BOOK REVIEW

Marx on the Environment

Michael Roberts*

Saito, Kohei (2017), *Karl Marx's Ecosocialism: Capital, Nature and the Unfinished Critique of Political Economy?* Monthly Review Press, New York, 308 pages.

The average global temperature this year is expected to be among the three highest on record, with the decade 2011–20 being the warmest decade. The warmest six years have all occurred since 2015 (WMO 2020). Years of drought and the extreme heat endured in Australia's summer last year provoked uncontrollable bush fires, which killed a billion animals, destroyed homes, and drove smoke into cities. California experienced something similar. Indonesia suffered floods that forced millions from their homes. In different parts of the world, hurricanes are increasing in intensity and in the damage they cause.

The weight of plastic bottles and containers is now greater than all the fish in the oceans (Griffin and Wilkins 2020). Garbage is building up to levels where container ships wander the seas with nowhere to take it. Pollution levels have risen in the atmosphere in many cities across the globe. The destruction of habitats has meant that millions of species are endangered or becoming extinct. The great forests of the world are fast disappearing and replanting cannot keep up with the loss. The planet and its living species are under threat.

Does Marxism, Marx's value theory, and scientific socialism have anything to say about this? The answer of some climate activists and Greens is, basically, "No." Indeed, the "green" criticism of Marx and Engels is that they were unaware that *Homo sapiens* were destroying the planet and thus themselves. On the contrary, Marx and Engels had a touching faith in Promethean capitalism's ability to develop the productive forces and technology to overcome all risks to the planet and nature.

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Thus, these critics quote from *The Manifesto of the Communist Party*:

> The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of Nature's forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground – what earlier century had even a presentiment that such productive forces slumbered in the lap of social labour? (Marx and Engels 1969 [1848])

This is supposed to show that Marx and Engels had no recognition of the destruction that capitalism would cause to nature and to humans' relationship to the flora and fauna of the planet.

However, anybody who reads the whole of the Manifesto would soon note that praise of capitalism's development of technology and productive forces was coupled with a clear condemnation of the idea that the capitalist mode of production would lead in some harmonious way towards communism. The "history of all hitherto existing society," as Marx and Engels wrote in one of the Manifesto's most famous passages "is the history of class struggles" – and it will require class struggle to overthrow this system of brutal exploitation. Further,

> in place of the old bourgeois society, with its classes and class antagonisms, we shall have an association, in which the free development of each is the condition for the free development of all. (*ibid.*)

The Communist Manifesto is no mere paean of praise for capitalism's progressive outcomes or the subjection of nature. And, as recent Marxist authors like John Bellamy Foster and Paul Burkett have reminded us, throughout Marx's *Capital* there are passages that show that Marx was very aware of capitalism's degrading impact on nature and the resources of the planet. Marx wrote that

> the capitalist mode of production collects the population together in great centres and causes the urban population to achieve an ever-growing preponderance. . . . [It] disturbs the metabolic interaction between man and the earth, i.e., it prevents the return to the soil of its constituent elements consumed by man in the form of food and clothing; hence it hinders the operation of the eternal natural condition for the lasting fertility of the soil. Thus it destroys at the same time the physical health of the urban worker, and the intellectual life of the rural worker. (Marx 1995 [1887])

To take yet another text of classical Marxism, Engels' *Dialectics of Nature* also offers far-reaching philosophical perspectives on the relation between nature and society. As Engels (1896) states,

> As individual capitalists are engaged in production and exchange for the sake of the immediate profit, only the nearest, most immediate results must first be

> taken into account. As long as the individual manufacturer or merchant sells a manufactured or purchased commodity with the usual coveted profit, he is satisfied and does not concern himself with what afterwards becomes of the commodity and its purchaser.

