

Ecological Civilization: What is it and Why it Should be the Goal of Humanity

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In 2007 the Chinese government embraced 'ecological civilization' as a central policy objective of the government. In 2012, the goal of achieving ecological civilization was incorporated into its constitution as a framework for China's environmental policies, laws and education, and was included as a goal in its five-year plans. In 2017, the 19th Congress of the Communist Party called for acceleration in achieving this goal. Expenditure on technology to ameliorate environmental damage, reduce pollution and reduce greenhouse gas emissions has been massively increased. It is also presented and promoted as a vision for our global future, in Cornelius Castoriadis' terminology, a new social imaginary (Hansen, Li and Svarverud 2018).

The practical implications are relatively straightforward. Ecological civilization is associated with quests for such things as a circular economy 'where one facility's waste, including energy, water, materials – as well as information – is another facility's input' (Geall and Ely 2018, p.1189), the conditions for ecological sustainability. However, ecological civilization is often taken to mean far more than this, and sometimes, less. Since the dynamics of capitalism are seen by Marxists as the main driving force for ecological destruction on a global scale and for paralysis in efforts to avert such destruction (Kovel 2007), the more radical environmentalists in China explicitly link the quest for ecological civilization with the struggle for eco-socialism. They see the goal for the whole of humanity the creation of a global eco-socialist civilization. This is the view of Pan Yue, until 2016, the vice-minister of China's *State Environmental Protection Administration* and the leading exponent of ecological civilization at the governmental level. He argued that 'we must use Marxist theoretical weapons to "fight against any forms of production and lifestyle that deviate from ecological civilization"' and claimed that 'socialism is more likely to provide system motivation and system security for ecological civilization' (Wang 2014, p.10). He also argued that this should be the goal for the whole of humanity, and because China would be so badly affected by ecological destruction, particularly climate change, and the Chinese have nowhere to escape, China should lead the world in realizing this goal (Pan 2005; Gare 2012; Gare 2020). This, he argued, should be facilitated by Chinese traditional culture having featured a strong concern for nature. Pan Yue has been strongly supported by among others, Huan Qingzhi (2016) from the Research Institute of Marxism, Peking University, a major proponent of eco-socialism (2010). For Huan Qingzhi (2010, p.11), building ecological civilization should be understood as 'a new pattern of ecosocialism, which may function as a greener and more fruitful political ecology.' Also aligned with Pan Yue, Pan Jiahua, Director of the Institute for Urban and Environmental Studies at the Chinese Academy of Social Sciences, argued that ecological civilization requires institutions to subordinate markets and empower people at local levels (Pan Jiahua 2016; Martinelli 2018, p.380ff.). Lu Feng from Tsinghua University argued that ecological civilization and its practice will negate and transcend modern and urban civilization, being connected to new kinds of economic, social and cultural institutional frameworks through which people will be able to live more meaningful lives (Huan 2016, p.55).

These views are not universally shared in China, however. The notion of civilization is problematic. The notion 'civilization' is unclear in English, and there are difference connotations between French and German use of this term. The Chinese for 'ecological civilization' is *shengtai wenming*, with *shangtai* being translated as 'ecology' and *wenming* being translated as 'civilization'. The way '*wenming*' is used in China indicates that it does not coincide the English term 'civilization'. The Chinese refer to 'political civilization', 'spiritual civilization' and 'industrial civilization', implying good values, capacities and practices in political, cultural and economic life. Zhang Yunfei (2019) from Renmin University argues that ecological civilization, the practices of valuing and preserving nature, characterizes all societies to different degrees, with those societies which fail to achieve a sufficient level of ecological civilization destroying the conditions of their existence. Ecological civilization is often characterized as what comes after industrial civilization, and this can be interpreted to mean that China has to fully industrialize before it can afford to fully deal with ecological problems. It can also be interpreted as dealing with ecological problems generated by industrialization by utilizing technological solutions, much as in Western capitalist countries (Gordon 2018). Not all people in China think of ecological civilization as a new world order, although they are happy to promote 'ecological civilization' as a slogan indicating ecological responsibility and identifying this with China's policies.

The notion of ecological civilization was later conjoined with the Belt and Road Initiative (originally, 'One Belt, One Road') launched in 2013. With this, China could be seen as embracing economic globalization and forging links with governments around the world to develop their economies, with 'ecological civilization' being little more than a policy directed at alleviating environmental problems. This raises questions about whether such slogans are subservient to China's quest for global hegemony in the world-capitalist system, moving to displace USA, as USA displaced Britain after the Nineteenth Century, as the dominant hegemonic power, thereby gaining access to resources beyond its own territory. While Pan Yue might be right to point out that China faces a greater threat from climate destabilization than Western Europe or North America, the solution for China could be to emulate US and Western European neo-colonialism and exploit the peripheries and semi-peripheries of the world economy and the oceans, ensuring that China is not the country that suffers the consequences of global ecological destruction, or at least, not its wealthy elites. It has been claimed that in some cases China's involvement in Africa through the Belt and Road Initiative has impacted badly on the environment, with countries subsequently saddled with debt, putting them more under the control of China (Lokanathan 2020). China's global fishing fleets continue to be the major cause of the destruction of fisheries world-wide, with China consuming 38% of total global fish production (Mantesso 2020). Their practices could lead to the complete collapse of ocean fisheries by mid-century (Worm 2016). Eileen Crist (2019) sees China's economic growth and associated damage to its own environment combined with engagement with countries world-wide as one of the major threats to the global ecosystem. Mette Halskov Hansen, Hongtao Li and Rune Svarverud (2018) have argued beyond this that the notion of ecological civilization, claiming a relationship between traditional Chinese culture and Marxism as put forward by Pan Yue, is a quest to produce a new social imaginary of a global future to serve China's quest to recover its past glory and dominant position in the world.

