested above, bioregionalism is a methodological framework for environmental and political management built around the premise that human and natural "regions" should coincide. In bioregional theory the emphasis is local – in keeping with the popular adage "think globally, act locally". Indeed, bioregionalism is a call for a re-affirmation of the importance of the role of localities, and local communities, in the global quest for ecological and economic sustainability. At a philosophical level this is clearly compatible with poststructuralism's emphasis on local knowledge and local politics (Foucault, 1980). As geographers Thompson and Warburton (1988, 33) argue in their discussion of ecological degradation in the Himalayas, "[w]hat is needed is a rejection of homogenising generalizations and their replacement by a sensitivity for local contexts."

This call for attention to the local is mirrored in the work of other scholars concerned with global environmental sustainability. Fifteen years ago, Canadian fisheries expert Evelyn Pinkerton called attention to renewed interest in the idea that resource-dependent communities should have a greater degree of control over local development. She explains that the impetus for this interest has been the general failure of governments to protect communities from the negative impacts of global economic change (Pinkerton, 1989, 7). In response to this call for local empowerment, bioregionalists propose a method and a system of territorial and political organisation that would facilitate a locality-driven, sustainable geopolitics.

Bioregional theory criticises the way that linear political boundaries frequently cut through ecosystems and culture groups. In addition, it warns that at present, decision-making -- especially regarding resource-use and environmental protection -- tends

to be centralized to large centres often distant from the areas affected by those decisions. According to bioregionalists, communities of land and life must be reintegrated into overlapping and inter-nested political units defined according to a combination of eco-geographical and cultural features. Bioregional theorists further argue that a significant amount of political power should be devolved from existing centralized state and sub-state governments to the bioregional level (Aberley, 1993a; McGinnis, 1993, McGinnis, 1999; Sale, 1991 [orig. 1985]; Wadland and Gibson, 1997).

Bioregions are areas defined as the confluence of eco-geographical regions and cultural regions, identified by local inhabitants working with ecologists, geographers, and other natural scientists. Ecological regions can be identified in a number of ways that can be easily mapped, including watersheds, coastal zones, or ecosystem-types, and are frequently overlapping and inter-nested. As such, each bioregion is likely to overlap with others, as well as forming a part of a larger bioregion. Frequently, bioregions are defined according to watersheds or drainage basins, while the most obvious and natural bioregional unit is an island (for this reason bioregional theory tends to be continentalist at larger scales). In the context of Korea, large peninsulas, possessing many of the eco-geographical characteristics of islands, also often serve as a sensible physical basis for bioregions. Cultural regions are defined according to the social and economic behaviour, and historical settlement patterns, of people living in a given area. Both the cultural and eco-geographical approaches to bioregion delineation are explored in more detail below.

Five distinct assumptions underlie a bioregional approach:

1. That the cumulative impacts of industrial civilisation on the biosphere imminently threaten to precipitate the extinction of humanity and most other complex, highly-evolved life-forms, and to "roll back" many of the Earth's evolutionary achievements (quantifiable in terms of diversity

and complexity) of the last several million years.

2. That the global industrial political system cannot be reformed through tinkering, but must be replaced by new patterns of political and economic behaviour.
3. That political decentralisation to smaller units defined by a combination of eco-geographical and cultural factors -- and co-ordinated through a vertical and horizontal federalism -- is a first step toward creating these new patterns of behaviour.
4. That any future human politics must emphasise a commitment to place, and that healthy human-environment interactions are the foundation of healthy communities.
5. That humans must accept some degree of ethical responsibility toward the non-human world.

Figure 1 shows an example of inter-nested and overlapping bioregions. In this schematic, the largest

bioregion encompasses the entire watershed of a major river and its tributaries. Management of the fisheries resource, for example, would require planning to be undertaken at this largest scale, with the vertical co-operation of all sub-bioregional communities in the greater bioregion. At the same time, overlapping sub-bioregional boundaries necessitate some horizontal sharing of jurisdiction and planning authority among bioregions.

