



Political ecology II: Engagements with ecology

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Abstract

This report provides an update to Peter Walker's 2005 report that questioned the degree to which political ecologists substantively incorporate ecology in their analyses. Since the publication of this article, a range of scholars have characterized political ecology as unengaged with ecology. This report documents a range of engagements with ecology (or the nonhuman biophysical world more generally) by work strongly influenced by or aligned with political ecology in the realms of environmental politics and the political economy of environmental change. This brief review demonstrates that, while representing a minority of political ecology scholarship, work variously engaging with ecology remains an active and fertile area. The report concludes with a cautionary note that portrayals of political ecology as inhospitable to ecological engagement could actually lead to an erosion of such scholarship. Such an erosion would have severe consequences for the human-and-environment field more generally since political ecology (along with cultural ecology) remains the field's major place-based approach.

Keywords

environmental politics, interdisciplinarity, nature-society, place, science and technology studies

I Introduction

An important report of this series by Peter Walker (2005), entitled 'Where is the ecology in political ecology?', raised questions about the intellectual trajectory of political ecology as an approach and field of study. In this piece, Walker defends political ecology from outside critics (namely Vayda and Walters, 1999) but also raises concerns about its movement away from ecology. In the same year, Castree (2005) engages critically with nature-society binaries and the human and physical geography divide with only slight reference to political ecology under the heading 'De-emphasizing the environment: Unnatural hazards and Third World political ecology' (pp. 82–83). Similarly, Bakker and Bridge (2006) lay out a research agenda for the

revitalization of 'resource geographies' through a critical engagement with commodities but only included passing, although positive, references to political ecology as an approach. Turner and Robbins (2008: 301), in contrast, engage more fully with political ecology. In referring to the question of environmental feedbacks, they distinguish land change science's interest in the biophysical processes which underlie these feedbacks from political ecology's interest in 'implications of the feedbacks for questions of

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social justice and power.’ Similarly, a recent piece by Lave et al. (2014: 3) points to the need for a new field called ‘critical physical geography’ which can bring critical human geography in closer dialog with physical geography and, in so doing, represents an advance from political ecology which ‘frequent[ly] privileges social processes/theories in the explanation of biophysical situations’.

These important and influential writings seemingly point to the growing irrelevance, as seen by prominent human-and-environment and human geographers, of political ecology as an approach that seriously engages with the biophysical world. Despite these and similar assessments that point to the peripheral nature of such work within political ecology, I feel that political ecology has produced some of the best examples of deeper engagements with the biophysical world produced in human (or human-and-environment) geography. My concern is less about defining what the diverse field of political ecology ‘should be’ but more about the potential cost to human-and-environment scholarship *if* political ecology were to be seen as not an appropriate venue for deeper engagements with ecology. Its aspiration to integrate broader political-economic processes with ‘ecology’ in *place* remains fairly unique in human-and-environment scholarship.¹ Reflecting this, I would argue that political ecology remains a fertile ground of engagement with the biophysical world.

This report revisits the question raised by Walker ten years ago in order to explore how political ecology’s engagement with ‘ecology’ has diversified and progressed since. It is based on four premises. First, ‘ecology’ will be used as a stand-in for biophysical process and the non-human world more generally. Understanding soil, climate, water chemistry, geomorphology, and other physical features of the nonhuman world are subsumed within the term ‘ecology’. Second, by ‘engagement’ I refer to treatments of the biophysical world that go beyond treating it as a mere backdrop to environmental politics.²

Third, this report provides little prescription as to what political ecology should be. As I have argued elsewhere (Turner, 2009), levels of engagement with ecology or biophysical science more generally should stem from the questions being asked by the diversity of scholars whose approaches are roughly aligned with political ecology. Fourth, this report seeks to go beyond standard characterizations of political ecology as a field by focusing less on its dominant tendencies, which admittedly do not tend toward ecological engagement, but instead toward the potential of the approach for such engagements and, more importantly, toward highlighting recent work by researchers within or aligned with political ecology that engages with ecology. Researchers, performing work that is strongly shaped by and resonates with the political ecological tradition, may not choose to explicitly identify their works as political ecology. Moreover, not all research performed by ‘political ecologists’ should be considered political ecology. As a result, we cannot depend on labels but must assess individual research products – is this the product of a political ecology lens or not? Admittedly, I may err, by embracing political ecology’s diversity, in being a ‘lumper’ in contrast to ‘splitters’, who may expect or strive for a coherent set of theoretical constructs and methods for the field.

