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ENVIRONMENTAL CONFLICT

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Introduction

A notion of conflict is arguably at the core of political ecology. Originally coined in the 1970s by anthropologists and cultural ecologists, the term political ecology first appeared within a leading geography journal through Bassett's (1988) demonstration that peasant-herder conflicts in northern Ivory Coast resulted from the productivist policies of the state rather than resource scarcity and ancient hatred. Since then, political ecologists have continued to work on environment-related conflicts, broadening the scope of their enquiries through the range of actors, contexts, motives and "objects" as well as types of conflicts considered. Deploying a range of methods and conceptual frameworks, political ecologists are united by their commitment to offering critical perspectives on often taken-for-granted processes. Using multi-scalar, historically informed and culturally sensitive entitlement analyses, political ecology aims to complicate – if not overturn – simplistic narratives of environmental conflicts driven by "scarcity" or "greed". By 2013, about two-thirds of political ecology studies had used the concept of conflict in their analyses, the second most frequent conceptual term after "power" according to a Google Scholar search.

That conflict is at the core of the discipline is first reinforced by a number of definitions. Martinez-Alier (2003: 71), among the most notable examples, classically defines political ecology as "the study of ecological distribution conflicts". More broadly, political ecology is about politics, and about recognizing the political character of environmental and resource issues. Conventional definitions of politics include collective decision-making processes contesting a pre-existing status quo or consensus; as such, politics can be broadly understood as defining and resolving such contestations and disagreements, which can take the form of *conflicts* when they are strong, entrenched and perceived to be irreconcilable. Political ecology is thus in large part about the "conflictual" character of political processes around ecological issues.

Second, political ecologists have also been keen to explore the *politicization* of the environment via conflicts, rather than naturalizing conflicts through environmental analysis. This perspective represents a crucial departure from neo-Malthusian concepts of "environmental conflict" supporting depoliticized concepts of environmental scarcity (or abundance, see below) "naturally" triggering conflicts – generally of the "violent ethnic" kind. Political ecologists seek to understand conflicts *around* or *through* the environment, and not simplistically explain conflicts

as resulting *from* the environment. This means notably that political ecologists are at least as interested in studying the political factors and conflict dimensions of what comes to shape environmental conditions as they are in studying the conflict dimensions of the effects of these environmental conditions. Many political ecologists examine both sides, and their dialectical relations, giving particular attention to the ways in which such environmental conditions become politicized, and how resources and the environment come to participate in the reification of conflicts. A classic example here is that of farmer-herder conflicts in the Sahel, a "repeated game" in which "conflicts that are waged over the long term with the conflict's history being invoked and reworked to make moral claims in the present" (Turner 2004: 878). It is in part through such conflicts that identities and (exclusionary) social ties become consolidated (Rikoon 2006).

Third, many political ecologists take as given a stratified notion of society structured by uneven power relations. From this starting point, many political ecologists understand that conflicts are either inevitable, or at least ought to occur to bring about environmental justice (see Chapter 45, this volume). Such stratification may not systematically result in conflicts, understood in the form of open struggles. Durable stratification may reflect the absence of "effective" conflicts, or at least their failure to deliver more egalitarian outcomes. It is thus important to recognize different expressions of conflicts, and forms of struggle – as demonstrated by Scott's (1985) "weapons of the weak". As such, by understanding conflicts in a broad sense – and not waiting to see violent manifestations to recognize conflicts – political ecologists express a sensitivity that better captures the unfair or tense character of social relations, and associated processes of legitimation and resistance.

Fourth, and following from the previous point, political ecologists do not systematically treat conflicts as nefarious processes with only negative outcomes but acknowledge or even promote their emancipatory role in challenging structural and cultural forms of violence (Galtung 1990), on both people and the non-human. Seeing conflict in a positive light sharply contrasts with mainstream representations depicting conflicts as simply negative, and using for example terms such as "riots" instead of "demonstrations", in an attempt to criminalize aggrieved victims of inequalities as "troublemakers" and delegitimize their struggles (Zalik 2011). Even in cases where inequalities are apparently legitimated by a dominant social order, political ecologists seek to denounce such structural forms of violence. As discussed below, a major concern of some political ecologists is thus to avoid a depoliticization of environmental issues.

