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The Expropriation of Nature

JOHN BELLAMY FOSTER AND BRETT CLARK

Twenty-first-century monopoly-finance capitalism constitutes what Karl Marx once called an “age of dissolution.”¹ All that is solid in the current mode of production is melting into air. Hence, it is no longer realistic to treat—even by way of abstraction—the crucial political-economic struggles of our day as if they were confined primarily to the exploitation of labor within production. Instead, social conflicts are increasingly being fought over capitalism’s expropriation and spoliation of its wider social and natural environment.² This historical shift and the deepening fissures that it has produced can be seen in the growth of what David Harvey has termed “anti-value politics,” directed at the boundaries of the system and visible in such forms as the ecological movement, growing conflicts over social reproduction in the household/family and gender/sexuality, and global resistance to the expansion of imperialism/racism.³ To understand these rapidly changing conditions, it is necessary to dig much deeper than before into capital’s external logic of expropriation, as it was first delineated in Marx’s writings during the Industrial Revolution.⁴ Most important, because at the root of the problem, is the extreme expropriation of the earth itself and the consequent transformation in social relations.

Like any complex, dynamic system, capitalism has both an inner force that propels it and objective conditions outside itself that set its boundaries, the relations to which are forever changing. The inner dynamic of the system is governed by the process of *exploitation* of labor power, under the guise of equal exchange, while its primary relation to its external environment is one of *expropriation* (“appropriation...without exchange” or “without equivalent”).⁵

Capitalism, or generalized commodity society, had its origins in the mercantilist age from the mid-fifteenth to mid-eighteenth centuries. Mercantilism was a period dominated by expropriation under the hegemony of merchant capital, including robbery, enslavement, and the outright seizure of the title to real property—a process misleadingly dubbed

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by the classical economists “previous [also ‘primary’ or ‘primitive’] accumulation” – whereby vast numbers of human beings were separated from the natural conditions of their existence, through the alienation of both land (nature) and labor.⁶

This historic transformation required the forcible dissolution of all earlier property forms and relations of production via the enclosure of the commons and the expropriation of small peasant holdings, enforced by the “gallows, pillory and whip,” and extended worldwide to the “extirpation, enslavement and entombment in mines” of indigenous populations.⁷ The emerging “bourgeois order,” as Marx put it, was “a vampire that sucks out its [small-landholding feudal peasants’] blood and brains and throws [them] into the alchemistic cauldron of capital,” imposing new private property relations.⁸ The re-enslavement of women in the transition to capitalism took various forms, including the burning of witches and wife selling, both of which enforced capitalist patriarchy.⁹ Nature, or what Marx termed the “universal metabolism of nature,” was itself expropriated wherever possible by the emerging capitalist system, reduced to a mere “free gift...to capital” to be used and “abused” at will.¹⁰

But if capitalism thus came into being “dripping from head to toe, from every pore, with blood and dirt,” in a violent process of expropriation that commercialized the soil, enslaved populations throughout the periphery, and created the modern working class, thereby making the systematic exploitation of labor possible, expropriation did not simply cease at that point.¹¹ Rather, it continued to define the external logic of the system, establishing, maintaining, and extending capitalism’s boundaries through its relations to households, colonies, and elemental natural processes – all of which lay outside the circuit of capital. As Sven Beckert writes in *Empire of Cotton*, “war capitalism” in the mercantilist period rested on “the violent expropriation of land and labor in Africa and the Americas. From these expropriations came great wealth and new knowledge, and these in turn strengthened European institutions and states – all preconditions for Europe’s extraordinary economic development by the nineteenth century and beyond.”¹² Such “war capitalism” continually metamorphosed into new historic forms.

At various points in the development of the system, this dialectic of exploitation and expropriation, or the relation between the system’s inner and outer dynamics, shifted in emphasis from one to the other, even though both invariably characterize the operation of capitalism. In its early period, under mercantilism and colonialism, expropriation principally defined the system. In 1770, at the outset of the Industrial Revolution, overall profits from slavery, according to Robin Blackburn in *The Making*

of *New World Slavery*, were sufficient to cover a quarter to a third of British gross fixed investment needs.¹³ However, by the mid-nineteenth century, at the height of the Industrial Revolution, capitalism had metamorphosed into a developed mode of production centered on impersonal value relations and based on the systematic exploitation of what Marx called “formally free labor.”¹⁴ In its descending phase of monopoly capitalism in the late nineteenth and twentieth centuries, distinguished by a tendency toward stagnation in the accumulation process, the overall thrust of the capital system shifted back toward profit upon expropriation, while maintaining the myth of a system based on (equal) exchange, or *quid pro quo*.¹⁵ Monopoly profits became dominant while the imperialist expropriation of surplus under conditions of enforced inequality was extended to the entire global periphery, and given a systematic basis through alliances between multinational corporations and imperialist states.

In today’s phase of globalized monopoly-finance capital, characterized by secular stagnation in the capitalist core, planetary ecological crisis, and the rise of neoliberalism as a system of financialized redistribution, relations of expropriation have further asserted themselves, to the point that the system seems at times to have entered a period of the forcible dissolution of everything in existence: an age of structural crisis and exterminism, extended to the web of life itself.

Profit upon Expropriation

For Marx, as for G. W. F. Hegel in *The Philosophy of Right*, appropriation, i.e., property, was an inherent feature of human life. It was present in all societies, constituting the material condition of human existence, making production itself possible.¹⁶ Marx observed in the *Grundrisse* that “all production is appropriation of nature on the part of an individual within and through a specific form of society. In this sense it is a tautology to say that property (appropriation) is a precondition of production.... That there can be no property and hence no society where some form of property does not exist is a tautology. An appropriation that does not make something into property is a *contradictio in subjecto*.”¹⁷

Particularly absurd, in Marx’s view, was the attempt in bourgeois ideology to associate appropriation in general with the formation of private property, as, for example, in John Locke’s political theory of appropriation in *The Second Treatise on Government*, or Daniel Defoe’s *Robinson Crusoe* – both of which saw private property as emerging out of the state of nature in isolation from society. Seeking to justify the bourgeois economy, Jean-Baptiste Say wrote in his *Treatise on Political Economy* that property was originally a “gratuitous gift” of nature but that all men had “consented” to

the appropriation of these gifts of nature as private property by a few individuals, “to the exclusion of all others.”¹⁸ In sharp contrast, Marx insisted that the appropriation of nature was a universal phenomenon of social life, of the social metabolism of humanity and nature, while the alienated “laws of capitalist appropriation” gave rise to bourgeois private property and capital accumulation. Few ideas were more grossly distorted than that of the liberal conception of the “free gift of Nature to capital” – or the subordination of the entirety of human metabolic interactions with nature through production to the narrow laws of capitalist appropriation.¹⁹

Although Pierre-Joseph Proudhon had declared in his *What Is Property?* that all property, and hence all appropriation, was theft, Marx pointed to the illogic of such a position, since there could be no theft, i.e., expropriation, without the prior appropriation or property. Proudhon’s view, with its lack of historical analysis, failed to account for numerous, varied property forms, including common or communal property, and even small peasant holdings. Hence, in characterizing property or appropriation as theft, Proudhon mistakenly associated all property with bourgeois private property, particularly landed property.²⁰ Nevertheless, while Proudhon’s analysis was much too crude, there was no doubt that bourgeois private property rested on the alienated appropriation or expropriation of the elemental conditions of production, and that since this was a product of the historical class struggle, it could itself be transcended.

Expropriation in Marx’s conception is specifically identified with “appropriation...without exchange,” i.e., appropriation minus the equality in all actual exchange relationships.²¹ Expropriation thus meant theft of the title to property. In pre-capitalist or tributary modes of production, including feudalism, the forced appropriation of the surplus product from the direct producers is transparently a form of expropriation.²² Under mercantilism, expropriation was often direct, as in the enclosures, where common property was confiscated – and as in the enslavement and extirpation of populations and the looting of land and resources throughout the world.

In ordinary commercial transactions in the mercantilist era, this reliance on the forced confiscation of property was only somewhat more hidden. Thus, Marx quoted Benjamin Franklin’s statement that “war...is robbery, commerce...is...cheating,” as representative of the mercantilist view. The cheating that constitutes merchant capital in its normal commerce, Marx explained, occurs by means of “a long series of intermediate steps” in the circulation of commodities, including commercial capital’s domination over production throughout the mercantilist period. It is not to be explained “merely by frauds practiced on the producers of commodities.”²³ In the organization of “modern manufacturing” (capitalist handicraft),

with its historical roots in the prior mercantilist form, expropriation could be seen as occurring at every step, “because a whole series of plundering parasites insinuate themselves between the actual employer and the worker he employs.”²⁴

In developed capitalist production, class-based expropriation is disguised by a system of formally equal exchange within the market, in which workers, via the wage contract, are said to be paid an amount equal to their labor. Workers in the “hidden abode” of production are, it is true, paid the value of their labor power, equal to the necessary, historically determined costs of their reproduction, during the portion of the working day necessary to cover this. Yet capital nonetheless extracts a surplus product from the unpaid labor in the remainder of the working day – during which there is only “apparent exchange,” hence the labor there is “appropriated without an equivalent” – a disguised form of “tribute.”²⁵ But given the specific form in which this expropriation occurs within the value circuit in capitalist production, under the guise of equal exchange, Marx distinguishes the *exploitation* of labor power in developed capitalist industry as a specific type, *sui generis*, not to be confused with *expropriation* in its more general historical sense as robbery or theft outside the process of production and valorization.²⁶

In the transitional stage represented by mercantilism up to the mid-eighteenth century, profit was often identified in political economy with buying cheap and selling dear. The most “rational expression” of the mercantilist view in this respect was to be found in the work of James Steuart, with whom Marx was to commence his *Theories of Surplus Value*. In his 1767 *Inquiry into the Principles of Political Oeconomy*, Steuart distinguished between the “real value” of commodities rooted in labor and production costs and what he called “profit upon alienation” – or what Marx preferred to call “profit upon expropriation.” Profit upon alienation/expropriation derived from buying cheap and selling dear (what today is called arbitrage). This meant, in effect, appropriating without exchange a part of the surplus produced by labor by purchasing the commodity below its value (as determined by the costs of reproduction), and then selling the same commodity at what the market would bear, yielding exorbitant gains.²⁷

The tendency to see profit upon alienation as an explanation of profits in general formed the principal economic fallacy of mercantilism, pointing to both its methodology and its limits. Insofar as profits are made simply by expropriatory gain, such profits are canceled out at the level of the economy as a whole by the losses elsewhere. Hence, no general theory of profits could be derived from the mere notion of profit upon expropriation, requiring rather an analysis of value and production. It

was only the rise of value in the form of abstract labor, the crystallization of socially necessary labor time, that made the system of unlimited capital accumulation possible. Still, Marx saw profit upon expropriation as a particular form of profitability, distinct from profit upon production.

