

Ecological Crises and the Agrarian Question in World-Historical Perspective

JASON W. MOORE

We are here to talk about the Agrarian Question, or rather, Agrarian Questions. The plural is important. We live in a modern world-system of unprecedented unevenness and complexity. This much, we all know. At the same time, it is no less important, I should add, to see this diversity from what Lukács once called the “point of view of totality.”¹ The Agrarian Questions are not exclusive but rather mutually constitutive. However, they are not constitutive of each other in the fashion that has gained such widespread circulation these days within critical social science—that the local shapes the global no less than the other way around. Yes, local-regional transformations have always generated powerful contradictions that shaped in decisive ways the geography and timing of world accumulation and world power. The parts shape the whole. The whole shapes the parts. *But never equally so.*

If it was not clear before, it became increasingly apparent over the course of 2008 that agriculture is one of the decisive battlegrounds of neoliberal globalization—I would say *the* decisive battleground. This latest effort to remake agriculture in the image of capital—this time, as a composite of agro-export platforms whose variance with the global factory can be found only in the former’s direct relation with the soil—has entered a phase of rapidly declining returns for capital as a whole. The worm has turned on the neoliberal agro-ecological project. We shouldn’t let the short-run profiteering around food or oil obscure this. Rising food costs—the highest in real prices since 1845, or so *The Economist* reports (December 6, 2007)—mean that the systemwide costs of (re)producing the world’s working classes are going up, a situation that cannot be resolved (as it was in the long nineteenth century) by incorporating vast peasant reservoirs in the colonial world. Marx’s “latent” reserve army of labor has dwindled to a wisp of what it was a

JASON W. MOORE teaches world history in the Division of Human Ecology, Lund University, and Department of Geography, University of North Carolina. This essay is adapted from an address to the “Agrarian Questions: Lineages and Prospects” conference on May 3, 2008, at the School of Oriental and African Studies, London. He welcomes correspondence on these issues: jasonwmoore@gmail.com. Special thanks to a precious group of friends and colleagues who encouraged this line of thinking: Giovanni Arrighi, Henry Bernstein, Ben Brewer, Dan Buck, Edmund Burke III, Brett Clark, Barbara Epstein, John Bellamy Foster, Harriet Friedmann, Diana C. Gildea, Alf Hornborg, Shiloh Krupar, Jessica C. Marx, MacKenzie K. L. Moore, Dale Tomich, Richard A. Walker, and Michael Watts.

century ago, or even twenty-five years ago, on the eve of China's breakneck industrialization.

I do not mean to suggest that what we have come to call the neoliberal ecological regime will go away overnight. It won't. But it seems clear that the agro-ecological regime which took shape out of the crises of the 1970s has exhausted itself. This in itself is not a novel phenomenon. We have, over the past six centuries of world capitalist development, witnessed a succession of world ecological regimes that have been crucial to the system's periodic waves of social restructuring and geographical expansion. If large-scale *industry* has often captured the imagination of Marxists in the periodization of modern history, it is clear that industrial and agricultural revolutions have always been joined at the hip. The Manchester textile mills of the nineteenth century were unthinkable without the Barbados sugar mills of the seventeenth. The great waves of world development have been shaped not only by the sociology of state power and class struggle, the organization of industrial production, and the emergence of new forms of business enterprise, but equally by epochal agro-ecological revolutions from which issued the vital expansion of agricultural and raw material surpluses. It was not for nothing that Ricardo, who was not alone in this respect, feared that rising food prices in early nineteenth-century England would throttle industrial development. The English-led Industrial Revolution and the emergence of British world power in the nineteenth century, were inconceivable without the global reorganization of world agriculture that would, quite literally, nourish the workers in the "workshop of the world." As English workers ate bread and jam made from wheat grown in the American Midwest and sugar harvested in the West Indies, it was not just they, but all the more so their enterprising employers, who fed off the fruits of capital's global conquests—conquests that made food cheap, albeit at the dear cost of deforestation, genocide, and soil exhaustion. But what is the analogous process for today's workshop of the world? From where, we might ask, will China's hundred million-plus industrial workers be fed?