2) Review of the Literature

Kirkpatrick Sale (1991 [orig. 1985]) contributed the first detailed exposition of bioregional thought, blending the work of environmental and social philosophers to construct a critique of the industrial-scientific paradigm, which he contrasts with the place-based holism of bioregional thought. One of the most practical contributions to bioregional theory is *Boundaries of Home: Mapping for Local Empowerment*, a collection of short essays edited by

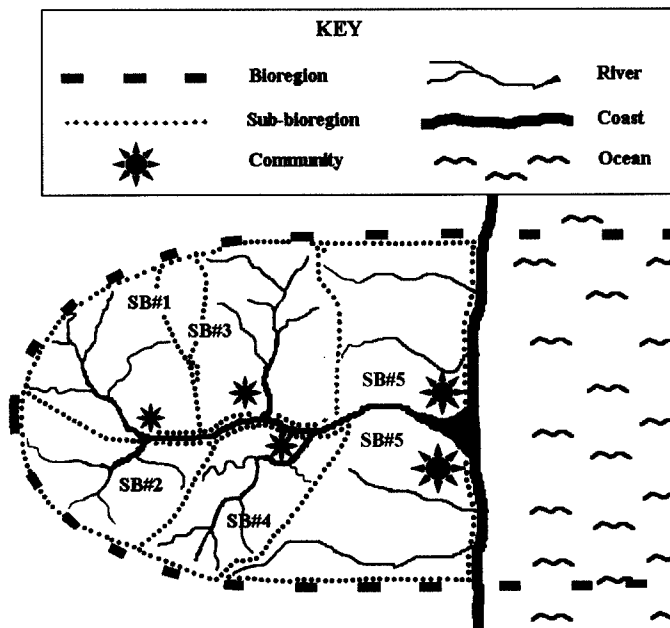


Figure 1. Hypothetical Bioregional Complex

Sub-bioregions encompass river watersheds, up to the high-water mark of the main river.

Sub-bioregions #1 and #3 share a plateau. Sub-bioregion #5 has jurisdiction over the estuary. The main Bioregion includes all territory not included in sub-bioregions, and has jurisdiction over the coastal waters and the main river (except the estuary).

(Aberley, 1993a). This collection explores key issues in the development of a robust bioregionalism, including “the experience of place”, computer mapping and geographical information systems (GIS), and alternate ways of defining regions based on watersheds, cultural features, topography or vegetation. The latter half of the book is a longer essay by Aberley himself entitled “How to Map Your Bioregion”, which provides practical instructions for community activists wishing to establish a local bioregional consciousness (Aberley, 1993c).

The latter half of the 1990s and the early 2000s have seen an increase in scholarly attention, as bioregionalism has matured and acquired status as a serious academic subject. Several Canadian universities now offer courses in bioregionalism, numerous articles have appeared in academic journals, and bioregionalism has been treated in a number of graduate theses.

Cholette *et al.* (1996) outline some of the tensions between bioregional and left-wing thought, identifying the notion of decentralization as being particularly contentious. Thinkers on the left are frequently suspicious of calls for decentralization, as they perceive the state to be an important guardian of workers and communities against predatory capital. Cholette *et al.* suggest in response that bioregionalists must think carefully about these vulnerabilities, and develop a robust conception of how bioregions can be linked through a form of federalism.

Wadland and Gibson (1997) suggest that bioregional theory represents the crystallization of true interdisciplinarity, a set of ideas that requires the horizontal engagement of academics and policy-makers from diverse fields. They counsel students to seek out “patterns of relationship” in local areas as an interdisciplinary approach to studies of the land, and discuss work by Trent University faculty and students on identifying the Haliburton bioregion in Canada as a precursor to a bioregional management process.

The most significant recent contribution to the

development of bioregional thought is a volume edited by Michael Vincent McGinnis (1999), simply entitled *Bioregionalism*. The book contains contributions from noted scholars in the fields of environmental and community politics, and provides numerous examples of bioregionalism in action, as well as thoughtful discussion of bioregionalism’s relationship to theoretical issues such as cosmopolitanism, the role of traditional knowledge, and globalization. Contributors to this volume identify areas such as Vermont (Klyza, 1999) and Central America (Ankersen, 1999) where bioregional initiatives have enjoyed a measure of success.

