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Capitalism in the Web of Life: Ecology and the Accumulation of Capital

By Jason W. Moore

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In *Capitalism in the Web of Life*, Jason W. Moore advances a new synthetic framework that draws on environmentalist, feminist, and Marxist thought to formulate a theoretical edifice of capitalism-in-nature (as opposed to capitalism and nature). Hailing from the growing World-Ecology Research Network, Moore's book is unique in its transdisciplinary approach, spanning an impressive array of key scholarship from sociology, economics, geography, history, international development, and political science, among others. The crux of the argument hinges on an essential concept, the *oikeios*, that "enables—but on its own does not accomplish—a theory of capital accumulation in the web of life," (p. 10). For Moore, the *oikeios* names the life-making relation that includes all forms of human organization, which is both a product and producer of the *oikeios*. It is with this dialectical tool that Moore disrupts Green Thought's basic questions that center on the origins of a perceived separation of humanity from nature and anthropogenic contributions to ecological degradation and crises; in doing so, he shifts focus to how humanity is unified with nature within the web of life and chronicles the historical co-production of wealth and power accumulation in which humans put nature (including other humans) to work. For Moore, human history must be reconsidered to reflect the co-production of humans in nature within the web of life.

Moore furthers the argument that humanity is unified with and within nature by synthesizing Marxist thought with environmental historiography to establish a relational method and mode of inquiry appropriate to interrogating the grand questions posed by the text and by our current crises. A central point is that although many environmentalists agree that humans are a part of nature, the methods and analytic tools applied to study related phenomena contradict this core tenet. For Moore, a critical first step is abolishing Cartesian dualism embodied in the generalized acceptance of Nature/Society (humanity *and* nature), and embracing instead a relational ontology and dialectical tool, the *oikeios* (humanity-*in*-nature). For example, Moore indicts the concept of "metabolism" as struggling with an insurmountable contradiction: embracing a

relational ontology, on the one hand, but analytically adopting Nature/Society dualism, on the other hand. Thus, rather than forging the Nature/Society divide, the domains are epistemologically separated in ways that eschew comprehension of the deep interpenetration of humans with and within nature.

Readers are urged to consider capitalism as a world-ecology, one that joins the accumulation of capital, power, and the co-production of nature in dialectical unity. Another conceptual crux of the framework put forth is the double internality—the movement of capitalism through nature, and of nature through capitalism—that emphasizes the historical co-production of nature in society. As Moore states “humans make environments and environments make humans—and human organization,” (p. 3). His paradigm has hints of Weberian refraction, too, when he notes, for instance, “geology is a *basic* fact; it becomes a *historical* fact through the historically co-produced character of resource production, which unfolds through the *oikeios*,” (p. 179, emphases in original). This feature of his treatise encourages readers to begin asking how and why (some) geological facts become historical processes—a sure and swift departure from the vast bulk of “Green thinking” today.

I am especially appreciative of Moore’s treatment of accumulation and the formation of value relations within the framework of capitalism-in-nature. Fundamental to this task is Moore’s identification of the “Four Cheaps” (or Cheap Nature)—food, energy, raw materials, and labor-power—that are posited as frontiers for expansion within the capitalist world regime conquest of space and time. Moore is clear on this point: “capitalism does not *have* an ecological regime; it *is* an ecological regime,” (p. 158, emphases in original). Moore extends the ecological regime to encompass governance, technology, stratification, and the institutional/organizational mechanisms that consolidate, sustain, and propel adequate flows of Cheap Nature to centers of world accumulation since the long sixteenth century. Ecological regimes, then, are stabilized conditions of extended accumulation. Moore substantiates the claim that world hegemonies are socio-ecological projects by illustratively detailing the hegemonic emergence of Britain as inextricably linked to the harnessing of coal/steam power and companion shifts in plantations, and tracing American hegemony to oil and the industrialization of agriculture it enabled. The distinctly dialectic and historical approach from which the world-ecological framework is derived challenges the tendency toward periodization in which dualistic notions of social causes and environmental consequences reign supreme, supplanting this impulse with a thoroughly interlocked view of historical capitalism as co-produced by interpenetrating layers of society-in-nature.

