

Extractivism in the Anthropocene

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Over the last decade and a half, the concept of extractivism has emerged as a key element in our understanding of the planetary ecological crisis. Although the development of extractive industries on a global scale has been integral to the capitalist mode of production since its onset, commencing with the colonial expansion of the long sixteenth century, this took on a much larger worldwide significance with the advent of the Industrial Revolution of the late eighteenth and nineteenth centuries, marking the beginning of the age of fossil capital. Nevertheless, it was only with the Great Acceleration, beginning in the mid-twentieth century and extending to the present, that the quantitative expansion of global production and of resource extraction in particular led to a qualitative transformation in the human relation to the Earth System as

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a whole. This has given rise to the Anthropocene Epoch in geological history, in which anthropogenic (as opposed to non-anthropogenic) factors for the first time in Earth history constitute the major determinants of Earth System change.¹ In the Anthropocene, extractivism has become a core symptom of the planetary disease of late capitalism/imperialism, threatening humanity and the inhabitants of the earth in general.

The Great Acceleration is dramatically depicted by the Anthropocene Working Group of the International Commission on Stratigraphy in the form of a series of twenty-four charts, each showing a hockey stick-shaped curve of economic expansion, resource depletion, and overloading planetary sinks, representing a sudden speeding-up and scaling-up of the human impact on the earth, similar to the famous hockey stick chart on increases in global average temperature



Illustration by Dio Cramer for John Bellamy Foster, "Extractivism in the Anthropocene," previously published in *Science for the People*, vol. 25, no. 2 (Autumn 2022).

¹ ↪ On the Anthropocene, see Jan Zalasiewicz, Colin N. Waters, Mark Williams, and Colin P. Summerhayes, *The Anthropocene as a Geological Time Unit* (Cambridge: Cambridge University Press, 2019); Ian Angus, *Facing the Anthropocene* (New York: Monthly Review Press, 2016).

associated with climate change.² Viewed in this way, the Great Acceleration is seen as having brought the Holocene Epoch of the last 11,700 years of geological history to a sudden end, ushering in the Anthropocene Epoch and the current planetary crisis.

Recent research has shown two separate periods where global resource use—including all biomass, minerals, fossil fuel energy, and cement production—has increased much more rapidly than global carbon emissions: the first resource-use acceleration occurring in 1950–70 and the second acceleration in 2000–15.³ The first resource acceleration is associated with the rapid economic expansion of North America, Western Europe, and Japan after the Second World War; the second resource acceleration coincided with the rapid growth of China, India, and other emerging economies beginning around 2000. In the case of the wealthy capitalist countries or “developed economies,” resource use per capita has tended to level off in recent years, while remaining at levels far beyond overall sustainability from a limits-to-growth perspective. Yet, much of this apparent levelling off in per capita natural resource use in the Global North has been due

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to the outsourcing of world industrial production to the Global South, while world consumption of goods and services remains highly concentrated in the Global North, associated with an “imperial mode of living.”⁴ In 2016, the Global Material Flows and Resource Productivity Report of the UN Environment Programme indicated that “since 1990 there has been little

improvement in global material efficiency [that is, efficiency in the extraction and use of primary materials per unit of GDP]. In fact, efficiency started to decline around 2000.”⁵ Global extraction of materials tripled in the four decades prior to the 2016 report.⁶ These conditions have resulted in an acceleration of extractivist pressures in key regions throughout the earth, particularly in the Global South.

In many countries in the Global South, particularly in Latin America and Africa, primary commodities, including both agriculture and fossil fuels/minerals, dominate the export economy, reminiscent of an earlier age. In 2019, percentages of primary commodities in merchandise trade exports were as high as 67 percent in Brazil and 82 percent in both Chile and Uruguay. In Algeria, dependence on the export of fossil fuels is almost complete, now accounting for 94 percent of the value of its merchandise trade exports.⁷ In Latin America, in particular, the import-substitution industrialisation era of the early post-Second World War years, which promoted manufacturing, has been succeeded by the recent era of accelerated resource extraction and by a new dependence on primary commodities, including both agricultural goods and fuels/minerals. In 2017, natural resource rents (including mineral, oil, natural gas, and forestry rents) accounted for 43 percent of GDP in the Republic of Congo.⁸ In Africa, the drive for resources and new agricultural lands has fuelled vast land grabs throughout the continent, made possible by the failure of the decolonisation process in securing the rights to the land for Indigenous populations.⁹ In island nations around the globe, fishing and resource rights over vast

² ↪ See Zalasiewicz, Waters, Williams, and Summerhayes, *The Anthropocene as a Geological Time Unit*, 256–57; Angus, *Facing the Anthropocene*, 44–45.