I am not at all sure that the old answers to this question apply. The sixteenth-century Dutch grew rich thanks to cheap grain from Poland's Vistula; the nineteenth-century English had Ireland, the Caribbean, and the American Midwest. When the United States came to world power, they still had the Midwest, plus the American South now fully integrated after 1945, *and* California, *and* Latin America. The neoliberal agro-export regime has fed off the light-speed appropriation of peasant holdings from Mexico to China. Decisive food surpluses had been won in all cases from untapped frontier zones, coupled (increasingly), with the productivity-maximizing genius of

capitalism. And while biotechnology and biopiracy through the “new” enclosures have succeeded in greasing the wheels of world accumulation over the past two decades, they have done little to achieve what all previous agricultural revolutions had done: expand the surplus and drive down food prices. Yes, we can look at GMO soybeans in places such as Brazil and see that yields are higher, but the return of Brazil to the center of world agriculture—echoes of the seventeenth-century sugar boom—now promises only to postpone the contraction, rather than drive the expansion, of the relative food surplus.² The Green Revolution had done this in the 1960s and 1970s, but it too was not simply a technological marvel. The Green Revolution depended on the same frontier processes that have underwritten accumulation from the sixteenth century—enclosure and the exploitation of nature as free gift. Taking the best lands and slurping water at unprecedented speed, the Green Revolution was a self-propelling and self-limiting enterprise, one that was largely exhausted by the early years of the 1980s.

So, to repeat our question, where is the agricultural revolution—that audacious mix of technical innovation and (neo?)colonial plunder—that will feed today’s workshop of the world? The short answer is that there isn’t one. All great revivals of world accumulation—and I am not speaking of the financial expansions that always accompanied the demise of great world powers—have depended on this pairing of plunder and productivity. But today there is no space for plunder because all the spaces have been plundered. One can return to the old haunts, but it’s a little like robbing a gas station twice the same day. You’ll get something the second time around, but it won’t be much.

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From this perspective, how do we begin to make sense of the Agrarian Question today, from the standpoint of the *longue durée* of world accumulation and its environmental history? My reading of the tea leaves today is that it is no mere happenstance that the place of agriculture in the trajectory of world development has moved into an increasingly central position, not only in terms of the political economy of what McMichael calls the “corporate food regime,” but also as a pivot of the greatest significance in the unfolding, intensifying, global ecological crisis.³ For the question of agriculture in world accumulation was also central, in a distinct but still common manner, during the era of the rise of capitalism, following the protracted crises of European feudalism during the long fourteenth century (1290–1450)—crises which, we should observe, turned as much upon the political *ecology* as they did upon the political *economy* of the feudal order. The difference is that the innovations of an emergent

capitalism in the early centuries of capitalist development unfolded upon a world largely untouched by the violence of the commodity form.

Let us begin with the obvious. The Agrarian Question is also the Question of Nature, and therefore it is also the Question of Ecological Crises in the modern world. The German socialist Karl Kautsky, at the close of the nineteenth century, observed that the questions of value, in Marx's sense of the term, and what he called "material exploitation," were, in fact, closely intertwined. While "the constantly mounting loss of nutrients" pouring out of the countryside "does not signify an exploitation of agriculture in terms of the law of the value," Kautsky argued, "it does nevertheless lead to...material exploitation, to the impoverishment of the land." Echoing Marx, Kautsky continued, "Technical progress in agriculture, far from making up for this loss, is, in essence, a method for improving the techniques of wringing the goodness out of the soil."⁴

This movement is what John Bellamy Foster calls the "metabolic rift," through which the town-country antagonism becomes a defining eco-geographical structure of capitalism.⁵ The essence of the metabolic rift? Unsustainable food and resource exploitation, whereby the products of the countryside flow into the cities, themselves under no obligation to return the waste products to the point of production. Capitalism did not invent the metabolic rift. It simply revolutionized the magnitude of material exploitation by achieving a quantum leap forward in the scale and speed of environmental transformation, evident from the sixteenth century, in such decisive sectors as sugar, silver and metallurgy, timber and forest products. What took feudal society centuries to achieve, capitalist Europe accomplished in mere decades. The ecological crises that materialized after the 1520s implied and indeed necessitated global expansion. To speak of sugar planting or silver mining or timber exports for this era is to refer to successive regional boomtowns, and thence to successive regional crises, the successive movement itself signifying the geographical expansion of the commodity system.⁶

What Kautsky suggests, and Foster amplifies, is a more expansive geographical re-reading of the Agrarian Question, as we have come to think it over the long twentieth century. We have come to understand the Agrarian Question in three basic ways: (1) the penetration of capitalist relations into agriculture; (2) the contribution of agriculture to capitalist development as a whole; and (3) the role of agrarian classes of labor in the struggle for democracy and socialism.⁷ I believe there is a fourth basic way—the Agrarian Question as Ecological Question—whose world-historical import is profoundly intertwined with the others, but whose significance (up to now) has been unevenly appreciated. These four are not discrete moments; none can be

explained without situating the others within, to borrow Marx's well-turned phrase, an "organic whole." Kautsky's critique of capitalist agriculture's "material exploitation," grounded in the unequal and exhausting material flows of a many-layered town-country antagonism (Foster's metabolic rift), directs our attention to capitalism's central ecological crisis tendency—namely, the endless accumulation of capital implies, *indeed compels*, the endless conquest of the earth. The first logic implies infinite expansion. The second reality asserts emphatic limits.