Marx drew on Stuart's profit upon expropriation (or profit upon alienation) again and again to explain the origins of capitalism and the outer boundaries that defined it as a system. In Marx's words, "to buy cheap so as to sell dearer is the law of commerce. Hence not the *exchange of equivalents*." Merchant capital, whenever it takes a dominant form, ruling over productive capital, relies on "profit upon expropriation" and "fraud," constituting a "system of plunder."²⁸ Although productive capital's dominance over commercial capital was established by the Industrial Revolution, the wider process of expropriation of land and labor that brought industrial capital into being continued to define much of the system. Indeed, the concentration and centralization of capital itself pointed to the absorption of small capitals by bigger ones, and a socialization process that would eventually lead to the expropriation of the expropriators.²⁹

In his overall analysis, Marx designated numerous forms of *appropriation without exchange* (or without reciprocity), some general, others more specific, encompassing widely differing levels of analysis and spheres of operation. These included such broad terms as robbery, plunder, theft, looting, tribute, cheating, swindling, usurpation, parasitism, spoliation, dissolution, confiscation, enslavement, colonialism, patriarchal domination, squandering, blood-letting, and "vampire-like" relations – along with more specific concepts such as rent, usury, monopoly profits, "free gifts of Nature to capital," impoverishment (in the formal sense of undermining "conditions of reproduction"), profit upon alienation/expropriation, profit by deduction, "secondary exploitation," "odious exploitation," the metabolic rift, and the alienation of land/labor.³⁰ Although the critique of capital at its most abstract level in *Capital* itself necessarily assumed conditions of equal exchange with respect to the value of labor power under the wage contract, thus focusing on exploitation, the reality of expropriation on the boundaries of the system was never absent from Marx's analysis and continually crops up in his more concrete, historical discussions.³¹

Marx's general framework with respect to exchange and expropriation can be understood more fully by looking at the analysis of economic anthropologist Karl Polanyi. Not only was Polanyi directly influenced by Marx's critique of political economy, but he traced out some of the same underlying logic in the development of concepts surrounding historic forms of "appropriational movements," or property transactions. For Polanyi, as for Marx, a fully developed exchange system, has exchange of equivalents as

its basis, and thus is rooted in “quantitativeness.” So significant is quantitative equivalence in defining exchange, that unequal exchange as such is a contradiction in terms.³² To confuse developed commodity exchange, which operated under the guise of the exchange of equivalents, with non-exchange economies, such as the feudal relations of lord and serf, where the expropriation is direct and transparent, would, in Marx’s words, be like calling “the relation between the robber who presents his pistol, and the traveler, who presents his purse, a relation between two traders.”³³

To distinguish property transactions of the non-exchange variety, Polanyi usefully defined two other forms of “appropriational movements of goods and services”: (1) *reciprocity*, which demands a broad “adequacy of response,” as in use values that are of commensurate importance and represent the fulfillment of needs on all sides; and (2) *redistribution*, which involves the movement of shifting proportions of surplus product in and out of a center to be apportioned in varying ways through an essentially political process. In modern society, the two forms of exchange of quantitative equivalents and redistribution dominate, while reciprocity, geared to substantive equality in the interchange (bartering) of use values – a form historically identified with communal modes of production – is largely absent.³⁴

The Capitalist Expropriation of Nature

The term *expropriation*, in English, originally meant the appropriation without equivalence of the title to real property, and hence, the separation, removal, and alienation of human beings from the land. To expropriate more generally was “to dispossess (a person) of ownership” or right to a property. The term also took on the more general connotation of confiscation and robbery.³⁵

It is in the sense of separation and removal of the workers from the land (the natural conditions of production), introducing a universal alienation and the dissolution of all prior property relations, that the concept of expropriation can be seen as dominating Marx’s two major discussions of primary accumulation: in the *Grundrisse* and in volume 1 of *Capital*.

In what has traditionally been called *Pre-Capitalist Economic Formations* (the title given to this section of the *Grundrisse* published in a separate volume, edited by Eric Hobsbawm), Marx was principally concerned with what he conceived as the “age of dissolution,” extending over centuries, involving the separation and expropriation of workers from the land.³⁶ The central theme of the dissolution of earlier forms of property, and hence of the human relation to nature through production, was set out early on in Marx’s discussion of *Pre-Capitalist Economic Formations*, where he famously wrote:

It is not the *unity* of living and active humanity with the natural, inorganic [tool-mediated] conditions of their metabolic exchange with nature, and hence their appropriation of nature, which requires explanation or is the result of a historic process, but rather the *separation* between these inorganic conditions of human existence and their active existence, a separation which is completely posited only in the relations of wage labor and capital.³⁷

Exploring this *separation* in the “conditions of [the] metabolic exchange with nature” or the double alienation of land and labor, therefore, became the major theme in Marx’s analysis of primary accumulation.³⁸ At the same time, his conception of the separation and estrangement of land and labor – in conjunction with the development of nineteenth-century science and in response to the crisis of the soil – led to his mature ecological critique focusing on the metabolic rift.³⁹

In Marx’s analysis, the dual alienation of land and labor took the form of “a dissolution of the relation to the earth” for the majority of the population. Individuals were suddenly faced with the “objective conditions of production as *alien property*, as their own *non-property*,” expropriated by others, creating a whole new “relationship of domination.” It was this alienation that came to define the entire human metabolism with nature through production.⁴⁰ In this new social division of labor, characterized by universal estrangement, workers, the dispossessed, had no means of livelihood except through the alienation (selling) of their own labor power. “Closer analysis,” Marx wrote, “will show that what is dissolved in all these processes of dissolution,” as capitalism grows and spreads and the majority of humanity is separated from “the metabolic exchange with nature,” are “[all those] relations of production in which use-value predominates; production for immediate use.” This “age of dissolution” of pre-capitalist economic relations was made possible by the growth of a system ruled by “monetary wealth,” giving rise to generalized commodity production. It had its logical culmination in “the genesis of the industrial capitalist.”⁴¹

The great movement of expropriation of the mass of the people from the land through enclosures in England was part of an even greater age of global expropriation (often characterized in the dominant ideology as “the age of exploration”) in which land and labor were seized through colonization, enslavement, and the plundering of resources. Under mercantilist relations, profit upon expropriation, associated with commercial capital, dominated over profit upon production, associated with manufacturing capital. The hegemony of merchant capital over production was most clearly evident in English wool production and the putting-out system, where merchants provided the raw materials and the instruments while household labor carried out the production – a process that gave merchants numerous opportunities for expropriatory gain.⁴²

The amassing of monetary wealth in world trade constituted a crucial precondition for the transition to a developed capitalist economy. But the decisive transformation, leading to the rise of industrial capitalism, emerged only with the expropriation of human beings from the land, i.e., from the natural-material conditions of their existence. As Polanyi wrote:

What we call land is an element of nature inextricably interwoven with man's institutions. To isolate it and form a market for it was perhaps the weirdest of all the undertakings of our ancestors.... We might as well imagine his being born without hands and feet as carrying on his life without land. And yet to separate land from man and to organize society in such a way as to satisfy the requirements of a real-estate market was a vital part of the utopian concept of a market economy.⁴³

In all of this, we can distinguish two general forms of expropriation: (1) expropriation in the form of private property, involving *appropriation without exchange*, and (2) expropriation in a more general sense, manifested in alienated human relations with the material world as a whole (the realm of use values or real wealth and what Marx called the “natural economy”) characterized by *appropriation without reciprocity*.⁴⁴ Here “the conditions of reproduction” are not maintained, and expropriation takes the form of the running down of the entire world outside the narrow realm of capital accumulation. It is in this latter sense that Marx referred to the “spoliation,” “squandering,” and “robbing” of the earth, in his theory of metabolic rift—according to which the extraction of soil nutrients from the land in capitalist agriculture, and their shipment to the new urban-industrial centers in the form of food and fiber, preventing their recirculation to the fields, resulted in the rupture of elemental natural processes. In this way, the German chemist Justus von Liebig’s “law of replenishment” was violated by the very nature of industrial-capitalist metabolism, conceived as a *robbery system* (*Raubsystem* or *Raubbau*).⁴⁵

For Liebig, English industrialized agriculture gave rise to a “spoliation system” which undermined the “conditions of reproduction of the soil.” A rational agriculture had therefore to be based on the principle of *restoration*, or “the restoration of the elementary constituents of the soil.”⁴⁶ Likewise, for Marx, it was necessary “to return to the soil...its constituent elements consumed by man in the form of food and clothing,” ensuring the “systematic restoration of the earth,” thereby maintaining its *conditions of reproduction*. Such a rational agriculture and a rational science, in Marx’s conception, depended on a society of associated producers. Seen in this way, the ecological depredations of capitalism were obvious: “Instead of a conscious and rational treatment of the land as permanent communal property, as the inalienable condition for the existence and

reproduction of the chain of human generations, we have the exploitation and the squandering of the powers of the earth.”⁴⁷

With the growth of the system, capitalism’s rapacious expansion led to the expropriation of nature as a mere adjunct to capital, giving rise to enormous unforeseen consequences, and on an increasingly global scale. Already in the mid-nineteenth century, the dire effects of this were becoming apparent, with the social and ecological costs of capitalist production reaching levels that were incalculable. This was visible in colonial expansion and in the accompanying thoroughgoing destruction of the conditions of reproduction of numerous species, even among those not appended directly to the market, and their resulting extermination. In an attempt to rationalize this process, Charles Lyell, in his *Principles of Geology* in the 1830s, wrote an extensive justification of this anthropogenic extinction of species in the interest of the advance of human commerce, seeing non-human species as provided in excess by providence. “If we wield the sword of extermination as we advance,” he wrote, “we have no reason to repine at the havoc committed.”⁴⁸

In relation to indigenous populations, Locke, the Massachusetts Bay colonist John Winthrop, and other seventeenth-century colonial thinkers contended that Native Americans had failed to appropriate land through their labor, and hence had no real property – save for “moveable” property – and could therefore be removed from the land altogether as savages who lacked sovereign rights. Although Locke (an investor in the slave trade through his shares in the Royal African Company and a principal author of the slave-based Carolina Constitution) clearly favored indigenous populations in the Americas over slaves brought over from Africa, who he depicted as inherently inferior, the privileges that he accorded to Native Americans did not go far. His contention that the indigenous populations merely occupied and did not improve, and so did not own, the land, and were thus subject to the laws of capitalist expropriation, amounted in fact to an elaborate justification for their elimination as peoples and nations.⁴⁹

Not just bourgeois political economy but also bourgeois natural science was enlisted in the abuse of nature’s powers (and natural economies) on behalf of the accumulation of capital, without reciprocity or restraint.⁵⁰ Hence Marx’s larger critique of capitalist expropriation focused not only on the dissolution of previous social relations, but also its attempted dissolution of all natural limits – in ways that led to the enslavement and extirpation of indigenous peoples and natural economies throughout the world, while undermining the conditions of reproduction.⁵¹ In developing this wider critique of the system, he employed Hegel’s dialectic of

barriers and boundaries. Elemental natural processes constituted an objective limit on the system, given that production could change only the *form* of what nature created. Nevertheless, capital treated all such natural limits as mere barriers to be transcended, rather than boundaries or limits to be respected.⁵²