³ ↪ Christoph Gorg et al., “Scrutinizing the Great Acceleration: The Anthropocene and Its Analytic Challenges for Social-Ecological Transformations,” *Anthropocene Review* 7, no. 1 (2020): 42–61.

⁴ ↪ Ulrich Brand and Markus Wissen, *The Imperial Mode of Living* (London: Verso, 2021).

⁵ ↪ Alicia Bárcena Ibarra, United Nations Environmental Programme Press Release, “Worldwide Extraction of Materials Triples in Four Decades, Intensifying Climate Change and Air Pollution,” July 20, 2016.

⁶ ↪ United Nations Environment Programme, *Global Material Flows and Resource Productivity* (2016), 5.

⁷ ↪ World Trade Organization, *Trade Profiles 2021*. See also Martin Upchurch, “Is There a New Extractive Capitalism?,” *International Socialism* 168 (2020).

⁸ ↪ Eduardo Gudynas, *Extractivisms* (Blackpoint, Nova Scotia: Fernwood, 2020), 82.

⁹ ↪ Mark Bowman, “Land Rights, Not Land Grabs, Can Help Africa Feed Itself,” *CNN*, June 18, 2013.

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ocean territories have been ceded to multinational corporations as the ocean commons are being intensively exploited.¹⁰ New technologies have led to a global race for new rare minerals, as in the case of lithium mining.¹¹ A vast financialization of the earth, in which international finance based in the Global North is taking over the commodification and management of

ecosystem services, primarily in the Global South, is now underway.¹²

Nor is this acceleration of resource extraction and extractive infrastructure confined simply to the periphery of the capitalist world economy. The United States is now the world's largest oil producer, as well as the world's largest oil consumer. There are 730,000 miles of oil and gas pipelines worldwide, equal to thirty times the circumference of the earth. The United States and Canada alone account for about 260,000 miles of fossil fuel pipelines, or over a third of the world's total.¹³ In Canada, primary commodities in 2019 accounted for 43 percent of export value in merchandise trade, while in Australia it was 81 percent.¹⁴

The ecological consequences of all these trends are catastrophic, extending all the way from the devastation of the land and communities up to climate change and the destruction of a human-habitable planet. Fifty years after The Limits to Growth report was published by the Club of Rome, resource depletion is following what it referred to as its threatening "standard scenario," with the result that the very existence of planet Earth as a home for humanity and innumerable other species is endangered.¹⁵

In Latin America in particular these conditions and their effects on the ground have led to the development of extractivism as a critical concept, which in recent theoretical discussions has often taken on an expansive meaning, encompassing wide aspects of capitalism and forms of exploitation. Numerous academic analyses have sought to stretch

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the notion to account for the entire set of economic, political, cultural, and ecological problems of modern times, largely displacing capitalism itself, encompassing questions as varied as modernity, violence, production, exploitation, environmental destruction, digitalisation, and the new "ontological assemblages" of the so-called "new

materialists."¹⁶ For such thinkers, extractivism is viewed as the insatiable source of capitalist modernity's destructive and non-reproductive drive to commodify and consume all life and all existence, what some theorists refer to as "total extractivism" or the "world eater." Such views end up displacing the critical concept of capital accumulation itself, as

¹⁰ ↪ Guy Standing, "How Private Corporations Stole the Sea from the Commons," Janata Weekly, August 7, 2022; Stefano Longo, Rebecca Clausen, and Brett Clark, The Tragedy of the Commodity (New Brunswick, New Jersey: Rutgers University Press, 2015).

¹¹ ↪ Vijay Prashad and Taroa Zúñiga Silva, "Chile's Lithium Provides Profit to the Billionaires but Exhausts the Land and the People," Struggle-La Lucha, July 30, 2022.

¹² ↪ John Bellamy Foster, "The Defense of Nature: Resisting the Financialization of the Earth," Jus Semper, June 2022. 73, no. 11 (April 2022): 1–22.

¹³ ↪ Mohammed Hussein, "Mapping the World's Oil and Gas Pipelines," Al Jazeera, December 16, 2021.

¹⁴ ↪ World Trade Organization, Trade Profiles 2021, 22, 70; "USA: World's Largest Producer of Oil and Its Largest Consumer," China Environment News, July 29, 2022, china-environment-news.net.