Moore demonstrates how specific historical moments coalesce with the appropriation and exploitation of Cheap Natures (in various forms and configurations across the space-time nexus) to solidify value relations, production processes, and the accumulation of wealth and power—all part and parcel of the capitalism-in-nature paradigm. He gives numerous examples of humans and nature co-producing capitalized ecologies that galvanize power and wealth in the hands of so few, leaving the vast majority of humanity in nature as frontiers for further accumulation via appropriation and exploitation. In this way, capitalism in the web of life transforms, appropriates, and exploits nature (including humans) such that biophysical dynamics interpenetrate social ecologies in ways that render them virtually analytically inseparable and central to contradictions witnessed globally, as well as crises, both historical and current. To illustrate, social transformations (e.g., the global agro-food regime) and biophysical feedbacks (e.g., weed control) are unified contradictions from the standpoint of the *oikeios*. It must be stressed that the author does not inculcate a vision of historical volleying of forces between society and nature, rather history is best viewed as “a cascade of environment-making processes and relations, through which particular bundles of human and extra-human nature flow, upon which these bundles act and re-form as they act,” (p. 174). The vision put forth, this flow of flows that interpenetrates all of humanity-in-nature, is a paradigmatic *tour de force* with serious analytic implications. Though impossible to grapple with entirely in such a limited space, the point remains that the scope and magnitude of the analytic conclusions reached by Moore are substantial and significant, potentially a call for marshalling new approaches to replace the current “industry standards,” epitomized perhaps by the proliferation of quantifrenetic tendencies (e.g., econometrics) in macro-comparative social science scholarship. To be sure, the framework advanced by Moore calls into question the assumptions necessary to conduct analyses premised on a dualistic model of “Nature” in one box and “Society” in the other(s) that inherently reify the separation of nature from society.

A particular strength is the incorporation of feminist theory to establish a critical analysis of value relations eminent to the capitalism-in-nature paradigm, an area in which there is ample room for intersection and extension across existing macro-comparative research. Moore posits the omission of women’s reproductive work is but one axis of exclusion from value relations established by capitalized nature; instructive is his pithy statement that “[o]nly some energy becomes work, and only some work becomes value,” (p. 174). As ecological regimes face constraints to the Four Cheaps that threaten accumulation (e.g., rising costs of inputs, falling rates of profit), the appropriation of unpaid work is a critical frontier to counterbalance crippling increases in the costs of production. As these relations unfold through the *oikeios*, readers are given a

clear conception of the historical co-evolution of bundled human and extra-human relations, a true mosaic of interplay across a multitude of layers that belie current conceptualizations of Nature separate from Society.

Moore's treatment of gender starkly contrasts dominant figures and modes of analysis that characterize the subfield of environmental sociology, and thus represents a valuable advancement in the theoretical unpacking of capital so that gender, race, and class are brought into account. While Moore explicates how capitalism is premised on a strictly dualized gendered division of labor, more so than any civilization before it, there is no discussion of patriarchy, which presents a fruitful direction for forging debates on structural—cultural systems. For instance, is patriarchy the structural and ideological gel that enforces value relations, especially regarding unpaid work? I also see potential for pushing the argument further to explore questions of how gender, race, and class work in broader social formations to contest power and accumulation regimes. To illustrate, the conceptualization of gender as social organization is closely bundled to heteronormativity and compulsory monogamy (see e.g., Schippers 2016). Possibilities for alternatives (e.g., communal/communitarian living) to disrupt accumulation processes and value relations within capitalism are important to consider. Given his exceptional treatment of feminist theory, in general, I look forward to future thought on this important, overlooked, and understudied area of emphasis within environmental sociology.

Moore's perspective brings other untapped areas of interest into the conversation, such as the role of entropy in value relations and ecological surplus declines over long waves of accumulation. His work in this area highlights yet again the expansive interdisciplinary thinking that, in this case, is used to consolidate laws of entropy within specific patterns of power and production. Entropy exacts a toll of wear and tear that is closely associated with declines in ecological surplus; to quote Moore, "[t]his is an entropy problem: matter/energy move from more useful to less useful forms within the prevailing configuration of the *oikeios*," (p. 97). Taken together with the feminist thought outlined above, I see possibilities for developing a feminist theory of entropy and unequal exchange. For instance, declines in ecological surplus imposed by entropic dynamics could be extended to marginalized populations whose suffering is compounded by accumulation struggles via depletion and devaluation within capitalism. Such an approach would highlight the magnified vulnerability of women at the lowest nodes of commodity chains (Dunaway 2001). Accordingly, women's productive and reproductive labor functions to alleviate accumulation crises by serving as frontiers of exploitation that are epicenters for the accumulation of entropy.

In sum, *Capitalism in the Web of Life* traces the historical patterning of appropriation and exploitation in which capital aggressively pursues and taps sources of Cheap Nature and, in doing so, co-produces geographical, institutional, organizational, and technological forms to further accumulation. The theoretical and methodological urging to abolish Nature/Society divides that presently dominate Green and Red scholarship alike is convincingly argued and presents a true juggernaut to be grappled with by scholars working across diverse areas of study. I am enthusiastic about the potential for integrating and incorporating Moore's core insights with scholarship from critical animal studies, political ecology, geography, environmental sociology, ecofeminism, and coupled humans and natural systems approaches (e.g., Liu et al. 2013), to name just a few branches of study ripe for developing the substantive and analytic implications stemming from his powerful framework. Moore's book is a formidable addition to world-ecology perspectives and precisely the sort of text needed to further the reach of this ever-growing area of research.

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