In what follows, I describe political ecology’s engagement with ecology since 2005 within three modes of inquiry: namely, the political economic roots of environmental change, and two tied to environmental politics – the politics of ecology and the ecology in politics.

II The political economy of environmental change

Of the three areas of political ecological engagement described above, the study of the political economy of environmental change is seemingly less prevalent within recent political ecological scholarship. This perception most

likely understates political ecology's contributions in this area. Much work produced through a political ecology lens, especially work which engages significantly with ecology, would not necessarily be classified as political ecology. This reflects the extended nature of the causal connections required for a full political economy to environmental change analysis: political economy, local social relations, resource use, and environmental response to use. Place-based empirical studies that focus on socio-spatial variation within each of these categories and the causal connections among them produce research products that are not easily captured in journal articles. As a result, the full causal sequence is often not presented in a single written product but across multiple products. Therefore, political ecology-inspired single pieces that seriously engage with ecological response to human land uses may be viewed not as political ecology but as ecology, resource management, land-change science, or human/cultural ecology (e.g. Duvall, 2011b; Brottem et al., 2014; Butt, 2010; Pringle et al., 2011; Robbins et al., 2007; Galt, 2009; Kull et al., 2012).

Examples of products that span a wider range of the political economy to environmental change etiology include those addressing forest change (Forsyth and Walker, 2008; Brown, 2006), species movements (Rangan et al., 2014; Duvall, 2014; Mercer et al., 2012), fire ecology (Kull, 2004), pesticide use in agriculture (Galt, 2014), soil degradation (Gray, 2005; Ramisch, 2005), marine conservation (Campbell, 2007), public health and in-body ecologies (Neely, 2015; Guthman, 2012; Scott et al., 2012) and rangeland ecology (Turner and Hiernaux, 2008; Cao et al., 2013). These are examples of 'situated environmental science' not only because they are sensitive to the socio-spatial positions of observers of environmental change (Forsyth, 2011) but also because they are situated within historical and geographic contexts. Political ecology's place-based approach and greater involvement with local

resource users allows environmental assessment to be informed by historical and contemporary patterns of resource use in contrast to many forms of the environmental assessment made in relative ignorance, especially in the developing world. These engagements have led in turn to critical assessments of environmental science by political ecologists which will be addressed in the following section.

III The politics of ecology

Situated engagements with ecology by political ecologists have provided a foundation from which they have produced critical assessments of environmental scientific assessment. These interventions can be roughly categorized as those that critique the truth claims made in the name of environmental science and those that seek to understand how these truth claims come about and to what effect. There are numerous examples of the former but I highlight two areas that represent major modes of engagement. The first is concerned with the equilibrium or steady-state assumptions that exist in the assessment tools of many fields of environmental management (Lave, 2012; Davis, 2007; Butt and Turner, 2012; Sayre, 2008; Duvall, 2011a; Taylor, 2005). Assumptions of steady-state or equilibrium were made in early community, population and systems ecology that formed the foundation for resource conservation approaches. In its crudest forms, assessments of resource extraction were made by tracking deviations of resource condition from equilibrium. In this way, simplistic understandings of land-use ecology provided an ecological rationale for coercive enclosures by the state.

Clearly, whether or not the dynamics of any system can be seen as governed by equilibria is shaped by the spatial and temporal scales of the observer, resource plan, or analyst. Political ecologists' engagements with social and ecological dynamics in place have led to contributions to the 'scale' literature in human

geography (Sievanen et al., 2013; Rangan and Kull, 2009; Cohen and Bakker, 2014; Neumann, 2009; Birkenholtz, 2011). The work of Nathan Sayre is illustrative. Building from his critical engagement with rangeland management in the southwestern US (e.g. Sayre, 2008), Sayre engages with equilibrium assumptions and associated questions of spatial scaling in ecology which led to a useful comparisons with geography's conceptions of scale (Sayre, 2005). This in turn led to an important intervention in the scaling debate in human geography (Sayre, 2009). In this way, informed critical interventions with ecology have resulted in more fruitful cross-disciplinary sharing of ideas than the borrowing of ecological terms by human and cultural ecology in the past.