The result was to generate systemic crisis tendencies – ultimately traceable to contradictions between use values and exchange values, and between elemental natural processes and the capital accumulation process. The “ruse” adopted by bourgeois science, and famously presented by Francis Bacon, of conquering nature by supposedly following its laws, Marx pointed out, was duplicitous, insofar as it served to justify the short-sighted, instrumental expropriation of nature for capital accumulation without end, disregarding “the universal metabolism of nature.”⁵³ Capitalism, he argued, systematically degrades the conditions of reproduction not only of external nature, conceived abstractly as separate from humanity, but also those of human beings – conceived as *metabolic*, and therefore natural, as well as social, beings. By means of its expropriatory processes of “externality and alienation,” capitalism “squanders human beings, living labor, more readily than does any other mode of production, squandering not only flesh and blood, but nerves and brains as well” – along with the larger natural environment.⁵⁴

The Genesis of Industrial Capitalism

As famed historian Peter Linebaugh writes in his *Stop, Thief!*, “expropriation is prior to exploitation, yet the two are interdependent. Expropriation not only prepares the ground so to speak, it intensifies exploitation, so together I call them x^2 .” The dialectic of exploitation and expropriation throws light on the preconditions that set the stage for the Industrial Revolution, as well as on the later development of the system. Taking their cue from Marx, Nancy Fraser and Michael C. Dawson refer to a system of “racialized expropriation,” explaining that the “massive expropriation of bodies, labor, land, and mineral wealth,” especially in what was called the “New World,” took place prior to the emergence of large-scale capitalist exploitation of industrial workers.⁵⁵ It involved dividing the world into “racialized superior and inferior humans,” with the “labor, property, and bodies” of the latter subject to robbery, violation, and murder. It created a hierarchy of nations, predicated on the global alienation of the earth. Echoing Marx in his chapter in the first volume of *Capital* on “The Genesis of the Industrial Capitalist,” Dawson writes that “this division facilitated and justified the brutal colonizing of Africa, Asia, and the Americas; the genocide aimed at indigenous peoples; and

the enslavement of Africans. These expropriations enabled the launching of the Industrial Revolution and the growth of both the United Kingdom and the United States as hegemonic economic powerhouses.”⁵⁶

The English Industrial Revolution would have been virtually impossible without cotton and the expropriation of populations and the land in Africa and the Americas with which the empire of cotton was built. The origin of the age of capital was thus intimately bound to a racialized system of accumulation, that integrated the global economy and engendered a series of distinct ecological rifts.

In an article entitled “The British Cotton Trade,” written for the *New-York Daily Tribune* in September 1861, Marx highlighted the fact that cotton fiber and manufactured cotton textiles, along with the potatoes that helped feed a great part of the working population, were the two critical pivots – with respect to food and fiber – upon which the Industrial Revolution was laid (later, as we shall see, a new intensive food pivot was introduced, following the Irish potato blight and the repeal of the Corn Laws, of which guano was to be the symbol). “English modern industry, in general,” Marx explained,

relied upon two pivots equally monstrous. The one was the *potato* as the only means of feeding Ireland and a great part of the English working class. This pivot was swept away by the potato disease and the subsequent Irish catastrophe. A larger basis for the reproduction and maintenance of the toiling millions had then to be adopted. The second pivot of English industry was the slave-grown cotton of the United States. The present American crisis [the U.S. Civil War] forces them to enlarge their field of supply and emancipate cotton from slave-breeding and slave-consuming oligarchies. As long as the English cotton manufactures depended on slave-grown cotton...they rested on a twofold slavery, the indirect slavery of the white man in England and the direct slavery of the black men on the other side of the Atlantic.⁵⁷

The Industrial Revolution in this conception had one crucial *fiber*, taken from the earth, as a central pivot – cotton. This tropical and subtropical shrub had been cultivated for thousands of years in both the Old and New Worlds, flourishing in the drier regions of Asia, Africa, and the Americas. The Romans had imported cotton cloth from India as early as the first century. But cotton textiles were largely non-existent in most of Europe in the subsequent feudal era, until the Italian city-states started to obtain cotton goods regularly through trade with Asia via the Arab world beginning in the twelfth century. By the early seventeenth century, European merchants aggressively competed over access to high-quality, colorful cotton goods from India and China, to sell in their home countries, to trade for spices in other parts of Southeast Asia, and to exchange in Africa for slaves

to be shipped to the Americas. With the outward expansion of Europe in the long-sixteenth century, merchants were able to gain control of transoceanic trade from which expropriatory gains were made, but were long unable to establish a hold on cotton production itself, which remained based in the East. As Beckert explains, “three moves – imperial expansion, expropriation, and slavery – became central to the forging of a new global economic order” in which the empire of cotton was to play a central role, leading eventually to “the emergence of [industrial] capitalism.”⁵⁸

The languishing European cotton industry encountered a number of constraints at first, such as lack of adequate access to raw cotton, low-quality textiles in comparison with the products of India, and higher costs of production. Portuguese, Spanish, Dutch, English, and French merchants relied initially on purchasing Indian textiles for the acquisition of slaves from Africa to work the plantations of the Americas. As Basil Davidson states in *The African Slave Trade*: “This pattern of trade and contact carried the coastal people [of western Africa] inextricably into a system of spoliation, and, in so doing, continually deepened their dependence on overseas partners whose own interests were to increase the spoliation, not to lessen it or transform it into productively creative forms.”⁵⁹ Over 8 million slaves were sent to the Western Hemisphere between 1500 and 1800, with 5 million of them shipped during the eighteenth century alone.⁶⁰

The cotton system, based on the triangular slave trade, produced the “white gold” on which the Industrial Revolution was built – establishing a cheap source of raw cotton, initially imported from the British slave plantations in the West Indies. Nevertheless, cotton textile production in England in the eighteenth century could not have survived without trade protections introduced in the period against cheaper, higher-quality cotton textiles from India. This war on cotton textile imports from India was furthered by the evolution of British colonialism. By 1813, the British East India Company was deprived of its monopoly of trade in the subcontinent, marking the victory of industrial capital over mercantilism. This led to the forcible deindustrialization of Indian production, to the benefit of Lancashire cotton manufacturers. Meanwhile, the main source of raw cotton for British industry shifted from the West Indies to the United States around the time of the 1793 invention of the cotton gin, which greatly accelerated the processing of raw cotton, creating new economies of scale.⁶¹

The combination of these developments allowed England to increase production of cotton textiles, with the amount of cotton processed in its industries soaring from 2.5 million pounds in 1760 to 366 million pounds

in 1837. In 1760, one-third of British cotton textiles were exported, but by 1850, 94 percent were sent to the Americas and Africa.⁶² Cotton served as the thread that connected Asia, Europe, Africa, and the Americas, allowing the British to gain control over land and people, and to acquire immense expropriatory profits that helped establish a centralized and hierarchical capitalist system. The entire system rested on the triangular slave trade between Africa, the Americas, and Britain. In 1730, Marx observed, “Liverpool employed 15 ships in the slave trade; in 1751, 53; in 1760, 74; in 1770, 96; and in 1792, 132.”⁶³ The profits of the slave trade, Eric Williams wrote in *Capitalism and Slavery*, “fertilized the entire productive system” of Britain at the time of the Industrial Revolution. Mercantilism and the slave trade were to create industrial capitalism, which subsequently destroyed them.⁶⁴

The same system required for its expansion the expropriation of indigenous lands. In the *Grundrisse*, Marx noted that “at certain periods people lived exclusively by plunder. But to be able to plunder, there must be something to plunder, and this implies production. Moreover, the manner of plunder is itself determined by the manner of production, e.g. a stock-jobbing nation cannot be robbed in the same way as a nation of cowherds.”⁶⁵ From the long sixteenth century to the mid-twentieth century, the Doctrine of Discovery decreed by European monarchs and adopted by the United States government in 1792, together with more sophisticated rationales such as Locke’s political theory of appropriation, served as legal justifications for the expropriation of lands of Native Americans, who clearly possessed the land but were deemed to be without property rights.⁶⁶ The right to land was conferred on colonialists, dissolving prior productive relationships, undermining indigenous trade networks and communal/gift economies, and imposing an alienated mediation with nature. War and terrorism were directed at Native American tribes. So murderous was this expropriation that, as Marx observed,

in 1703 those sober exponents of Protestantism, the Puritans of New England, by decrees of their assembly set a premium of £40 on every Indian scalp and every captured redskin; in 1720, a premium of £100 was set on every scalp; in 1744, after Massachusetts Bay had proclaimed a certain tribe as rebels, the following prices were laid down: for a male scalp of 12 years and upwards, £100 in new currency, for a male prisoner £105, for women and children prisoners £50, for the scalps of women and children £50. Some decades later, the colonial system took its revenge on the descendants of the pious pilgrim fathers, who had grown seditious in the meantime. At English instigation, and for English money, they were tomahawked by the redskins. The British Parliament proclaimed bloodhounds and scalping as “means that God and Nature had given into its hand.”⁶⁷

According to U.S. Supreme Court Chief Justice John Marshall in the *Johnson v. McIntosh* decision of 1823, the “doctrine of discovery” established that the white settler-colonizers had acquired “the exclusive right to extinguish the Indian title of occupancy, either by purchase or conquest.”⁶⁸ This gave legal cover to the Trail of Tears in the Jacksonian era, when, as W. E. B. Du Bois wrote, “the Indians [of the Southeast] were removed to Indian Territory, and settlers poured into these coveted lands.... [There] stretched a great fertile land, luxuriant with forests of pine, oak, ash, hickory, and poplar; hot with the sun and damp with the rich black swamp-land; and here the corner-stone of the Cotton Kingdom was laid.”⁶⁹ Raw cotton accounted for over half of U.S. exports during the first sixty years of the nineteenth century. In 1858, the United States exported on average over 3.8 million pounds per day.⁷⁰

Slaves were seen in capitalist accounting as work animals or as machines, hence mere capital stock. “The slave-owner,” Marx wrote, “buys his worker in the same way as he buys his horse. If he loses his slave, he loses a piece of capital, which he must replace by fresh expenditure on the slave-market.”⁷¹ The destructive treatment was even more pronounced when there was an active slave trade, given the increased ability to replace those who prematurely died. John Elliott Cairnes, in his classic analysis of slavery, *The Slave Power* (1862), on which Marx drew, stated: “It is in tropical culture, where annual profits often equal the whole capital of plantations, that negro life is most recklessly sacrificed. It is the agriculture of the West Indies, which has been for centuries prolific of fabulous wealth, that has engulfed millions of the African race.”⁷² Once the international slave trade was abandoned in Britain and the United States in 1807–08, U.S. plantations became dependent on the reproduction of slaves in border states.⁷³

The rise of industrial capital also promoted encroachment on natural limits, such as robbing the earth of necessary soil nutrients—a form of expropriation without replenishment, or earth robbery (*Raubsystem*). The economics of slavery led to large-scale plantations growing monoculture crops. In the United States, slave production was carried out with crude, inferior tools, further increasing the hardships of this work.⁷⁴ All available land was devoted to growing cash crops, without crop rotation. Constant, intensive cotton and tobacco production violated the law of replenishment, as soil nutrients were taken up by the plants and shipped elsewhere.

