



Hollow Ecology: Ecological Modernization Theory and the Death of Nature¹

Jeffrey A. Ewing

University of Oregon

jewing2@uoregon.edu

Abstract

The last few decades have seen the rise of ‘ecological modernization theory’ (EMT) as a “green capitalist” tradition extending modernization theory into environmental sociology. This article uses a synthesis of political economy, world-systems theory, and political, economic, and environmental sociology to demonstrate that the EMT presumption of growth and profit as economic priorities (alongside its neglect of core-periphery relations) produces many feedback loops which fatally undermine the viability of EMT’s own political, technological, and social prescriptions, alongside creating problems for the fundamental EMT concept of ‘ecological rationality.’ Furthermore, this article attempts to explain why “green capitalist” approaches to environmental analysis have influence within policy and social science circles despite their inadequacies within environmental sociology. Finally, this article argues that in order to address the ecological challenges of our era, environmental sociology needs to reject “green capitalist” traditions like ‘ecological modernization theory’ which presuppose the desirability and maintenance of profit and growth as economic priorities (and predominantly fail to critique power imbalances between core and non-core nations), and instead return to the development of traditions willing to critique the fundamental traits of the capitalist world-system.

Keywords: ecological modernization theory, capitalism, capitalist world-system, environmental sociology, political sociology, economic sociology, green capitalism, human ecology, treadmill of production, metabolic rift, world-systems theory, ecosocialism

¹ I would like to express my gratitude to Erin Beck, Riley Dunlap, John Bellamy Foster, and Richard York for their valuable suggestions on earlier drafts.



New articles in this journal are licensed under a Creative Commons Attribution 4.0 United States License.



This journal is published by the [University Library System, University of Pittsburgh](#) as part of its [D-Scribe Digital Publishing Program](#) and is cosponsored by the [University of Pittsburgh Press](#).

Our planet is in ecological peril—and consequently all living species on it, including humanity, are equally endangered. To address our ecological crises with sufficient quickness and resolution, we need to shelve permanently those attitudes and prescriptions that would put our plans for ecological recovery on the wrong track. Dominant approaches to these problems within environmental sociology often fall within one of two varieties—either “green capitalist” approaches or those of *critical* environmental sociology. Despite a wide range of established critiques against both the capitalist world-system (CWS) and modernization theory (particularly in the environmental arena), ecological modernization theory (EMT) has emerged as one particularly influential and well-defined variant of “green capitalist” environmental sociologies, both among reformist environmental sociologists and within policy circles (Brulle 2010; Foster, Clark and York 2010). In this paper, I will both (1) critique EMT for its failure to account for the negative ecological impacts of central world-systems factors, and (2) explore why EMT’s ideas (as a particular variant of “green capitalist” approaches to environmental sociology) continue to have influence in policy and scholarly circles despite the overwhelming evidence against their viability as ecological prescriptions.

The critique in this article will proceed in three primary steps. First, I will situate EMT within the history of environmental sociology more broadly. Second, I will demonstrate that EMT’s failure to criticize central CWS features (its profit-and-growth orientation, and the unequal power between the core and the rest of the world) necessarily undermines both (a) EMT’s central concept of *ecological rationality*, and (b) its economic and political prescriptions towards ecological change. Third, I will explore the sources of EM influence in policy circles and social science despite these major flaws. Finally, I conclude that environmental sociology must reject and surpass “green capitalist” approaches like EMT if we are to help humanity respond in time to our common ecological crises, and I propose some steps for environmental sociology towards that end.

The Critical Origins of Environmental Sociology

Critical approaches to environment-society research have a wide array of intellectual sources:

from the anti-authoritarianism and anti-commercialism of Kropotkin and Sauer to the local rationalism of White and Netting, [political ecological research] has consistently interrogated the logic of local production, the value of local knowledge, the environmental costs of regional and global change, and the power-laden impacts of socio-environmental change (Robbins 2011).

Recent research has also now engaged with previously neglected ecological foundations within classical sociological thought itself, such as those of Marx and Weber (Foster 1999; Foster and

Holleman 2012). Critical and explicit sociological study of our ecological relations became engrained as the sub-discipline of environmental sociology as a response to the increasingly widespread recognition of environmental problems in the early 1970s. As such, one of its central questions regards diagnosing the anthropogenic causes of our environmental ills (Jorgenson and Clark 2012; York and Dunlap 2012).

While there is no universally accepted theory of the forces contributing to environmental change, two of the most influential traditions are (1) “green capitalist” approaches such as ecological modernization theory (whose analysis maintains the central features of the capitalist world-system), and (2) *critical* environmental sociology (holding capitalism necessarily responsible for our ecological ills, and thus pursuing both critical analyses and radical solutions), the latter grounded in approaches such as human ecology, political economy, and world-systems theory (Brulle 2010; Foster, Clark and York 2010; Pellow and Nyseth Brehm 2013). At the core of the development of critical environmental sociology is the human ecology perspective, emerging from the works of Catton and Dunlap (see York and Dunlap 2012), which critiqued human exemptionalism under the banner of an approach now referred to as the New Ecological Paradigm (NEP). Contemporary human ecology studies have recently used cross-national research to highlight population and affluence (measured in per capita GDP) as the central driving forces behind environmental degradation at the national level (York and Dunlap 2012), and have also developed the New Ecological Paradigm Scale, an influential measure of proenvironmental orientation (Dunlap 2008).

Marxian political economy-inspired approaches to environmental sociology have also been deeply influential throughout its history. Allan Schnaiberg’s *The Environment: From Surplus to Scarcity* (1980) describes the ‘treadmill of production’ in modern industrial capitalism, where each round of investment prioritizes increasingly resource and energy heavy labor-saving technology, and thus increases both demand for ecosystem elements and resultant pollution (Gould, Pellow and Schnaiberg 2008; Schnaiberg and Gould 1994). James O’Connor’s work on the ‘second contradiction of capitalism’ highlights that capitalism tends to undermine its own conditions of production as it continually depletes natural resources and shifts to resources that are higher cost, lower quality, further from the site of production, etc. (O’Connor 1998). Later, environmental sociology was further influenced by a directly Marxian political ecology, centered in a critique of capitalism’s varied and severe ecological consequences and focusing on ‘metabolic rifts’ which disrupt the society-nature relationship in a number of qualitative ways (Foster 2012; Foster, Clark and York 2010).

While the earliest world-systems theory had originally been subject to various critiques² it has since been increasingly recognized and utilized as a relevant approach for understanding the environmental outcomes of capitalist economic processes (Goldfrank, Goodman and Szasz 1999; Jorgenson 2015; Jorgenson and Givens 2014). World-systems environmental analyses join other critical traditions in environmental sociology with (1) an acknowledgment of the negative ecological effects of the profit-and-growth orientation of capitalist economic activity, alongside (2) their sustained, in-depth attention to the differential power between core and non-core nations within the CWS (alongside its negative environmental consequences). This focus has recently produced significant research on both ecologically unequal exchange and foreign direct investment (FDI) dependence as phenomena that contribute to ecological devastation (Jorgenson and Givens 2014).

These foundational critical traditions within environmental sociology, alongside additional perspectives such as environmental justice literature (Anguelovski 2014) and newer contributions, such as Jason W. Moore's development of the 'capitalism as world-ecology' approach (Moore 2015) or many distinct degrowth (D'Alisa, Demaria and Kallis 2014) and critical political ecology (Peet, Robbins and Watts 2011b; Robbins 2011) perspectives, are significantly complementary (Foster 2012; York and Mancus 2009). Additionally, they have together highlighted many of the quantitative and qualitative ways in which capitalism, as a growth-and-profit oriented mode of production characterized by unequal economic and ecological relations, is responsible for our ecological crises (Pellow and Nyseth Brehm 2013; York and Dunlap 2012). Nonetheless, it is exactly this thesis that is rejected by ecological modernization theorists and other advocates of "green capitalism", which presume the profit-and-growth imperatives of capitalism, while EMT in particular fails to adequately account for the negative ecological implications of the differential power between the core and non-core regions. Indeed, it is EMT's presumption of the CWS that impedes the viability of their prescriptions while rendering their approach to *ecological rationality* deeply incoherent and implausible-effectively undermining the whole of EMT's prescriptive analysis.

² World-systems theory has faced early critique for (1) reifying the concept of the "world-system" and consequently (2) neglecting concrete attention to the historically-specific development of particular nations (see Zeitlin, Maurice. 1984. *The Civil Wars in Chile: (or the Bourgeois Revolutions that Never Were)*. Princeton, NJ: Princeton University Press.). Simultaneously, even early world-systems research has analytically treated the 'world-system' as a concept *rather* than as a concrete reified 'thing,' encouraging the unit-of-analysis to be determined in the course of research. Moreover, I would argue that the plethora of more recent world-systems theory (particularly regarding the effects of international power relations on the environment) has escaped these critiques through attention to concrete relations between core and non-core regions, *rather* than taking the "world-system" to be a reified concept. (For an influential exposition of, and rebuttal to these critiques, see (So, Alvin Y. 1990. *Social Change and Development: Modernization, Dependency and World-System Theories*. Newbury Park, CA: SAGE Publications.).

