

Marxian Ecology, East and West: Joseph Needham and a Non-Eurocentric View of the Origins of China's Ecological Civilisation

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Ecological materialism, of which ecological Marxism is the most developed version, is often seen as having its origins exclusively within Western thought. But if that is so, how do we explain the fact that ecological Marxism has been embraced as readily (or indeed, more readily) in the East as in the West, leaping over cultural, historical, and linguistic barriers and leading to the current concept of ecological civilisation in China? The answer is that there is a much more complex dialectical relation between East and West with respect to materialist dialectics and critical ecology than has been generally supposed, one that stretches back over millennia.

Materialist and dialectical conceptions of nature and history do not start with Karl Marx. The roots of “organic naturalism” and “scientific humanism,” according to the great British Marxist scientist and Sinologist Joseph Needham (李約瑟), author of *Science and Civilization in China*, can be traced to the sixth to third centuries BCE both in ancient Greece, beginning with the pre-Socratics and extending to the Hellenistic philosophers, and in ancient China, with the emergence of Daoist and Confucian philosophers during the Warring States Period of the Zhou Dynasty.¹ As Samir Amin indicated in his *Eurocentrism*, the “philosophy of nature [as opposed to



Portrait of James Needham, adapted from a painting by James Wood, Gonville and Caius College, University of Cambridge.

¹ ↪ Joseph Needham, *Within the Four Seas: The Dialogue of East and West* (Toronto: University of Toronto Press, 1969), 27, 97; Arun Bala, “Chinese Organic Materialism and Modern Science Studies: Rethinking Joseph Needham’s Legacy,” *Culture of Science* 3, no. 1 (2020): 62–63.

metaphysics] is essentially materialist” and constituted a “key breakthrough” in tributary modes of production, both East and West, beginning in the fifth century BCE.²

In *Within the Four Seas: The Dialogue of East and West* in 1969, Needham noted the absolute alacrity with which

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“dialectical materialism” was taken up in China during the Chinese Revolution and how this was treated as a great mystery in the West. Nevertheless, the sense of mystery, he contended, did not extend in the same way to the East itself. He wrote: “I can almost imagine Chinese scholars,” confronted with Marxian materialist dialectics, “saying to themselves ‘How astonishing: this is very like our own

philosophia perennis integrated with modern science at last come home to us.’”³ The Marxian materialist dialectic, with its deep-seated ecological critique rooted in ancient Epicurean materialism, was in Needham’s view, so closely akin to Chinese Daoist and Confucian philosophies as to create a strong acceptance of Marxian philosophical views in China, particularly since China’s own perennial philosophy was in this roundabout way integrated with modern science. If Daoism was a naturalist philosophy, Confucianism was associated, Needham wrote, with “a passion for social justice.”⁴

The Needham convergence thesis—or simply the Needham thesis, as I am calling it here—was thus that Marxist materialist dialectics had a special affinity with Chinese organic naturalism as represented especially by Daoism, which was similar to the ancient Epicureanism that lay at the foundations of Marx’s own materialist conception of nature. Like other Marxist scientists and cultural figures associated with what has been called the “second foundation of Marxism,” centred in Britain in the mid-twentieth century, Needham saw Epicureanism as providing many of the initial theoretical principles on which Marxism, as a critical-materialist philosophy, was based.⁵ It was the similar evolution of organic materialism East and West—but which, in the case of Marxism, was integrated with modern science—that explained dialectical materialism’s profound impact in China.⁶

The Needham thesis, as presented here, can also throw light on the spurious proposition, recently put forward by cultural theorist Jeremy Lent, author of *The Patterning Instinct*, that the Chinese conception of ecological civilisation is derived entirely from China’s own traditional philosophy, rather than being influenced by Marxism.⁷ Lent’s argument fails

² ↪ Samir Amin, *Eurocentrism*, 2nd edition (New York: Monthly Review Press, 2009), 109. Amin does not specifically mention China in this context, focusing rather on the Greek tributary mode of production in the pre-Hellenistic age, seen as linked to Egyptian and Phoenician cultures, and then on the Hellenistic Age. Amin’s argument, though, is complemented by Needham’s argument on the simultaneous growth of scientific humanism/organicist materialism in China, associated with Confucianism and Daoism, that began in the fifth and fourth centuries BCE, thus corresponding in time with the rise of the materialist philosophy of nature in Greece. Needham, *Within the Four Seas*, 97, 212. This thus fits with Amin’s general argument on tributary cultures, associated with what is often called the axial age.

³ ↪ Needham, *Within the Four Seas*, 66–68.