¹⁵ ↪ Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens III, The Limits to Growth (Washington, DC: Potomac Associates, 1972); Dennis Meadows interviewed by Juan Bordera/Ferran Puig Vilar, "'Growth is Going to Stop, for One Reason or Another,'" Jus Semper, August 2022.

¹⁶ ↪ See John-Andrew McNeish and Judith Shapiro, introduction to Our Extractive Age: Expressions of Violence and Resistance, ed. Shapiro and McNeish (London: Routledge, 2021), 3; Christopher W. Chagnon, Sophia E. Hagolani-Albov, and Saana Hokkanen, "Extractivism at Your Fingertips" in Our Extractive Age, 176–88; Christopher W. Chagnon et al., "From Extractivism to Global Extractivism: The Evolution of an Organizing Concept," Journal of Peasant Studies 94, no. 4 (May 2022): 760–92.

well as removing attention from the very concrete popular struggles occurring at the ground level against extractivist capital.¹⁷

For this reason, the Uruguayan ecological critic Eduardo Gudynas, a leading Latin American analyst of extractivism, has insisted that the concept be approached in relation to modes of production/appropriation, giving extractivism a very definite meaning directed at the development of a broad political-economic-ecological critique. Gudynas specifically objects to what he sees as the loose academic approach that now proposes vague and ambiguous “labels for extractivism such as ‘financial,’ ‘cultural,’ ‘musical,’ and ‘epistemological,’” creating endless sources of confusion and removing the concept from its basis in political economy and ecological critique. “Extractivism,” he writes, “cannot be used as a synonym for development or even for an exporting primary economy. There is no such thing as extractivist development.... Extractivisms...do not account for the structure and function of an entire national economy, which includes many other sectors, activities and institutions.”¹⁸

Gudynas’s own theory of extractivisms, which will be a central focus of what follows, can be seen as having arisen out of the broad historical-materialist tradition. Thus, to understand the significance of his work, it is necessary to situate it within a larger historical-materialist tradition, going back to the classical analysis of Karl Marx and Frederick Engels, related to issues of the appropriation/expropriation of nature, extractive industries, and the metabolic rift. In this way, it is possible to provide the foundations for a critique of extractivism in the Anthropocene.

Marx and the Expropriation of Nature

The notion of “extractive industry” dates back to Marx in the mid-nineteenth century. He divided production into four spheres: extractive industry, agriculture, manufacturing, and transport. Extractive industry was seen by him as constituting the sector of production in which “the material for labour is provided directly by Nature, such as mining, hunting, fishing (and agriculture, but only insofar as it starts by breaking up virgin soil).”¹⁹ In general, Marx drew a line between extractive industry and agriculture, insofar as the latter was not dependent on raw materials from outside agriculture, but was capable of building up from within, given agriculture’s reproductive, as opposed to non-reproductive, characteristics. This, however, did not prevent him, in his theory of metabolic rift, from seeing capitalist industrial agriculture as expropriative, and in ways that we now call extractivist.

Some of Marx’s most critical comments with regard to the capitalist mode of production are directed at mining as the quintessential extractive industry. In his discussion of coal mining in the third volume of *Capital*, he treats the absolute neglect of the conditions of the coal miners, resulting in an average loss of life of fifteen people a day in England. This led him to comment that capital “squanders human beings, living labour, more readily than does any other mode of production, squandering not only flesh and blood but nerves and brains as well.”²⁰ But the destructive effects of extractive industry and of capital in general, for Marx, were not restricted to the squandering of flesh and blood, but also

¹⁷ ↪ Alexander Dunlap and Jostein Jakobsen, *The Violent Technologies of Extraction* (Cham: Palgrave Macmillan, 2020), 34, 100, 120–21.

¹⁸ ↪ Gudynas, *Extractivisms*, 4, 10.

¹⁹ ↪ Karl Marx, *Capital*, vol. 1 (London: Penguin, 1976), 287; Marx and Engels, *Collected Works*, vol. 30 (New York: International Publishers, 1975), 145; Marx and Engels, *Collected Works*, vol. 35, 191. Gudynas attributed the popularization of the term “extractive industry” to international financial institutions such as the World Bank. He rejected the term as connoting that the extractive sector is part of industry and therefore productive. It is important to note that Marx employed the term as part of a sectoral analysis of production as a whole, and thus not separate from production. See Gudynas, *Extractivisms*, 3, 8.