In a famous chapter, "The Part Played by Labour in the Transition from Ape to Man," Engels writes:

> at every step we are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature – but that we, with flesh, blood, and brain, belong to nature, and exist in its midst, and that all our mastery of it consists in the fact that we have the advantage over all other beings of being able to know and correctly apply its laws. (*ibid*)

Engels goes on:

> in fact, with every day that passes we are learning to understand these laws more correctly and getting to know both the more immediate and the more remote consequences of our interference with the traditional course of nature. . . . But the more this happens, the more will men not only feel, but also know, their unity with nature, and thus the more impossible will become the senseless and antinatural idea of a contradiction between mind and matter, man and nature, soul and body. (*ibid*)

Engels explains the social consequences of the drive to expand the productive forces:

> But if it has already required the labour of thousands of years for us to learn to some extent to calculate the more remote natural consequences of our actions aiming at production, it has been still more difficult in regard to the more remote social consequences of these actions. . . . [W]hen afterwards Columbus discovered America, he did not know that by doing so he was giving new life to slavery, which in Europe had long ago been done away with, and laying the basis for the Negro slave trade. (*ibid*)

The people of the Americas were driven into slavery, but nature was also enslaved. As Engels put it,

> What cared the Spanish planters in Cuba, who burned down forests on the slopes of the mountains and obtained from the ashes sufficient fertilizer for one generation of very highly profitable coffee trees – what cared they that the heavy tropical rainfall afterwards washed away the unprotected upper stratum of the soil, leaving behind only bare rock! (*ibid*)

Now, we know that it was not only slavery but also disease that the Europeans brought to the Americas, thus killing Native Americans in millions. And as Burkett (2018) says, "it [is] difficult to argue that there is something fundamentally anti-ecological about Marx's analysis of capitalism and his projections of communism."

Kohei Saito's book draws on Marx's previously unpublished "excerpt" notebooks in the ongoing MEGA-2 research project.[1] The natural science notebooks reveal, in particular, Marx's extensive study of scientific works of the time on agriculture, soil, and forestry to expand his concept of the connection between capitalism and its destruction of natural resources. Saito takes the reader on an intellectual journey, which he suggests that Marx made, that is, from an early, and less critical, view to a later, more ecologically sensitive, critique of capitalism. For Saito, Marx is not simply an economist who sometimes refers to nature: "Marx actually deals with the whole of nature, the 'material' world, as a place of resistance against capital, where the contradictions of capitalism are manifested most clearly" (2017, p. 14).

Saito writes that Marx's notebooks show that his

> ecological critique possesses a systematic character and constitutes an essential moment within the totality of his project of *Capital*. . . . it is not possible to comprehend the full scope of his critique of political economy if one ignores the ecological dimension. (*ibid.*, p. 13–14)

We can discern this "ecological dimension" in Marx's political economy as early as his Paris notebooks of the 1840s, and then through to *Capital* and after. In the *Economic and Philosophical Manuscripts*, Marx criticises Feuerbach and the Young Hegelians for their purely philosophical concepts. There is no such thing as "nature" as a universal concept; one cannot separate nature from the social relations of human society. Drawing on Engels' brilliant account of the condition of the river in his hometown of Wuppertal, where he observed "what happens when a river flows through an industrial town and becomes polluted with dye from factories" (Engels 1839), Marx and Engels point out in *The German Ideology* (1932) that "nature" is subject to social relations.

According to Saito, *The German Ideology*, written in 1845, was the turning point in Marx's travel towards an "ecological dimension" in his critique of capitalism (Marx and Engels 1932). Saito reckons this is when he begins to use the term "metabolism" and refines his understanding of the concept as the general metabolic tendency of capital. This is key to Saito's interpretation of Marx's critique of political economy. Saito argues that Marx progressively realises that Capital's continuous expansion exploits not just labour, but also Nature in the search for profit, leading to the

[1] The publication of the Marx-Engels-Gesamtausgabe (MEGA-2), the original German title for the collected works of Marx and Engels, is the main task of the Internationale Marx-Engels-Stiftung (IMES), which was established in 1990 in Amsterdam. The IMES is an international network of the International Institute of Social History, the Berlin-Brandenburgische Akademie der Wissenschaften, the Karl-Marx-Haus of the Friedrich Ebert Foundation in Trier, and the Russian State Archive for Social/Political History and the Russian Independent Institute for the Study of Social and National Problems, both in Moscow. The aim of the IMES is to continue the publication of the collected works of Marx and Engels carried out in the 1960s in Berlin and Moscow. For more details on the MEGA project, see https://iisg.amsterdam/en/research/publications/book-series/marx-engels-gesamtausgabe.

destruction of the soil, deforestation, and other such forms of the degradation of natural resources. Capital wants more and more value and, in particular, surplus value. That becomes the purpose of production and the metabolic harmony that existed between humans and nature before capitalism is broken. There is now a metabolic rift caused by capitalism.