Finally, in his impressive introduction to the field, Robbins (2004: 14) identifies "environmental conflict" as one of the five central theses of political ecology, through which he sees an effort to demonstrate that the actors and causes of conflicts over environmental access "are part of larger gendered, classed and raced struggles and vice versa" – the other four being: degradation and marginalization; conservation and control; environmental subjects and identity; and political objects and actors. These conflicts not only take place over the environment, but within the context of economic, ecological and cultural differences (Escobar 2006: 8). As such it is often through the recognition and respect of differences, but also through the reduction of inequalities, that political ecologists see a resolution of conflicts.

Defining "environmental conflicts": multiple views

Environmental conflict can be broadly understood as a social conflict relating to the environment. This relation can take several forms and directions. It can be a conflict *over* the environment, most notably in terms of access to and control over environmental resources (Ribot and Peluso 2003). These so-called "resource conflicts" are defined by Turner (2004: 863) as consisting of

"social conflict (violent or nonviolent) associated with both struggles to gain access to natural resources and struggles resulting from the use of natural resources". From a neo-Malthusian perspective, environmental conflicts also consist of conflicts resulting *from* environmental processes – especially resource scarcity supposedly putting strains on social relations – even if the conflict per se is not over those "scarce" environmental resources (Dalby 2002). A variant to this scarcity-driven argument is the so-called "resource curse", according to which the exploitation of abundant resources in undiversified economic contexts results in high levels of large revenues and resource dependence that would increase vulnerability to conflicts by undermining the quality of institutions, exposing societies to economic shocks, and exacerbating tensions over the distribution of resource rents and more generally the costs and benefits of dominant resource sectors (Le Billon 2012).

Closer to the core interests of political ecologists, Robbins (2004: 173) identifies two major facets of the environmental conflict thesis, according to which "increasing scarcities produced through resource enclosure or appropriation by state authorities, private firms, or social elites accelerate conflict between groups (gender, class, or ethnicity)". The first one consists in the "*politicization*" of environmental problems "when local groups ... secure control of collective resources at the expense of others by leveraging management interventions by development authorities, state agents, or private firms". The second consists in the "*ecologization*" of pre-existing conflicts as a result of "changes in conservation or resource development policy". This argumentation, according to Robbins (2004), is based on three lessons drawn by political ecologists from feminist theory pointing at the effect of labor and power divisions distributing unevenly "access and responsibility for natural goods"; from property research understanding "property systems as complex bundles of rights that are politically partial and historically contingent"; and from critical development studies showing that development activities are "rooted in specific assumptions about the class, race, and gender of participants in the development process, often resulting in poorly formed policy and uneven results". In this respect, Turner (2004: 866) points out that,

> moral and material motivations are often strongly intertwined in "resource conflicts" ... It is only through a full and critical engagement with both the materiality which underlies all social life and the moral claims that implicate natural resource use that the etiology of resource-related conflict can be better understood.

If political ecologists acknowledge the significance of conflict in the politics of socio-environmental relations, conflicts matter differently among them. I highlight here three main motivations: the pursuit of justice, the politicization of socio-environmental interactions and the fight against the "naturalization" of environmental conflicts. Interestingly, relatively few political ecologists are actually motivated by the resolution of environmental conflicts, possibly because they see conflicts as emancipatory for marginalized people. As a prominent political ecologist mentioned in this regard to the author, "we are here to document conflicts, not to solve them". Seeking to bring about compromise, trade-offs and compensations can indeed be understood as being complicit in processes that are often perceived to be at the advantage of the most powerful groups (either between the opposing parties, or within the aggrieved group). Monetary compensations for environmental damage or loss of access to resources, for example, extend a colonial logic of commodification and monetization. Not only do such "compensations" assert commensurability between money and a vast range of socio-environmental relations, but they also often result in further distributional conflicts among (un)compensated communities and households.

What justice for slugs?