“Green Capitalist” Modernization Theory as Environmental Sociology

Ecological modernization theory is a fundamentally representative “green capitalist” approach to environmental sociology (Mol 2002), presuming the central features of the CWS and adopting many core elements of traditional ‘modernization theory’ (Foster 2012; McLaughlin 2012; Seippel 2000). Simultaneously, contemporary EMT has been subject to multiple empirical tests, prompting significant critiques of its methodological and epistemological premises (Brulle 2010; York and Dunlap 2012; York, Rosa and Dietz 2010). First, its reliance on the “case study” method has been found to be unable to isolate general large-scale patterns (such as the impact of EM processes on actual ecological outcomes). Second, EMT has a strong preference for qualitative over quantitative methodology, even though the ecological consequences of modernity are predominantly material and can only be fully and reliably understood with large-scale and quantitative analyses. Third, EMT proponents defend typically defend their approach using individual counterexamples to reject a hypothesis, even though the most developed critiques of EMT have hinged, rather, on considerable evidence of widespread negative environmental consequences of modernization (Dunlap and Marshall 2007; York, Rosa and Dietz 2010). In all these elements, EMT neglects the bigger-picture quantitative research that underlies most critical environmental scholarship in favor of individual-case qualitative research that neglects the overall consequences of capitalist development.

While these critiques highlight major fundamental weaknesses in EM analysis, its central weaknesses stem from its adherence to the “human-exemptionalist paradigm” in its approach to human-ecological relations (Foster 2012), and its modernization theory influenced presupposition of the basic features of the CWS (McLaughlin 2012; Seippel 2000). EMT ignores the number of ways that the (1) profit-and-growth orientation and (2) core-periphery relations of the CWS undermine the ability of “green capitalist” prescriptions (e.g. technological changes, “green” consumption, NGO or market-led strategies, etc) to solve our ecological crises. Existing critiques of EMT have not developed a systematic account of how the presumption of these central features of the CWS undermine EMT’s prescriptions as well as their development of the concept of *ecological rationality*, a thesis I will proceed to demonstrate using a synthesis of a variety of distinct literatures.

The Development of Ecological Modernization Theory

The central premise of EMT is that environmental interests have been increasingly incorporated into social relations, institutions, and everyday practices (Mol 2010). EM analysis presumes capitalist dynamics and relations of production and does not see challenging them as necessary for overcoming ecological problems (Mol 2002). In this context, environmental changes are said to occur through (1) *political modernization*, involving transformations in the respective roles of 'the

state' and 'the market' which include an “increasing importance and involvement of economic and market dynamics, institutions and agents in environmental reforms” (Mol 2010), (2) transformations in technology and technological development, and (3) broader social transformations within “greening” consumption practices and in global civil society (Mol 2002; Mol 2010). It would be by means of the successful integration of *ecological rationality* into these arenas and processes that EMT argues for the ultimate potential compatibility of the capitalist world-system/economic growth and ecological sustainability.

EMT shares with modernization theory a Parsonian conceptual edifice, including (1) its core structural-functionalist elements such as functional differentiation, rationalization, and individualization, alongside (2) its human exemptionalist approach to nature, and (3) its theoretical grounding in an elite-driven, essentialist, and developmental account of progress towards various social ends (Foster 2012; Gilman 2003; McLaughlin 2012; Seippel 2000). The latter forms the core of the EMT notion that the ordinary operations of the contemporary CWS are organically tending now towards the incorporation of *ecological rationality*. These starting assumptions are further consistent with the pro-capitalist, elite-driven, anti-populist, and ethnocentric approaches of classical liberalism (Wallerstein 2004; Wallerstein 2011) and modernization theory (Gilman 2003). The EM eco-optimistic defense of capitalism persists despite widespread recognition that our ecological crisis is increasingly dire (Klein 2014; Steffen et al. 2015) and the influence of environmental movements have been *decreasing* in influence (Brulle 2010) as anti-ecological movements and environmental skepticism and denialism *increase* in influence (McCright and Dunlap 2010). Before we address the consequences of the presumption of the CWS on EMT's other prescriptions, however, we must first look at the consequences of its *a priori* rejection of other approaches to human-ecological relations.

The Failings of "Green Capitalism" and EMT

To solve our ecological crises, we must first acknowledge the importance of considering alternative sets of values and beliefs concerning human-ecological relations, as one of the biggest challenges we face in attempting to address our ecological crises is:

the narrow cultural scope and shallow historical depth that circumscribe contemporary environmental discourse, constraining our potential to visualize alternatives to currently dominant human-environment relations (Paulson 2014).

Such circumscription limits ecological prescriptions by allowing non-or-anti-ecological criteria (e.g. growth, profit, maintenance of geopolitical power, etc.) to restrict the consideration or implementation of ecological standards, necessarily sabotaging our efforts. Additionally,

exclusion of various communities and their perspectives from our policy and social science discussions is an issue of environmental justice, as the dominant nature-society ideas and relations are often “detrimental to certain *human* communities, primarily the poor and people of color” (DiChiro 1998). In short, excluding alternative ecological perspectives from our policy and social science discussions is profoundly unjust, and it threatens the viability of any strategy towards a “greening” of human-ecological relations.

Nonetheless, like liberal and modernization theorists before them, EM theorists have shown explicit disdain for theoretical paradigms and traditions associated with “traditional,” “premodern,” or “antimodern” values and perspectives. For example, Mol and Spaargaren critique Catton and Dunlap as contributing to environmental sociology’s “coquetting with ecology” (Spaargaren and Mol 1992), and reject all “human ecology” schools and theorists (from Catton and Dunlap to deep ecology) for their supposed “tendency to try and restore the interrelationship between the social and the natural world in such a way that they seem to underscore the fact that all facts, events, goals, outcomes, patterns etc. *as we know them*, are socially mediated” (Mol and Spaargaren 2000). This ground for rejection of the human ecology perspective shows a neglect of particular environmental paradigms more than it shows weaknesses in them,³ and predominantly rests on a denial that ecological ‘forced choices’ exist. Thus, EM theorist’s grounds for rejection of whole families of alternative ecological traditions centers on EMT’s committed “failure to incorporate the biophysical environment as an independent causal force” (McLaughlin 2012), and their consequent view of humanity as “ultimately exempt from natural conditions” (Foster 2012).

EMT shares the rigid anthropocentric separation between humanity and non-human nature characteristic of historical Western scientific and economic analysis (Merchant 1989; Plumwood 2002), and rejects any traditions that hold non-human nature to have anything more than pure instrumental value. Like liberal and MT theorists before them, these commitments ultimately limit EMT to “a highly restrictive theory of social change that promotes a panglossian socio-technical optimism, while marginalizing people and projects who depart from that vision by conceptualizing them as deviant, backward, or irrational” (McLaughlin 2012). This contrasts with many foundational critical perspectives in environmental sociology, from environmental justice activists (DiChiro 1998) to the myriad advocates of *degrowth* and the expansion of the commons against growing commodification (D’Alisa, Demaria and Kallis 2014) to deep ecologists, spiritual ecologists, and social ecologists looking for a total transformation in political economy (Merchant

³ I highly doubt that Catton and Dunlap do not believe humanity has a *choice* whether to either accept the reality of environmental degradation or ignore it, yet still there is more truth to even this extreme claim than EMT would like to admit—as beings who require a metabolism with nature to survive, there are limits to the extent that we can *both* ignore the environment *and* survive, let alone survive as healthy individuals. In this regard, arguing dismissively that human ecology perspectives are guilty of “coquetting with ecology” is somewhat akin to critiquing medical doctors for “coquetting with biology.”

2005). This similarly rejects by *fiat* a number of non-Western and/or indigenous perspectives which posit a more relational approach to human-ecological relations, such as indigenous cultures (LaDuke 2005), Buddhist perspectives (Kaza and Kraft 2000), and pagan faiths (Starhawk 2014).

While denying the independent causal impact of non-human nature is a curious stance for an “ecological” scholarly tradition, EMT attempts to escape critique through (a) redefinition of the object and terms of study, alongside (b) a selective use of case studies (enabling their rejection of empirical anomalies) (McLaughlin 2012). In contrast to Marxian political ecology (for example), EMT studies traditionally focus on “relative (but significant) changes into more environmentally sound directions, in contrast to the “absolute” sustainability sought by neo-Marxist scholars” (Mol 2002). Simultaneously, EMT tends to focus on “conventional” environmental problems such as waste and pollution rather than on the kinds of ecological issues central to Marxian political ecology, such as “climate change, bio-diversity, ozone layer depletion and the like” (Mol 2002:96).

In addition to the limits these biases impose on the actual credibility of EMT within environmental sociology, EMT's prioritization of the maintenance of the CWS as an unquestioned premise creates deep inconsistencies in a central (if not *the* central) EMT concept—*ecological rationality* due to *both* (1) the dynamics of the profit-and-growth imperatives of the CWS, and (2) the unequal power between core and non-core regions. EMT posits a “growing independence” of ecological rationality (Mol 2002) while arguing that it should not be given priority above “other rationalities” (Spaargaren, Mol and Buttel 2000), and that it can be incorporated only when “environmental criteria, instruments and concepts are reformulated to mesh with the logics of modern markets” (Mol, Sonnenfeld and Spaargaren 2009). EMT thus holds that ecological rationality should be subordinated to economic rationalities despite elsewhere recognizing that “economic mechanisms, institutions and dynamics will always first follow economic logics and rationalities” (Mol 2002). *Ecological rationality* as defined by EM theorists is thus theoretically incoherent and inherently contradictory, as it is supposed to be simultaneously somehow (1) increasingly independent from economic rationality, yet (2) ultimately subordinate to it, despite the latter's divergence from and potential hostility towards the former.