The slave labor system, while profoundly destructive and inefficient—except when judged by the narrowest capitalist productivity criteria, encompassing the brutal superexploitation of slaves through what Edward

Baptist has called a “torture system” – was nonetheless a historic necessity of cotton plantation agriculture. It was heavily supported by the state and supplied necessary raw materials and capital for the Industrial Revolution, both in England and later in the United States.⁷⁵

What cannot be ignored or downplayed in all this is the dehumanization and degradation of the “racialized chattel slaves” themselves – the expropriation of their bodies and their lives. “Production based on slavery,” Marx noted, was “more expensive,” including its long-term effects on the conditions of production and reproduction.

Under slavery, according to the striking expression employed in antiquity [Varro, *Rerum Rusticarum, Libri Tres*, I, 17], the worker is distinguishable only as *instrumentum vocale* [speaking instrument] from an animal, which is *instrumentum semi-vocale* [semi-mute instrument], and from a lifeless implement, which is *instrumentum mutum* [mute implement]. But he himself [the slave] takes care to let both beast and implement feel that he is none of them, but rather a human being. He gives himself the satisfaction of knowing that he is different by treating the one with brutality and damaging the other *con amore* [with zest].⁷⁶

Marx went on to refer to the work of Frederick Law Olmsted, with whom he was personally acquainted, and who had attributed the heavy, clumsy tools that slaves were given, compared to farmers in other parts of the United States, to the fact that they would destroy anything else as a result of their conditions of labor. Slaves were likewise made to use mules instead of horses, because only the former would endure the utter brutality that pervaded all aspects of the system of slave labor.

As Eugene Genovese pointed out in *The Political Economy of Slavery*, “the South’s inability to combat soil exhaustion effectively proved one of the most serious economic features of its general crisis.”⁷⁷ Competitive pressures to serve domestic and international markets stimulated efforts to increase yields, exacerbating the spoliation of the soil and driving a westward movement for new lands for slave production. Monoculture impeded the rotation of crops, and the low prices for raw cotton and vast amount of land under cultivation in need of enrichment contributed to the lack of investment in fertilizers, given the costs of such actions. Improvements to the land were not made and the destruction of the soil was soon caught in a vicious circle, violating the laws of replenishment of nutrients and organic matter, leading also to soil erosion and thus generating an ecological rift in the nutrient cycle.⁷⁸

Nevertheless, the extreme expropriation of the earth, in combination with the slave system and imperialism, provided the wealth and raw materials spurring the development and expansion of industrial capitalism,

especially in Britain. In effect, the slave colonies were indirectly exporting their soil via cotton fiber to England, in what Marx characterized as a “brutal spoliation” of the soil. As Olmsted put it, production in the tobacco plantations in Virginia generated not so much legitimate profits, but rather a kind of profit upon expropriation. Such gains resulted from “transmuting the soil of the country into tobacco – which was sent to England to purchase luxuries for its masters – and into bread for the bare support of its inhabitants [the slave work force], without making any [real] return.”⁷⁹

Cotton manufacturing in Britain went from “2.6 percent of the value added in the economy as a whole” in 1770 to 17 percent in 1831, above the percentages associated with iron, coal, and wool. In 1830, “one in six workers in Britain labored in cottons,” with most of these workers being women and children. By this point, British colonialism had finally succeeded in deindustrializing and destroying the cotton textile industry in India, with which it had been unable to compete on a free trade basis, with the result that India became a major destination for English cotton textiles.⁸⁰ All of this aligned with Britain’s larger plundering of the subcontinent.

Writing to the Russian economist Nikolai Danielson in 1881, Marx commented on the enormous expropriation of India’s surplus product and the devastation that this “bleeding process” had wrought on the society:

In *India* serious complications, if not a general outbreak, is in store for the British government. What the English take from them annually in the form of rent, dividends for railways useless to the Hindoos, pensions for military and civil servicemen, for Afghanistan and other wars, etc., etc. – what they take from them *without any equivalent and quite apart* from what they appropriate to themselves annually *within* India, speaking only of the *value of the commodities* the Indians have *gratuitously* and annually to send over to England, it amounts to *more than the total sum of income of the 60 millions of agricultural and industrial laborers of India!* This is a bleeding process, with a vengeance! The famine years are pressing each other and *in dimensions* till now not yet suspected in Europe!⁸¹

The expropriation of the earth brought on by the new, rapacious system was also evident in the rise of industrialized agriculture in Britain, which introduced a “second agricultural revolution” in the midst of the Industrial Revolution.⁸² Following the 1846 repeal of the Corn Laws, prompted in large part by the Irish potato blight, which required the elimination of agricultural protection and an increase in the importation of foodstuffs, a new, more intensive food regime emerged in British agriculture. The recourse to Peruvian guano as a way of enhancing the productivity of the soil symbolized the rise of a new *food pivot* for industrial

capitalism, while also constituting a temporary fix for the metabolic rift arising from the expropriation of the soil in capitalist agriculture.⁸³ In addition, many slave plantation owners in the U.S. South saw guano as a key to restoring the fertility of their own exhausted fields.⁸⁴

In the 1840s, agricultural chemists and agronomists discovered that the new intensive, industrial agricultural practices and the town-country divide were depleting the soil. Soil nutrients (such as nitrogen, phosphorus, and potassium) contained in food and fiber were being shipped hundreds and even thousands of miles from farms to the new urban-industrial centers, only to end up as waste polluting the cities. In an extensive analysis of industrial agriculture and soil nutrients, Liebig highlighted the problems associated with violating the law of replenishment, preventing essential nutrients from being returned to the soil to support the growth of plants.⁸⁵ As Marx argued, citing Liebig,

large landed property reduces the agricultural population to an ever decreasing minimum and confronts it with an ever growing industrial population crammed together in large towns; in this way it produces conditions that provoke an irreparable rift in the interdependent process of social metabolism, a metabolism prescribed by the natural laws of life itself. The result of this is a squandering of the vitality of the soil, which is carried by trade far beyond the bounds of a single country.⁸⁶

Liebig claimed that this system of robbery led Great Britain to expropriate resources from other nations: "Like a vampire it hangs on the breast of Europe, and even the world, sucking its lifeblood without any real necessity or permanent gain for itself."⁸⁷ In an attempt to compensate for lost nutrients, "the battle-fields of Leipsic, Waterloo, and the Crimea" and the "catacombs of Sicily" were plundered for bones to pulverize for phosphorus fertilizer. But so long as the law of replenishment was being violated, through appropriation without reciprocity, ever more inputs of fertilizer were required to maintain intensive production. The spoliation of soil plagued capitalist agriculture throughout the world. Marx noted that England had turned Ireland into "an agricultural district" that "provides corn, wool, cattle and industrial and military recruits." Hence, "England has indirectly exported the soil of Ireland, without even allowing the cultivators the means for replacing the constituents of the exhausted soil."⁸⁸

While a variety of manures were incorporated into farming operations, from 1840 to 1880, guano was the most prized fertilizer in the world. Off the coast of Peru, the Chincha Islands were the site of the world's largest deposits of high-quality guano, hundreds of feet deep. Peruvian guano, rich in the nutrients plants need, particularly nitrogen, phosphorus, and

potassium, was the product of thousands of years of sea birds eating anchovies and other fish rich in nutrients from the ocean. Their dung accumulated and retained the nutrients, given that it rarely rained on the islands. Peruvian farmers had long harvested relatively small quantities to support agricultural production on less fertile soils.⁸⁹ As the soil crisis deepened in Britain and other parts of the global North, a scramble to secure access to guano ensued. Peru was in debt to Britain for monies that were borrowed in the fight for independence from Spain. The government in Lima entered into trade negotiations regarding guano. In the 1840s, Antony Gibbs & Sons, a British commercial firm, secured a series of monopolistic trade agreements, giving it exclusive rights to the sale of Peruvian guano on the global market.⁹⁰

Gibbs & Sons paid the Peruvian government per ton of guano shipped. In 1846–47, these sales supplied only 5 percent of the state revenues, but the proportion increased to 80 percent by 1869.⁹¹ During the heyday of the nineteenth-century guano trade, in 1870, over 700,000 tons were shipped from Peru alone. Between 1850 and 1860, Gibbs & Sons dispatched over 3,000 ships, transporting guano throughout the world to fertilize agricultural fields, including thousands of tons to the United States to enrich the exhausted fields along the east coast and the South.⁹² Marx pointed out that the “blind desire for profit” had “exhausted the soil” of England, forcing “the manuring of English fields with guano.” But neither guano nor the new commercial synthetic fertilizers that began to appear at this time offered lasting solutions to the ecological problems associated with the capitalist expropriation of the earth.⁹³

While the original workforce on the guano islands consisted of male convicts, army deserters, and slaves, it was eventually switched over to Chinese and Indian “coolies,” who started to arrive in Peru in 1849. As Gaiutra Bahadur, author of *Coolie Woman*, has stated, coolie “was the bureaucratic term the British used to describe [primarily Asian] indentured laborers” (though it was later to take on the character of a racial slur). The infamous “coolie trade” consisted of the nineteenth-century transportation of East Asian contract workers under force or deception, as a substitute for the earlier slave trade, constituting still another form of racialized expropriation. The British first introduced the coolie labor system in the early nineteenth century, when 200 Chinese laborers were transported to Trinidad. By 1838, some 25,000 East Asian “coolies” had been exported to the British colony of Mauritius. Although the British mainly transported Indian workers inside the British colonies, between a quarter of a million and half a million Chinese “coolies” were shipped to various British, French, Dutch, and former Spanish colonies in the

Americas, Southeast Asia, and Africa between 1847 and 1874, as well as to the United States. So merciless was this trade that Marx declared that the conditions of these “bonded emigrants” sold to work “on the coast of Peru” was “worse than slavery.”⁹⁴

Between 1849 and 1874, over 90,000 Chinese workers were contracted to be shipped to Peru. Around 10 percent of those transported died during the voyage across the Pacific. Most worked on plantations or on railroads. The most unfortunate were sent to work in the guano pits, where they were forbidden to leave the islands. The total workforce fluctuated between 200 and 800 Chinese workers—new workers simply replaced those who died, given the extensive coolie labor system.⁹⁵ This work was done exclusively by men. It involved grueling physical labor, using picks and shovels to extract the guano from the mountainous deposits, loading wheelbarrows and sacks, and transporting the manure to chutes for loading boats. Each worker was expected to load five tons of guano each day. Behavioral infractions and failure to meet daily quotas were met with physical punishment. The work was exhausting; the stench was overwhelming; and guano dust coated everything, penetrating the eyes, noses, and mouths of the workers. Opium was imported in an attempt to prevent further revolt and suicides among the workers.⁹⁶ Alanson Nash, a contemporary witness, reflecting on these conditions, explained, “once on the islands a Chinaman seldom gets off, but remains a slave, to die there.”⁹⁷ They were seen as expendable beasts, forced to “live and feed like dogs.”⁹⁸ An account, in the *Christian Review* noted that “the subtle dust and pungent odor of the new-found fertilizer were not favorable to inordinate longevity.” Guano labor involved “the infernal art of using up human life to the very last inch.”⁹⁹ An 1856 article in the *Nautical Magazine* reported that “few [people] probably are aware that the acquisition of this [guano] deposit, which enriches our lands and fills the purses of our traders, entails an amount of misery and suffering on a portion of our fellow creatures, the relation of which, if not respectably attested, would be treated as fiction.”¹⁰⁰

Here the “hidden abodes” related to the expropriation of land and people, the rift in the soil nutrient cycle, and racialized expropriation were all evident.¹⁰¹ Guano played a pivotal role in maintaining the expansion of industrial capitalist agriculture, despite the deepening of the ecological rift. This remained the case until the large historic deposits in Peru were greatly diminished, compounded by the practice of driving away or killing birds on the islands, as they were deemed a nuisance. With guano in short supply, there was a shift to nitrates as a fertilizer source, and eventually the production of synthetic fertilizers.