²⁰ ↪ Karl Marx, *Capital*, vol. 3 (London: Penguin, 1981), 181–82.

extended to the squandering of raw materials.²¹ Moreover, Engels, in writing to Marx, famously discussed the “squandering” of fossil fuels, and coal in particular.²²

In interviews that he gave responding to radical and Indigenous movements against extractivism, Ecuadorian president Rafael Correa rhetorically asked: “Let’s see, señores marxistas, was Marx opposed to the exploitation of natural resources?” The implication was that Marx would not have opposed contemporary extractivism. In response, ecological economist Joan Martínez-Alier pointed to Marx’s famous analysis indicating that “capitalism leads to a ‘metabolic rift.’ Capitalism is not capable of renewing its own conditions of production; it does not replace the nutrients, it erodes the soils, it exhausts or destroys renewable resources (such as fisheries and forests) and non-renewable ones (such as fossil fuels and minerals).” On this basis, Martínez-Alier contends that Marx, though he did not live to see global climate change, “would have sided with Climate Justice.”²³ Indeed, the extraordinary growth of the Marxian ecological critique, building on Marx’s analysis in *Capital* of the “negative, i.e., destructive side” of capitalist production in his theory of metabolic rift, has provided the world with penetrating insights into every aspect of the contemporary planetary crisis.²⁴

Not only was the expropriation of land and bodies recognised in Marx’s analysis, but the earth itself could be expropriated in the sense that the conditions of its reproduction were not maintained, and natural resources were “robbed” or “squandered.”

Key to a historical-materialist analysis of extractivism is Marx’s analysis of what he called “original expropriation,” a term that he preferred to what the classical-liberal political economists called “previous, or original accumulation” (often misleadingly translated as “primitive accumulation”).²⁵ For Marx, “so-called primitive [original] accumulation,” as he repeatedly emphasised, was not accumulation at all, but rather expropriation or appropriation without equivalent.²⁶ Taking a cue from Karl Polanyi—and in line with Marx’s argument—we can also refer to expropriation as appropriation without reciprocity.²⁷ Expropriation was evident in the violent seizure of the commons in Britain. But “the chief moments of [so-called] primitive accumulation” in the mercantilist era, providing the conditions for “the genesis of the industrial capitalist,” lay in the expropriation of lands and bodies through the colonial “conquest and plunder” of the entire external area/periphery of the emerging capitalist world economy. This was associated, Marx wrote, with “the extirpation, enslavement, and entombment in mines of the Indigenous population” in the Americas, the whole transatlantic slave trade, the brutal colonisation of India, and a massive drain of resources/surplus from the colonised areas that fed European development.²⁸

²¹ ↪ Marx, *Capital*, vol. 3, 911.

²² ↪ Marx, *Capital*, vol. 3, 911; Marx and Engels, *Collected Works*, vol. 30, 62; Marx and Engels, *Collected Works*, vol. 46, 411.

²³ ↪ Joan Martínez-Alier, “Rafael Correa, Marx and Extractivism,” *EJOLT*, March 18, 2013. See also Eduardo Gudynas, “Would Marx Be an Extractivist?,” *Post Development* (Social Ecology of Latin America Center), March 31, 2013.

²⁴ ↪ See “*Metabolic Rift: A Selected Bibliography*,” *MR Online*, October 16, 2013; Marx, *Capital*, vol. 1, 638.

²⁵ ↪ Marx and Engels, *Collected Works*, vol. 20, 129. I am indebted to Ian Angus for drawing my attention to this passage.

²⁶ ↪ Marx used the term expropriation about thirty times in Part Eight of *Capital* on “So-Called Primitive Accumulation,” and he used “primitive accumulation”—which he repeatedly prefaced with “so-called” or placed within scare quotes, and used in passages dripping with irony—about ten times. He explicitly indicated in several places that the reality (and historical definition) of “so-called primitive accumulation” was expropriation, while the titles of the second and third chapters of this part both include “expropriation” or “expropriated.” See Marx, *Capital*, vol. 1, 871, 873–75, 939–40. For a general discussion of Marx’s concepts of appropriation/expropriation, see John Bellamy Foster and Brett Clark, *The Robbery of Nature* (New York: Monthly Review Press, 2020), 35–63.

²⁷ ↪ On Polanyi, appropriation, and reciprocity, see Karl Polanyi, *Primitive, Archaic and Modern Economies* (Boston: Beacon, 1968), 88–93, 106–7, 149–56; Foster and Clark, *The Robbery of Nature*, 42–43.