The first serious scholarly attention in geography to bioregionalism was a brief, descriptive article by James Parsons (1985), in which he calls geographers and bioregionalists “kindred spirits”. Eight years later, geographer David McTaggart (1993) offered a systems approach to bioregional thought. Most recently, I have suggested elsewhere in the geography literature that bioregionalism can represent an effective strategy for communities resisting exploitation by the global network of power/knowledge that I call “*Industria*” (Hipwell, 2004).

The most comprehensive literature review of bioregionalism to date also appears in this volume. Canadian theorist Doug (Aberley, 1999) notes that another Canadian, Allen Van Newkirk, first coined the term “bioregion” in 1975. Van Newkirk viewed bioregionalism as a technical process involving “biogeographically-interpreted cultural areas...” (quoted in Aberley, 1999, 22). Aberley traces bioregionalism from its environmentalist beginnings in United States during the 1970s. He points out that there is now an annual North American Bioregional Congress held each year in which community activists from bioregions across the continent meet to discuss progress and obstacles.

3) Critiques of Bioregionalism

The primary criticism levelled at bioregionalism is that regions are “fuzzy” rather than rigorous con-

cepts, and that regional studies do not easily lend themselves to the development of “law-giving” scientific theory. For example when Marshall (1993) suggests a set of bioregional categories – including neighbourhood, community, bioregion, sub-biome, biome, continent, and planet – his taxonomy is vulnerable to questions as to the precise geographical extent of many of these categories (except continent and planet). Donald Alexander (1990) points out that while the physical boundaries of bioregions can be determined, they are inter-nested, making the choice of which physical boundary to adopt a purely cultural one. He warns against treating the bioregion concept dogmatically, and emphasises the need for researchers to give primacy to local community geographical identifications rather than attempting to impose some apparently “natural” political boundaries.

4) A Methodological Framework for Bioregionalism

In the following discussion, I make considerable reference to the Canadian context. However, the sensitive reader will realize that all of the components of this methodological discussion, especially the identification of cultural features, are equally applicable to other regions including Korea.

The critiques of bioregionalism discussed earlier emphasise that in order for bioregionalism to work, local people must be the primary source of territorial identification, and administrators must be willing to re-consider traditional ideas of “hard-and-fast” boundaries. Instead of the present fixation on precisely defined geographical areas of exclusive jurisdiction, it must be recognised that jurisdictional boundaries may shift and vary from issue to issue and time to time. This will in turn require enhanced horizontal and vertical co-operation, across sectoral and geographical lines (Pogge, 1992). In other words, bioregions might, for example, share authority or responsibility for the land with adjacent bioregions, and share responsibility and authority for

social programs vertically with other levels of government.

In order to determine the shape of bioregions, the extent of their overlap, and the ways in which they are inter-nested, a combination of cultural and eco-geographical factors must be combined.

(1) Cultural Regions

Cultural regions are determined according to the activities of people living in an area. As shown in Figure 2, there are four major cultural features that may be useful in identifying a bioregion: history, language, land-use, and self-identification. Historical features include the existence of relic villages, ruins, burial grounds, or other anthropogenic landmarks. Aberley (1993b) points out that in the Americas, for example, pre-colonial aboriginal settlement patterns very frequently conformed to eco-geographical regions at a practical scale. The same is likely true of pre-industrial territoriality in other parts of the world, including the territoriality of Southeast Asian “hill tribes”.

Linguistic features include regional dialects or accents, local languages that differ from surrounding areas, and place names. An aboriginal leader I interviewed in the Bella Coola region of the northwest coast of North America emphasises that not only do his people have unique place names in their territory, but that these place names also contain information useful for ecological management:

...[W]e have names and we have stories, and we have songs and dances about the different places within our territory. We have... names of streams, of rivers, names of mountains, names of certain hunting, fishing spots. [...] So the songs, the dances, and the stories, they remind us of those places. They remind us of how important they are. They remind us what's there... where all the snakes live, and where the flies live, and where the grizzlies' homes are.[...] And when this tells us all this, we know... that we have to take care of it (Hereditary Chief of the Nuxalk Nation, 1996 interview).