Simultaneously, inattention to the full implications of global power imbalances within the CWS generates further problems in the conceptualization and hypothetical integration of *ecological rationality*. At face value, EMT recognizes that (1) nations, global economic institutions, and transnational corporations with more power in the global economy have disproportionate decision-making power (Mol 2002) and (2) tend to neglect underdeveloped/poorer nations and peoples (Mol 2002:106). Simultaneously, EM further (3) prioritizes analysis of local “conventional” environmental problems such as pollution (Mol 2002) rather than the broader global issues common to rich and poor nations and peoples alike, such as climate change. Without fundamentally challenging the disproportionate power between the core

and the periphery and semi-periphery, how plausible is EM optimism when more powerful nations, firms, etc., tend to ignore the issues of poorer nations and peoples, and EM analysis ignores their common-cause global-scale environmental crises? In ignoring these deeper questions, EMT provides little guidance as to how *ecological rationality* can reliably be incorporated, further undermining the practical viability of their approach to *ecological rationality*. Beyond these problems, EMT's presumption of the CWS also undermines their other prescriptions for economic, political, or social change.

Endogenous “Ecological Rationality:” Ecological Production in the CWS?

Despite EMT's assumptions to the contrary, many natural and social scientists deny that indefinite economic growth is possible or desirable on a finite planet (D'Alisa, Demaria and Kallis 2014; Foster, Clark and York 2010; Gould, Pellow and Schnaiberg 2008). The centrality of growth and profit imperatives in the CWS nonetheless means that firms ultimately have to prioritize growth and profit, regardless of environmental costs (Löwy 2015; Magdoff and Foster 2011) which are not reflected in market prices (Schor 2011). The divergence between profit and *ecological rationality* impedes firms' abilities to incorporate the latter, as it is impossible for firms to maximize divergent or competing priorities, and telling managers to try leads to “confusion and a lack of purpose that will handicap the firm in its competition for survival” (Jensen 2001). Profit maximization thus tends to generate *externalities*, where the social and ecological costs of production are pushed onto the public rather than internalized (Fieldman 2014; Magdoff and Foster 2011; Schor 2011). Studies have shown that financialization has increased the dominance of ecologically harmful profit maximization criteria in recent decades (Peet, Robbins and Watts 2011a; Schor 2011), such as impeding the capacities of firms to implement EM innovations (Fieldman 2014), surging food prices in 2008 following agro-food transnationals' increasing internalization of the logic of finance capital (Moore 2010), and increasing threats to biodiversity, forest ecosystem functions, and conservation efforts in North American industrial timberland ownership (Gunnoe and Gellert 2011).

Numerous limitations exist to the central EMT and “green capitalist” *eco-efficiency* argument that ecologically efficient technologies and management strategies may be reliably adopted due to cost savings or related improvements in profitability. *Eco-efficiency* arguments tend to neglect the “Jevons paradox,” in which cost advantages (gained from the cheapening of resources due to increased efficiency in production) often generate increased resource usage (Foster, Clark and York 2010), such as how overall energy demand has recently risen fastest in sectors with the largest efficiency gains (Schor 2011). EMT *eco-efficiency* arguments further neglect the “paperless office paradox,” where the presence of a substitute of a resource does not necessarily lead to diminished usage of that resource (York 2006). Finally, attention to world-system factors highlights that

“green” technology adoption in the core may come at the cost of ecological devastation in the periphery, as when “green” automotive technologies utilize materials from the global South whose extraction causes tremendous ecological devastation (Bonds and Downey 2012). In short, technological development within the constraints of the CWS will likely be insufficient to overcome the “treadmill” of increasing resource and energy usage (Schnaiberg 1980; Schnaiberg and Gould 1994).

Acknowledgement of core-periphery relations further impacts the anticipated environmental consequences of economic development. Within the CWS, the core both extracts resources (Clark and Foster 2009) and labor (Chase-Dunn 1998) at low-or-no cost (relative to the periphery), and commonly externalizes the environmental impacts of their production onto peripheral regions (Jorgenson and Givens 2014). For example, ecologically unequal exchange literature has used cross-national research to show that the vertical flow of exports from poorer to wealthier nations contributes to environmental destruction in the former, such as increased deforestation, biodiversity loss, and carbon dioxide emissions, while foreign direct investment dependence also contributes to a variety of environmental harms (see Jorgenson 2016; Jorgenson and Givens 2014). Accounting for the consequences of the profit-and-growth orientation of the CWS and the unequal power between core and non-core nations highlights that nothing in the logic of profitability or growth suggests ecologically sound production processes as an endogenous tendency of capitalist firms.

Endogenous “Ecological Rationality:” Ecological Consumption in the CWS?

Various other tendencies within the CWS weaken the “green capitalist” and EMT argument that economic and ecological rationalities may be unified as consumers choose “green” consumption. These arguments typically only consider the consumption of individual consumers (Foster, Clark and York 2010), though two definitions are relevant to our ecological crises: (1) consumption as the use of natural and physical resources, and (2) (in economics) consumption as that part of aggregate economic demand that is attributable to consumer spending. The conflation of the “environmental” and “economic” meanings of consumption is referred to as *the enigma of consumption* (Foster, Clark and York 2010). Prescriptions limited to individual-level consumption consequently often (1) neglect investment and its impact on environmental throughput, (2) lead to analyses which highlight saving as part of our environmental solutions, ignoring that savings become directed into investment oriented towards economic growth in the CWS, and (3) conflate “total environmental waste in society with waste related to direct household consumption” (Foster, Clark and York 2010). A full critique of consumption practices within the CWS thus necessitates a critique of individual consumption practices *and* a deeper critique of its orientation towards profit and growth, the very aspects EMT maintains at all costs.

Regarding individual consumer spending, economic growth in the CWS typically requires continual overall growth in consumption (Jones 2011; Schnaiberg 1980). At least three (not mutually exclusive) consumption tendencies contribute to ecologically harmful overconsumption. First, the concept of *acquisitive* consumption relates to acquisition of goods that exceeds one's needs, amplified by the *dependence effect*, whereby the generation of new products expands consumer possibilities and, with them (and persistent advertising), creates new and expanded perceived needs (Dutt 2008; Galbraith 1958). Second is *repetitive* consumption, the "cycle of buying, discarding, and buying again" due to both disposable products and "planned obsolescence" (Sheth, Sethia and Srinivas 2011), including the *psychological* planned obsolescence resulting from increasing emphasis on the "symbolic value" of goods due to the "fashion cycle" (Schor 2011). Finally, the concept of *aspirational* consumption (Sheth, Sethia and Srinivas 2011) reflects how considerations of class and status modify consumption patterns (Bourdieu 1984; Schor 2007; Veblen 1973), easily translating into ecologically harmful consumption practices. These factors together greatly contribute to individual overconsumption and threaten sustainability (Sheth, Sethia and Srinivas 2011).

The factors that contribute to ecologically harmful overconsumption practices are amplified by those keeping consumers in the CWS under-informed of the ecological quality of the goods they consume. Individual consumers in the CWS tend to be blind to the process of production, and therefore the social (Marx 1990) and ecological (Jones 2011) relations and processes that created the commodity, a phenomena Marx discussed in terms of *commodity fetishism* (Marx 1990). This *commodity fetishism* is amplified by the increasing distance between production and consumption in the CWS, the proliferation of marketing (as it drowns out neutral information and thus increases the cost of acquiring it) (Hudson and Hudson 2003), and copyrights, patents, and trademarks (Schor 2011). These phenomena collectively reduce the likelihood that consumers understand the true ecological cost of individual consumption. As information asymmetries between producers and consumers tend to cause the average value of a commodity to decrease (Akerlof 1970), this can easily extend to the diminishment of the ecological quality of goods over time (Kuhn 1999).

Consumer blindness to the true ecological costs of their consumption cannot adequately be solved within the CWS by the common "green capitalist" advocated eco-labeling proposal due to profit-oriented corporate "greenwashing." Greenwashing emerges from the reality of 'ecological rationality' being at best a secondary concern for firms (if at all) against their aforementioned biases towards profit maximization. This effectively guarantees that "in the absence of a compulsory system, corporations will continue to hold a strong incentive to appear socially responsible while avoiding the costs of actually doing so" (Alves 2009), producing a rampant tendency towards greenwashing at either the firm-level or the product-level (Delmas and Burbano 2011). The TerraChoice Group has categorized product-level greenwashing into the "seven sins"

of greenwashing, including (among others) the ‘Sin of No Proof’, where environmental claims cannot be substantiated, and the ‘Sin of Worshipping False Labels’, where a product gives the impression of a third-party endorsement but no such endorsement exists (TerraChoice Group 2010). For example, of the 5,296 home and family consumer products examined in the 2010 ‘Sins of Greenwashing’ report, over 95% of ‘greener’ products commit at least one of the seven Sins of Greenwashing. “Greenwashing” amplifies consumer eco-blindness while eroding confidence in green firms and products (Delmas and Burbano 2011), and cannot form a primary solution to our ecological woes within the context of the CWS. In short, there are no organic tendencies towards reliable prioritization of *ecological rationality* in either production or consumption within the CWS.