²⁸ ↪ Marx, *Capital*, vol. 1, 914–15.

Crucial to this analysis was Marx's very careful distinction between appropriation, understood in its most general sense as the basis of all property forms and all modes of production, and those particular forms of appropriation, such as for-profit expropriation and wage-based exploitation that characterised the regime of capital. Marx conceived appropriation in general as rooted in the free appropriation from nature, and thus as a material prerequisite of human existence, leading to the formation thereby of various forms of property, with private property constituting only one such form, which became dominant only under capitalism. This general historical theoretical approach gave rise to Marx's concept of the "mode of appropriation" underlying the mode of production.²⁹ These distinctions were to play an important role in his later ethnological writings, and his identification with the active resistance to the expropriation of the lands of Indigenous communities in Algeria and elsewhere.³⁰

Not only was the expropriation of land and bodies recognised in Marx's analysis, but the earth itself could be

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expropriated in the sense that the conditions of its reproduction were not maintained, and natural resources were "robbed" or "squandered."³¹ This was particularly the case with capitalism, in which the appropriation of nature generally took a clear, expropriative form. In Marx's analysis, the free appropriation of nature by human communities, constituting the basis of all production, was seen as

having metamorphosed under capitalism into the more destructive form of "a free gift of Nature to capital," no longer geared primarily to the reproduction of life, the earth, and community as one ultimately indivisible whole, but rather dedicated solely to the valorisation of capital.³² The robbery of the earth and the metabolic rift—or the "irreparable rift in the interdependent process of social metabolism" between humanity and nature—were thus closely interwoven.³³ Although some contemporary theorists have attempted to define extractivism as meaning simply the non-reproduction of nature, it is more theoretically meaningful to view this in line with Marxian ecology in terms of what Marx called the robbery or expropriation of nature, of which extractivism is simply a particularly extreme and crucial form.

Gudynas and the Extractivist Surplus

These conceptual foundations arising out of Marx's classical ecological critique allow us to appreciate more fully the pathbreaking insights into extractivism provided by Gudynas in his recent book, *Extractivisms*. A crucial point of departure in his analysis is the concept of modes of appropriation. In his pioneering 1985 work *Underdeveloping the Amazon*, environmental sociologist Stephen G. Bunker introduced the notion of "modes of extraction" to address the issue of extractive industry and its non-reproductive character, contrasting this to Marx's larger concept of "modes of production."³⁴ Gudynas claims that Bunker was generally on the right track. However, in contrast to Bunker, Gudynas does not adopt the category of modes of extraction. Nor does he retain Marx's notion of modes of production, arguing unaccountably that Marx's concept has been "abandoned," citing anthropologist and anarchist activist David Graeber.

²⁹ ↪ Marx and Engels, *Collected Works*, vol. 29, 461.

³⁰ ↪ John Bellamy Foster, Brett Clark, and Hannah Holleman, "Marx and the Indigenous," *Jus Semper*, October 2023.

³¹ ↪ Marx, *Capital*, vol. 1, 638; Marx, *Capital*, vol. 3, 182, 949.

³² ↪ Marx and Engels, *Collected Works*, vol. 37, 733, emphasis added.

³³ ↪ Marx, *Capital*, vol. 1, 638; Marx, *Capital*, vol. 3, 182, 949.

³⁴ ↪ Stephen G. Bunker, *Underdeveloping the Amazon: Extraction, Unequal Exchange, and the Failure of the Modern State* (Chicago: University of Chicago Press, 1985), 22.

Rather, Gudynas turns to the concept of “modes of appropriation,” while seemingly unaware of the theoretical connection between appropriation and production and between modes of appropriation and modes of production that Marx had constructed in the Grundrisse, and how this is related to current Marxian research into these categories.³⁵ Still, Gudynas’s modes-of-appropriation approach allows him to distinguish between human appropriation from the natural environment in general and what he refers to as “extractivist modes of appropriation,” which violate conditions of natural and social reproduction.