Place names are particularly useful for identifying

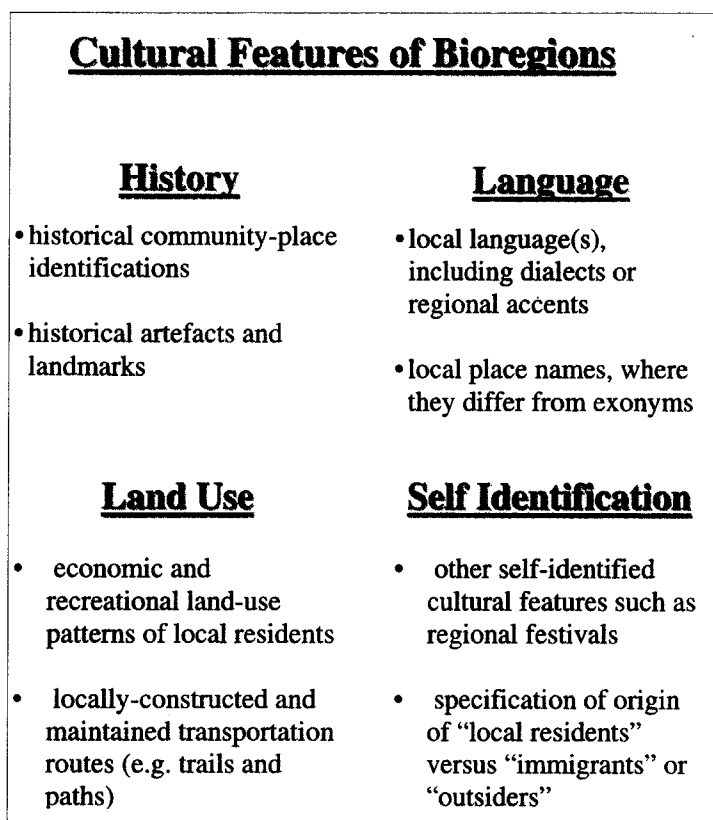


Figure 2. Cultural Features of Bioregions

The identification of a bioregion is as much a cultural undertaking as it is a physical one. Qualitative research is essential.

unique regions when they differ from “exonyms” or names used for the same places by people who do not live in the area.³⁾

One way to determine contemporary land use is to have a representative sample of local residents indicate on identical maps where their day-to-day activities take them. Especially useful would be maps drawn by residents involved in land-based economic activities such as hunting/guiding, trapping, fishing, farming, forestry, etc. When all of the maps drawn by the group of local residents are overlaid, a picture of the cultural region begins to emerge. Hugh Brody (1988) undertook exactly such a mapping exercise with the “Beaver Indians” (Dunne Za nation) of northwestern British Columbia, Canada in the early 1980s. His maps

showed the extent of land use by the Dunne Za, and the ways in which this land use overlapped with that of adjacent communities and with the route of the then-proposed Alaska oil pipeline.

Finally, a combination of interviewing local residents and examining tourist brochures and similar publications can help to identify “regional” cultural events. Interviews can also elicit notions of local identity pertaining to the legitimate origin of “local residents” versus “immigrants” or “outsiders”.

No single one of these features will be sufficient, but rather, utilizing an intuitive epistemology as proposed by Deleuze (for discussion see Hipwell, 2004), researchers must determine an appropriate combination. The resulting “cultural map” can then be submitted to local residents for confirmation or

modification.

(2) Eco-Geographical Regions

Another key factor in determining bioregional boundaries is identifying local physical or "eco-geographical" regions. Eco-geographical regions may be identified according to a variety of factors, including ecology, climate, topography, and other geographical features, as indicated in Figure 3. These features can be readily mapped using cartographic resources available from local government agencies, and through interviews with local residents. It is likely that some combination of these or other eco-geographical features will be used to determine the

physical extent of the eco-geographical region. GIS would be particularly useful in this regard.