Exogenous “Ecological Rationality:” Non-State Mechanisms of Political Change in the CWS

While the increasingly decentralized, private-oriented forms of governance that underlie EM prescriptions for *political modernization* are an evident trend in environmental policy, they have serious limitations as environmental solutions. In addition to greater inclusion of firms, EMT’s advocacy of *political modernization* involves the greater inclusion of non-state actors such as NGOs (Mol 2002), as does the influential “world polity” tradition in its analysis of environmental governance. This section will focus on the negative impacts of the CWS on the viability of these prescriptions through a focus on this “world polity” literature, who argue akin to EMT that “significant environmental restructuring is possible within the global economy” (Schofer and Hironaka 2005) through increasing global environmental concern, and through the impact of science on political and economic policy. Along with EMT, they contend that environmental concerns become embedded in institutions, particularly environmental international non-governmental organizations (EINGOs) which pressure the state to take on environmental responsibility. While cross national research has found some limited support for these propositions (Schofer and Hironaka 2005), there are clear limitations to NGO-led strategies of environmental reform within the constraints of the CWS.

“World polity” literature (among others that prioritize NGO-led strategies for environmental change) is often criticized for ignoring power and inequality (Hall and Taylor 1996), and significant scholarship on global environmental governance contests much of the power and autonomy that are attributed to the EINGOs (on which the world polity literature focuses) (Gareau 2012; Goldman 2006). Specifically, “world polity” literature has been critiqued for ignoring the role of both corporate and political power (Smith 2000) and specifically the disproportionate power of states in the core (Beckfield 2003, 419) in shaping global values. Moreover, while NGOs may contribute towards the adoption of regulatory standards, they often have weak monitoring capabilities (King and Pearce 2010), while dependence on external funding and support often

makes them more likely to take relatively conservative positions deemed acceptable to their funders or home governments (Brulle 2000; Fisher 1997), a process which has often impacted EINGOS (Gareau 2012). In light of all these factors working against the efficacy of NGO-led strategies within the constraints of the CWS, it is unlikely that EINGOS will be able to make significant progress regarding our ecological crises without fundamentally critiquing the global economic system. The endogenous production and consumption tendencies of the CWS cannot be sources of sufficient ecological change, and neither can reliance on NGOs in the absence of a full, critical challenge to the CWS itself. As our ecological crisis is truly dire and the central tendencies of the CWS undermine our ability to meet it fully or in anything resembling an acceptable timeline, the more pressing question becomes *why* “green capitalist” approaches like EMT have had influence in public policy circles, mainstream environmentalisms, and in contemporary environmental sociology.

Hollow Ecology in State Policy and Social Science

Within the confines of the CWS, states face many factors that bias their priorities towards the facilitation of profit and growth, and these biases have only grown in the neoliberal era. Simultaneously, this general political context has produced certain analytical paths of least resistance for mainstream environmental organizations and social scientists. As addressing our environmental crises involves both identifying their causes *and* the factors impeding the adoption of solutions, the following section will explore why states and social scientists sometimes constrain their analyses and prescriptions within the ecologically destructive tendencies of the CWS. Despite the wide diversity of perspectives on the nature of the contemporary state, approaches as diverse as neo-Weberian (Evans 1995), neo-Marxian (Jessop 2002), and world-systems approaches to the state (Chase-Dunn 1998; Wallerstein 2004) acknowledge contemporary states’ prioritization of economic growth as a primary economic objective. The general structural separation between *political* and *economic* institutions and agents under capitalism renders states generally dependent on capital accumulation (and the profitability that it hinges on) for the production of the goods used in state power, maintenance of the tax base that underlies state funding, financing (where taxation is insufficient), and employment. Prioritization of profit and growth in state policy is further amplified by interstate geopolitical and economic competition (Chase-Dunn 1998; Miliband 1969) and the increasing dominance of financialization and global financial and trade institutions (Chang 2012; Jorgenson and Givens 2014; Peet, Robbins and Watts 2011a). Outside the core these latter institutions have often imposed strong austerity measures and structural adjustment policies (Dunlap and Jorgenson 2012) which have been shown to increase environmental harms (Shandra 2007). These features of states, the state-system, and political-

economic relations within the CWS often bias state policy towards facilitating profit and growth above competing priorities.

Many further phenomena may contribute towards state actors' *active* support of the profit-and-growth priorities of the CWS. The ideological tenets of "bourgeois cultural hegemony" may be believed by both state actors and the population in general (Block 1977; Gramsci 1971), whose power stems from the ability to re-interpret the relations of production (Ewing 2015) and their ecological nature and consequences (Robbins 2011). The acceptance of this hegemonic consensus may be amplified as the highest positions within state institutions (Miliband 1969) and policy-planning groups (Domhoff 2010) tend to be filled with individuals who share upper-class backgrounds. Simultaneously, the interdependence of states and capital within the CWS also creates in firms a general dependence on states to support the preconditions and apparent legitimacy of profitability and growth (Foster 2014; O'Connor 1998; Parenti 2016; Purcell and Nevins 2005) in addition to many specific ways states impact profitability (Wallerstein 2004).

Firms thus have a strong interest in working to facilitate active state support, and to thwart the imposition of any standards that would impede profitability, such as environmental or labor standards (Schnaiberg and Gould 1994). Industry groups or firms may attempt to use tactics such as lobbying and advertising (Miliband 1969; Schnaiberg and Gould 1994), campaign finance (De Figueiredo and Edwards 2007), or the persuasion of individual politicians (Schnaiberg and Gould 1994) to prevent regulation and secure political support. If regulation *does* become enacted, "treadmill actors" can attempt to disempower their governmental implementation via means such as lawsuits, appeals to international trade bodies, or various forms of *regulatory capture* (where special interests such as firms or industries manipulate the agencies tasked with their regulation) (Schnaiberg and Gould 1994). In short, without challenging the political power of capital within the CWS (and the factors predisposing states and state actors in favor of profit and growth), state policy will predominantly tend to undermine "ecological rationality."

Simultaneously, EM theorists often justify their prescriptions via the argument that EM-style "green capitalist" policies are already being enacted by states and within the international community. Given state prioritization of profit and growth (and the ecological inadequacy of "green capitalist" approaches altogether), why would states adopt *any* environmental policies at all? Despite the factors biasing states within the CWS towards the facilitation of profit and growth, states are simultaneously now held responsible by their citizens to some degree for the alleviation of environmental degradation (Hay 1994; Parenti 2016). These competing priorities mean states often restrict their responses to the minimum necessary to restore face-value legitimacy (Hay 1994), often limited to a combination of strategies such as token gesturism, symptom amelioration, or the "greening" of political ideology (Hay 1994) rather than fundamentally addressing our

ecological crises. Nowhere is this truer than the embrace in many states of “green capitalist” approaches to environmental crisis.

Following increasing public awareness of environmental ills emerging from the 1960s onward, environmental governance institutions and firms alike recognized the necessity of acknowledging and responding to environmental crises (Bernstein 2012; Peet, Robbins and Watts 2011a; Sklair 2001). Rather than reject the CWS or accept an increasingly anti-capitalist environmental consensus, the International Chamber of Commerce (ICC) organized the “big business response” (Sklair 2001) to the crisis, and in the 1970s founded a Commission on Environment, and later a World Conference of Environmental Management in 1984, attracting 500 representatives from government, environmental groups, and industry. The ICC was then chosen to advise the Bergen Ministerial Conference, which ultimately produced the Brundtland Report of the UN World Commission on Environment and Development (WCED), *Our Common Future* in 1987.

The concept of “sustainable development,” still the dominant approach of both the UN and the increasingly transnational capitalist class (Salleh 2015), emerged from the Brundtland Report (Bernstein 2002; Eckersley 2004; Sklair 2001) as:

a political discourse which sought to address both the growing North-South conflicts (the relations between poverty and global sustainability) and the growing counter-revolution by firms and states to the idea of regulation, that is to say to attempt to install an environmental governance “compatible” with no limits to growth (the pre-condition of neoliberal capitalism) (Peet, Robbins and Watts 2011a)

Free market “corporate environmentalism” that circumscribes environmental analyses and solutions within market logics became “the main weapon of those working for the global capitalist system to establish ownership of [the concept of] sustainable development” (Sklair 2001), ensuring that environmental politics were carefully contained within pro-growth “green capitalist” prescriptions. This business-oriented “green capitalist” consensus continued to mobilize in order to shift global environmentalism towards growth-and-profit oriented directions (Sklair 2001) via the construction of a “sustainable development historical bloc” that solidified in the 1992 Earth Summit in Rio.