⁴ ↪ Needham, *Within the Four Seas*, 93.

⁵ ↪ The foundational role of Epicurean materialism was also present in most of the other major thinkers comprising the second foundation of Marxist thought. This included British red science and cultural materialism, exemplified by the work of figures such as Benjamin Farrington, Needham, J. D. Bernal, J. B. S. Haldane, Lancelot Hogben, Christopher Caudwell, and Jack Lindsay. Other non-Marxian socialists, like Arthur G. Tansley, also drew on Epicurean materialism. John Bellamy Foster, *The Return of Nature* (New York: Monthly Review Press, 2020), 369, 526–30. On the “second foundation of Marxism,” see John Bellamy Foster, “Engels and the Second Foundation of Marxism,” – The Jus Semper Global Alliance, October 2023.

⁶ ↪ On the extraordinary impact of Epicurus and Epicureanism on Marx’s thought, see John Bellamy Foster, *Marx’s Ecology* (New York: Monthly Review Press, 2000), 1–65; Diego Fusaro, *Marx, Epicurus, and the Origins of Historical Materialism* (Oxford: Pertinent Press, 2018).

⁷ ↪ Jeremy Lent, “What Does China’s ‘Ecological Civilization’ Mean for Humanity’s Future?,” Ecowatch, February 9, 2018, ecowatch.com; John Bellamy Foster, “Ecological Civilization, Ecological Revolution,” – The Jus Semper Global Alliance, July 2023. Lent adopts a culturalist view, which, while seeming to depart from Eurocentrism in his emphasis on the strengths of traditional Chinese philosophy, actually reinforces Eurocentrism by creating what Amin called an “inverted Eurocentrism,” which only serves to reinforce Eurocentric views of Europe’s own development, while presenting Chinese development as simply an inverse culturalism in relation to Eurocentrism. See Amin, *Eurocentrism*, 2nd edition, 214.

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to acknowledge that ecological civilisation as a critical category was first introduced by Marxist environmentalists in the Soviet Union in its closing decades, and immediately adopted by Chinese thinkers, who were to develop it more fully.⁸ For environmental philosophers and scientists in postrevolutionary societies who were familiar with dialectical materialism, it was natural to see the answer to ecological problems as demanding a

new ecological civilisation, constituting a necessary evolutionary development of socialism itself. This was further propelled by the fact that China, according to Needham, had avoided the disassociation of thought characteristic of the West through the identical opposites of abstract idealism/theology and mechanistic materialism. Hence, from the critical standpoint introduced by Needham, the concept of ecological civilisation can be seen as an organic outgrowth of the philosophies of dialectical naturalism in both the East and West to which Marxism added a crucial scientific component.

Of course, the Needham thesis may seem obscure at first from the usual standpoint of the Western left, since it relies on a classical Epicurean Marxist interpretation of the origins of historical materialism, while at the same time viewing this in relation to a conception of Chinese science and civilisation over the millennia that is unfamiliar to Western eyes. This double disconnect has to do with the well-known alienation of the Western Marxist tradition from both science and materialism, coupled with a deep Eurocentrism characteristic of contemporary Marxism in the West, associated with the systematic downplaying of colonialism and imperialism.⁹

All of this suggests that the Needham thesis, which sees dialectical materialism as having roots in materialist and ecological ideas that arose separately and with quite different histories in East and West, but leading to a special affinity with Marxism in China, is well worth discussing in our time of planetary crisis, given the need for the reunification of humanity on more ecorevolutionary terms.¹⁰ However, addressing the ancient philosophies underlying ecological materialism in both East and West, and the relation of this to the development of ecological-materialist Marxism today, requires that we strive to overcome the Eurocentric and other culturalist barriers that stand in the way of the emergence of an ecology of praxis on a planetary scale.

Eurocentrism and Marxism

The critique of Eurocentrism as constituting a definite ideological form first arose within the Marxist tradition. It was introduced by Needham in *Within the Four Seas* and was later employed by Amin in the preface to the first edition of his *Eurocentrism*. For both Needham and Amin, Eurocentrism is defined as the notion that European culture is the universal culture to which all other cultures must conform, given that non-Western cultures are reduced simply to being particular cultures.¹¹ As Needham argued, “The basic fallacy of Europocentrism is therefore the tacit assumption that because

⁸ ↪ Ursul, ed., *Philosophy and the Ecological Problems of Civilisation* (Moscow: Progress Publishers, 1983); Foster, “Ecological Civilization, Ecological Revolution,” 3–4.