A second and related area of critical intervention is that of land and resource categorization as produced through scientific analysis and remote sensing. Such categorizations lie at the heart of conservation, planning, and development work and are necessarily associated with a simplification of nature and territorialization of resource access and use. Given that successful conservation and development require an understanding of the spatiality of both ecological and social processes, political ecologists, building on early work on the politics of the ecoterritorialization, have contributed work on the role of science in these territorializations/categorizations. Examples of such work include: critical engagements with the territorializations of biodiversity conservation and forest management (Campbell and Godfrey, 2010; Goldman, 2009; Vandergeest and Peluso, 2011); conceptualizations of 'natural' watershed or ecoregion units in environment and development planning (Cohen and Bakker, 2014; Harris and Alatout, 2010); and the use of remote sensing as a technology for classification and categorization (St Martin and Hall-Arber, 2008). Such work speaks not only to social scientists interested in how science is enrolled in the politics of conservation and development but to those

conservation and environmental science practitioners who rely on these techniques and categories.

Building from such grounded experiences, political ecologists have, historically, been concerned with widely-circulating 'environmental narratives' – simplified causal connections – that tie people to environmental degradation or improvement. These simple framings have been critiqued for their negative effects on people and landscapes and used as illustrations of the 'production of ignorance' in power-laden contexts of international conservation and development. Increasingly, political ecologists have sought to develop more in-depth understandings of the social processes that contribute to scientific and lay (mis)understandings and their persistence, often using concepts developed in science and technology studies (Goldman et al., 2011). This is a rapidly developing area of scholarship within political ecology (and environmental history), with a growing number of scholars contributing to the field (Fleming, 2014; Hennessy, 2015; Carter, 2012; Lave, 2012; Davis, 2007; Robbins, 2007; Kull, 2004; Forsyth and Walker, 2008; Jackson and Neely, 2014). Such work promises to provide nuanced understandings of environmental politics by incorporating knowledge politics and expertise into political ecology's long-term attention to material interests.

IV The ecology in politics

The characteristics of nonhuman objects and processes within ecosystems play an active role in the environmental politics that interest many political ecologists (Bakker and Bridge, 2006; Braun, 2005; Braun and Whatmore, 2010; Lorimer, 2012; Kirksey and Helmreich, 2010; Birkenholtz, 2009). Ecologies shape the temporal and spatial patterning of 'resources' and 'hazards' of human society and, as such, contribute to their social distribution – a major feature of political ecological analysis (Bassett

and Fogelman, 2013). Moreover, nonhuman objects are more or less accommodating to human designs and may respond to human intentions and actions in ways that are not predictable with real effect. In short, nonhuman parts of nature retain independence and agency in their relationships with humans and thus there is mutual accommodation of 'nature' with human institutions and practices.

While those political ecologists who have engaged with ecology are well aware of nature's agency, posthumanist work in human geography has provided new types of theoretical and methodological tools for engaging with the nonhuman objects that populate the places where they work. This work grew out of scholarship interrogating the ontological divide between nature and society – ranging from work on the social construction of nature (Castree, 2005; Heynen et al., 2007) to work seeking to break down hierarchical conceptions dividing human and nonhuman nature (Lorimer, 2012; Kirksey and Helmreich, 2010) and thus according agency to nonhuman nature through different framings of questions and research practices as influenced by actor-network theory (Perkins, 2007), flatter ontologies (Shaw et al., 2010) and network conceptions of scale (Birkenholtz, 2011; Rocheleau and Roth, 2007).