In Rio, the ICC’s environmental arm (the Business Council for Sustainable Development) guaranteed that emerging environmental discourse continued to reflect the needs of major firms and industries. It was ultimately successful in keeping criticisms of increasingly transnational corporations “off the official agenda” (Sklair 2001) in discussions of our environmental crises,

instead promoting the view that trade and finance liberalization are consistent or even necessary for environmental protection (Bernstein 2002). This approach continues to dominate the mainstream approach to our ecological crises, as exemplified in the 2012 Rio+20 summit, where both the “the business sector and UN promote[d] a future ‘green economy’ based on finance, technology, market mechanisms, and ‘voluntary commitments’” (Salleh 2015). The result of these corporate efforts is a circumscription of environmental solutions within the boundaries of profit-and-growth priorities, and these approaches bled into environmental sociology in a “modernist sociological” form via EMT (Blühdorn 2012; Eckersley 2004; Sklair 2001).

In effect, while “green capitalist” approaches to the environment have myriad evident weaknesses impeding their ability to address environmental crisis, they perfectly package environmental concern in terms friendly to the environmentally destructive profit-and-growth priorities of firms and states within the CWS. In this context, even apparent “green” prescriptions are often wedded to economic proposals that undermine any potential of ecological gains, as was the case with the Rio+20 summit:

Rather than concede the fundamental irrationality of industrialized provisioning, the transnational ruling class asks the World Bank, Organization for Economic Cooperation and Development, and UNEP to insert green growth and sustainable development into structural reform policies on a country by country basis [. . . b]ut at the same time, “innovative instruments” for high tech financing are to be consistent with the Doha Development Round of multilateral trade negotiations. *The Future We Want* builds on Agenda 21, the Johannesburg Declaration, Monterrey Consensus, Istanbul Programme for Least Developed Countries, and the Bali Strategic Plan for Technology Support and Capacity Building. (Salleh 2015)

Just as “green capitalist” approaches to environmental governance were initially developed and promoted by capitalists and their representatives to circumscribe “green” prescriptions within the constraints of the profit-and-growth priorities of capitalists and capitalist states (Bernstein 2012; Sklair 2001), so has their influence continued in current policy discussions towards the same purposes. “Green capitalist” solutions were never intended to solve our ecological crises as much as they were intended to contain increasing public awareness of environmental crises within a direction that preserved or hopefully amplified profit and growth (and without substantially addressing the existing relations between the core and periphery), all at the expense of our ecological future. While this seems to be the primary EMT goal as well, it remains to be explained why this approach has retained influence within environmental sociology to the extent that it has.

Despite the critical core of environmental sociology, it has been argued that “today the main thrust of environmental social science has shifted to ecological modernization” (Foster, Clark and

York 2010). If acknowledging the inherent unsustainability of capitalism is historically influential within environmental sociology, why have “green capitalist” approaches retained any credence therein? One answer involves the embeddedness of social science within power relations, as the object of the social sciences is *the social*, and thus “both its analysis and what is deemed acceptable/unacceptable tends to be filtered through the dominant institutions and structures of the prevailing hierarchical social order” (Foster, Clark and York 2010). Social science “often enters a relatively dormant state once a new system of power is established” and consequently “in normal-non-revolutionary-periods is unable to develop in a rational direction that would allow knowledge to interact in meaningful ways with social practice, particularly of a democratic kind.” (Foster, Clark and York 2010). In short, taking truly critical, sometimes controversial stances (let alone translating them into practice) becomes rare except in the context of periods of widespread, radical change.

In this context, academic success often requires accordance with the dominant ideologies and logics of power, where getting ahead in the academy, media, government, and other occupations for social scientists often involves “self-censorship, a narrow focus on the relatively inconsequential, and leaving the big stuff—in terms of social change—off the table” (Foster, Clark and York 2010). Consequently, scholars search “for models that might be more amenable to the political and economic zeitgeist” (Gould, Pellow and Schnaiberg 2008). Many facets of social science become increasingly safe to the dominant logics of power in these periods via the progressive erosion of deeply critical research in favor of topics and prescriptions that are less substantial and more hollow. In the case of some sectors of environmental sociology, this means analyses that are safely subordinate to the political-economic relations that have been and are creating our ecological ills.

In this context, the political sea change that came with the rise of neoliberalism has constrained the potential for wider adoption of more radical analyses, including within environmental sociology. For example, after Reagan the U.S. political context became dominated by an anti-environmental agenda, increasing corporate power, rolling back environmentalist gains, and directly attacking challenges to capitalism (Gould, Pellow and Schnaiberg 2008; Sklair 2001) just as critical environmental sociology started to come into its own. Over time, many environmental groups and movements became more conservative and cooperative with business and the state (Gould, Pellow and Schnaiberg 2008). As environmental sociologists sought careers that are amenable to power holders, they turn to increased abstraction, safer and smaller topics, and the restriction of environmental study and prescriptions within the limits set by those very logics of power that are corrupting and destroying our human-ecological relations (Foster, Clark and York 2010; Gould, Pellow and Schnaiberg 2008). In short, “green capitalist” perspectives find prominence in policy and the social sciences *precisely because they fail to challenge the factors*

causing our ecological ills. At the same time, failing to challenge them prevents environmental sociology from accomplishing its potential in contributing towards effective ecological solutions.

Conclusion: EMT or a Future for Planet Earth?

EMT is one of the most systematic “green capitalist” perspectives, as its utilization of a variety of “green capitalist” prescriptions makes it a fair representation of much of “green capitalist” thought. The thorough and wide-ranging nature of EMT’s prescriptions is largely responsible for its ability to persist and evade critique—a critique of any singular part can be countered with reference to *other* EM prescriptions. Consequently, a similarly wide-ranging critique of EMT goes a long way towards identifying issues in the “green capitalist” approach in general. EMT’s maintenance of the profit-and-growth imperatives and unequal international relations of the CWS produces myriad *feedback loops* for many “green capitalist” prescriptions, and these feedback loops render “green capitalist” EM prescriptions untenable *even in combination*. Consequently, attempts to construct successful “green capitalist” solutions for our ecological crises (like those of EMT) are effectively doomed to fail.

Critical approaches to environmental sociology, by contrast, refuse to presume the major ecologically destructive features of the CWS. For example, human ecology rejects human exemptionalist theoretical blinders, while Marxian political ecology highlights the impacts of profit-and-growth oriented production on ecological devastation and world-systems theory critiques the ecological impacts of the differential power between core and non-core nations. All of these critical perspectives (along with other environmental justice, degrowth, and critical political ecology scholars (D’Alisa, Demaria and Kallis 2014; Peet, Robbins and Watts 2011b; Robbins 2011)) are predominantly complimentary, which allows them to form the groundwork for a wide-ranging critical environmental sociology (Foster 2012; York and Dunlap 2012; York and Mancus 2009). One central commonality between these different perspectives is an acknowledgment that *the central elements of capitalism amplify ecological destruction by necessity* (including its profit-and-growth orientation and its unequal international relations). Consequently, any “green capitalist” perspectives which maintain these features (like EMT) are consequently irrelevant at best or obstruct real solutions at worst.

In presuming the central features of the CWS, EMT silences critical traditions within environmental sociology alongside many communities’ and cultures’ different visions for political, economic, and ecological values, objectives, and institutions, introducing ethnocentric biases into EMT analysis. This also restricts *ecological rationality* to one which is (1) fundamentally human-exemptionalist and anthropocentric, (2) subordinated to profit-and-growth imperatives, and (3) neglectful of the true impact of international inequality within the CWS on EM prescriptions, rendering the central EMT concept of *ecological rationality* both practically and

logically incoherent within these boundaries. To maintain EM optimism despite these definitive weaknesses, EMT shifts the terrain of its analyses to comparably shallow ecological issues, ignoring large crises like climate change in favor of smaller-scale problems like pollution (Mol 2002), while maintaining implausible general optimism about the widespread integration of *ecological rationality* of some limited, ill-defined, and internally contradictory variety.

EMT's presumption of the CWS also proves fatal to the rest of EM's central economic and political prescriptions. On the one hand, the CWS has no endogenous tendencies towards sufficient greening in either production or consumption, and reliance on "global civil society" or NGO-led solutions are similarly insufficient to compensate for the endogenous tendencies in the CWS towards ecological devastation. Despite these limits, many factors bias the policies of capitalist states towards the facilitation of profit and quantitative economic growth despite states being increasingly held responsible by citizens to address environmental crises. "Green capitalist" policy prescriptions allow states to give the *appearance* of dealing with our environmental ills while maintaining those very factors that destroy the environment, their influence stemming not from their efficacy but because they safely contain environmentalist analyses within the limits of the major features of the CWS. In the social sciences, "green capitalist" approaches are adopted for many reasons, many of which having to do with the unavoidable fact that failing to question capitalism is the analytical path of least resistance. Though "green capitalist" approaches within environmental sociology may provide an easy path to grants and promotions, nothing less than the fate of our planet depends on environmental sociology abandoning "green capitalist" hollow ecologies, and meeting its promise as a critical and effective discipline.

As the central tendencies of the CWS are both the cause and continuous amplifier of our ecological crises, "environmental sociology" needs to commit to a new *critical environmental synthesis*. In this regard, environmental sociology must (1) commit to the principled rejection of necessarily inadequate "green capitalist" ecological prescriptions in favor of adopting critical sociological perspectives, and seek both (2) alternative political-economic systems and organization(s) which reject the central features of the CWS, and (3) an interdisciplinary engagement with fields such as political science and political economy to produce concrete, practically-oriented plans to facilitate a transition from the CWS to a more ecologically sound and anti-imperialist ecosocialism. While aiding the pursuit of (1) is the central project of this article, and (2) and (3) are beyond its scope, the following will be a (necessarily brief) discussion of the latter.