⁹ ↪ On the problem of imperialism and Marxism in the West, see Zhun Xu, “*The Ideology of Late Imperialism*,” – The Jus Semper Global Alliance, November 2021.

¹⁰ ↪ It is the inability to perceive or to take seriously the central role that Needham gave to dialectical materialism as an outgrowth of Greek organic materialism (which then had an affinity with Chinese organic naturalism such that dialectical materialism almost seemed to be the perennial Chinese philosophy, now clothed in natural science) that leads historians of science to claim that Needham’s points “on the relations between Chinese organic materialist science and modern science” were paradoxical, lacking “a coherent philosophical explanation.” Bala, “Chinese Organic Materialism and Modern Science Studies,” 73; Wen-yuan Qian, *The Great Inertia: Scientific Stagnation in Traditional China* (Dover, New Ha

¹¹ ↪ This was most clearly articulated in the general introduction to Max Weber’s sociology of religion, commonly published as the introduction to *The Protestant Ethic and the Spirit of Capitalism*. See Max Weber, *The Protestant Ethic and the Spirit of Capitalism* (London: Unwin Hyman

modern science and technology, which grew up indeed in post-Renaissance Europe, are universal, everything else European is universal also.”¹² Likewise, Amin writes: “Eurocentrism...claims that imitation of the Western model by all peoples is the only solution to the challenges of our time.” Eurocentrism both projects itself as the universal culture and rejects the true universalism of peoples.¹³

Viewed in this way, classical Marxist thought and socialism in general have always been radically opposed to Eurocentrism, understood as the ideology of Western colonialism. This is as true of Marx and Frederick Engels, particularly in their later years, as it was of V. I. Lenin and Rosa Luxemburg. In the twentieth century, moreover, the impetus for revolution shifted to the Global South and its struggle against imperialism, generating in the process new Marxist analyses in the works of figures as distinct as Mao Zedong, Amílcar Cabral, and Che Guevara, all of whom insisted on the need for a world revolution.

To be sure, one can point to traces of European ethnocentrism in some of Marx’s early work, which was affected by the sources that he had available at the time, most of which came from European colonial reports. Nevertheless, it has been

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recognised by Marxist theorists of underdevelopment for decades—initially in the work of Horace B. Davis in the United States, Kenzo Mohri in Japan, and Suniti Kumar Ghosh in India—that by the late 1850s, Marx had become increasingly focused on the critique of colonialism, actively supporting anticolonial rebellions, and

progressively more concerned with analysing the material and cultural conditions of non-Western societies.¹⁴ Marx’s growing attention to noncapitalist societies was a product of his identification with various revolts against colonialism, and was further facilitated by the “revolution in ethnological time” with the discovery of prehistory and the rise of anthropological studies, occurring in tandem with Charles Darwin’s theory of evolution.¹⁵ Marx made a massive effort to research the history and cultures of societies on the periphery of Europe, leading to his studies of the Russian language, his exploration of the Russian peasant commune, and his research into social formations in Algeria, India, China, Indonesia, and the Indigenous nations of the Americas. He was, at least initially, a strong supporter of the Taiping Revolution in China.¹⁶

In this respect, Kohei Saito’s important work *Marx in the Anthropocene* constitutes a sharp deviation from the growing scholarship demonstrating that Marx was never Eurocentric (in the terms discussed above) and had moved decisively away from any residual European ethnocentrism by the late 1850s and early ‘60s. In support of his contrary view, Saito points to the statement in the preface to the first edition of *Capital* where Marx “notoriously” informs his German readers that “the tale is told of you,” meaning German bourgeois development would follow the basic path already laid out by English bourgeoisie. For Saito, this in itself establishes that Marx’s *Capital* was Eurocentric in assuming all countries everywhere had to follow the same linear European path. Yet, the question of the non-European world was altogether

¹² ↪ Needham, *Within the Four Seas*, 13.

¹³ ↪ Samir Amin, *Eurocentrism*, 1st edition (New York: Monthly Review Press, 1989), vii–xiii.

¹⁴ ↪ Horace B. Davis, *Nationalism and Socialism* (New York: Monthly Review Press, 1967), 59–73; Kenzo Mohri, “Marx and ‘Underdevelopment,’” *Monthly Review* 30, no. 11 (April 1979): 32–42; Suniti Kumar Ghosh, “Marx on India,” *Monthly Review* 35, no. 8 (January 1984): 39–53; John Bellamy Foster, “Marx and Internationalism,” *Monthly Review* 52, no. 3 (July–August 2000): 11–22. See also Kevin B. Anderson, *Marx on the Margins* (Chicago: University of Chicago Press, 2016).