Reflecting upon Liebig's understanding of the robbery system, environmental historian Joachim Radkau writes: "In his eyes, British agriculture was...the pinnacle of destructive agrarian exploitation, and guano covered up the ecological crisis that had long since begun."¹⁰² The spoliation of the soil continues today, despite the development and application of synthetic fertilizers, given that the inner dynamic of the capital system continues to rob the earth itself of its conditions of reproduction.

'Progress Here, Regression There'

One of Marx's most profound ecological insights, unique among political economists of his time, was his observation that with increasing economic development, ecological limits become more serious impediments to the system. Progress in capitalist accumulation and expansion thus normally results in ecological regression. As he wrote in volume 3 of *Capital*:

The productivity of labor is also tied up with natural conditions, which are often less favorable as productivity rises – as far as that depends on social conditions. We thus have a contrary movement in these different spheres: progress here, regression there. We need only consider the influence of the seasons [climatic changes], for example, on which the greater part of raw materials depend for their quantity, as well as exhaustion of forests, coal and iron mines, and so on.¹⁰³

By the time he wrote *Capital*, Marx was not only acutely aware of the seriousness of the metabolic rift between humanity and nature that emerged with capitalist expropriation of the earth, but argued that this was related to the expropriation of human beings themselves:

From the standpoint of a higher socio-economic formation the private property of particular individuals in the earth will appear just as absurd as the private property of one man in other men [human slavery]. Even an entire society, a nation, or all simultaneously existing societies taken together, are not the owners of the earth. They are simply its possessors, its beneficiaries, and have to bequeath it in an improved state to succeeding generations, as *boni patres familias* [good heads of the household].¹⁰⁴

Marx of course was not alone in his day – or even before – in perceiving these intersecting contradictions. Among English thinkers at the time of the Industrial Revolution, none captured the dialectic of worldwide expropriation more fully than William Blake in his attacks on the entire system of the British Empire. In his 1793 engraved, allegorical poem *Visions of the Daughters of Albion*, Blake simultaneously evoked the sexual oppression of English women (daughters of Albion), the enslavement of Africans, "the extirpation...of the indigenous population" of the Americas (as Marx was

later to put it), and the ecological destruction of the New World. Grimly inspired and deeply enraged by John Gabriel Stedman's searing *Narrative of a Five Years Expedition Against the Revolted Negroes of Surinam* (1790), for which he provided around sixteen engravings, Blake produced in his *Visions* perhaps the most powerful lyrical protest against the intersecting expropriations of his time – giving a glimpse of the other, even more terrible, side of “the dark satanic mills.” As Kevin Hutchings writes, *Visions* “explicitly correlates the villainous (slavetrader) Bromion’s brutal appropriation and rape of Oothoon’s body with a figurative but nonetheless violent ‘rape’ of the natural world” as “Oothoon represents both a person and a landscape.” Indeed, “nothing can happen to her human portion that does not also affect the environmental aspect of her identity.” As the despicable Bromion boasted post-rape: “Thy soft American plains are mine, and mine thy north & south: / Stamp’t with my signet are the swarthy children of the sun: / They are obedient, they resist not.”¹⁰⁵

It is perhaps a commentary on our own time that this revolutionary, dialectical criticism of the empire of the earth, connecting the various forms of expropriation, which figured so largely for both Blake and Marx, is now being revisited in recent scholarship. As Fraser emphasizes, today’s financialized capitalism constitutes an age of “the racialized interplay of expropriation and exploitation.”¹⁰⁶ In our epoch of crisis and dissolution, capital now seeks to overcome all social and ecological boundaries to its expansion, extending to the biogeochemical cycles of the planet itself, treating all of this as mere barriers to be overcome. According to economist Riccardo Bellofiore, the present structural crisis of the capital system threatens not simply “housing, education, pensions, health and care services...as well as... the aggression to the body and life of male and female workers...[extending] to the spoliation of nature itself... What is at stake by now are the conditions of existence and reproduction of human beings in their entirety.”¹⁰⁷

All of this points to the pressing need for an “anti-value politics” aimed at resisting capitalism’s expropriation of all that exists.¹⁰⁸ Nevertheless, today’s widening struggles cannot be fought simply on the boundaries of the system, i.e., in the realm of *expropriation*, but require a return as well to the issue of appropriation without equivalent within capitalist production itself, i.e., the realm of *exploitation*. In the present age of dissolution, in which everything solid within production seems to be melting into air, to be replaced by we know not what, and with the planetary climate itself heating up due to anthropogenic rifts generated by a system of unrestrained accumulation, there is no alternative in the end for humanity other than the *expropriation of the expropriators* – opening the way to a new more sustainable and egalitarian, socialist future.

Notes

1. Karl Marx and Frederick Engels, *Collected Works* (New York: International Publishers), vol. 28, 429. Translation as "age of dissolution" from Karl Marx, *Pre-Capitalist Economic Formations*, ed. E. J. Hobsbawm (New York: International Publishers, 1964), 109.
2. Spoliation is the action or condition of being robbed and despoiled. It was commonly applied in the nineteenth century, as in Justus von Liebig's writings, and in English translations from Marx's *Capital*, to refer to the spoliation of the earth or soil. The concept is still widely employed in the sense of environmental spoliation. Thus, Max Ajl states, "The history of capitalism has been a history of environmental spoliation." Likewise, Amiya Kumar Bagchi observes that "environmental spoliation" occurred "before the advent of capitalism," though the latter was to give it a more global and relentlessly systematic character. Ajl quoted in Belen Fernandez, "The Earth Versus Capitalism," *Al Jazeera*, April 22, 2017, <http://aljazeera.com>; Amiya Kumar Bagchi, *Perilous Passage: Mankind and the Global Ascendancy of Capital* (New York: Roman and Littlefield, 2005), 8.
3. David Harvey, *Marx, Capital, and the Madness of Economic Reason* (Oxford: Oxford University Press, 2018), 89–93.
4. The focus on expropriation in this article is paralleled by Nancy Fraser, who, building on social reproduction theory, has related this to the expropriation of nature and Marx's theory of metabolic rift. See our discussion of Fraser's work in this respect and social reproduction theory in John Bellamy Foster and Brett Clark, "Women, Nature, and Capital in the Industrial Revolution," *Monthly Review* 68, no. 9 (January 2018): 1–24. See also Michael C. Dawson, "Hidden in Plain Sight: A Note on Legitimation Crises and the Racial Order," *Critical Historical Studies* 3, no. 1 (2016): 143–61.
5. Marx and Engels, *Collected Works*, vol. 28, 428, 433–34; vol. 29, 210, 674; vol. 33, 301; Karl Marx, *Capital*, vol. 1 (London: Penguin, 1976), 374, 729; *Capital*, vol. 3 (London: Penguin, 1981), 958; Karl Renner, *The Institutions of Private Law and Their Social Functions* (London: Routledge and Kegan Paul, 1949), 205. In all of his economic manuscripts from the *Grundrisse* up through the *Economic Manuscript of 1861–63* (including his *Theories of Surplus Value*), Marx uses the phrase *appropriation without exchange* to refer to expropriation. Thereafter, in *Capital*, he substitutes *appropriation without an equivalent*. The two phrases are identical in meaning, since in Marx's analysis exchange is the exchange of equivalents. In what follows, we have chosen generally to use the earlier *ap-* *propriation without exchange*.
6. Marx, *Capital*, vol. 1, 873. Marx referred to "so-called primary [mistranslated as "primitive"] accumulation," which was a category of classical political economy. However, he indicated his skepticism toward the term and generally employed the term "expropriation" (representing "the secret of primary accumulation") to explain the origins of capitalism through the dissolution of previous property forms and the separation of the workers from the natural conditions of production (the land). Moreover, so-called primary accumulation was not simply a historical precondition of capitalism, but a historical condition in all of its phases, since the boundaries of the capitalist system were constantly in flux. It took the form of expropriation of previous property forms (or non-commodity property) and thus was not, as Maurice Dobb noted, a form of accumulation, but rather the *expropriation of titles to property* and of the elemental means of production themselves. See Marx, *Capital*, vol. 1, 871, 873, 931–32. See also Renner, *The Institutions of Private Law*, 90.
7. Marx and Engels, *Collected Works*, vol. 28, 431; Marx, *Capital*, vol. 1, 915. Expropriation, as in the expropriation of land, as Karl Renner noted in his classic work on the Marxian theory of private law, should not be confused with mere *dispossession*, that is the physical removal of the connection to real property, although the latter is normally involved as well. Rather expropriation is not simply a physical act but a *legal* one, even if what is given formal legal justification is actually robbery (for example, in the claiming of the commons by the lords or the discovery doctrine in the Americas), because it establishes the title to the expropriated commodity now and into the future, and to continuing appropriation and accumulation on that basis. Renner, *The Institutions of Private Law*, 208; Michael Tigar, *Law and the Rise of Capitalism* (New York: Monthly Review Press, 2000), 308–10. For Marx, possession (like appropriation) establishes a juridical claim to property, but should not be confused with ownership or the title to property (in the bourgeois sense), which constitutes a stronger juridical claim. Expropriation or appropriation without exchange, insofar as it relates to ownership of property normally relates to the latter. Paul Phillips, *Marx and Engels on Law and Laws* (Oxford: Robertson, 1980), 172–73.
8. Karl Marx, *The Eighteenth Brumaire of Louis Bonaparte* (New York: International Publishers, 1963), 128. Translation slightly amended.
9. Marx did not address the burning of witches in his analysis, though the connection of this to the development of capitalism has been well documented in such work as Silvia Federici, *Caliban and the Witch* (Brooklyn: Autonomedia, 2014). On literal wife selling, see especially E. P. Thompson, *Customs in Common* (New York: New Press, 1991), 404–66. Marx, while not exploring the selling of women as chattel slaves, did refer extensively to the husband "selling" his wife and children to work in industry and a kind of enslavement in this context, made possible by the fact that the latter were "exploited by the head of the family." Marx, *Capital*, vol. 1, 1083; Lise Vogel, *Marxism and the Oppression of Women* (Chicago: Haymarket, 2013), 64–65.
10. Marx and Engels, *Collected Works*, vol. 29, 298; vol. 30, 54–66; vol. 37, 732–33.
11. Marx, *Capital*, vol. 1, 926; Karl Polanyi, *The Great Transformation* (Boston: Beacon, 2001), 188.
12. Sven Beckert, *Empire of Cotton* (New York: Vintage, 2014), xv–xvi.
13. Robin Blackburn, *The Making of New World Slavery* (London: Verso, 1997), 542.
14. Marx, *Capital*, vol. 1, 928.
15. Paul A. Baran and Paul M. Sweezy, *Monopoly Capital* (New York: Monthly Review Press, 1966), 336–38.
16. Hegel referred to "the absolute right of appropriation which man has over all 'things'; without which existence is impossible. Property in its most general sense is nothing but the right of such appropriation." See G. W. F. Hegel, *The Philosophy of Right* (Oxford: Oxford University Press, 1952), 41–45.
17. Marx and Engels, *Collected Works*, vol. 28, 25. Translation here follows Karl Marx, *Grundrisse* (London: Penguin, 1973), 87–88.
18. Marx, *Capital*, vol. 1, 169–72; Stephen Hymer, "Robinson Crusoe and the Secret of Primitive Accumulation," *Monthly Review* 23, no. 4 (September 1971): 11–36. Say quoted in Pierre Joseph Proudhon, *What Is Property?* (Cambridge: Cambridge University Press, 1993), 70. On Locke's "political theory of appropriation" see C. B. Macpherson, *The Political Theory of Possessive Individualism* (Oxford: Oxford University Press, 1962), 194–262.
19. Marx, *Capital*, vol. 1, 725, 732–33; Paul Burkett, "Nature's 'Free Gifts' and the Ecological Significance of Value," *Capital and Class* 68 (1999): 89–110. World-system ecological theorist Jason W. Moore mistakenly argues that Marx "deployed the term [appropriation] more or less interchangeably with the exploitation of wage labor." As we have seen, nothing