But does Marx now reckon, as Saito claims, that he saw the main contradiction of capitalist production in the "metabolic rift" between humans and nature? As Saito notes, Marx's earliest thinking was that scientific and technological advances could overcome limits set by nature. For example, Marx rejected Ricardo's theory that capitalism was limited by diminishing returns in agriculture. Soil science and land management as applied by capitalists could overcome this, once the rule of landowners was broken.

From the notebooks of Marx, published as Section IV of the MEGA,[2] especially those relating to natural science, Saito presents the thoughts of Marx on the ideas of the leading agricultural scientists of the time. In particular, there is Joseph Liebig's (1840) *Agricultural Chemistry* and later Carl Fraas' (1847) *Agrarian Crises* and *Climate and the Plant World.*

Saito claims that Marx revised his view that agriculture could flourish under capitalism after reading Liebig's *Agricultural Chemistry* in 1862. Liebig writes of "robbery agriculture," and Saito argues that this "deepened [Marx's] insight that nature cannot be arbitrarily subordinated and manipulated through technological development. There are insurmountable limits" (2017, p. 160).

But did Marx actually come to that conclusion? As Saito writes, "In the new formulation, there lies a new critical insight that profit-oriented agriculture under capitalist relations is not capable of sustainable and long-term improvement of the soil" (*ibid*, p. 171). This would suggest that Marx was more impressed by Liebig's view that the "insurmountable limits" were set by capitalist social relations rather than by the exhaustion of nature – Saito seems unconsciously to support this view.

Saito tells us that Marx commented that "'To have developed from the point of view of natural science the negative, i.e., the destructive side of modern agriculture, is one of Liebig's immortal merits'" (*ibid*, 219). And in the first German edition of *Capital*, Marx commented that Liebig's views on agriculture "contain more flashes of insight than all the works of modern political economists put together" (MEGA 2010). However, in the second edition, that praise had been diluted to "'[Liebig's] historical overview of the history of agriculture, although not free from gross errors, contains flashes of insight'" (Saito 2017, p. 219). As Saito says, this implied

[2] Saito introduces the significance of the notebooks for scholars of Marx, with related comments on page 25.

that Marx thought he had exaggerated his positive view about Liebig's so-called "robbery system" of agriculture.[3]

However, Saito does not offer any reason for this exaggeration. Most likely it was because Marx objected to the characterisation of agriculture under capitalism as one of "dispossession or robbery," terms used in political economy by the likes of Proudhon at the time and more relevant to the period of primitive accumulation *before* capitalism (Proudhon 1840, p. 2).[4] For Marx, capitalism was a system of "brutal exploitation" of labour power in production for profit, not one of robbery or dispossession. Saito's inclination to think that Marx agreed with Liebig is probably the result of the influence of modern "Marxist" "accumulation by dispossession" theorists.

For Marx, agriculture under capitalism is a sector that exploits labour in the same way as industry. So, it was an "economic error" that Marx found in Liebig. Indeed, as mentioned, Marx rejected the Ricardian theory that the profitability of capital tended to fall because of diminishing returns in agriculture. Marx's law of tendency of the rate of profit to fall depended on a rising "organic" composition of capital (the word "organic" perhaps taken from Liebig, as Saito suggests), where the material value of machinery and natural materials rises in cost relative to the exploitation of labour power. Contrary to Saito's conclusion, Marx rejected Liebig's soil exhaustion theory of the limits of capitalism and rejected the implied Malthusianism that population would outrun the availability of food and the necessities for human life.[5]

Indeed, that is why Marx was much more positive about the work of Fraas, who attacked Liebig's soil exhaustion theory. But as Saito says, what interested Marx about Fraas was probably not his theory of alluvial soils or deforestation, but Fraas's recognition that "cultivation—when it proceeds in natural growth and is not consciously controlled . . . —leaves deserts behind it" (2017, p. 229). Fraas had an "unconscious socialist tendency."