¹⁵ ↪ Foster, *Marx’s Ecology*, 212–21.

¹⁶ ↪ John Bellamy Foster, Brett Clark, and Hannah Holleman, “Marx and the Indigenous,” – The Jus Semper Global Alliance, October 2023.; John Newsinger, “The Taiping Peasant Revolt,” *Monthly Review* 52, no. 5 (October 2000): 29

absent from the argument in the preface to *Capital*, which was directed solely at conditions in Western Europe, and specifically at the significance of the British developments for what was to come in Germany. Marx later clarified this in his 1881 letter to Vera Zasulich (as well in the various drafts to that letter) by indicating that the argument on linear development in *Capital* was specific to Western Europe, and that fundamentally different lines of development were possible in Russia and in other noncapitalist societies.¹⁷

Saito seeks to back up his charge of Eurocentrism in the first volume of *Capital* by highlighting Marx's contention that noncapitalist village communities in Java and elsewhere in Asia were to be viewed as economically unchanging, or stagnant. Quoting Marx's reference to "the riddle of the [economic] unchangeability of Asiatic societies," Saito says this constitutes evidence not only of Eurocentrism but "Orientalism." Yet, when viewed in context, it is clear that Marx was concretely addressing the economic tendency of village communities in Java, where a developed exchange economy did not yet exist, to reproduce themselves on the basis of simple, rather than expanded, reproduction. Thus, Marx quotes his source, T. Stamford Raffle's *History of Java* (1817), as saying that the "internal economy" of the village communities "remains unchanged" despite all the political shifts going on within their larger societies, which in this respect were hardly static. Hence, with regard to the economically unchanging character and stagnation of village communities in Java and elsewhere in Asia, which Marx places against the backdrop of the continual upheavals and never-ceasing changes in dynasty within these same societies, he was clearly referring to concrete, material productive forms/relations within peasant communities at the base of the society. Naturally, the simple reproduction of such village communities stood out when contrasted to the constantly expanding economies and incessant technological revolutions of the accumulative societies of the West at the time of the Industrial Revolution. For Marx, such differences were to be understood in historical and materialist, not culturalist, terms.¹⁸

The "Great Divergence" between East and West at the time of the Industrial Revolution was a major issue in the late eighteenth and nineteenth centuries, one for which explanations were sought not only by Marx but by all of the classical political economists. Moreover, this same debate remains fundamental to today's historiography.¹⁹ There is no doubt that the East, for a time, stagnated economically relative to the West. For example, China in 1800 accounted for a third of the world's industrial potential. By 1900 this had fallen to 6.3 percent (and in 1953 to a mere 2.3 percent).²⁰ Marx explained

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this historical divergence between East and West, already evident in his time, in terms of specific productive forms/modes, and as a product, to a considerable degree, of European colonialism. In the first volume of *Capital*, he described the terrible effects of Dutch colonial slavery in Java and how it served to undermine the village communities. None of this was developed in cultural nationalist or racist

terms, as was the case in the dominant colonial-Eurocentric tradition within the West.²¹

¹⁷ ↪ Karl Marx, *Capital*, vol. 1 (London: Penguin, 1976), 90; Kohei Saito, *Marx in the Anthropocene* (Cambridge: Cambridge University Press, 2022), 184–85; Karl Marx, "The Reply to [Vera] Zasulich," in Teodor Shanin, *Late Marx and the Russian Road* (New York: Monthly Review Press, 1983), 124.

¹⁸ ↪ Marx, *Capital*, vol. 1, 479; Saito, *Marx in the Anthropocene*, 183–84.

¹⁹ ↪ Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2021).

²⁰ ↪ David Christian, *Maps of Time* (Berkeley: University of California Press, 2004), 406–9; Paul Bairoch, "The Main Trends in National Economic Disparities Since the Industrial Revolution," in *Disparities in Economic Development Since the Industrial Revolution*, Paul Bairoch and Maurice Lévy-Leboyer, eds. (New York: St. Martin's Press, 1981), 7–8.

²¹ ↪ Marx, *Capital*, vol. 1, 916.