It has been my argument that the origins of today's global ecological crisis are to be found in the unusual responses of Europe's ruling strata to the great crises of the long fourteenth century (c. 1290–1450). There are indeed striking parallels between the world-system today and the situation prevailing with a broadly feudal Europe at the dawn of the fourteenth century—the agricultural regime, once capable of remarkable productivity gains, entered stagnation; a growing layer of the population lived in cities; vast trading networks connected far-flung economic centers (and epidemiological flows between them); climate change had begun to strain an overextended agro-demographic order; resource extraction (in silver and copper for instance) faced new technical challenges, fettering profitability. After some six centuries of sustained expansion, by the fourteenth century, it had become clear that feudal Europe had reached the limits of its development, for reasons that had to do with its environment, its configuration of social power, and the relations between them.

What followed was, either immediately or eventually, the rise of capitalism. Regardless of one's specific interpretation, however, it is clear that the centuries after 1450 marked an era of fundamental environmental transformation. It was, to be sure, commodity-centered, and it was also extensive; it was an unstable and uneven and dynamic combination of seigneurial and capitalist and peasant economies—this was one of the sources of early capitalism's dynamism.

This ecological regime of early capitalism was, as all such regimes are, beset with contradictions. These came to the fore in the middle of the eighteenth century. Almost overnight, England shifted from its position as a leading grain exporter to a major grain importer. Yields in English agriculture stagnated. Inside the country, landlords compensated by agitating for enclosures, which accelerated beyond anything known in previous centuries; outside the country, Ireland's subordination was intensified with an eye to agricultural exports. This was the era of crisis for capitalism's first ecological regime, one which had taken shape during the long sixteenth century. For all the talk of early capitalism as "mercantile" (which it was), it was also

extraordinarily productivist and dynamic, in ways that went far beyond buying cheap and selling dear—early capitalism had created a vast agro-ecological system of unprecedented geographical breadth, stretching from the eastern Baltic to Portugal, from southern Norway to Brazil and the Caribbean. It had delivered an expansion of the agro-extractive surplus for centuries. It had been, in other words, an expression of capitalist advance—sometimes Smithian and sometimes not, most of the time combining market, class, and ecological transformations in a new (if dramatically uneven) crystallization of ecological power and process.

By the middle of the eighteenth century, however, this world ecological regime had become a victim of its own success. Agricultural yields, not just in England but across Europe and extending even into the Andes and New Spain (!), faltered. It was an expression of world crisis. It was a contributor to world crisis. It was, in my view, a world *ecological* crisis—that is, not a crisis of the earth in an idealist sense, but a crisis of early modern capitalism's organization of world nature, of capitalism not just as world-economy but also as world-*ecology*. For even many on the left have too long regarded capitalism as something that acts upon nature rather than through it.⁸ This great world ecological crisis of the half-century (and some) after 1750, can be characterized as capitalism's first *developmental* environmental crisis, quite distinct from the epochal ecological crises that characterized the transition from feudalism to capitalism. It was crisis resolved through two major, successive waves of global conquest—the creation of North America, and increasingly India, as a vast supplier of food and resources, and then, by the later nineteenth century, the great colonial (and semi-colonial) gulps of southeast Asia, Africa, and China.