Gudynas defines extractivism itself in terms of processes that are excessive as measured by three characteristics: (1) physical indicators (volume and weight), (2) environmental intensity, and (3) destination, with extractivism seen as inherently related to colonialism and imperialism, requiring that the product be exported in the form of primary commodities.³⁶ Not all appropriation of nature carried out by extractive industries is extractivist. This is perhaps clearest in his short piece, “Would Marx Be an Extractivist?” As in Martínez-Alier’s response to Correa, Gudynas states:

Marx did not reject mining. Most of the social movements do not reject it, and if their claims are heard carefully, it will be found that they are focused on a particular kind of enterprise: large scale, with huge volumes removed, intensive and open-pit. In other words, don't confuse mining with extractivism.... Marx, in Latin America today, would not be an extractivist, because that would mean abandoning the goal of transforming the modes of production, becoming a bourgeois economist. On the contrary, he would be promoting alternatives to [the dominant mode of] production, and that means, in our present context, moving toward post-extractivism.³⁷

Today’s global extractivism, what Martin Arboleda has called The Planetary Mine, is identified with “generalised-monopoly capital” and conditions of “late imperialism.”³⁸ A central concern of Gudynas’s work is a critique of the renewed imperial dependency in the Global South resulting from neo-extractivism, raising the question of “delinking from globalisation” as perhaps the only radical alternative.³⁹ A similar view was powerfully developed by James Petras and Henry Veltmeyer in their Extractive Imperialism, which described the new extractivism as a new imperialist model, forcing countries into a new dependency, the ground for which had been prepared by the neoliberal restructuring that virtually annihilated many of the earlier forces of production in agriculture and industry.⁴⁰

Gudynas’s signal contribution, however, lies in his attempt to connect extractivism to the concept of surplus in order to explain the economic and ecological losses associated with the reliance on extractivist modes of appropriation. Here, he relies on the concept of economic surplus developed by Paul A. Baran in The Political Economy of Growth in the 1950s, which was designed to operationalise Marx’s surplus value calculus in line with a critique that had rational economic

³⁵ ↪ Gudynas, Extractivisms, 26–27; Marx and Engels, Collected Works, vol. 28, 25; Marx and Engels, Collected Works, vol. 29, 461. On current Marxian work on expropriation, see Nancy Fraser, “Behind Marx’s Hidden Abode,” Critical Historical Studies (2016): 60; Nancy Fraser, “Roepke Lecture in Economic Geography—From Exploitation to Expropriation,” Economic Geography 94, no. 1; Michael C. Dawson, “Hidden in Plain Sight,” Critical Historical Studies 3, no. 1 (2016): 149; Peter Linebaugh, Stop, Thief! (Oakland: PM Press, 2014), 73; Foster and Clark, The Robbery of Nature.

³⁶ ↪ Gudynas, Extractivisms, 4–7.

³⁷ ↪ Gudynas, “Would Marx Be an Extractivist?”

³⁸ ↪ Martin Arboleda, Planetary Mine: Territories of Extraction under Late Capitalism (London: Verso, 2020). Generalised-monopoly capital is a term introduced by Samir Amin to designate twenty-first-century world political-economic conditions in which monopoly capital, with its headquarters for the most part in the imperial triad of the United States/Canada, Western Europe, and Japan, has spread its tentacles across the globe, including the globalisation of production under its control. Late imperialism is a term indicating how these conditions have promoted new forms of the drain of surplus/value from the periphery to the core of the capitalist system. See Samir Amin, Modern Imperialism, Monopoly Finance Capital, and Marx’s Law of Value (New York: Monthly Review Press, 2018), 162; John Bellamy Foster, “Late Imperialism,” Monthly Review 71, no. 3 (July–August 2019): 1–19.

³⁹ ↪ Gudynas, Extractivisms, 143–44.

⁴⁰ ↪ James Petras and Henry Veltmeyer, Extractive Imperialism in the Americas (Leiden: Brill, 2014), 20–48.

planning as its yardstick.⁴¹ Gudynas notes that in Baran's concept of economic surplus, in conformity with Marx's surplus value, "ground rent and interest on money capital" are components of total surplus rather than production costs. In introducing the concept of economic surplus, Baran sought to reveal what were, in capitalist accounting, essentially disguised forms, as Gudynas puts it, of the "appropriation of the surplus."⁴²

Employing this idea, Gudynas seeks to add to the economic or social dimension of surplus, based on the exploitation of labor, two environmental dimensions of the surplus in the context of extractivist modes of appropriation. The first of these, the environmental renewable surplus, is seen as related to the classic Ricardian-Marxian theory of agricultural ground rent focused primarily on renewable industry. It is meant to capture surplus not only associated with monopoly rents and thus integrated directly into the economic calculus, but also, according to Gudynas, to grapple with how ecosystem services such as pollination are extractively appropriated/expropriated. Gudynas indicates that a larger "monetised surplus" is created for corporations by neglecting such crucial environmental aspects as soil and water conservation, thus generating an artificially large surplus based on the extractivist appropriation of renewable resources. This is related to what Marx called the "robbing" or expropriation of the earth, part of his theory of metabolic rift.⁴³