could be more opposed to Marx's actual argument, which insisted that property in all of its forms in all societies is appropriation (*Aneignung*), and that no production whatsoever could exist apart from appropriation. In bourgeois society, however, there arises specific socioeconomic laws of capitalist appropriation. Hence, it is not appropriation as such, which simply refers to property in general, but capitalist appropriation without exchange, or expropriation (*Enteignung*), that is crucial in analyzing the system's external boundaries. See Jason W. Moore, *Capitalism in the Web of Life* (London: Verso, 2015), 17, "Endless Accumulation, Endless (Unpaid) Work?" *Occupied Times*, April 29, 2015, <https://theoccupiedtimes.org>.

20. Proudhon, *What Is Property?*, 13–16; Marx and Engels, *Collected Works*, vol. 1, 220, vol. 28, 412–13. Marx's argument with respect to Proudhon here only concerns the theft of property, not the question, later to be writ large in Marx's analysis, of the robbery of the earth itself.

21. Marx and Engels, *Collected Works*, vol. 28, 428, 433–38; vol. 29, 210, 674; vol. 30, 134, 301.

22. See G. E. M. de Ste. Croix, *Class Struggle in the Ancient Greek World* (London: Duckworth, 1981), 49–55.

23. Marx, *Capital*, vol. 1, 267; Franklin, "Positions to be Examined, Concerning National Economy," in Benjamin Franklin, *Works*, vol. 2 (Boston: Charles Tappan, 1844), 376. Marx quotes Franklin in a shortened form, without ellipses, perhaps for effect. The full statement is: "There seems to be but three ways for a nation to acquire wealth. The first is by war, as the Romans did, in plundering their conquered neighbors. The second by commerce, which is generally cheating. The third by agriculture, the only honest way." Franklin's short essay emphasizes that cheating is possible because of the number of intermediaries. We have inserted the ellipses in the quotation here.

24. Marx, *Capital*, vol. 1, 591.

25. Marx, *Capital*, vol. 1, 728–29; Marx and Engels, *Collected Works*, vol. 28, 433–34; vol. 33, 301; vol. 34, 134. Marx explained that "the contract by which he [a worker] sold his labour-power to the capitalist proved in black and white, so to speak, that he was free to dispose of himself. But when the transaction was concluded, it was discovered that he was no 'free agent,' that the period of time for which he is free to sell his labour-power is the period of time for which he is forced to sell it, that in fact the vampire [capitalist] will not let go 'while there remains a single muscle, sinew or drop of blood to be exploited.'" See Marx, *Capital*, vol. 1, 415–16. On the significance of the vampire image in Marx, see Paul Burkett, *Marx and Nature* (Chicago: Haymarket,

2014), 138, 283; Mark Neocleous, "The Political Economy of the Dead: Marx's Vampires," *History of Political Thought* 24, no. 4 (2003): 668–84.

26. Marx and Engels, *Collected Works*, vol. 33, 301; vol. 34, 134; Renner, *The Institutions of Private Law*, 205. Exploitation and expropriation are overlapping, dialectically related categories in Marx. All coerced expropriation of surplus product in precapitalist class societies could be called exploitation. But since this normally takes place in precapitalist formations outside the sphere of the exchange of equivalents, which characterizes developed capitalist production, it is more usefully referred to as expropriation. By the same token, exploitation in developed capitalist production is based on the expropriation of the worker's "unpaid labor" during the working day, even though Marx normally calls this process one of exploitation. Still, for conceptual clarity, it is useful to identify exploitation, as Marx usually does, with the specific forms of surplus extraction associated with developed capitalist commodity production, distinguishing this from the much broader category of expropriation.

27. James Steuart, *An Inquiry into the Principles of Political Oeconomy* (London: Millar and Cadell, 1767), 181–83, 361–63, 395; Marx and Engels, *Collected Works*, vol. 33, 14; Karl Marx, *Theories of Surplus Value*, part 1 (Moscow: Progress Publishers, 1963), 41–43; Mark Obrinsky, *Profit Theory and Capitalism* (Philadelphia: University of Pennsylvania Press, 1983), 12. Naturally, no economy, for Marx, can be based simply on profit upon expropriation, because it has to first produce. See Marx, *Capital*, vol. 1, 175. It is clear that Steuart's distinction between value relations and profit upon expropriation was fundamental to Marx, leading the latter to commence his *Theories of Surplus Value* with Steuart as the most important transitional figure between mercantilist political economy and the more developed political economy represented by Adam Smith a decade later. Basing his analysis on Marx's theory of profit upon expropriation, Kozo Uno defined mercantilism as an economic formation relying on "expropriatory gain." See Kozo Uno, *The Types of Economic Policies Under Capitalism* (Boston: Brill, 1971), 37, 68.

28. Marx and Engels, *Collected Works*, vol. 28, 433–34; vol. 29, 163–64; 297–98; vol. 30, 351, 385–86; vol. 32, 253; vol. 33, 13–14, 35, 67, 241, 351; vol. 34, 134; Karl Marx, *Capital*, vol. 3 (London: Penguin, 1981), 327, 388–89, 448. See also Georg Lukács, *The Young Hegel* (Cambridge, MA: MIT Press, 1975), 175–76; Costas Lapavistas, *Profiting Without Producing* (London: Verso, 2013), 141–47.

29. Marx, *Capital*, vol. 1, 777, 930.

30. Marx, *Capital*, vol. 1, 267, 342–43, 638, 733–34, 745, 917; *Capital*, vol. 3, 448, 745; Marx and Engels, *Collected Works*, vol. 32, 253, 405; vol. 33, 17; Marx, *Grundrisse*, 853; Paul A. Baran and Paul M. Sweezy, "Some Theoretical Implications," *Monthly Review* 64, no. 3 (July–August 2012): 59; Karl Marx, *Capital*, vol. 2 (London: Penguin, 1976), 559–60. For "spoliation," see Marx and Engels, *Collected Works*, vol. 35, 242; vol. 37, 613. Marx in this passage literally refers to the "sucking out" of the elemental properties of the soil (*diebrutale Aussaugung des Bodens*). In another place where Marx, according to the English translations employs "spoliation" (or "despoiling") in relation to the exploitation/expropriation of labor power, he is actually referring directly to robbery (*Beraubung*). Comments and translation here provided by Joseph Fracchia. See Marx and Engels, *Collected Works*, vol. 1, 35, 242; *Capital*, vol. 1, 343. David Harvey uses the phrase "accumulation by dispossession" to get at the phenomenon of expropriation. But in Marx's own terms, this would be better rendered "profit upon expropriation." More recently, Jason W. Moore, varying on Harvey, has coined the notion of "accumulation by appropriation"—a phrase that is nonsensical from Marx's standpoint, given that property in its most general sense (encompassing all of its specific forms) is nothing but appropriation. See Marx, *Collected Works*, vol. 28, 25; David Harvey, *The New Imperialism* (Oxford: Oxford University Press, 2013), 137–82; Moore, "Endless Accumulation, Endless (Unpaid) Work?"

31. In referring to the category of profit by deduction, that is, the reduction of wages below the value of labor power, Marx insisted that "despite the important part which this method plays in practice, we are excluded from considering it here by our assumption that all commodities, including labour-power, are bought and sold at their full value," i.e., under conditions of the exchange of equivalents. See Marx, *Capital*, vol. 1, 431.

32. Karl Polanyi, *Primitive, Archaic and Modern Economies* (Boston: Beacon, 1968), 88. Although the concept of unequal exchange is often used in Marxian theory—see Arghiri Emmanuel, *Unequal Exchange* (New York: Monthly Review Press, 1972)—such a concept was in fact outside of Marx's framework, in which exchange always meant exchange of equivalents, and in which "without exchange" and "without equivalent" were treated as synonymous.

33. Karl Marx, *Dispatches from the New York Tribune* (London: Penguin, 2007), 126. Marx writes that "trade everywhere mediates exchange and exchange value, a mediation which we can call trade." See Marx and Engels, *Collected Works*, vol. 28, 433.

34. Polanyi, *Primitive, Archaic and Modern Economies*, 89-93 106-07, 149-56; Pares Chattopadhyay, *Marx's Associated Mode of Production* (London: Palgrave Macmillan, 2016). In Polanyi's terms, reciprocity is a form of "appropriational movements" that lacks the strict quantifiable equivalence of exchange, since directed at use value rather than exchange value, and thus addressing incommensurables. See also Juan Martínez-Alier, *The Environmentalism of the Poor* (Northampton, MA: Elgar, 2002), 216-17 and Stefano B. Longo, Rebecca Clausen, and Brett Clark, *The Tragedy of the Commodity* (New Brunswick: Rutgers University Press, 2015). Similar issues are raised by István Mészáros in his analysis of "the nature of exchange under communal social relations." See István Mészáros, *Beyond Capital* (New York: Monthly Review Press, 1995), 758-70.

35. "Expropriate," "Expropriation," *The Compact Edition of the Oxford English Dictionary* (Oxford: Oxford University Press, 1971), 935; Renner, *The Institutions of Private Law*, 204-08. Joseph Schumpeter saw *spoliation* as so much the essence of the concept of *expropriation* (in Marx's notion of primary accumulation) that he substituted the former term for the latter. Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* (New York: Harper and Row, 1942), 17.