Closely tied to discussions of ethics, the search for justice is a prominent motivation of many political ecologists. Environmental conflicts, from that perspective, are struggles for environmental justice. In turn, environmental justice encompasses two aspects: the justice of ecological distribution among people, and the justice of relationships between humans and the non-human world (see Chapter 45, this volume). As noted by Low and Gleeson (1998: 1), who put justice at the core of their conceptualization of political ecology, it is in the justice found through and towards the environment that we "define who and what we are and who and what 'the other' is". By far the most attention has been paid to environment-related issues of *social justice* as redress against unfair ecological distribution processes; most notably whereby less powerful groups come to bear ecological costs as a result of racial prejudices. Ecological distribution conflicts mostly consist of resistance against the imposition of "externalities" (i.e. the "cost-shifting" of environmental exploitation). As discussed by Martinez-Alier (2001: 161), environmental justice issues in the Third World have been mostly about the "defense of common property resources against the state or the market"; whereas in the United States it was mostly a struggle against the "disproportionate allocation of toxic waste to Latino or African-American communities". The concept of environmental racism, based on discriminatory practices undermining human dignity according to racial or ethnic criteria, has thus been central to some environmental justice movements, with environmental conflicts being added and interpreted through broader conflicts articulated around the politics of race and rights.

Issues of environmental justice towards the non-human are also gaining greater attention (Chapter 9, this volume). Among early studies figure Ted Benton's reflections of the extension of social justice to the non-humans and the parallels between political ecology and animal rights movements on the "moral significance of non-human beings" (Benton 1993: 23). Here the politics of recognition are key, whether around the recognition of *non-human rights* as part of a broad fight against *environmental speciesism* – a set of values privileging human entitlement on the environment over that of other species. The non-human can include "close others", such as furry little monkeys captured from tropical forests to be traded as pets, or returned to the wild after going through processes of (de)commodification and alienation from humans (Collard 2013). As well as "distant others", such as slugs, with Ginn (2013) asking how many of the 20 billion slugs in British gardens are slaughtered every year by humorous garden-lovers following a still discriminating more-than-human ethics of gardening.

Conflicts matter to highlight (in)justice, whereby conflict becomes the symptom and revelatory crisis of underlying unfairness. Seeing environmental conflicts through the lens of ethics and justice means questioning selective recognition of rights and pursuing a politics of difference that remains inclusive. It is also about due process and the possibility of a fairer future. Environmental conflict, in this view, is often a step in the right direction, the conflict opening new avenues for justice struggles and the hope of more universal fairness. In this respect Turner (2004: 886) cautions that,

> [Political ecologists] are well placed to understand the fuller politics of not only resource-related conflicts but of their own active and passive roles as researchers in the international debates about conservation and development. It is important that [they] develop the language and analytical tools to present the fuller complexity of resource-related conflict ... to counter the overly simplified depictions that greatly reduce the social, political and moral lives of rural peoples in the pursuit of policy prescription.

In other words, political ecologists need to do justice to the people and issues they are engaging with, working in solidarity without falling into the trap of seductive but counterproductive policy.

Socio-environmental relations, politics and conflicts

For many political ecologists, the prevalence of conflicts around environmental issues demonstrates that all human–environment interactions are unavoidably political (see above). Not only are "ecological issues … politicized through local and regional conflict, [but] political questions are increasingly cast in ecological terms" (Robbins 2004: 173). In his account of conflicts around forest in northern New Mexico, Kosek (2006: x) demonstrates how "forest management, protection, exploitation, degradation, and restoration are inseparably tied to the social conflicts and cultural politics of class, race, and nation … Polluted soils are related to degraded souls; national forests to be protected from foreign bodies; board-foot quotas become the site of intense class politics".