Thus, Marxism, as classically represented first by Marx and Engels, and later by figures such as Lenin and Luxemburg, was strongly opposed to any kind of Eurocentrism and Western colonialism/imperialism, explaining developments in materialist rather than culturalist terms. However, later Western Marxism, as a distinct philosophical tradition, has often been ambivalent with respect to imperialism and deeply ethnocentric in its approach to Marxism, viewing Marxism in the West, as Needham critically observed, as having a kind of “a priori superiority,” despite the fact that revolution has

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long since shifted to the periphery of the capitalist world system.²² This has gone hand in hand with Western Marxism’s denial of the dialectics of nature, and thus science, nature, and any kind of ontological materialism. In many post-Marxist

analyses, notions of class and socialism were also abandoned.²³

The primary challenge confronting ecosocialism in the West is therefore reconnecting Marxism to its materialist roots. A materialist conception of history could not exist in a meaningful way apart from a materialist conception of nature (and vice versa). Marx’s theory of metabolic rift in fact depended on this much broader conception. Nor could Marxism exist in purely ideational form separate from the critique of class and imperialism or divorced from the new revolutionary vernaculars emerging throughout the Global South. In this sense, the parallels between the materialist conception of nature and organic materialism that Needham pointed to with respect to pre-Socratic and Hellenistic Greece and the Warring States Period in China are crucial to understanding both the history and the future of ecological Marxism. Most importantly, the Chinese concept of ecological civilisation needs to be put in this context of the rediscovery of the roots of an organic-ecological materialism.

Epicureanism and Daoism

To better understand the Needham thesis on the affinity of Marxism with traditional Chinese philosophy, it is necessary to recognize that—like many of the other scientists and cultural theorists associated with the second foundation of Marxism—Needham saw Epicurean materialism as the key to the Marxian materialist conception of nature, and as underlying dialectical materialism. The essence of the materialist view, common to both Epicureanism and Daoism, and the basis of all scientific humanism, was that nature could be understood in its own terms, as spontaneously originating. For Daoism, “The Tao [the Way of nature] came into existence of itself”; meanwhile, for Epicureanism, “Nature loosed from every haughty lord/And forthwith free, is seen to have done all things/Herself and through herself of her own accord/Rid of all gods.”²⁴ Chinese culture, Needham argued in *Science and Civilization in China*, had retained “an organic philosophy of Nature...closely resembling what modern science has been forced to adopt [most fully within dialectical materialism] after three centuries of mechanical materialism.”²⁵ “Naturalism in the Dao De Jing,” P. J. Laska indicates in the introduction to his English translation of this work,

is similar to the naturalism that evolved in ancient Greek philosophy, beginning with the Presocratics, and continuing through the atomic systems of Democritus and Epicurus. What [however] is distinctive about the

²² ↪ Needham, *Within the Four Seas*, 27.

²³ ↪ See Ellen Meiksins Wood, *The Retreat from Class* (London: Verso, 1986); Ellen Meiksins Wood and John Bellamy Foster, eds., *In Defense of History* (New York: Monthly Review Press, 1997).

²⁴ ↪ Needham, *Within the Four Seas*, 91; Lucretius, *On the Nature of Things* (New York: E. P. Dutton, 1921), 85–86 (ll.1090–92). The translation follows Needham’s modification of the Leonard text.

²⁵ ↪ Joseph Needham, *Science and Civilization in China*, vol. 1 (Cambridge: Cambridge University Press, 1954), 4. On the role of Epicureanism in the development of modern science, see H. Floris Cohen, *How Modern Science Came into the World* (Amsterdam: Amsterdam University Press, 2010), 102–44. Stephen Greenblatt, *The Swerve: How the World Became Modern* (New York: W. W. Norton, 2012).

naturalism of ancient China is the addition of the concept of Dao, meaning “the Way,” the cosmic process that encompasses both Being and Non-being. Ancient Greek materialism lacks this proto-ecological concept.... What the naturalism of East and West have in common is the debunking of anthropogenic projections that turn natural occurrences into supernatural agents.... In the Dao De Jing natural order is seen as developing spontaneously from the interaction of the various “beings” that comprise “the One.”

The result was a “holistic naturalism,” one built, like Epicurean materialism and Marxian dialectical naturalism, on the basis of conceptions of the unity of opposites and unending process.²⁶

Marx noted that for Epicurus, in whose work was found an “immanent dialectic” in accord with nature, the “world is my friend.”²⁷ Likewise, for Daoism, Needham insisted, “the natural world was not something hostile or evil, which had to be perpetually subdued by will-power and brute force, but something more like the greatest of living organisms, governing principles of which had to be understood so that life could be lived in harmony with it.”²⁸ Thus, “the Order of Nature was a principle of ceaseless motion, change, and return.... This was a concept not of non-action [wu wei], but of no action contrary to Nature.” In Chinese thought, “matter disperses and reassembles in forms ever new.”²⁹ In the West, Epicureanism provided a similar materialist view, leading to notions of emergence and integrative levels and providing a critical realism that was to be developed most fully with Marxian-influenced materialist dialectics. Like Daoism, Epicureanism saw sufficiency (the principle of enough) as a key value. “Today,” Needham stated, “we are all Taoists and Epicureans.”³⁰