36. Marx, *Pre-Capitalist Economic Formations*, 109.

37. Marx, *Grundrisse*, 489; see also Marx and Engels, *Collected Works*, vol. 28, 413.

38. It is common for commentators on Marx's notion of primary accumulation to refer to its atheoretical character. However, this misconception is usually based on the scrutiny of Marx's section on "So-Called Primitive [Primary] Accumulation" in *Capital*, vol. 1 alone, missing altogether Marx's broader, theoretical discussion in the *Grundrisse*. For a developed interpretation of Marx's treatment of primary accumulation in the *Grundrisse*, which avoided this error, see Roman Rosdolsky, *The Making of Marx's Capital* (London: Pluto, 1977), 268-81. According to Schumpeter, writing on Marx's theory, "primitive [primary] accumulation...continues throughout the capitalist era." See Schumpeter, *Capitalism, Socialism and Democracy*, 18.

39. See John Bellamy Foster, "Marx and the Rift in the Universal Metabolism of Nature," *Monthly Review* 65, no. 7 (December 2013): 1-19; John Bellamy Foster and Brett Clark, "Marx's Ecology and the Left," *Monthly Review* 68, no. 2 (June 2016): 1-25.

40. Marx and Engels, *Collected Works*, vol. 28, 251, 425-438 (translation in Marx, *Pre-Capitalist Economic Formations*, 86-118). In Marx's dialectic the

metabolic rift, or the main ecological contradiction engendered by capitalism, is a product of the "alienated mediation" of the social metabolism of humanity and nature, arising ultimately from the alienation of land and labor. See Karl Marx, *Early Writings* (London: Penguin, 1974), 261; John Bellamy Foster and Brett Clark, "Marxism and the Dialectics of Ecology," *Monthly Review* 68, no. 5 (October 2016): 1-5; Louis Krader, "Introduction," in Karl Marx, *Ethnological Notebooks* (Assen: Van Gorcum, 1972), 47, 55.

41. Marx and Engels, *Collected Works*, vol. 28, 425-438 (translation in Marx, *Pre-Capitalist Economic Formations*, 86-118); Marx, *Capital*, vol. 1, 914. For Marx, "the conditions of production...in their simplest form are the natural elements themselves." See Marx and Engels, *Collected Works*, vol. 31, 241. Our discussion here does not of course attempt to address the historical and theoretical complexities of the debate on the transition from feudalism to capitalism. Nevertheless, it should be noted that the key to this debate lies in the distinction, first introduced by Paul Sweezy, and adhered to by later thinkers (such as Robert Brenner and Ellen Meiksins Wood), between the "dissolution" in the mercantilist age of feudal relations of production and the actual formation also in the mercantilist stage of a self-propelling capitalist form of appropriation and accumulation, only to be fully realized at the time of the Industrial Revolution. See Ellen Meiksins Wood, *The Origin of Capitalism* (London: Verso, 1999), 30-35.

42. Polanyi, *The Great Transformation*, 77-78.

43. Polanyi, *The Great Transformation*, 187.

44. The "natural economy" stands for those modes of production outside the exchange relation altogether. Hence, in this context Marx refers to "appropriation without circulation" of commodities. Here force often plays a more direct role, as in a slave economy. Yet, natural economy can also be seen as related to subsistence production. See Marx, *Capital*, vol. 2 (London: Penguin, 1978), 555; *Capital*, vol. 3, 922. For a brief treatment of the concept of natural economy in the work of Marx and Rosa Luxemburg, see Scott Cook, *Understanding Commodity Economies* (New York: Roman and Littlefield, 2004), 114, 130-31, 151.

45. William H. Brock, *Justus von Liebig* (Cambridge: Cambridge University Press, 1997), 177-78; Max Weber, following Liebig, Marx, and others, used *Raubbau* to refer to "land-robbing agriculture." Max Weber, "German-Agriculture and Forestry," *Köln Zeitschrift für Soziologie und Sozialpsychologie* 57, no. 1 (1907-08): 143, 147; Weber, *General Economic History* (Mineola, NY: Dover, 2003), 82-83.

See also John Bellamy Foster and Hannah Holleman, "Weber and the Environment," *American Journal of Sociology* 117, no. 6 (2012): 1650-55.

46. Justus von Liebig, *Letters on Modern Agriculture*, (London: Walton and Maberly, 1859), 175-78, 183, 220; *Familiar Letters on Chemistry* (Philadelphia: Peterson, 1852), 44. The *Familiar Letters* was published as part of *Complete Works on Chemistry*, comprising a number of separate works printed under a single cover. See also John Bellamy Foster, *Marx's Ecology* (New York: Monthly Review Press, 2000), 147-54. Marx and Engels often used "squandering" to refer to the wasteful depletion of irreplaceable minerals and inorganic raw materials, such as coal. See, for example, Marx and Engels, *Collected Works*, vol. 46, 411.

47. Marx, *Capital*, vol. 1, 637-38; Marx, *Capital*, vol. 3, 756, 948-49; Marx and Engels, *Collected Works*, vol. 34, 200; vol. 37, 592, 613; Kohei Saito, *Karl Marx's Ecosocialism: Capital, Nature, and the Unfinished Critique of Political Economy* (New York: Monthly Review Press), 197.

48. Charles Lyell, *Principles of Geology*, edited by James A. Secord (London: Penguin, 1997), 276-77. Marx and Engels (as well as Charles Darwin) would clearly have deplored Lyell's views in this respect. See John Bellamy Foster, "Capitalism and the Accumulation of Catastrophe," *Monthly Review* 63, no. 7 (December 2011): 1-17.

49. John Locke, *Two Treatises of Government* (Cambridge: Cambridge University Press, 1988), 297-301; Barbara Arneil, *John Locke and America: The Defense of English Colonialism* (Oxford: Oxford University Press, 1996), 168-200; Peter Olsen, "John Locke's Liberty Was for Whites Only," *New York Times*, December 25, 1984; Neal Wood, *John Locke and Agrarian Capitalism* (Berkeley: University of California Press, 1984), 61; E.P. Thompson, *Customs in Common* (New York: New Press, 1991), 164-65; William Cronon, *Changes in the Land* (New York: Hill and Wang, 1983), 57-63, 78-80. For Locke, common land based on customary rights as in England was to be accorded some property rights, since it had been improved by labor, but the land in the Americas was common land in the altogether different sense of non-property, and thus open to absolute expropriation. Marx clearly had Locke's political theory of appropriation in mind when he pointed out that "ideologically and juridically the ideology of property founded on labor is transferred without much more ado to property founded on the expropriation of the immediate producers." See Marx, *Capital*, vol. 1, 1084; Macpherson, *The Political Theory of Possessive Individualism*, 203-20; Allan Greer, *Property and Dispossession: Natives, Empires and Land*

- in *Early Modern America* (Cambridge: Cambridge University Press, 2018), 245-47, 269-70.
50. Marx, *Capital*, vol. 1, 133, 733-34.
51. Moishe Postone observes that "although productivist critiques of capitalism have focused only on the possible barriers to economic growth inherent in capital accumulation, it is clear that Marx criticized both the accelerating boundlessness of 'growth' under capitalism as well as its crisis-ridden character. Indeed, he demonstrates that these two characteristics should be analyzed as intrinsically connected" (*Time, Labor, and Social Domination* [Cambridge: Cambridge University Press, 1993], 312-13).
52. John Bellamy Foster, Brett Clark, and Richard York, *The Ecological Rift* (New York: Monthly Review Press, 2010), 284-87. On production as only changing the form of what nature provides, see Marx, *Capital*, vol. 1, 133-34; Elmar Altvater, *The Future of the Market* (London: Verso, 1993), 189-92; K. K. Valtukh, *Marx's Theory of Commodity and Surplus Value* (Moscow: Progress Publishers, 1987), 17-19.
53. Marx and Engels, *Collected Works*, vol. 28, 336-37 (translation according to Marx, *Grundrisse*, 409-10); Marx and Engels, *Collected Works*, vol. 30, 54-56; Francis Bacon, *Novum Organum* (Chicago: Open Court, 1994), 29, 43.
54. Marx, *Capital*, vol. 3, 178, 182.
55. Nancy Fraser, "Roeplek Lecture in Economic Geography—From Exploitation to Expropriation: Historic Geographies of Racialized Capitalism," *Economic Geography* 94, no. 1 (2018): 10; Michael C. Dawson, "Hidden in Plain Sight"; Peter Linebaugh, *Stop, Thief! The Commons, Enclosures, and Resistance* (Oakland: PM, 2014), 73.
56. Dawson, "Hidden in Plain Sight," 149; Marx, *Capital*, vol. 1, 914-36.
57. Karl Marx and Frederick Engels, *On Colonialism* (Moscow: Foreign Languages Publishing house, no date). See also Eric Williams, *Capitalism and Slavery* (Chapel Hill: University of North Carolina Press, 1994).
58. Wilfred H. Schoff, ed., *The Periplus of the Erythraean Sea: Travel and Trade in the Indian Ocean by a Merchant of the First Century* (London: Longmans, Green, 1912), section 6, 24; Beckert, *Empire of Cotton*, 32-39.
59. Basil Davidson, *The African Slave Trade* (Boston: Little, Brown, 1980), 164.
60. Beckert, *Empire of Cotton*, 35-47.
61. Clive Ponting, *The Green History of the World* (New York: St. Martin's, 1991), 207; Blackburn, *The Making of New World Slavery*, 483; E. J. Hobsbawm, *Industry and Empire* (London: Penguin, 1969), 58.
62. James S. Olsen, *Encyclopedia of the Industrial Revolution in America* (Santa Barbara: Greenwood, 2001), xv; Beckert, *Empire of Cotton*, 51; Hobsbawm, *Industry and Empire*, 49, 57-58, 149.
63. Marx, *Capital*, vol. 1, 925.
64. Williams, *Capitalism and Slavery*, 105.
65. Marx and Engels, *Collected Works*, vol. 28, 35.
66. Roxanne Dunbar-Ortiz, *An Indigenous Peoples' History of the United States* (Boston: Beacon, 2014); Michael Tigar, *Law and the Rise of Capitalism*.
67. Marx, *Capital*, vol. 1, 917-18.
68. Tigar, *Law and the Rise of Capitalism*, 308-09.
69. W. E. B. Du Bois, *The Souls of Black Folk* (New York: Modern Library, 2003), 115; see also Brett Clark and John Bellamy Foster, "Land, the Color Line, and the Quest of the Golden Fleece: An Introduction to W. E. B. Du Bois's *The Souls of Black Folk* and *The Quest of the Silver Fleece* (Selections)," *Organization & Environment* 16, no. 4 (2003): 459-69.
70. Beckert, *Empire of Cotton*, 40; Sven Beckert, "Slavery and Capitalism," *Chronicle of Higher Education*, December 12, 2014; Edward E. Baptist, *The Half Has Never Been Told: Slavery and the Making of American Capitalism* (New York: Basic, 2016); Williams, *Capitalism and Slavery*.
71. Marx, *Capital*, vol. 1, 377.
72. John Elliott Cairnes, *The Slave Power* (London: Parker, Son, and Bourn, 1862), 110-11; Marx, *Capital*, vol. 1, 377.
73. The slave trade continued to deposit slaves illegally in the southern United States up to 1860. See Vanessa Romo, "Reporter May Have Discovered Clotilda, the Last American Slave Ship," National Public Radio, January 25, 2018.
74. Cairnes, *The Slave Power*, 54-57; Marx, *Capital*, 1014.
75. Julia Ott, "Slaves: The Capital that Made Capitalism," Public Seminar, April 9, 2014, <http://publicseminar.org>; Baptist, *The Half Has Never Been Told*. See also Herbert Gutman, *Slavery and the Numbers Game* (Urbana: University of Illinois Press, 1975).
76. Marx, *Capital*, vol. 1, 303-04; Frederick Law Olmsted, *A Journey in the Seaboard Slave States in the Years 1853-54* (New York: Putnam, 1904), vol. 1, 50-51; Cairnes, *The Slave Power*, 53-56; Eugene D. Genovese, *The Political Economy of Slavery* (New York: Vintage, 1967), 89; Hal Draper, *The Marx-Engels Glossary* (New York: Schocken, 1986), 157. Marx also read and referenced Henry Carey's *The Slave Trade* (1853), which Carey sent to Marx since he had quoted the latter extensively in the book (on enclosures in Scotland). In *The Slave Trade*, Carey argued that there was a dialectic between slave production and exhaustion of the soil. Nevertheless, Marx ultimately found the work of Cairnes and Olmsted more fruitful in this respect. See Henry Carey, *The Slave Trade* (Philadelphia: Hart, 1853), 103-06; Marx, *Capital*, vol. 1, 892.
77. Genovese, *The Political Economy of Slavery*, 85-88. Genovese wrote: "The essence of soil exhaustion is not the total exhaustion of the land, nor merely 'the progressive reduction of crop yields from cultivated lands,' for the reduction may be arrested at a level high enough to meet local needs. An acceptable general theory of the social effects of soil exhaustion must be sufficiently flexible to account for the requirements of different historical epochs. The rise of capitalism requires a theory that includes the inability of the soil to recover sufficient productivity to maintain a competitive position. The main problem lies in the reaction of social institutions, rather than in the natural deterioration of the soil. The Old South, specifically, had to compete in economic development with the exploding capitalist power of the North, but its basic institution, slavery, rendered futile its attempts to fight the advance of soil exhaustion and economic decline."
78. Beckert, *Empire of Cotton*, 328.
79. Marx and Engels, *Collected Works*, vol. 37, 613; Marx, *Capital*, vol. 1, 756. On the exportation of the soil, see Marx's comments on Ireland in Marx, *Capital*, vol. 1, 860; Olmsted, *A Journey in the Seaboard Slave States*, vol. 1, 304.
80. Beckert, *Empire of Cotton*, 67-73; Bagchi, *Perilous Passage*; Paul Baran, *The Political Economy of Growth* (New York: Monthly Review Press, 1957).
81. Marx and Engels, *Collected Works*, vol. 46, 63-64; also see Prabhat Patnaik, "Marx on Imperialism," *Peoples Democracy* XLI, no. 52, December 24, 2017, <http://peoplesdemocracy.in>.
82. F. M. L. Thompson, "The Second Agricultural Revolution," *Economic History Review* 21, no. 1, (1968): 62-77.
83. John Bellamy Foster, "Marx as a Food Theorist," *Monthly Review* 68, no. 7 (December 2016): 8-17.
84. Olmsted, *A Journey in the Seaboard Slave States*, vol. 1, 46-47. Genovese explains that some plantations owners in the South purchased Peruvian guano, especially between 1840 and 1850. It was found to be particularly effective in enriching exhausted soils in Maryland and Virginia. But the fertilizer required proper care when applying, plus it was expensive, so many plantation owners did not use this resource. The American Guano Company imported second-rate guano, but it was far inferior. Even this fertilizer was too expensive, considering the amount of guano that would have been necessary to enrich the lands of