Conflicts, from this perspective, are understood as a prime form and expression of politics. Building on the idea of "post-politics" (Zizek 1999), several political ecologists have pushed this perspective further, arguing that politics without conflicts would not be politics. This is not to say that human–environment interactions have been "apolitical", but rather that they have actively become "depoliticized". Such depoliticization rest on two main processes characterizing changes in modes of government, both broadly shaped by neoliberalism and a general shift from government to "governance" (Swyngedouw 2007). First is the *managerial* approach to particular demands – for example mining project or pipeline construction – through a combination of expert knowledge and public consultation (though with strict inclusion criteria and limited participation in actual decision-making), rather than through emancipatory forms of conflict that would offer possibilities of a "metaphorical universalization of particular demands" and result in systematic changes, including in the ways politics work (Swyngedouw 2007: 24). Second is the *populism* of environmental views – for example on sustainability and climate change – that constitute an exclusionary form of consensus that avoids critical debates by characterizing alternative viewpoints as "radicalism". Conflicts, from this perspective, are intrinsically constitutive of politics, and thus politics without conflict (i.e. politics through consensus) is "post-political".

The end of adversarial politics, from this perspective, would thus represent the end of politics in its possibilities of radical outcomes and the pursuit of utopias (for a critique, see McCarthy 2013). A perspective rejoins the critique of neoliberalism as "TINA" (There Is No Alternative) – an ideology seeking to achieve hegemony through the denial of possibilities. Examining questions of urban environmental justice, Swyngedouw (2009) argues that the consolidation of an urban post-political condition runs "parallel to the formation of a postdemocratic arrangement that has replaced debate, disagreement and dissensions with a series of technologies of governing that fuse around consensus, agreement, accountancy metrics and technocratic environmental management". In other words, these less political and democratic forms of decision-making have displaced conflicts. This "age of 'post-politics'" is, for Zizek (2005: 115), a time "when politics proper is progressively replaced by expert social administration, [and] the sole remaining legitimate sources of conflict are cultural (religious) or natural (ethnic) tensions". Such "postpolitical consensual police order", as Swyngedouw (2009: 6045) defines it, not only depoliticizes the environment and threatens democracy, but by doing so "must, of necessity, lead to an ultra-politics of violent disavowal, radical closure and, ultimately, to the tyrannies of violence and of foreclosure of any real spaces of engagement".

Post-political spaces can thus be characterized as the "house of reasonable politics" (Blaser 2013a), within which only "minor" differences amenable to compromises are allowed, with the threat of expulsion should differences become "unreasonable". Outside of the house, reigns spaces of criminalization and forceful policing – another form of depoliticization whereby adversaries become delegitimized "rebels", "bandits" and "criminals". Conflicts, in this view, become both exacerbated (e.g. with an escalation into war-like rhetoric and use of force) and restricted (e.g. in terms of opportunities for adversarial debates).

Not all political ecologists share this view, some suggesting that adversarial politics in fact lacks radicalism and hollows a "progressive middle-way". Examining conflicts over rural landscapes in the American West, Sheridan (2007: 121) not only presents the "ideological clashes and political manoeuvring among interest groups who claim access to those lands", but also the "struggle to move beyond polemics and dualities and mobilize, in the words of [a local group, the Quivira Coalition] a 'radical center' committed to 'foster ecological, economic, and social health on western landscapes'". So while some political ecologists have denounced the dangers of depoliticizations and warned of the dangerous backlash that would see re-emerging conflicts escalate into the "tyrannies of violence", others examine the search for consensual forms of politics upon which solutions can be found. In both cases, however, political ecologists have maintained that there is no such thing as "apolitical" socio-environmental relations, but that conflicts come to play distinct roles within those politics.

Denaturalizing conflicts

In addition to seeking to expose injustices and demonstrate the political character of socio-environmental relations, political ecologists have also sought to challenge the ontological status of and deterministic arguments regarding environmental conflicts, and to insist on the social rather than "natural" character of conflicts. Political ecology rejects the simplistic association, widespread in the popular literature, that conflicts are most frequently associated with absolute resource scarcity. In other words, it refutes the notion that the likelihood of conflict increases as resources become scarcer (whether through depletion, increased degradation, more uneven capture or allocation, or rising demand). According to the "conflict-resource scarcity" argument, widening the scope of the (international) security agenda to include environmental breakdown and livelihood resource access could help address widespread, chronic, low-intensity and intra-state conflicts, and provide a basis for more peaceful relations (Conca and Dabelko 2002).