According to Gudynas, the third dimension of the surplus (the second environmental dimension) is the environmental nonrenewable surplus related to nonrenewable resources, such as minerals and fossil fuels. "The key distinction here," he writes, "is that the resource will be exhausted sooner or later, and therefore the surplus captured by the capitalist will always be proportional to the loss of natural heritage that cannot be recovered. Similarly, the space occupied by a mining enclave will be impossible to use for another purpose, such as agriculture." Whatever extractivist surplus is

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obtained has to be set against the loss of natural wealth associated with resource depletion, something that is disguised by the common employment of the concept of "natural capital," conceived today not, as in classical political economy, in terms of use value, but rather, in

accord with neoclassical economics, in terms of exchange value and substitutability.⁴⁴ The current planetary ecological crisis has to be seen in terms of the generation of a destructive expropriation of nature, which needs to be transcended in the process of going beyond capitalism.

In Marx and Engels's classical historical materialism, a very similar analytical approach was adopted with respect to the expropriation of nonrenewable resources to that presented by Gudynas in his analysis of the environmental nonrenewable surplus. For Marx and Engels, the destructive expropriation of nonrenewable resources could not be treated as a straightforward case of robbing, as in the case of the soil, forests, fishing, and so on. Hence, they approached extractivism with respect to nonrenewable resources under the rubric of the squandering of such resources, a concept that was especially used in relation to the avaricious expropriation of minerals and fossil fuels, particularly coal, but also

⁴¹ ↪ Paul A. Baran, *The Political Economy of Growth* (New York: Monthly Review Press, 1962), 22–43. In developing his notion of surplus and its relation to the environment, Gudynas declared that Marx's theory of rent is helpful, "but even so the Marxist perspective is limited, particularly because it does not address environmental considerations." His argument here runs into two problems. First, it failed to acknowledge the enormous advances in the understanding of Marx's ecological critique in the last several decades, which have generated a vast literature globally. Second, in turning to Baran's analysis of surplus to generate a political-economic and ecological critique of extractivism, Gudynas was drawing his inspiration from one of the leading Marxist economists of the twentieth century.

⁴² ↪ Gudynas, *Extractivisms*, 83. On the relation of Baran's concept of surplus to Marx's concept of surplus value, see John Bellamy Foster, *The Theory of Monopoly Capitalism* (New York: Monthly Review Press, 2014), 24–50.

⁴³ ↪ Gudynas, *Extractivisms*, 83–84.

⁴⁴ ↪ Gudynas, *Extractivisms*, 84–85. On how the concept of "natural capital" was converted from a use-value category in classical economics to an exchange-value category in neoclassical economics, see John Bellamy Foster, "*Nature as a Mode of Accumulation*," *Jus Semper*, May 2022..

applied to the extreme “human sacrifices” in extractivist industries, related to what is nowadays sometimes called the “corporeal rift.”⁴⁵ Capitalism’s relation to both renewable and nonrenewable resources was thus seen in the classical historical-materialist perspective as pointing to the destructive expropriation of the earth, either as the “robbing” or the “squandering” of nature—an approach that closely corresponds to Gudynas’s two forms of extractivist surplus appropriation/expropriation.

Gudynas’s approach to what he calls the “extractivist surplus” associated with his two environmental dimensions of surplus is meant to encompass externalities, highlighting the fact that the “actual surplus” appropriated—to use Baran’s terms—is, in some cases, artificially high, in relation to a more rational “planned surplus,” as it does not account for depletion of fossil fuels and other natural resources.⁴⁶ This basic approach is employed in the remainder of Gudynas’s analysis to engage with struggles on the ground over this bleeding of the extractivist economies and its relation to late imperialism, which carries out such bleeding on ever-larger scales to the long-term detriment of the relatively dependent peripheral or semi-peripheral (that is, emerging) economies. As he argues in *Extractivisms*, this ultimately becomes a question of “extractivism and justice.”⁴⁷