Barbara Harriss-White (n.d.) says that "Marx's principles of eco-socialism are scattered throughout Saito's book rather as his ecological insights are scattered." And yet, Saito (2016) ploughs on with his very ambitious conclusion, stating that

[3] Although it is true that in *Capital, Volume I*, Chapter 15 on machinery Marx says: "Moreover, all progress in capitalistic agriculture is a progress in the art, not only of robbing the labourer, but of robbing the soil; all progress in increasing the fertility of the soil for a given time, is progress towards ruining the lasting sources of that fertility. The more a country starts its development on the foundation of modern industry, . . . the more rapid is this process of destruction. Capitalist production, therefore, develops technology, and the combining together of various process into a social whole, only by sapping the original sources of all wealth – the soil and the labourer" (Marx 1995 [1887]).

[4] See also Proudhon (1840), p. 1.

[5] This debate continues. See the controversy over Michael Moore and Jeff Gibbs' 2019 film, *The Planet of the Humans*, which appears to argue that the problem is not just one of capitalism, but that there are just too many humans.

> I will argue that Marx's critique of political economy, if completed, would have put a much stronger emphasis on the disturbance of the "metabolic interaction" between humanity and nature as the fundamental contradiction of capitalism.

For Saito, as Harriss-White (n.d.) notes,

> it is the physical material limits – i.e., the contradiction between capitalism and its complex material base rather than contradictions between forces and relations of production – that will ultimately limit capitalism. The driving force of value shrivels as a mediator between humans and nature.

That may be Saito's view, but was it Marx's?

In a letter to Engels, Marx sees the need for the abolition of private property in agriculture as "the alpha and omega of the coming revolution."[6] But as Harriss-White has noted, "Much more difficult – because only gained through revolution (which is hardly developed by Saito) – come a number of other dimensions of struggle" (*ibid.*). As Engels (1922 [1895]) quotes Marx, in the context of Marx's comments on the right to work, which Marx described as the "first awkward formula wherein the revolutionary demands of the proletariat are condensed,"

> But behind the Right to Work stands the power over capital, behind the power over capital stands the expropriation of the means of production, their subjection to the associated working class, therefore, the abolition of wage labour and of capital and of their mutual relations.

And Engels comments:

> Hence, here is formulated – for the first time – the thesis whereby modern working-class Socialism is sharply differentiated, not only from all the different shades of feudal, bourgeois, petty bourgeois, etc., socialism, but also from the confused notions of a community of goods of the Utopian as well as the original labour communism. (*ibid.*)

Does this sound like the motor of revolution was to be ecological, rather than economic?

Saito goes further to say that Marx's major achievement, *Capital*, is "a theory of metabolism." Any emphasis on rifts or ruptures has the risk of assuming that nature is in harmony or in balance until capitalism disturbs it. But nature is never in balance, even without humans. It is always changing, evolving, but with "punctuated equilibriums,"[7] such as the Cambrian explosion, with many species

[6] "[Marx] stated in his letter to Engels dated August 14, 1851: 'But the more I get into the stuff, the more I become convinced that agricultural reform, and hence the question of property based on it, is the alpha and omega of the coming revolution. Without that, Parson Malthus will prove right'" (Saito 2107, p. 186).

[7] Punctuated equilibrium is commonly contrasted against phyletic gradualism, the idea that evolution generally occurs uniformly and by the steady and gradual transformation of whole lineages. In 1972, Marxist palaeontologists Niles Eldredge and Stephen Jay Gould published a landmark paper developing their theory they termed 'punctuated equilibria' (PBS 2001).

evolving as others go extinct. The rule of the dinosaurs and their eventual extinction had nothing to do with humans (despite what movies may depict). Nature, like society, is a dialectical process full of change and contradiction, as Engels brilliantly shows in his *Dialectics of Nature*, a book frowned on by many, yet still pertinent.