Scholarly studies of so-called "green-wars" have generally distanced themselves from a simple and direct causal relation model between resource scarcity and conflicts. Rather, they have identified indirect linkages with increased poverty, social segmentation, migrations and institutional disruptions (Baechler and Spillman 1996; Homer-Dixon 1999). Much of this work has received potent critiques for its methodological approach, with Gleditsch (1998) pointing notably at definitional and case selection issues, as well as reverse causality or speculation on future outcomes used as evidence. Critiques coming from political ecology have stressed the neo-Malthusian assumptions, reductionist and essentializing character of these studies (Hartmann 2001), as well as the naturalizing of an environment–insecurity nexus in the South exonerating (Northern-led) modernity and development (Dalby 2002). As such many studies echo Harvey's (1974: 256) warning about the "profound political implications" of supposedly ethically neutral scientific discussions of the population–resources relationship, especially a projection of neo-Malthusian views that invited "repression at home and neo-colonial policies abroad". Ironically, these essentialist views also mean that false expectations become the foundation of wrongly

headed programs, the failures and unintended consequences of which result in frustrations, grievances and (further) conflicts (Robbins 2012).

While "scarcity-induced" conflict arguments have received the most attention, the new paradigm of the resource curse has also come under some attention. Arguing that abundance rather than scarcity breeds conflicts (de Soysa 2002), the resource curse paradigm often ends up pathologizing resource producing regions (as being under the supposedly inescapable negative influence of resource sectors), the social conduct in relation to resource control (people being "naturally" driven to fight over resources rather than find cooperative solutions), and the conduct of belligerents (resources shaping their motivations and behaviours). Among the consequences of such pathologization are political de-legitimization of protest and popular (armed) resistance (Zalik 2011); the criminalization of small-scale mineral exploitation by local communities and regional migrants, which undermines livelihoods and coping mechanisms (Le Billon 2008); and the prioritization of a certain types of economic activity (such as large-scale mining or logging) over local livelihoods, as well as environmental and cultural practices. For Kuntala Lahiri-Dutt (2006: 15), resource wars theories, especially the resource curse argument, (re)produces:

> a picture of complete lack of control and disorder in the Third World, whose inhabitants – by some irrational logic of nature – have found themselves endowed with resources that they cannot or do not know how to deal with in an orderly manner. They envisage a paranoid fear about the unruly Third World, a landscape of apprehension, risk and insecurity where conflicts could only be resolved for one and all if either state-owned or multinational corporations take over the control and ownership of mineral resources, and manage them in a systematic manner – in the process putting their profits first and taking over the control of what should rightfully belong to the communities.

Such a picture is deeply anchored into neo-colonial mindsets, while being instrumental in processes of "accumulation by dispossession" (Harvey 2003). Yet it is increasingly challenged by affected communities, which in part explain the prominence and frequency of environmental conflict – as seen for example in the case of resistance to large-scale mining in the Andean region (Bebbington et al. 2009).

Studying environmental conflicts

Rather than following a deductive approach based on linear models linking environmental scarcity to social effects such as forced migration and social segmentation or associating resource wealth with institutional breakdown and greedy rebellions, political ecology opens up research to a wider array of historically and geographically contingent actors and processes – something that Watts (2004) terms the "resource complex". Such opening up not only broadens the number of "variables" while avoiding the pitfall of reductionist "hypotheses"; it also acknowledges the hybrid "socio-natural" character of resources themselves, the importance of situated perspectives, and the historicity and contingency of conflicts.

Generally following an inductive and multi-scalar approach, political ecology understand conflicts and more specifically the various forms of violence associated with them "as a site specific phenomenon rooted in local histories and social relations yet connected to larger processes of material transformation and power relations" (Peluso and Watts 2001 : 5). Through a focus on uneven power relations around the environment and the ecological dimensions of

resource-based political economies, political ecologists have emphasized the "many violent ecologies of global inequalities" (Robbins 2012: 1), with violence being broadly understood through its physical, structural and symbolic forms – to use the typology of Galtung (1990). This involves studying variations in property rights and documenting "movements of resistance to resource capitalism and the legitimacy of the state in matter of resource access and control" (Allen 2012: 158). It also involves studying the different processes and forms of exclusion in access and control over resources at the micro-scale, including "intimate exclusion" at the community and family level (Hall et al. 2012). In this regard, ethnographic approaches within political ecology allow identifying divides along gender lines (e.g. the vulnerability of matrilineal inheritance to resource capitalism), between generations (e.g. the selling-out and squandering of birth rights entitlements to land), and modes of production (e.g. advocates of large-scale exploitation versus traditionalist resource users) (Allen 2012).