2

The Industrial Revolution retains its hold on the popular imagination as the historical and geographical locus of today's environmental crisis. It is a view that coexists, sometimes more easily than at others, with a profound faith in technological progress. From the story we have at hand, my sense is that it may be more useful to view the Industrial Revolution as the *resolution* of an earlier moment of modern ecological crisis, *and* as the detonator of another, more expansive and more intensive, reconstruction of global nature. The Industrial Revolution offered not merely a technical fix to the developmental crises that wracked early capitalism's ecological regimes; within this revolution was inscribed a vast geographical fix to the underproduction of food and resources. In the same breath, these fixes were in time as limiting as they had once been liberating. In my view, such a re-

reading of this grand signifier, “ecological crisis,” offers a more historical—and therefore more hopeful and democratic—means of thinking through the problem of ecological crisis in the modern world. While the technological marvels of the past two centuries are routinely celebrated, it had become clear to Stanley Jevons as early as the 1860s that all advances in resource efficiency promised *more* (not less) aggregate resource consumption. *This* is how the modern world market functions, towards profligacy, not conservation. The technological marvels of the industrial era have rested on geographical expansion neither more nor less than they did in the formative centuries of capitalist development. The pressure to enclose vast new areas of the planet, and to penetrate ever-deeper niches of social and ecological life, has continued unabated. (Witness the revival of interest in the so-called “new” enclosures.) All of this has been reinforced, in the same manner, by a radical plunge into the depths of the earth, to extract coal, oil, water, and all manner of strategic resources. It is an ecological regime that has reached, or will soon reach its limits. Whatever the geological veracity of the “peak oil” argument, it is clear that the American-led ecological regime that promised—and for half a century delivered—cheap oil is now done for. (An issue that of course has to do with much more than oil reserves alone.)

It is from this standpoint that an accounting of earlier crises may help us discern the contours of the present global ecological crisis. At a minimum, it seems safe to say that historical capitalism’s preference for spatial fixes to its recurrent waves of crisis would seem to present a major problem in a world with very definite geographical limits. As long as fresh land and labor existed beyond the reach of capital (but still within capital’s reach), the system’s socio-ecological contradictions could be attenuated. With the possibilities for external colonization foreclosed by the twentieth century, capital has been compelled to pursue strategies of “internal” colonization, among which we might include the explosive growth of genetically modified plants and animals since the 1970s; drilling ever-deeper and in ever more distant locales for oil and water; and perhaps most ominously, converting human bodies—especially those belonging to women, people of color, workers and farmers—into toxic waste dumps for a wide range of carcinogenic and otherwise lethal substances.⁹

These developments are new and not new at the same time, and this dialectic of continuity and rupture is precisely what so many observers of the present conjuncture have missed. There is of course no shortage of analysis when it comes to the proximate factors of contemporary environmental degradation—government policies, multinational corporations, international trade organizations and agreements, and so forth. But there has been

insufficient care given over to the task of situating these factors systemically, much less historically. Which means that we are left with abstractions rather than concrete totalities, “as if the task were the dialectical balancing of concepts, and not the grasping of real relations!”¹⁰

There is a certain urgency to all this. There is by now widespread agreement that the world economy has driven to the limits, and in some cases beyond, a whole range of ecological thresholds. The global ecological crisis is not impending. *It is here*. For those of us committed to coming to grips with this turning point in human affairs, we would do well to take to heart the chief methodological insight of the historical perspective on globalization—namely that the most effective means of distinguishing the new from the old in the present conjuncture is to situate contemporary dynamics world-historically. Giovanni Arrighi’s three great methodological questions—What is cumulative? What is cyclical? What is new?—would seem to be of special relevance in this period, when the fate of human civilization hinges on our response to this age of catastrophe.¹¹ By locating today’s ecological transformations within long-run and large-scale patterns of recurrence and evolution in the modern world, we might begin to illuminate the distinctiveness of the impending ecological crunch. This means, as an initial step, situating ecological relations *internal* to the political economy of capitalism—not merely placing concepts of ecological transformation and governance *alongside* those of political economy, but reworking the fundamental categories of political economy from the standpoint of the historically existing dialectic of nature and society.

Once ecological relations of production are put into the mix, one of the chief things that come into view is the production of socio-ecological regimes, on regional- and world-scales both. These initially liberate the accumulation of capital, only to generate self-limiting contradictions that culminate in renewed ecological “bottlenecks” to continued accumulation. Whereupon the cycle starts anew, and historically speaking this has entailed progressively more expansive and intensive relations between capital, labor, and external nature.¹² This is not to say that the environmental history of capitalism is repetitive or universal in any rote fashion; rather, the system’s contradictions are resolved only through amplifying the underlying contradiction. It has been a spectacular form of temporal deferment. Although the point is certainly arguable, the moment of global expansion seems to have been central over the long run and it is not at all clear that capitalism can survive on the basis of the internal fix—*pace* David Harvey.¹³ This historical approach would get us closer to a more useful formulation of “ecological crisis” and to the idea of multiple forms of ecological crisis in the modern world, past, present, and future.