As Löwy (2019) points out, Saito argues that the "environmental unsustainability of capitalism is *the* contradiction of the system" (2017, p. 142), and that, further, Marx saw metabolic rights as "the most serious problem of capitalism," and that conflict with natural limits was, for Marx, "the main contradiction of the capitalist mode of production." Löwy further comments: "I wonder where Saito found, in Marx's writings, books, manuscripts, or MEGA notebooks any such statement...they are not to be found." However, in another place, Saito (2016) accepts the view of Paul Burkett that Marx did not agree that capitalism would collapse because of the limits of nature:

> Fully exploiting material elasticity, capital always tries to overcome limitations due to scientific and technological innovation. Capitalism's potential for adaptation is so great that it can likely survive as a social system until most parts of the earth become unsuitable for human habitation.

It may be that global warming from fossil fuel production will reach a tipping point when the climate will heat up irreversibly – indeed, the latest scientific projections put that day ever closer. But capitalism will not collapse as the bush fires, floods, earthquakes, and droughts put millions out of their homes, causing mass migration and deaths. Capitalism will attempt to use the latest science to adapt. For example, genetic modification is already being employed to develop crops that survive in intense heat or flooded water. There are even projects to produce mass food products that require no agriculture at all. Of course, such projects must develop into profitable enterprises, but that is the real limit – profit, not the exhaustion of "nature" (Thorpe 2020).

It is one thing to show that Marx was increasingly aware of the degradation and damage that the capitalist mode of production for profit was doing to natural resources, non-human species, and the atmosphere of the planet itself. But it is quite another to argue, based on some passages in Marx's *Grundrisse* and *Capital* and some of his notebooks on agricultural science, that if Marx had completed what Saito calls in the title of his book, "the unfinished critique of political economy," that "he would have put a much stronger emphasis on the disturbance of the 'metabolic interaction' between humanity and nature as the fundamental contradiction of capitalism" (2017, p. 201). I find no evidence in Saito's scholarly account of Marx's notebooks that could lead him to reach that conclusion.

It is more convincing that Marx completed a logical and relatively complete critique of political economy and revealed the fundamental contradiction of capitalism that

would herald its eventual failure to deliver the needs of humanity. Indeed, this was spelt out as early as in *The Communist Manifesto*:

> It is enough to mention the commercial crises that by their periodical return put the existence of the entire bourgeois society on its trial, each time more threateningly. In these crises, a great part not only of the existing products, but also of the previously created productive forces, are periodically destroyed. . . . And how does the bourgeoisie get over these crises? On the one hand by enforced destruction of a mass of productive forces; on the other, by the conquest of new markets, and by the more thorough exploitation of the old ones. That is to say, by paving the way for more extensive and more destructive crises, and by diminishing the means whereby crises are prevented. (Marx and Engels 1969 [1848])

Capitalism is not only subject to regular and recurring crises in production and employment. It also delivers gross inequality of incomes and wealth, and persistent poverty for billions. It fails to use effectively the scientific and technological discoveries that could end toil and disease globally. It is indeed degrading nature, exterminating species, and threatening to destroy the atmosphere of the planet, but these outcomes are the result of the contradictions to be found in the capitalist mode of production itself, not in some existential threat from outside the system.

Engels attacked the view that "human nature" is inherently selfish and will simply destroy nature. In his "Outlines," Engels (1844) described that argument as a "repulsive blasphemy against man and nature." Humans can work in harmony with and as part of nature if there is greater knowledge of the consequences of human action. Engels (1896) said in his *Dialectics*:

> But even in this sphere, by long and often cruel experience and by collecting and analyzing the historical material, we are gradually learning to get a clear view of the indirect, more remote, social effects of our productive activity, and so the possibility is afforded us of mastering and controlling these effects as well.

Enhanced knowledge and scientific progress are not enough. For Marx and Engels, the possibility of ending the dialectical contradiction between humans and nature and bringing about some level of harmony and ecological balance would only be possible with the abolition of the capitalist mode of production. As Engels (1896) said, "To carry out this control requires something more than mere knowledge." Science is not enough. "It requires a complete revolution in our hitherto existing mode of production, and with it of our whole contemporary social order" (*ibid.*).

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