(3) Integration of Cultural and Physical Regional Attributes

In many regards, using the guidelines identified above to define a bioregion is part science, part art. The integration of cultural and physical attributes is something that is most effectively accomplished by local people. As such, social science methodologies including qualitative interviews and community mapping exercises are required. As Shute and Knight (1995) point out, mapping exercises not only provide important cartographic representations, but

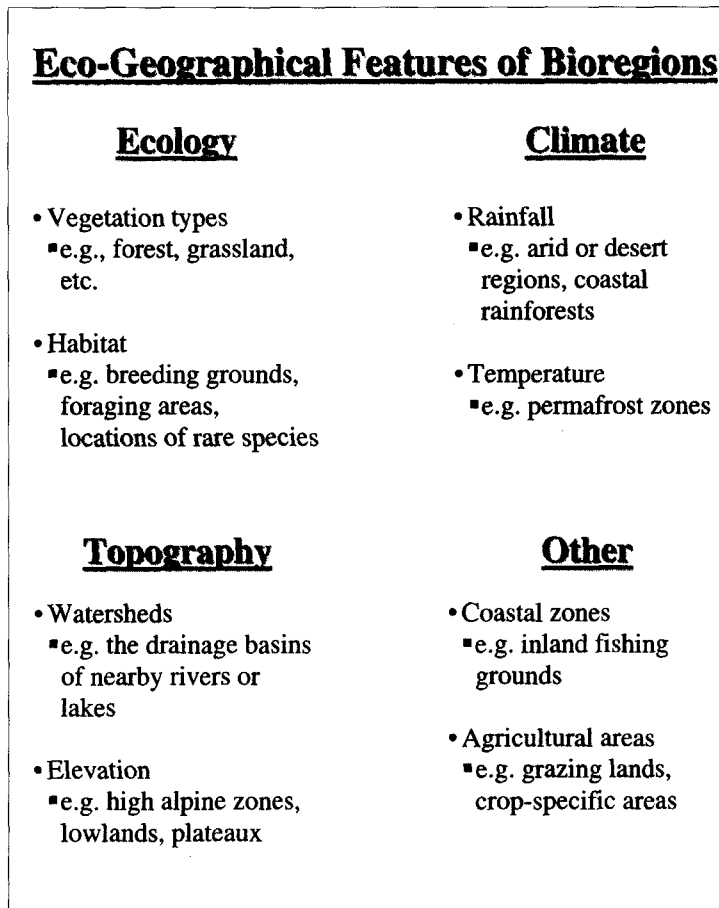


Figure 3. Eco-Geographical Features of Bioregions

Proper identification of the natural community allows ecologically sensitive planning and the recognition of interdependence.

also help to elicit information about the ecology and use of an area. The overriding objective is to achieve a consensus of local people as to the best fit of cultural and physical features at a variety of scales in order to determine the most sensible boundaries of the bioregions to be managed.

5) Bioregional Resource-Use Management

There is an emerging consensus that effective 21st century resource-use management regimes must involve local people, not only as sources of ecological knowledge, but also as empowered participants in decision-making. As McTaggart argues:

A primary objective for a bioregional project should therefore be to reclaim from the network system a greater measure of control than exists at present over the various forms of intervention in the region's biophysical system (McTaggart, 1993: 316).

Moreover, the advantages of small- rather than large-scale management of the use of natural resources have been firmly established. Most importantly, resource-use management must be *holistic*, taking into account all of the resources in an area as well as the social and economic contexts of their use (Saskatchewan Indian Federated College, 1996). Bioregional management thus represents a "middle path" between the horns of the false dilemma -- anarchic individualism or centralised state regulation -- which motivates much current resource-use management policy.

(1) Local Implementation

Implementing bioregionalism is a political question, and one that requires that conventional understandings of territory be updated to keep pace with contemporary ecological and political theory. Rather than being tightly contained by impermeable, fixed boundaries, bioregions are fluid, adapting their shapes to changing ecological and socio-economic conditions. Bioregions also overlap with one another, and require a dispersal of political power both horizontally and vertically. As noted above, it is

apparent that a functioning bioregional state politics must be federalist in orientation.

(2) Thinking about the Bioregion

The first step to be taken at the local level is to organize a series of meetings with representatives of stakeholder groups. Care must be taken to be as inclusive as possible; there are likely to be community groups whose direct interests in the ecological health of the bioregion are not immediately apparent. These meetings could take a variety of forms, from small groups to large public forums.