If Epicurean materialism was an organic materialism akin to Daoism, its more radical and environmental elements, for Needham, had been lost in the prevailing culture in the West, where it had been overtaken by a mechanistic materialism and a one-sided conception of the “domination of nature”—what he called, following Theodore Roszak, a “mechanistic imperative” and a “scientisation of nature” that had become destructive. In response to this mechanistic view (and to abstract idealism), Marxist dialectical materialism, Alfred North Whitehead’s process philosophy, and the new philosophies of emergence were the main counter forces, representing the highest levels of development of scientific thought.³¹

In contrast to the dominant mechanistic and idealist dualism of the West, China had in many ways retained its organic naturalism and was able to incorporate this with modern science by making use of Marxist dialectical materialism, with its more complex understanding of the relation of humanity to evolutionary ecology, mediating between Western science and traditional Chinese philosophy. Traditional Chinese natural philosophy reached its highest level, according to Needham, in the twelfth century with Neo-Confucianism, which was “in fact, an organic conception of Nature, a theory of integrative levels, an organic naturalism...closely allied to the conceptions of dialectical materialism.” One of

²⁶ ↪ *The Original Wisdom of Dao De Jing: A New Translation and Commentary*, trans. P. J. Laska (Green Valley, Arizona: ECCS Books, 2012), xvii.

²⁷ ↪ Karl Marx and Frederick Engels, *Collected Works* (New York: International Publishers, 1975), vol. 1, 413; Foster, *Marx’s Ecology*, 52–53; Marx and Engels, *Collected Works*, vol. 5, 141–42.

²⁸ ↪ Joseph Needham, “Light from the Orient,” *Environment* (New Zealand Environment) 20 (August 1978): 8–11.

²⁹ ↪ Joseph Needham, *Science and Civilization in China*, vol. 4, part 1 (Cambridge: Cambridge University Press, 1971), xxvi, 61; Tu Weiming, “The Continuity of Being: Chinese Visions of Nature,” in Mary Evelyn Tucker and John Berthrong, eds., *Confucianism and Ecology* (Cambridge, Massachusetts: Harvard University Press, 1998), 106; *Dao De Jing*, xi, 80 (verse 63).

³⁰ ↪ Joseph Needham, *Time: The Refreshing River* (London: George Allen and Unwin, 1943), 55–56; Epicurus, *The Epicurus Reader* (Indianapolis: Hackett, 1994), 39.

³¹ ↪ Needham, *Time*, 112.

“the most profound of Neo-Confucian ideas,” he wrote, is to be found “in the famous phrase wu chi erh thai chi, ‘that which has no Pole and yet itself is the supreme Pole,’ namely the conception of the whole universe as an organic unity, in fact, as a single organism.”³²

Bertrand Russell, Needham suggested, was simply paraphrasing the second part of the Dao De Jing in his book *The*

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Problem of China when he summarised Daoism as “Production without possession, action without self-assertion, development without domination.”³³ As an expression of the human social relation to nature, this was deeply ecological. With its very different relation to the natural world, Needham pointed out, China had avoided some of the worst aspects of the metabolic rift in soil fertility (critically analysed by figures such as Justus von Liebig and Marx) through the continued “use of human excreta as fertiliser,” preventing “the losses of phosphorous, nitrogen, and other soil nutrients which happened in the West.”³⁴

Ecological Civilization as Marxian Ecology with Chinese Characteristics

According to what I have called the Needham thesis, Marxist dialectical naturalism, which developed as an organic-materialist ontology with deep roots in ancient Greek materialist philosophy, had a special affinity with traditional Chinese philosophy, since this form of scientific humanism had not been supplanted in China by a hegemonic dualism of mechanistic materialism and abstract idealism/theology as it had been in the West. The fact that the Chinese Revolution was a peasant-based revolution also meant that it was rooted in very different material conditions than those that governed bourgeois civilisation in the West. These ideational and material conditions made China, as Needham argued in the 1970s, more open to Marxism in its dialectical-materialist form, and to the revolutionary ecological conceptions arising from that tradition, as well as drawing on traditional Chinese philosophy. Socialism with Chinese characteristics, from Mao to the present, thus includes a dialectical-ecological component that has become more, rather than less, evident, and is exemplified today by the notion of ecological civilisation.