Political ecological scholarship has benefited from this work by providing the opportunity to explore the active role played by nonhuman life in the unfolding of human-nonhuman relations. This work is focused on the mutual accommodation of the nonhuman and human showing how both retain independence but at the same time are affected by the other. This work has been strongly shaped by Donna Haraway's work (e.g. Haraway, 2003; Lorimer, 2010). Examples include book-length works that clearly show mutual accommodation over time (Robbins, 2007; Head et al., 2012), but there are shorter pieces that, by taking the subjectivity of nonhuman organisms seriously, reveal new understandings of human-environment relations and

environmental politics (Barua, 2014; Dempsey, 2010; Hinchliffe, 2008).

Another area that has benefited from these understandings has been in the realm of property and (fictitious) commodity formation showing how objects and processes of nature do not necessarily accommodate to ('resist') the requirements of capital or governance regimes (Blomley, 2008). Nonhuman objects and processes of nature in order to be regulated, protected, or counted need to be located, if not contained, in space. Most natural objects and processes are 'wild' in the sense that they do not fully accommodate themselves to places where we expect or where we enclose them. Political ecology work has shown how these can disrupt social borders or boundaries (Sunberg, 2011), and mobile organisms can complicate conservation or economic enclosures (Sneddon, 2007). Such enclosures are part of commodification processes which also involve simplification and abstraction to make lively objects of nature tradeable (Collard and Dempsey, 2013). This is a very active area of research in political ecology and allied fields, with examples of the commodification of genes (Rossi, 2013), water (Bakker, 2004), wetland ecosystem services (Robertson, 2006), carbon (Bumpus, 2011), and wild animals (Collard, 2014).

V Conclusions

I dissent from the recurrent assessments of political ecology's demise as a field that seriously concerns itself with the workings of the biophysical world. While works engaging with ecology represent a minority of political ecological scholarship, an embrace of the diversity of political ecology and its broader intellectual influence reveals much more activity than is typically recognized.³ This far-from-exhaustive review shows the diversity of contributions in the areas of the political economy of environmental change and environmental politics (politics of ecology and ecology in politics) since 2005.

My concern is that in drawing boundaries around the political ecological tradition, we may lose the methodological strength of its place-based tradition for studying social and ecological dynamics in particular geographical and historical contexts. More specifically, if scholars were to see political ecology as inhospitable to ecological engagement, there would be a cost to the study of human-environment relations more broadly. There is a natural inclination within the academy to create boundaries between different approaches as scholars compete to differentiate their work from that of the past. Geography as a discipline is not immune from this tendency (e.g. Johnston, 2012) but may be more vulnerable to it as its competitive advantage among disciplines is arguably its integrative power (Lave et al., 2014). The analytical power of place-based approaches for understanding socio-environmental change or the role of the biophysical world in relation to environmental politics is well recognized. While the commitment to place-based research is not ubiquitous within political ecology, it has been a basic methodological feature since its initial framing. Similar methodological commitments to place-based research within the new fields of land-change science and critical physical geography are far from clear. The political ecological framework (along with cultural ecology) remains the major approach within human-and-environment geography that adopts a place-based approach for understanding social and ecological dynamics. This is a major reason why, despite its minority status within the narrowly-defined field of political ecology, ecological engagement remains an important contribution of political ecology to environmental geography. A recognition of these contributions is important for their persistence and growth.

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Notes

1. While seeking to make connections to the broader political economy, it was argued by early political ecologists that one could only understand the *interaction* of social and ecological processes in particular places. This methodological commitment proved prescient as subsequent work in ecology and human-environment interactions have continued to point to the importance of these contexts for understanding ecological and socio-environmental dynamics. In short, the place-based approach of political ecology had as much if not more to do with its commitment to understand the interaction of social *and* ecological processes as it was an inheritance of the place-based approach of cultural ecology.
2. Engagement can take many forms. It can involve ecological fieldwork by the political ecologist, collaboration with biophysical scientists, or a close reading of existing ecological literature. These engagements will often not meet the research standards of the plant ecologist, soil scientist or conservation biologist. Their value lies in the degree of socio-ecological integration made possible by documenting ecological response in particular geographic and historical contexts where ecological research is often lacking.
3. In this review I have included examples of work that may not self-identify as 'political ecology' but that are shaped by and resonate with the political ecological tradition. This is a truer measure of political ecology's influence and consistent with an embrace of political ecology's diversity.

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