Wadland and Gibson (1997, 52) have suggested a number of questions to be asked at these initial meetings in order to stimulate bioregional thinking. These include:

1. Is the economic base of the community degrading the environment, and if so, how can this be remedied?
2. Is the community's economic base a long-term, viable and sustainable one, which can support the local populace?
3. Does the local economy make effective use of the skills that exist within the community?
4. What is the historical culture of the community, and its relationship with the land?
5. Can the people tell the stories of their community?
6. What are the external forces which impact upon the local community?
7. What are the impacts of the local community on its adjacent communities and the world at large?

(3) Bioregional Charters

Subsequent to the identification of the physical extent of the bioregion, central to the creation of a bioregional political unit is the drafting of a "Bioregional Charter". In such a charter, to be signed by representatives of all local residents and community groups, the cultural and environmental values of the bioregional community are set out and articulated.

Studies of watershed-based management (e.g., Brasd'Or Watershed Working Group, 1995) have called for the drafting of such charters as a foundation for stewardship. The overriding purpose of a Bioregional Charter is to affirm the centrality of place in local identity.

4. Discussion: Bioregionalism and Political Ecology

1) Moving Beyond the Classical Tradition

Bioregionalism does not make assumptions about the relative soundness of ecological behaviour among people of various economic situations. While the emphasis is, as has been made clear, on local political empowerment, there is nothing either implicit or explicit in bioregional theory about redistribution of wealth at the local level. Local economic elites are also stakeholders and must be equally involved in planning and resource-use management. Indeed, it would be naive to suppose that local elites never possess superior ecological knowledge or management capabilities; they undoubtedly sometimes do. The bioregional focus is on relationships and inter-dependence, both among humans and within the broader ecological community.

2) Bioregionalism as Democratic Political Ecology: Cultivating Governmentality

My idea always has been that the framework of governance is wrong... At the pinnacle everything is at the federal level. I see that it is important to turn that around so that it's more community-based. Community management, and community input. So people can directly see the results of what they put in. Which is, simply, tax dollars. When it is filtered from the top down, often times it never gets to where it's needed (James Crawford, Cape Breton Oyster Grower, 2000 Interview).

Although territory is important, creating a sustainable human politics is a far more complex

process than simply redrawing political (b)orders. The challenge faced by bioregional politics is "governmentality" (Kuehls, 1996, 123), which entails the cultivation in the populace of an appropriate attitude toward both governance and the relationship of human communities to the rest of the natural world. Bioregional governance is characterized not by top-down rule by formal government institutions, but by the assumption of responsibility by civil society (Lipschutz, 1999). Research into bioregional management emphasises "governance" over "government", suggesting that effective governance must actively involve all residents of the bioregion on an equal footing. An important facet of the bioregional approach is therefore local community empowerment, both through enhanced roles for local people in decision-making and also through more active incorporation of local-traditional ecological knowledge (Lo-TEK) to inform those decisions.

Establishing bioregional governance is far more complex than simple decentralization. Empowering communities cannot merely entail government institutions off-loading responsibility, but must rather be financially and logistically supported by those institutions (Bradshaw, 2003). This may even in some cases increase government costs in the short-term, but can be expected to result in longer-term savings in administration and enforcement costs. What is required is the devolution of political power to properly constituted, local political institutions, along with transfer payments to allow this power to be effectively wielded.

(1) Bioregional Federalism

Since no one bioregion can be a container of ecological phenomena – winds move pollutants across continents, and animals commonly migrate great distances - then it is undeniable that there is the need for political co-ordination among bioregions. A federal approach to bioregionalism would accomplish this, while simultaneously responding to Robin Black's concern that political ecology has under-the-

orized the importance of the effect of local politics on larger political levels. While there is clearly a need for inter-bioregional co-ordination in management of mobile resources such as fish (e.g. through assigning maximum quotas to the various bioregions concerned), and in general for a federal authority with the power to develop and enforce minimum environmental standards, bioregions must, within these constraints, hold the authority to develop their own allocation and management regimes. Such considerations emphasise the importance of a federalist approach.

Bioregional federalism would accommodate the aspirations of many communities. Local communities typically aspire to autonomy in the spheres of resource-use management, education, and culture rather than full independence and international "statehood". Bioregional federalism would similarly reconfigure existing states so that they serve as forums for co-operation among bioregions rather than as hierarchical entities. As Esteva and Prakash (1998, 172) argue, "[l]imited functions not absorbed by local political bodies can then be entrusted to larger umbrellas, webs and other institutions which respect the [democratic] principles applied at the grassroots."