Anthropologist and political ecologist Arturo Escobar (2006) has rightly pointed to the importance of accounting for cultural differences in explaining environmental conflicts, an attention that is frequently absent from environmentally deterministic mainstream accounts. Conflicts relating to the environment often start with distinctive ontologies about the environment and what come to constitute "resources". For Escobar (2006: 9):

> many communities in the world signify their natural environment, and then use it, in ways that markedly contrast with the more commonly accepted way of seeing nature as a resource external to humans and which humans can appropriate in any way they see fit.

Such "worlding" extends to the register of expressions involved in conflicts. Persuasively arguing for a blending of political ecology and ecological economics that acknowledges values incommensurability, Juan Martinez-Alier (2003: viii) has emphasized in this regard that "ecological conflicts are fought out in many languages".

Beyond questions of how certain cultures see, value and fight over "nature" and "resources" differently, political ecologists also consider how transformations bring about "new worlds" and, to use a crude binary divide, how transformed natures affect cultures through new socio-natural worlds. Environmental and resource conflicts are thus inescapably cultural conflicts through worldviews and representations but also through their material implications. Blaser (2013b) makes several suggestions to address these dimensions, including: taking time to understand what the conflict is about (it may or may not be about the environment, while "the environment" itself may be understood very differently); recognizing the possibility of ontological conflict, while not assuming that because cultural differences exist, ontologies must differ; focusing on performance rather than group ascription; seeking to maintain a "pluriverse" and openness of outcomes rather than accurate accounts that risk providing "just another cultural perspective".

Conclusion

Conflicts are at the core of many political ecology studies. The conflicts studied are generally over the defense of the environment as a source of livelihood for indigenous and marginalized communities, constituting what Martinez-Alier (2003) defined as the "environmentalism of the poor". This focus reflects a tradition based in large part on anthropology, cultural ecology and agrarian studies, which when combined with a Marxian political economy yields a concern for the emancipation of historically oppressed groups from the forces of capitalism and colonialism

– whether these destroy, conserve or technically render more "productive" the environments under study. These studies are driven by a normative concern for the exacerbation of ethically and morally undesirable distribution of burdens, rights and responsibilities resulting from ecological change. Political ecology thus departs from environmental sciences through this concern for social justice, but also conceptually and empirically for its attention to the political dimensions of socio-environmental change. By denaturalizing socio-environmental change, political ecologists strive to understand (and sometimes reduce) the political marginality of groups who are ignored until they become visible through the unexpected ecological changes and frequent conflicts that erupt as a result of lack of inclusion (Robbins 2012).

Environmental conflicts are contextualized by and played out through cultural differences, discursive representations and material practices. Cultural differences have sharp material, or physical consequences, with the (re)construction of socionatures through modern capitalists interests often implying a major reshaping of landscapes and dispossession of resources for "traditional" livelihoods. For many political ecologists, "what is at stake is a redefinition of production and the economy in line with both the ecological and cultural dimensions of the environment" (Escobar 2006: 10). In this respect "development" is a major topic, with critical reflections on essentialized portrayals of "beneficiaries", and classed, gendered and raced assumptions that guide development interventions, and lack of sensitivity to the many differences among "target" households and divergences of interests within communities and stakeholders. By changing the conditions in which people make a living, by misrepresenting the subjects of development, or by ignoring divergences of interests and perspectives, development interventions are likely to ignite, become enmeshed and exacerbate local struggles.