these large plantations. Thus, owners did not invest in fertilizers, exacerbating the spoliation of the land. Following the Civil War, massive quantities of fertilizers on these lands were required to increase the productivity of the soil. See Genovese, *The Political Economy of Slavery*, 85–95.

85. Liebig, *Letters on Modern Agriculture*; Liebig, *Familial Letters*.

86. Marx, *Capital*, vol. 3, 949; Foster, *Marx's Ecology*; Saito, *Karl Marx's Ecosocialism*.

87. Quoted in Erlend Mårild, "Everything Circulates," *Environment and History* 8 (2002): 74.

88. Marx, *Capital*, vol. 1, 860.

89. George W. Peck, *Melbourne and the Chincha Islands* (New York: Charles Scribner, 1854); Jimmy M. Skaggs, *The Great Guano Rush* (New York: St. Martin's, 1994).

90. W. M. Mathew, *The House of Gibbs and the Peruvian Guano Monopoly* (London: Royal Historical Society, 1981); W. M. Mathew, "Foreign Contractors and the Peruvian Government at the Outset of the Guano Trade," *Hispanic American Historical Review* 52, no. 4 (1972): 598–620; W. M. Mathew, "A Primitive Export Sector," *Journal of Latin American Studies* 9, no. 1 (1977): 35–57; Skaggs, *The Great Guano Rush*.

91. Heraclio Bonilla, "Peru and Bolivia," in Leslie Bethell, ed., *Spanish America after Independence c. 1820–c. 1870* (Cambridge: Cambridge University Press, 1987), 239–82; Shane Hunt, "Growth and Guano in Nineteenth Century Peru," Discussion Paper no. 34 for the Research Program in Economic Development, Princeton University, unpublished, 1973.

92. Gregory T. Cushman, *Guano and the Opening of the Pacific World* (Cambridge: Cambridge University Press, 2013), 59–60; Mathew, *The House of Gibbs*, 122; C. Alexander G. de Secada, "Arms, Guano, and Shipping," *Business History Review* 59, no. 4 (1985): 597–621; Genovese, *The Political Economy of Slavery*, 92–94.

93. Marx, *Capital*, vol. 1, 348.

94. Marx, *On Colonialism*, 115. "Coolie Trade in the 19th Century," Immigration Research Center, University of Minnesota, accessed January 27, 2018, [\[cla.umn.edu\]\(http://cla.umn.edu\); Gaiutra Bahadur, quoted in Lakshmi Gandhi, "A History of Indentured Labor Gives 'Coolie' Its Sting," National Public Radio, November 25, 2013; Katharine Comar, "The History of Contract Labor in the Hawaiian Islands," *American Economic Association* 4, no. 3 \(1903\): 1–61; Karl Marx, *The Poverty of Philosophy* \(New York: International Publishers, 1963\), 112; Marx and Engels, *On Colonialism*, 123; Gaiutra Bahadur, *Coolie Woman* \(Chicago: University of Chicago Press, 2014\); Dawson, "Hidden in Plain Sight," 150; Arnold J. Meagher, *The Coolie Trade: The Traffic in Chinese Laborers to Latin America 1847–1874* \(San Bernardino, CA: Xlibris, 2008\); Moon-Ho Jung, *Coolies and Cane* \(Baltimore: Johns Hopkins University Press, 2006\).](http://</p>
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95. Michael J. Gonzales, "Chinese Plantation Workers and Social Conflict in Peru in the Late Nineteenth Century," *Journal of Latin American Studies* 21 (1955): 385–424; Peter Blanchard, "The 'Transitional Man' in Nineteenth-Century Latin America," *Bulletin of Latin American Research* 15, no. 2 (1996): 157–76; Stephen M. Gorman, "The State, Elite, and Export in Nineteenth Century Peru," *Journal of Interamerican Studies and World Affairs* 21, no. 3 (1979): 395–418; Evelyn Hu-DeHart, "Coolies, Shopkeepers, Pioneers," *Amerasia Journal* 15, no. 2 (1989): 91–116; Evelyn Hu-DeHart, "Huagong and Huashang," *Amerasia Journal* 28, no. 2 (2002): 64–90; Cushman, *Guano and the Opening of the Pacific World*, 55.

96. Lawrence A. Clayton, "Chinese Indentured Labor in Peru," *History Today* 30, no. 6 (1980): 19–23; "Chincha Islands," *Friends' Intelligencer*, February 11, 1854; A. J. Duffield, *Peru in the Guano Age* (London: Bentley and Son, 1877); Cushman, *Guano and the Opening of the Pacific World*; Brett Clark and John Bellamy Foster, "Ecological Imperialism and the Global Metabolic Rift," *International Journal of Comparative Sociology* 50, no. 3–4 (2009): 311–34. More recently, with the rise of organic agriculture and the partial recovery of guano deposits in Peru, this fertilizer has found a new global market. The labor process, as far as the use of picks and shovels to fill sacks with guano, is similar to what it was in the

nineteenth century. See Simon Romero, "Peru Guards Its Guano as Demand Soars Again," *New York Times*, May 30, 2008.

97. Alanson Nash, "Peruvian Guano," *Plough, the Loom and the Anvil*, August 1857.

98. Peck, *Melbourne and the Chincha Islands*, 207.

99. "Chinese Coolie Trade," *Christian Review*, April 1862; "The Chinese Coolie Trade," 1862; see also Basil Lubbock, *Coolie Ships and Oil Sailors* (Glasgow: Brown, Son and Ferguson, 1955), 35; Charles Wingfield, *The China Coolie Traffic from Macao to Peru and Cuba* (London: British and Foreign Anti-Slavery Society, 1873).

100. "Chincha Islands," *Nautical Magazine and Naval Chronicle*, April 1856; see also "Guano Trade," *New York Observer and Chronicle*, July 24, 1856; "Chinese Coolie Trade," "Chincha Islands," *Friends' Intelligencer*, February 11, 1854.

101. Nancy Fraser, "Behind Marx's Hidden Abode," *New Left Review* 86 (March–April 2014): 55–72; Robert Cushman Murphy, *Bird Islands of Peru* (New York: G. P. Putnam's Sons, 1925).

102. Joachim Radkau, *Nature and Power* (Cambridge: Cambridge University Press, 2008), 191.

103. Marx, *Capital*, vol. 3, 369.

104. Marx, *Capital*, vol. 3, 910–11.

105. William Blake, *Complete Poetry and Prose* (New York: Anchor, 1988), 45–51; Kevin Hutchings, *Romantic Ecologies and Colonial Cultures in the British-Atlantic World, 1770–1850* (Montreal: McGill-Queens University Press, 2009), 70–91; John Gabriel Stedman, *Narrative of a Five Year Expedition Against the Revolted Negroes of Surinam* (Baltimore: Johns Hopkins University Press, 1988).

106. Nancy Fraser, "Expropriation and Exploitation in Racialized Capitalism: A Reply to Michael Dawson," *Critical Historical Studies* 3, no. 1 (2016): 176–78.

107. Riccardo Belliofiore, "Between Schumpeter and Keynes: The Heterodoxy of Paul Marlor Sweezy and the Orthodoxy of Paul Mattick," *Continental Thought and Theory* 1, no. 4 (2017), 107–08.

108. Harvey, *The Madness of Economic Reason*, 89–93.