The concept of ecological civilisation, as we have seen, arose in the final decade of the Soviet Union as a natural extension of socialism. According to the Soviet environmental philosopher Ivan T. Frolov writing in 1983, Marx’s approach to the unity/alienation of humanity and nature began with recognising that human beings as social beings regulate the metabolism between themselves and nature as a whole through their production and their development of a “second nature” within society. The alienated character of production under capitalism created various contradictions between human beings and nature, now referred to as the metabolic rift.³⁵ The answer, Frolov argued, was the “humanisation of science” and the development of a “scientific humanism,” in accord with socialised production, pointing to the need for a new ecological culture. As the Soviet philosopher V. A. Los’ put it,

It is in the course of shaping an ecological culture [ecological civilisation] that we can expect not only a theoretical solution of the acute contradictions existing in the relations between man and his habitat under contemporary civilisation, but also their practical tackling. Society, which has created an ecological culture, is, as Karl Marx put

³² ↪ Needham, *Within the Four Seas*, 67–68, 94; Joseph Needham, *Science and Civilization in China* (Cambridge: Cambridge University Press, 1956), vol. 2, 55, 484, 567.

³³ ↪ Needham, *Within the Four Seas*, 63; Bertrand Russell, *The Problem of China* (London: George Allen and Unwin, 1922), 194.

³⁴ ↪ Needham, “Light from the Orient,” 10–11.

³⁵ ↪ Ivan T. Frolov, “The Marxist-Leninist Conception of the Ecological Problem,” in Ursul, ed., *Philosophy and the Ecological Problems of Civilisation*,

it, “the complete unity of man with nature—the true resurrection of nature—the accomplished naturalism of man—and the accomplished humanism of nature.”³⁶

The idea of ecological civilisation was quickly adopted by the Chinese thinker Ye Qianji in 1987 and became central to the definition of socialism with Chinese characteristics under Hu Jintao in the first decade of this century.³⁷ Ecological civilisation is often seen as little more than a socialist counterpart of capitalist ecological modernisation. However, in fact, it is radically removed from the general conception of industrial civilisation in the West. Rather, it is conceived as a form of genuinely sustainable human development, exemplifying the goals of socialism with Chinese characteristics. It is an outgrowth of Marx and Engels’s classical ecological critique, plus the cultural and historical conditions of China itself.³⁸ As Chen Xueming wrote in *The Ecological Crisis and the Logic of Capital*, “Unlike capitalist society, socialist society does not lead [the] human being to become an ‘economic animal’ who only knows how to fulfil himself with respect to material life. The aim of socialism is not to develop the way of life under capitalist conditions, but to create a new way of life.... The essential characteristics and core values of socialism consist of creating a way of being, which, unlike the capitalist way of life, aims at realising the whole-sided development of the human being.”³⁹

But if Marxian dialectical and historical materialism, particularly based on the classical ecological critique introduced by Marx himself, has played a central part in the development of the Chinese concept of ecological civilisation, the natural synergy of this (as expressed in the Needham thesis) with traditional Chinese thought is not to be ignored. To do so would, in fact, be Eurocentric. The complex, dialectical relation of the concept of ecological civilisation to socialism with Chinese characteristics can be seen in Xi Jinping’s thought in this area. As Huang Chengliang has explained, the “Theoretical Origins of Xi Jinping’s Thought on Ecological Civilization” can be traced to five sources: (1) Marxist philosophy, integrating “the three fundamental theories of ‘dialectics of history, dialectical materialism and dialectics of nature’”; (2) traditional Chinese ecological wisdom on “[human]-nature unity and the law of nature”; (3) the actual historical context of ecological governance in China in response to the ecological crisis; (4) struggles to develop a progressive and ecological model of sustainable development; and (5) the articulation of ecological civilisation as the governing principle of the new era of socialism with Chinese characteristics.⁴⁰

Hence, characteristic of Chinese understanding of ecological civilisation today, as exemplified in Xi’s thought, is a Marxian ecological dialectics and political economy interwoven with compatible elements taken from Daoism, Confucianism, and Neo-Confucianism, creating a powerful organic, ecological-materialist philosophy. Rather than simply an ideational product, the concept and implementation of ecological civilisation is determined by the ecological crisis, struggles for ecologically sustainable development, and the new era of socialism with Chinese characteristics in which the development of a mature socialism characterised by a new ecological way of life becomes the primary goal.