New directions for political ecology research on environmental conflicts remain largely open, but some topics and approaches are demonstrating growing prominence, greater urgency or promises of new theoretical insights. Within the confines of traditional topics, conflicts associated with the "global land grab" and more generally with the "green grab" are receiving increasing attention (Peluso and Lund 2011), notably with respect to the dispossession of "smallholders" by large-scale agro-industrial investments and food production regimes. More recent topics likely to receive growing attention include conflicts associated with urban political ecology, broadly defined biopolitics in the "Anthropocene", the political ecology of "de-growth", and dispossession and environmental degradation in "emerged economies". Debates around "speciesism" and the ethics of the "non-human", as well as conflicts around the environmental dimensions of "new technologies" such as nanotechnologies also offer avenues for further research. Methodologically, quantitative tools including GIS and statistic analysis seem to be making some headway to help further analyze mostly ethnographic material, while many bridges remain to be built with the approaches and findings of "natural sciences". Theory-wise, political ecology will likely build upon and further contribute to feminism, post-colonialism, as well as Science and Technology Studies (STS). At a scholarly level, political ecology studies of environmental conflicts could perhaps most significantly contribute by further politicization within mainstream ecology studies and sustainability science.

Political ecology studies of environmental conflicts demonstrate the value of historical enquiries into the interplay of environmental and political economy changes. Rather than seeking to draw universal laws or make prophesies of future "resource wars", political ecology strives to expose political marginality, processes of dispossession and the truth regimes that "naturalize" them. By better understanding historically contingent assemblages of matter, actors and discourses – what Watts (2004) terms "resource complexes and their systems of rule" – political ecology can better resist both neoliberal assumptions that drive contemporary forms of environmental transformation, as well as securitization processes that see to reconfiguration of

issues through a narrow and often violent and historical oppressive security lens. A progressive move, here, is towards "worlding" – an approach through which the recognition of distinct ontologies, values and desires is privileged over the mobilization of security narratives and the institutional imperative of self-righteous intervention. This worlding not only broadens horizons to diverse cosmologies and "ways of being", but also produces new understandings and solidarities.

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URBANIZATION AND ENVIRONMENTAL FUTURES

Politicizing urban political ecologies

Erik Swyngedouw

Urbanism is the mode of appropriation of the natural and human environment by capitalism.

(Debord 1994: 121)

Introduction

Some time in 2013, the earth passed the symbolic threshold of 400 ppm of CO_2 in the atmosphere. The 5th report of the IPCC concluded that 'most aspects of climate change will persist for many centuries even if emissions of CO_2 are stopped' (IPCC 2013: 27). Despite the migrating circuses of the UN's Climate Summits and their dismal record of failures, precious little has been achieved in lowering total greenhouse gas emissions. In the meantime, cities in both the global North and South are choking as the concentration of small particles and other forms of pollution reach dangerously high levels.

We have now truly entered what Paul Crutzen in 2000 tentatively named the Anthropocene, the successor geological period to the Holocene (Crutzen and Stoermer 2000), and planetary urbanization is not only its geographical form: more importantly, it is also the socio-spatial process that shapes the intimate and accelerating fusion of social and physical transformations and metabolisms that gave the Anthropocene its name (Swyngedouw 2014a). Planetary urbanization refers to the fact that every nook and cranny of the earth is now directly or indirectly enrolled in assuring the expanding reproduction of the urbanization process. Indeed, the sustenance of actually existing urban life is responsible for 80 percent of the world's greenhouse gas emissions (Bulkeley and Betsill 2005), for the accelerating mobilization of all manner of natures, and for producing most of the world's waste.

From this perspective, we are here not primarily concerned with the city as a dense and heterogeneous assemblage of accumulated socio-natural things and gathered bodies in a concentrated space, but rather with the particular forms of capitalist urbanization as a socio-spatial process whose functioning is predicated upon ever longer, often globally structured, socio-ecological metabolic flows. These flows not only weld together things, natures and peoples, but do so in socially, ecologically, and geographically articulated, but uneven, manners (Swyngedouw 1996; Cook and Swyngedouw 2012; Angelo and Wachsmuth 2014). The key question is, therefore, not about what kinds of natures are present *in* the city, but rather about