History has room for a number of committed ecosocialist varieties and ecologically sound alternatives to capitalism, and different analysts and activists have identified many potential ecosocialist principles, goals, and strategies. Broad principles, for example, could be organized around a synthesis of the *elementary triangle of socialism* (social ownership, worker-organized

social production, and the satisfaction of communal needs) and the *elementary triangle of ecology*: “(1) social use, not ownership, of nature; (2) rational regulation by the associated producers of the metabolism between human beings and nature; and (3) the satisfaction of communal needs—of present and future generations” (Magdoff and Foster 2011). Environmental sociology, jettisoning counterproductive “green capitalist” fictions, can work towards the refinement of broad ecosocialist principles, unified around the rejection of (1) profit-and-growth imperatives and (2) power imbalances within core/periphery relations, while (3) theorizing critical solutions to the myriad anti-ecological consequences of these features, as noted throughout this article. Finally, (4) environmental sociology can encourage *active* experimentation with and analysis of many of these variants of ecosocialism, as “what we need—along with the movements to bring this about—are new conceptions of what constitutes viable post-capitalist societies—aimed at maintaining a rational metabolism between humans and the environment, while promoting economic and social justice” (Magdoff and Foster 2011).

In this process, environmental sociology should support the voices and values of many non-Western and critical perspectives in both analysis and prescription. International political and academic communities need to engage with the thought of diverse thinkers and traditions outside those of the global North (and beyond even the confines of formal academia). Examples of these alternative perspectives include Buddhist economists’ emphasis on reorganizing the economy to prioritize maximizing well-being with minimal consumption (Sivaraksa 2011), or the struggles of neo-pagan practitioners (Starhawk 2014), indigenous peoples (LaDuke 2005; Löwy 2015) and many throughout the global South to pursue less anthropocentric and ecologically destructive relations with non-human nature (see D’Alisa, Demaria and Kallis 2014 for a wide range of alternatives along these lines). Central to this project is the engagement with various political, economic, and environmental prescriptions from various conferences and forums such as the *Belém Declaration* of the 2009 World Social Forum (see Löwy 2015), the *People’s Agreement* of the 2010 World Peoples’ Conference on Climate Change and the Rights of Mother Earth (see Magdoff and Foster 2011), or the *Leap Manifesto* (2015).

The project of refining broad ecosocialist goals should prioritize consideration of the causes of and solutions to our major ecological problems, including (1) climate change, (2) biodiversity loss and extinctions, (3) stratospheric ozone depletion, (4) ocean acidification, (5) nitrogen and phosphorus flows into the oceans and biosphere, (6) changes in land use, (7) changes in global freshwater use and the hydrological cycle, (8) atmospheric aerosol loading, and (9) chemical pollution and the introduction of other “novel entities,” “new substances, new forms of existing substances and modified life-forms that have the potential for unwanted geophysical and/or biological effects” (Steffen et al. 2015). These constitute the *planetary boundaries* which are essential to the maintenance of a safe-for-humanity earth-system environment (Steffen et al. 2015).

While environmental sociology can and should also highlight the lower-threat ecological harms that EMT studies, its primary and more immediate goal should be to prioritize the analysis of broad ecological principles and our most consequential ecological challenges.

This interdisciplinary academic work should all be undertaken alongside working with activist communities to generate *concrete plans* to pursue identified solutions, from short-term (immediate) goals to mid-range and long-term transition plans. This includes both (1) identification of the steps that should be taken to halt and reverse our negative ecological outcomes, and (most centrally) a (2) *political-economic plan-of-action* regarding how these steps can be actually implemented, and how humanity can overcome obstacles to their practical implementation. In short, environmental sociology should (1) commit to the rejection of the necessary failures of “green capitalist” ecological prescriptions in favor of prioritizing critical ecological approaches, while seeking to define (2) the broad outlines of an ecosocialist future. This should be accompanied with the (3) identification of concrete short-to-long-term plans to (a) increasingly reduce and eliminate the negative ecological impacts of our political-economic organizations, and (b) implement (3a) and overcome the barriers to their implementation. Environmental sociology can learn from the failures of EMT and “green capitalist” approaches to environmental study, and unify around the critical traditions that have long formed the heart of (and greatest contributions to) the sub-discipline.

In addition to contributing to major existing debates in contemporary environmental sociology, this analysis has implications for both environmental sociology in general, and world-systems environmental research in particular. In developing a comprehensive account of how attention to world-systems factors undermines the viability of a host of “green capitalist” prescriptions, this analysis highlights both the connections between world-systems environmental research and other critical traditions (via a shared critique of profit-and-growth prioritization), and ways in which world-systems environmental research has unique contributions to the *critical environmental synthesis*, via its long critique of unequal international power and its harmful ecological impacts. Attention to world-systems factors is thus a necessary component in the development of a critical environmental sociology. Given the major ecological consequences of power imbalances between core and non-core nations, environmental solutions require the erosion of those power imbalances, and world-systems research is ideally suited for the development of analytic tools to aid in both the critique of such factors, and in the pursuit of solutions.

Recent research has highlighted the need for further study on both (1) ecologically unequal exchange, in order to examine in-depth how the structure of international exchanges allows core nations to impose environmental harms on less powerful nations (Jorgenson and Givens 2014), and (2) the impacts of foreign direct investment dependence on the services sector (Jorgenson and Givens 2014)—both important contributions to the advancement of ecological scholarship in the

WST tradition. Additionally, while a full set of solutions and prescriptions cannot be the focus of this article, I would add that the preceding analysis highlights some fruitful future directions for world-systems' environmental research. First, world-systems environmental research is well equipped to highlight the myriad factors regarding production and exchange in the CWS that amplify "commodity fetishism" (thus obscuring consumer awareness of the impacts of consumption), alongside the changes to production necessary to minimize commodity fetishism. Secondly, such research can usefully develop proposals for overcoming the factors that amplify state prioritization of profitability and growth over ecologically beneficial social and ecological relations. Finally, world-systems environmental research can pave the way for the development of the interdisciplinary framework necessary to pursue practical proposals for the implementation of ecosocialist changes (and for the overcoming of unequal power relations between core and non-core nations). The long emphasis in WST on interdisciplinary work renders world-systems research especially salient towards this important project. Altogether, environmental sociology needs to continue the dialogue between critical traditions while transitioning towards an increased focus on *implementation*, and world-systems environmental research has an important role in this endeavor.

In their extension of the presuppositions of modernization theory into environmental sociology, promoting inadequate partial ecological solutions after defining more rational solutions off the table, EMT seems to have as its primary goal not solutions to our ecological crises, but rather the defense of the CWS from ecological critique. Their unwillingness to criticize the central elements of the CWS creates substantial problems in the heart of both their primary concept, *ecological rationality*, as well as their major prescriptions for the potential integration of *ecological rationality*. The circumscription of one's critique and vision within dominant discourses and power relations for pragmatic purposes is akin to a firefighter putting out only half of a flaming house because they believe it is too utopian to imagine putting out the whole home. Our ecological peril *is* at hand whether EMT and other "green capitalist" approaches to ecological analysis would like it or not, and the time for valorizing *hollow ecology* and entertaining pseudo-ecological fictions is at an end. In order to maintain its strong analytic relevance as a sociological sub-discipline, let alone its potential to aid in the transformation of our human-ecological relations before we drive full-speed off the ecological cliff, environmental sociology needs to rid itself of "green capitalist" approaches like EMT (and their presuppositions), and return to its rightful focus—the study of how humanity can truly live in long-term harmony with non-human nature, and the means by which we get there.

About the Author

Jeffrey A. Ewing is a PhD candidate in Sociology at the University of Oregon. His primary academic research interests focus on many of the central factors that reproduce hierarchical social relations. His dissertation uses social network analysis to explore how realignments among corporate and political elites amid the recent U.S. rightward political shift relate to increasingly predatory forms of profit-making in contemporary capitalism. He has also critically engaged with topics in the sociology of religion, focusing on the uses of religion to support hierarchical social relations. Recently, this project has produced both a critical feminist interrogation of Christian demonology in “Women as “The Devil’s Gateway”: A Feminist Critique of Christian Demonology” (forthcoming, in *Philosophical Perspectives of Demonology*, Routledge 2017), and a reconstruction and application of the Marxist critique of religion in “Eternal Damnation as Exploitation’s Last Defense: Marx, Religion, and the Concept of Hell” (In *The Concept of Hell*, Palgrave Macmillan 2015).

Disclosure Statement

Any conflicts of interest are reported in the acknowledgments section of the article’s text. Otherwise, authors have indicated that they have no conflict of interests upon submission of their article to the journal.