Extractivism and the Crisis of the Anthropocene

Given that the Anthropocene, though still not official, has been defined as that epoch in which anthropogenic rather than non-anthropogenic factors, for the first time in geological history, are the primary drivers determining Earth System change, it is clear that the Anthropocene will continue as long as global industrial civilisation survives. The current Anthropocene crisis, defined as an “anthropogenic rift” in the biogeochemical cycles of the Earth System, is closely associated with the system of capital accumulation and is pointing society toward an Anthropocene extinction event.⁴⁸ To avoid this, humanity will need to transcend the dominant “accumulative society” imposed by capitalism.⁴⁹ But there will be no progressive escaping from the Anthropocene itself in the conceivable future, since humanity, even in an ecologically sustainable socialist mode of production, will remain on a razor’s edge, given the current planetary-scale stage of economic and technological development, and the fact that the limits of growth will need to be accounted for in the determination of all future paths of sustainable human development.

It was the recognition of these conditions that led Carles Soriano, writing in *Geologica Acta*, to propose the Capitalian as the name of the first geological age of the Anthropocene Epoch.⁵⁰ According to this outlook, the current planetary ecological crisis has to be seen in terms of the generation of a destructive expropriation of nature, which needs to be transcended in the process of going beyond capitalism and the Capitalian Age. Others independently proposed the name Capitalinian for this new geological age, while also pointing to the notion of a Communian—standing for communal, community, commons—as the future geological age of the Anthropocene; one that needs to be created in coevolution with nature, necessitating a “great climacteric” by the mid-twenty-first century.⁵¹

⁴⁵ ↪ Marx and Engels, *Collected Works*, vol. 46, 411; Marx and Engels, *Collected Works*, vol. 30, 62; Marx and Engels, *Collected Works*, vol. 34, 391; Marx, *Capital*, vol. 3, 182, 949. Although Marx and Engels sometimes applied squandering to the destruction of the soil or human bodies, which were also seen as forms of robbery, the destruction of nonrenewable resources was characterized simply as squandering. On the corporeal rift, see Foster and Clark, *The Robbery of Nature*, 23–32.

⁴⁶ ↪ Baran, *The Political Economy of Growth*, 42.

⁴⁷ ↪ Gudynas, *Extractivisms*, 112–13.

⁴⁸ ↪ Clive Hamilton and Jacques Grinevald, “Was the Anthropocene Anticipated?,” *Anthropocene Review* 2, no. 1 (2015): 67.

⁴⁹ ↪ The notion of “accumulative society” is taken from Henri Lefebvre, *The Critique of Everyday Life: The One-Volume Edition* (London: Verso, 2014), 622.

⁵⁰ ↪ Carles Soriano, “On the Anthropocene Formalization and the Proposal by the Anthropocene Working Group,” *Geologica Acta* 18, no. 6 (2020): 1–10.

⁵¹ ↪ John Bellamy Foster and Brett Clark, “*The Capitalinian: The First Geological Age of the Anthropocene*,” *Jus Semper*, October 2021: 1–16; John Bellamy Foster, “*The Great Capitalist Climacteric*,” *Monthly Review* 67, no. 6 (November 2015): 1–17.

In the present century, combating the capitalist expropriation of nature and in particular the extractivism that is more and more dominating our time—along with surmounting the present accumulative system itself—has to take priority at all levels and in all forms of social struggle. In the classical historical-materialist perspective, production as a whole—not simply extractive industry, but also agriculture, manufacturing, and transportation—needs to be confronted in order to transcend the contradictions of class-based capital accumulation. In this regard, the insights of the broad historical-

The only answer is the creation of a higher form of society in which the associated producers directly and rationally regulate the metabolism between humanity and nature, in accord with the requirements of their own human development in coevolution with the earth as a whole.

materialist tradition are crucial. As Marx observed: “Since actual labour is the appropriation of nature for the satisfaction of human needs, the activity through which the metabolism between man and nature is mediated, to denude labour capacity of the means of labour, the objective conditions for the appropriation of nature through labour, is to denude it, also, of the means of life. Labour capacity denuded of the

means of labour and the means of life is therefore absolute poverty as such.”⁵²

With the growth of accumulation, denuding labor of its role as the direct mediator of the metabolism between humanity and nature, and substituting capital in this role through its control of the objective conditions of the appropriation of nature, has meant that the means of life on the planet are being destroyed. The only answer is the creation of a higher form of society in which the associated producers directly and rationally regulate the metabolism between humanity and nature, in accord with the requirements of their own human development in coevolution with the earth as a whole.

⁵² ↩ Marx and Engels, Collected Works, vol. 30, 40.

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