3

If crises are by nature movements that unfold rather more than they are movements that can be (re)solved, my sense of the crucial question that confronts the world left today is this: How we might respond to the varied movements of the crisis in a way that refuses the temptations of abstract localism and abstract globalism alike, in favor of the “point of view of totality”? Totality is, of course, neither the world-scale nor the composite of local and regional formations, but rather the multilayered richness of the whole, governed by emphatically non-“iron” laws of motion. As Engels wrote to Marx in 1873, “only in motion does a body reveal what it is.” The task before us is precisely to identify the “different forms and kinds” of motion of the unfolding global ecological crisis, which is this time around not merely implicated in the terminal crisis of capitalism, but also constitutes the gravest threat to human life we have yet encountered.

Notes

1. George Lukács, *History and Class Consciousness* (MIT Press, 1971).
2. Tony Smith, *New York Times*, October 14, 2003.
3. Philip McMichael, “Global Development and the Corporate Food Regime,” *Research in Rural Sociology and Development* 11 (2005): 269–303.
4. Karl Kautsky, *The Agrarian Question* (Zwan, 1988 translation of 1899 original), 214–15.
5. John Bellamy Foster, “Marx’s Theory of Metabolic Rift,” *American Journal of Sociology* 105 (1999), 366–405.
6. Jason W. Moore, “Nature and the Transition from Feudalism to Capitalism,” *Review* 26, no. 2 (2003): 97–172; “The Modern World-System as Environmental History?,” *Theory & Society* 32, no. 3 (2003): 307–77; and *Ecology and the Rise of Capitalism*, doctoral dissertation, Univ. of California, Berkeley, 2007.
7. On this, see especially, Terry J. Byres, *Capitalism from Above and Capitalism from Below* (Macmillan, 1996); and Henry Bernstein, “Changing Before Our Very Eyes,” *Journal of Agrarian Change* 4, no. 1–2 (2004).
8. Jason W. Moore, “Capitalism as World-Ecology,” *Organization & Environment* 16, no. 4 (2003): 431–58.
9. See Devra Davis’s fine book, *The Secret History of the War on Cancer* (Basic, 2007).
10. Karl Marx, *Grundrisse* (Vintage, 1973), 90.
11. Giovanni Arrighi, *The Long Twentieth Century* (Verso, 1994).
12. Jason W. Moore, “Environmental Crises and the Metabolic Rift in World-Historical Perspective,” *Organization & Environment* 13, no. 2 (2000): 123–57.
13. David Harvey, *The New Imperialism* (Oxford University Press, 2003).

(continued from page 64)

populace at last begins to fight back *en masse*, insisting that their needs be met. In much of the rest of the world of course the continued existence of the U.S. dominated order of monopoly-finance capital, commonly identified as neoliberalism, is already—or soon will be—under challenge.

These problems will be discussed more fully in the December Review of the Month and in a book by John Bellamy Foster and Fred Magdoff, *The Great Financial Crisis: Causes and Consequences*, to be published by Monthly Review Press in January.

We need not remind MR readers that the present economic disaster is only part of a more general failure of the capitalist system, and that there are other equally pressing reasons for revolt: most notably, the growing catastrophes of war and environmental destruction. What we are facing quite clearly is a new historical moment, in which a genuinely radical politics may once again be possible—in the United States itself.

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This number of *Monthly Review* is a second issue focusing on the environmental problem, following our July-August special issue, “Ecology: The Moment of Truth.” Like the previous one it is coedited by John Bellamy Foster, Brett Clark, and Richard York. Here the theme is: “Beyond Capitalist Ecology.”



Carbon dioxide makes a huge greenhouse of the earth, allowing sunlight to reach the earth’s surface but limiting reradiation of the resulting heat into space. The temperature of the earth—which profoundly affects the suitability of the environment for life—is therefore certain to rise as the amount of carbon dioxide in the air increases. A report by the President’s Science Advisory Committee finds that the extra heat due to fuel-produced carbon dioxide accumulated in the air by the year 2000 might be sufficient to melt the Antarctic ice cap—in 4000 years according to one computation, or in 400 years according to another. And the report states: “The melting of the Antarctic ice cap would raise sea level by 400 feet. If 1,000 years were required to melt the ice cap, the sea level would rise about 4 feet every 10 years, 40 feet per century.” This would result in catastrophe for much of the world’s inhabited land and many of its major cities.

—Barry Commoner, *Science & Survival* (1966), 11.