3) Responding to the Poststructuralist Political Ecology Challenge

Bioregional thinking constitutes an effective response to the challenges posed by a revamped poststructuralist political ecology outlined earlier. Specifically, bioregionalism effectively addresses, in practical terms, poststructuralism's call for attention to discourse, ontology, epistemology and ethics. As such, bioregionalism is not meant to replace poststructuralist political ecology. Rather, it is simply one way of actualizing it.

The bioregional literature is permeated with calls for a discursive (re-)engagement with the rest of nature; communities are urged to "tell stories" of their relationship with the rest of the natural world.

Such stories at once educate both policy-makers and local residents about, and at the same time *reconstruct*, community-environment relationships. Simultaneously, bioregional discourse analysis focuses on identifying and deconstructing instrumentalist stories of hierarchy and superiority that have structured those relationships in the past, contributing to ecological degradation.

This focus on relationships has a necessarily ontological basis. By training local citizens, corporations and government managers to look for and respond to connections not only within the non-human parts of ecosystems, but also within human communities and between those communities and the natural world, it helps to bring contemporary understanding of ecology into both government policy and local praxis. The ethical implications will involve the development of relational ethics, where local politics are conducted with a due regard for the agency and ethical value of the entire natural world rather than merely its human components.

Finally, bioregional theory emphasises the importance of Lo-TEK in resource-use and environmental management decisions. By stressing the importance of the political empowerment of local communities, bioregional approaches facilitate the inclusion of local knowledge in ecological management decisions.

As such, bioregionalism represents a robust response to the challenges of a revamped poststructuralist political ecology, and therefore, a viable practical approach for geographers wishing to improve ecological sustainability in specific regions.

5. Conclusion: Bioregional Political Ecology in Korea

There are a number of areas where bioregional political ecology could contribute to the analysis of eco-political problems in Korea, and to their solutions. These are noted as suggestions for further

research by scholars more familiar with Korea than I am. At the macro-political level, a Memorandum of Understanding between the governments of North Korea and South Korea that acknowledged the ecological unity of the Korean peninsula would be an important first step toward reconciliation and would lay the groundwork for co-operation in environmental management. For example, in light of the two states' on-going dispute over access to marine fisheries, a bioregional approach appears to be merited. The conflict has prevented sustainable management of the fisheries resources, resulting in overfishing and the degradation of habitat. There is a clear need for bioregional co-ordination in fisheries management that could perhaps involve other regional powers such as Japan and The People's Republic of China.

Bioregional political ecology might also ameliorate risks created by political moves in South Korea toward decentralization. By ensuring close attention to ecological issues and by promoting local democratic empowerment, bioregional political ecology could help to offset the vulnerabilities that sometimes result from decreased state involvement.

In areas such as the west coast and the Incheon area, where land reclamation schemes threaten tidal flats and have provoked intense conflict, bioregional political ecology can provide a conceptual framework to help development planners understand the economic dependence of local communities on adjacent aquatic ecosystems. These are but a handful of examples of areas where bioregional political ecology would make for a sensible approach.

Ultimately, the potential of bioregional political ecology to assist Korean communities with the task of attaining sustainability in an era of globalization and decentralisation will need to be tested by regional geographers and other social scientists working in the field. Bioregions must be identified both physically and culturally, and work undertaken to assess the value of the bioregional concept for local politics. It is hoped that the foregoing discussion might stim-

ulate such investigations.

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Notes

- 1) This paper uses the word "aboriginal" (literally, "from the beginning") in preference to the more popular "indigenous" or "native" to refer to autochthonous peoples, since technically, every human is indigenous or native to the place where he or she was born. For its part, "autochthonous" is too arcane to be readily understood by most English speakers.
- 2) The term "resource-use management" is used in preference to "resource management" since it is the human use of natural resources, rather than the resources themselves, which are or indeed *can be* managed.
- 3) Examples of exonyms include "Munich" for Munchen, and "Peking" for Beijing.

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