References

2015. "The Leap Manifesto: A Call for Canada based on Caring for the Earth and One Another." Ontario, Canada. <https://leapmanifesto.org/en/the-leap-manifesto/>
- Akerlof, George A. 1970. "The Market for "Lemons": Quality Uncertainty and the Market Mechanism." *The Quarterly Journal of Economics* 84(3):488-500.
- Alves, Igor. 2009. "Green Spin Everywhere: How Greenwashing Reveals the Limits of the CSR Paradigm." *Journal of Global Change and Governance* 2(1):1-26.
- Angelovski, Isabelle. 2014. "Environmental Justice." in *Degrowth: A Vocabulary for a New Era*, edited by Giacomo D'Alisa, Federico Demaria, and Giorgos Kallis. New York, NY: Routledge.
- Bernstein, Steven. 2002. "Liberal Environmentalism and Global Environmental Governance." *Global Environmental Politics* 2(3):1-16.
- . 2012. *The Compromise of Liberal Environmentalism*. New York, NY: Columbia University Press.
- Block, Fred. 1977. "The Ruling Class Does Not Rule: Notes on the Marxist Theory of the State." *Socialist Revolution* 33(6):6-28.
- Blühdorn, Ingolfur. 2012. *Post-Ecologist Politics: Social Theory and the Abdication of the Ecologist Paradigm*. New York, NY: Routledge.
- Bonds, Eric, and Liam Downey. 2012. "Green Technology and Ecologically Unequal Exchange: The Environmental and Social Consequences of Ecological Modernization in the World-System." *Journal of World-Systems Research* 18(2):167-86.
- Bourdieu, Pierre. 1984. *Distinction : A Social Critique of the Judgement of Taste*. Cambridge, MA: Harvard University Press.
- Brulle, Robert J. 2000. *Agency, Democracy, and Nature : The U.S. Environmental Movement from a Critical Theory Perspective*. Cambridge, MA: MIT Press.
- . 2010. "Politics and the Environment." Pp. 385-406 in *Handbook of Politics: State and Society in Global Perspective*, edited by Kevin T Leicht and J. Craig Jenkins. New York, NY: Springer.
- Chang, Ha-Joon. 2012. *23 Things They Don't Tell You about Capitalism*. New York, NY: Bloomsbury Publishing USA.
- Chase-Dunn, Christopher K. 1998. *Global Formation : Structures of the World-Economy*. Lanham, MD: Rowman & Littlefield Publishers.
- Clark, Brett, and John Bellamy Foster. 2009. "Ecological Imperialism and the Global Metabolic Rift." *International Journal of Comparative Sociology* 50(3-4):311-34.

- D'Alisa, Giacomo, Federico Demaria, and Giorgos Kallis. 2014. *Degrowth: A Vocabulary for a New Era*. New York, NY: Routledge.
- De Figueiredo, Rui J.P., and Geoff Edwards. 2007. "Does Private Money Buy Public Policy? Campaign Contributions and Regulatory Outcomes in Telecommunications." *Journal of Economics & Management Strategy* 16(3):547-76.
- Delmas, Magali A., and Vanessa Cuerel Burbano. 2011. "The Drivers of Greenwashing." *California Management Review* 54(1):64-87.
- DiChiro, Giovanna. 1998. "Nature as Community: The Convergence of Environment and Social Justice." Pp. 120-42 in *Privatizing Nature: Political Struggles for the Global Commons*, edited by Michael Goldman. New Brunswick, NJ: Rutgers University Press.
- Domhoff, G. William. 2010. *Who Rules America? : Challenges to Corporate and Class Dominance*. Boston: McGraw Hill Higher Education.
- Dunlap, Riley E, and Andrew K Jorgenson. 2012. "Environmental Problems." in *The Wiley-Blackwell Encyclopedia of Globalization*, edited by George Ritzer.
- Dunlap, Riley E. 2008. "The New Environmental Paradigm Scale: From Marginality to Worldwide Use." *The Journal of Environmental Education* 40(1):3-18.
- Dunlap, Riley E., and Brent K. Marshall. 2007. "Environmental Sociology." Pp. 329-40 in *21st Century Sociology : A Reference Handbook*, edited by Clifton D. Bryant and Dennis L. Peck. Thousand Oaks: SAGE Publications.
- Dutt, Amitava Krishna. 2008. "The Dependence Effect, Consumption and Happiness: Galbraith Revisited." *Review of Political Economy* 20(4):527-50.
- Eckersley, Robyn. 2004. *The Green State: Rethinking Democracy and Sovereignty*. Cambridge, MA: MIT Press.
- Evans, Peter B. 1995. *Embedded Autonomy : States and Industrial Transformation*. Princeton, NJ: Princeton University Press.
- Ewing, Jeffrey A. 2015. "Eternal Damnation as Exploitation's Last Defense: Marx, Religion, and the Concept of Hell." Pp. 184-207 in *The Concept of Hell*, edited by Benjamin W. McCraw and Robert Arp. New York, NY: Palgrave Macmillan.
- Fieldman, Glenn. 2014. "Financialisation and Ecological Modernisation." *Environmental Politics* 23(2):224-42.
- Fisher, William F. 1997. "Doing Good? The Politics and Antipolitics of NGO Practices." *Annual Review of Anthropology* 26:439-64.
- Foster, John Bellamy. 1999. "Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology." *American Journal of Sociology* 105(2):366-405.
- . 2012. "The Planetary Rift and the New Human Exemptionalism: A Political-Economic Critique of Ecological Modernization Theory." *Organization & Environment* 25(3):211-

- 37.
- . 2014. *The Theory of Monopoly Capitalism: An Elaboration of Marxian Political Economy*. New York, NY: Monthly Review Press.
- Foster, John Bellamy, Brett Clark, and Richard York. 2010. *The Ecological Rift: Capitalism's War on the Earth*. New York, NY: Monthly Review Press.
- Foster, John Bellamy, and Hannah Holleman. 2012. "Weber and the Environment: Classical Foundations for a Postexemptionalist Sociology." *American Journal of Sociology* 117(6):1625-73.
- Galbraith, John Kenneth. 1958. *The Affluent Society*. Boston, MA: Houghton Mifflin.
- Gareau, Brian J. 2012. "The Limited Influence of Global Civil Society: International Environmental Non-Governmental Organisations and the Methyl Bromide Controversy in the Montreal Protocol." *Environmental Politics* 21(1):88-107.
- Gilman, Nils. 2003. *Mandarins of the Future: Modernization Theory in Cold War America*. Baltimore, MD: Johns Hopkins University Press.
- Goldfrank, Walter L., David Goodman, and Andrew Szasz (Eds.). 1999. *Ecology and the World-System*. Greenwich, CT: Greenwood.
- Goldman, Michael. 2006. *Imperial Nature: The World Bank and Struggles for Social Justice in the Age of Globalization*. New Haven, CT: Yale University Press.
- Gould, Kenneth A., David N. Pellow, and Allan Schnaiberg. 2008. *Treadmill of Production: Injustice and Unsustainability in the Global Economy*. New York, NY: Routledge.
- Gramsci, Antonio. 1971. *Selections from the Prison Notebooks of Antonio Gramsci*. New York, NY: International Publishers.
- Gunnoe, Andrew, and Paul K Gellert. 2011. "Financialization, Shareholder Value, and the Transformation of Timberland Ownership in the US." *Critical Sociology* 37(3):265-84.
- Hall, Peter A, and Rosemary CR Taylor. 1996. "Political Science and the Three New Institutionalisms*." *Political Studies* 44(5):936-57.
- Hay, Colin. 1994. "Environmental Security and State Legitimacy." *Capitalism Nature Socialism* 5(1):83-97.
- Hudson, Ian, and Mark Hudson. 2003. "Removing the Veil? Commodity Fetishism, Fair Trade, and the Environment." *Organization & Environment* 16(4):413-30.
- Jensen, Michael C. 2001. "Value Maximization, Stakeholder Theory, and the Corporate Objective Function." *Journal of Applied Corporate Finance* 14(3):8-21.
- Jessop, Bob. 2002. *The Future of the Capitalist State*. Cambridge, MA: Polity.
- Jones, Andrew W. 2011. "Solving the Ecological Problems of Capitalism: Capitalist and Socialist Possibilities." *Organization & Environment* 24(1):54-73.
- Jorgenson, Andrew K. 2015. "Five Points on Sociology, PEWS and Climate Change." *Journal of*