³⁶ ↪ A. Los’, “On the Road to an Ecological Culture,” in Ursul, ed., *Philosophy and the Ecological Problems of Civilisation*, 339.

³⁷ ↪ Qingzhi Huan, “Socialist Eco-Civilization and Social-Ecological Transformation,” *Capitalism Nature Socialism* 27, no. 2 (2016): 51–63; Arran Gare, “Barbarity, Civilization and Decadence: Meeting the Challenge of Creating an Ecological Civilization,” *Chromatikon* 5 (2009): 167; Jiahua Pan, *China’s Environmental Governing and Ecological Civilization* (New York: Springer, 2016), 35.

³⁸ ↪ Wang Wei, “The Marxist Thought on Ecological Civilization,” *Proceedings of the Second International Conference on Language, Art, and Cultural Exchange, Advances in Social Science, Education and Humanities Research*, vol. 559 (2021): 617–20; Xiao-pu Wang, Li-min Zhang, and Qiu-ying Song, “Marx’s Ecological View and Ecological Civilization Construction of China,” *International Conference on Social Science and Technology Education* (Amsterdam: Atlantis, 2015), 930–35.

³⁹ ↪ Chen Xueming, *The Ecological Crisis and the Logic of Capital* (Boston: Brill, 2017), 547–48. The translation has been altered slightly to conform with English usage.

⁴⁰ ↪ Huang Chengliang, “Theoretical Origins of Xi Jinping’s Thought in Ecological Civilization,” *Chinese Journal of Urban and Environmental Studies* 7, no. 2 (2019): 1–

This is apparent today in some of Xi's most famous pronouncements on ecological civilisation. Thus, one can see Marxian and traditional Chinese ecological values wedded when he declared:

Man and nature form a community of life; we, as human beings, must respect nature, follow its ways, and protect it. Only by observing the laws of nature can humanity avoid costly blunders in its exploitation. Any harm we inflict on nature will eventually return to haunt us. This is the reality we have to face. The modernisation we pursue is one characterised by harmonious coexistence between man and nature.... We should have a strong commitment to socialist eco-civilisation and work to develop a new model of modernisation with humans developing in harmony with nature.⁴¹

This was coupled with declarations that China would “encourage simple, moderate, green, and low-carbon ways of life, and oppose extravagance and excessive consumption.”⁴² In his April 2020 speech, “Build an Eco-Civilization for Sustainable Development,” Xi started out by quoting Engels: “Let us not however flatter ourselves overmuch on account of our human victories over nature. For each such victory nature takes its revenge on us.” Xi concluded: “We must understand fully how humanity and nature form a community of life and step up efforts on all fronts to build an eco-civilisation.”⁴³

In Xi's analysis, the traditional Chinese emphasis on the harmony of humanity and nature, or the view that “the human and heaven are united in one,” is wedded to Marxian ecological views with a seamlessness that can only be explained in terms of Needham's thesis of the correlative development of organic materialism in both the East and West, with Marxism as the connecting link.⁴⁴ From this perspective, the Chinese notion of ecological civilisation, due to its overall theoretical coherence and coupled with China's rise in general, is likely to play an increasingly prominent role in the development of ecological Marxism worldwide. As Needham wrote: “China has in her time learnt much from the rest of the world; now perhaps it is time for the nations and the continents to learn again from her.”⁴⁵

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⁴¹ ↪ Xi Jinping, *The Governance of China*, vol. 3 (Beijing: Foreign Languages Press, 2020), 54–56; Marx and Engels, *Collected Works*, vol. 25, 460–61.

⁴² ↪ Xi Jinping, “Full Text of Xi Jinping's Report at the 19th CPC National Congress,” *China Daily*, October 18, 2017; Jeremy Lent, “Can China Really Lead the Way to an ‘Ecological Civilization?’,” *China Daily*, April 29, 2018; “Xi Jinping Stresses Mobilizing National Resources for Core Technology Breakthroughs in Key Fields,” State Council Information Office, People's Republic of China, September 8, 2022.

⁴³ ↪ Xi Jinping, “Build an Eco-Civilization for Sustainable Development,” in *The Governance of China*, vol. 4 (Beijing: Foreign Languages Press, 2022), 413.

⁴⁴ ↪ Xin Zhou, “Ecological Civilization in China: Challenges and Strategies,” *Capitalism Nature Socialism*, 32, no. 3 (2021): 86; *Dao De Jing*, 19 (verse 16), 29 (verse 25).

⁴⁵ ↪ Joseph Needham, *Moulds of Understanding* (London: George Allen and Unwin, 1976), 302–3.

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