- World-Systems Research* 21(2):270-75.
- . 2016. "The Sociology of Ecologically Unequal Exchange, Foreign Investment Dependence and Environmental Load Displacement: Summary of the Literature and Implications for Sustainability." *Journal of Political Ecology* 23:334-49.
- Jorgenson, Andrew K., and Brett Clark. 2012. "Environment: International Political Economy." *The Wiley-Blackwell Encyclopedia of Globalization*.
- Jorgenson, Andrew K., and Jennifer E. Givens. 2014. "The Emergence of New World-Systems Perspectives on Global Environmental Change." in *Routledge International Handbook of Social and Environmental Change*, edited by Stewart Lockie, David A. Sonnenfeld, and Dana R. Fisher. New York, NY: Routledge.
- Kaza, Stephanie, and Kenneth Kraft. 2000. *Dharma Rain: Sources of Buddhist Environmentalism*. Boston, MA: Shambhala Publications.
- King, Brayden G., and Nicholas A. Pearce. 2010. "The Contentiousness of Markets: Politics, Social Movements, and Institutional Change in Markets." *Annual Review of Sociology* 36:249-67.
- Klein, Naomi. 2014. *This Changes Everything: Capitalism vs. the Climate*. New York, NY: Simon and Schuster.
- Kuhn, Michael. 1999. "Green Lemons-Environmental Labels and Entry into an Environmentally Differentiated Market under Asymmetric Information." *Thünen-Series of Applied Economic Theory* 20.
- LaDuke, Winona. 2005. *Recovering the Sacred: The Power of Naming and Claiming*. Cambridge, MA: South End Press.
- Löwy, Michael. 2015. *Ecosocialism: A Radical Alternative to Capitalist Catastrophe*. Chicago, IL: Haymarket Books.
- Magdoff, Fred, and John Bellamy Foster. 2011. *What Every Environmentalist Needs to Know about Capitalism: A Citizen's Guide to Capitalism and the Environment*. New York, NY: Monthly Review Press.
- Marx, Karl. 1990. *Capital: A Critique of Political Economy*. New York, N.Y.: Penguin Books.
- McCright, Aaron M., and Riley E. Dunlap. 2010. "Anti-Reflexivity: The American Conservative Movement's Success in Undermining Climate Science and Policy." *Theory, Culture & Society* 27(2-3):100-33.
- McLaughlin, Paul. 2012. "Ecological Modernization in Evolutionary Perspective." *Organization & Environment* 25(2):178-96.
- Merchant, Carolyn. 1989. *The Death of Nature: Women, Ecology, and the Scientific Revolution*. New York, NY: Harper & Row.
- . 2005. *Radical Ecology: The Search for a Livable World*. New York, NY: Routledge.

- Miliband, Ralph. 1969. *The State in Capitalist Society*. New York: Basic Books.
- Mol, Arthur P.J. 2002. "Ecological Modernization and the Global Economy." *Global Environmental Politics* 2(2):92-115.
- . 2010. "Ecological Modernization as a Social Theory of Environmental Reform." Pp. 63-76 in *The International Handbook of Environmental Sociology*, edited by Michael R. Redclift and Graham Woodgate. Cheltenham, UK: Edward Elgar Publishing.
- Mol, Arthur P.J., David A. Sonnenfeld, and Gert Spaargaren. 2009. "Ecological Modernisation: Three Decades of Policy, Practice, and Theoretical Reflection." Pp. 3-14 in *The Ecological Modernization Reader: Environmental Reform in Theory and in Practice*, edited by Arthur P. J. Mol, David A. Sonnenfeld, and Gert Spaargaren. London: Routledge.
- Mol, Arthur P.J., and Gert Spaargaren. 2000. "Ecological Modernisation Theory in Debate: A Review." *Environmental Politics* 9(1):17-49.
- Moore, Jason W. 2010. "Cheap Food & Bad Money: Food, Frontiers, and Financialization in the Rise and Demise of Neoliberalism." *Review (Fernand Braudel Center)* 33(2/3):225-61.
- . 2015. "Ecology, Capital, and the Nature of Our Times: Accumulation & Crisis in the Capitalist World-Ecology." *Journal of World-Systems Research* 17(1):107-46.
- O'Connor, James. 1998. *Natural Causes: Essays in Ecological Marxism*. New York, NY: Guilford Press.
- Parenti, Christian. 2016. "Environment-Making in the Capitalocene: Political Ecology of the State." Pp. 166-84 in *Anthropocene or Capitalocene?: Nature, History, and the Crisis of Capitalism*, edited by Jason W Moore. Oakland, CA: PM Press.
- Paulson, Susan. 2014. "Political Ecology." Pp. 45-48 in *Degrowth: A Vocabulary for a New Era*, edited by Giacomo D'Alisa, Federico Demaria, and Giorgos Kallis. New York, NY: Routledge.
- Peet, Richard, Paul Robbins, and Michael Watts. 2011a. "Global Nature." Pp. 1-48 in *Global Political Ecology*, edited by Richard Peet, Paul Robbins, and Michael Watts. London: Routledge.
- . 2011b. *Global Political Ecology*. London: Routledge.
- Pellow, David N., and Hollie Nyseth Brehm. 2013. "An Environmental Sociology for the Twenty-First Century." *Annual Review of Sociology* 39:229-50.
- Plumwood, Val. 2002. *Environmental Culture: The Ecological Crisis of Reason*. New York, NY: Routledge.
- Purcell, Mark, and Joseph Nevins. 2005. "Pushing the Boundary: State Restructuring, State Theory, and the Case of US–Mexico Border Enforcement in the 1990s." *Political Geography* 24(2):211-35.

- Robbins, Paul. 2011. *Political Ecology: A Critical Introduction*. Oxford: Wiley-Blackwell.
- Salleh, Ariel. 2015. "Green Economy or Green Utopia: The Salience of Reproductive Labor Post-Rio+ 20." *Journal of World-Systems Research* 18(2):141-45.
- Schnaiberg, Allan. 1980. *Environment: From Surplus to Scarcity*. Oxford: Oxford University Press.
- Schnaiberg, Allan, and Kenneth A. Gould. 1994. *Environment and Society: The Enduring Conflict*. New York: St. Martin's Press.
- Schofer, Evan, and Ann Hironaka. 2005. "The Effects of World Society on Environmental Protection Outcomes." *Social Forces* 84(1):25-47.
- Schor, Juliet. 2011. *True Wealth: How and Why Millions of Americans are Creating a Time-Rich, Ecologically Light, Small-Scale, High-Satisfaction Economy*. New York, NY: Penguin Press.
- Schor, Juliet B. 2007. "In Defense of Consumer Critique: Revisiting the Consumption Debates of the Twentieth Century." *The Annals of the American Academy of Political and Social Science* 611(1):16-30.
- Seippel, Ørnulf. 2000. "Ecological Modernization as a Theoretical Device: Strengths and Weaknesses." *Journal of Environmental Policy and Planning* 2(4):287-302.
- Shandra, John M. 2007. "The World Polity and Deforestation: A Quantitative, Cross-National Analysis." *International Journal of Comparative Sociology* 48(1):5-27.
- Sheth, Jagdish N., Nirmal K. Sethia, and Shanthi Srinivas. 2011. "Mindful Consumption: A Customer-Centric Approach to Sustainability." *Journal of the Academy of Marketing Science* 39(1):21-39.
- Sivaraksa, Sulak. 2011. *The Wisdom of Sustainability: Buddhist Economics for the 21st Century*. Asheville, NC: Koa Books.
- Sklair, Leslie. 2001. *The Transnational Capitalist Class*. Malden, MA: Blackwell.
- Smith, Jackie. 2000. "Constructing World Culture: International Nongovernmental Organizations Since 1875." *Social Forces* 78(4):1573-75.
- So, Alvin Y. 1990. *Social Change and Development: Modernization, Dependency and World-System Theories*. Newbury Park, CA: SAGE Publications.
- Spaargaren, Gert, and Arthur P.J. Mol. 1992. "Sociology, Environment, and Modernity: Ecological Modernization as a Theory of Social-Change." *Society & Natural Resources* 5(4):323-44.
- Spaargaren, Gert, Arthur P.J. Mol, and Frederick H. Buttel. 2000. "Introduction: Globalization, Modernity, and the Environment." Pp. 1-16 in *Environment and Global Modernity*, edited by Gert Spaargaren, Arthur P.J. Mol, and Frederick H. Buttel. London: SAGE Publications.

- Starhawk. 2014. *The Earth Path: Grounding your Spirit in the Rhythms of Nature*. New York, NY: HarperCollins.
- Steffen, Will, Katherine Richardson, Johan Rockström, Sarah E. Cornell, Ingo Fetzer, Elena M. Bennett, R. Biggs, Stephen R. Carpenter, Wim de Vries, and Cynthia A. de Wit. 2015. "Planetary Boundaries: Guiding Human Development on a Changing Planet." *Science*:1259855.
- TerraChoice Group, Inc. 2010. "The Sins of Greenwashing: Home and Family Edition." <http://sinsofgreenwashing.com/findings/greenwashing-report-2010/index.html>
- Veblen, Thorstein. 1973. *The Theory of the Leisure Class*. Boston, MA: Houghton Mifflin.
- Wallerstein, Immanuel. 2004. *World-Systems Analysis: An Introduction*. Durham, NC: Duke University Press.
- . 2011. *The Modern World-System IV: Centrist Liberalism Triumphant, 1789/1914*. Berkeley, CA: University of California Press.
- York, Richard. 2006. "Ecological Paradoxes: William Stanley Jevons and the Paperless Office." *Human Ecology Review* 13(2):143.
- York, Richard, and Riley E. Dunlap. 2012. "Environmental Sociology." Pp. 504-21 in *The Wiley-Blackwell Companion to Sociology*, edited by George Ritzer. Malden, MA: John Wiley.
- York, Richard, and Philip Mancus. 2009. "Critical Human Ecology: Historical Materialism and Natural Laws." *Sociological Theory* 27(2):122-49.
- York, Richard, Eugene A. Rosa, and Thomas Dietz. 2010. "Ecological Modernization Theory: Theoretical and Empirical Challenges." Pp. 77-90 in *The International Handbook of Environmental Sociology*, edited by Michael R. Redclift and Graham Woodgate. Cheltenham, UK: Edward Elgar Publishing.
- Zeitlin, Maurice. 1984. *The Civil Wars in Chile: (or the Bourgeois Revolutions that Never Were)*. Princeton, NJ: Princeton University Press.