To understand all this and what ecological civilization means in China and elsewhere, and what attitude towards it should be adopted by people outside China, it is necessary to understand the promotion of ecological civilization in China in a broader context.

Ecological Civilization in a Global Context

To begin with, a number of environmentalists around the world have embraced the notion of ecological civilization independently of Chinese environmentalists. In *Abundant Earth: Toward an Ecological Civilization* (2019) promoting ecological civilization, Eileen Crist does not discuss Chinese proponents of this notion while examining China's economic development as massively ecologically damaging both within China and globally. George Monbiot (2019), the high profile British journalist concerned with ecological issues, argued in an article published in 2019, 'Dare to declare capitalism dead – before it takes us all down with it', that we have to embrace ecological civilization to avoid disaster. He does not even mention China. However, he referred to Jeremy Lent's call for an ecological civilization. Lent is the author of *The Patterning Instinct: A Cultural History of Humanity's Search for Meaning* (2017) which discusses the Ancient Chinese concern with harmony. While in this book Lent does not mention ecological civilization, in an article published in *openDemocracy* in 2018, 'We need an ecological civilization before it's too late' in which he argued that we have to 'restructure the fundamentals of our cultural and economic systems', he noted that President Xi Jinping had declared that ecological civilization would be a central component of his long-term vision for China. He then offered this characterization of ecological civilization, without reference to Chinese theorists:

An ecological civilization would be based on the core principles that sustain living systems that coexist in natural ecologies. Insights into how ecologies self-organize offer a model for how we could organize human society in ways that could permit sustainable abundance. Organisms prosper when they develop multiple symbiotic relationships, wherein each party to a relationship both takes and gives reciprocally. In an ecology, energy flows are balanced and one species' waste matter becomes nourishment for another.

The most prominent Western proponents of ecological civilization are those associated with the *Center for Process Studies* in USA. With a long record of concern for the environment, they hosted Wang Zhihe, an influential figure in China based in Beijing University generally aligned with Pan Yue. This inspired an effort to synthesise Marxism with Alfred North Whitehead's philosophy of organism as 'organic Marxism', with Philip Clayton (2014, 2019) and Wang Zhihe (Wang, Gao and Fan 2013) being its most prominent exponents. This development has been associated with introducing the study of Whitehead into Chinese universities. However, promotion of Whitehead by organic Marxists produced a reaction in China. A number of Chinese academics attacked it as religious infiltration, promoting Christianity in China and attempting to curb China's economic development (Wang, He and Fan 2014). Opposition within China to organic Marxism has subsided, but this ideological clash illuminated the ideological differences within China and the need to understand the quest for ecological civilization as a global movement.

The Origins of the Quest for a New Ecological Culture in the Soviet Union

The organic Marxists were not the first to attempt the integration of Whitehead's philosophy and Marxism, and to appreciate the significance of such efforts a broader historical perspective is required. The source of the Chinese term for ecological civilisation was an article written by Qianji Ye, an agricultural economist. Working in the Soviet Union, Qianji Ye's article, published in 1984 in *The Journal of Moscow University*, a journal devoted to scientific socialism, defended 'ecological culture'. In 1987 the article was translated in a Chinese newspaper with 'ecological culture' translated as 'ecological civilization' (*shengtai wenming*) (Huan 2016, p.52). This was the first use of this term, and it was this article that was embraced and led to the whole movement for ecological civilization in China. However, Qianji Ye did not originate the notion of ecological culture. There had been a strong and influential movement promoting 'ecological culture' in the Soviet Union from the 1970s onwards

(Manin 1983; Gare 2020). Then a leading government figure, Ivan T. Frolov along with T.V. Vasileva, V.A. Elk and others took up the notion of ecological culture in a paper published in 'Ecological propaganda in the USSR' in 1984, and Vasileva defended a thesis on this topic in the same year. Frolov was a philosopher of science specializing in biology and an advisor to Mikhail Gorbachev. He later became editor of the main ideological journal of the Soviet Union, *Kommunist*, and then of the main newspaper, *Pravda*. In 1985, just before Gorbachev became General Secretary of the CCCP, he argued at a conference at the Center for Philosophy and History of Science at Boston University that confronting the global ecological crisis could and should unite humanity in a common goal, overcoming the Cold War.

Although the proponents of ecological culture might not have been aware of this, the place they accorded to culture was really the continuation of a tradition of Marxism originating in the 1920s. It was part of a radical form of Marxism promoted by the *Vpered* (Forward) wing of the Bolsheviks inspired by and initially led by Aleksandr Bogdanov (Gare 1994; White 2019; Gare 2020). This movement included the first Commissar for Education in the Bolshevik government, Anatoly Lunacharsky, who was also placed in charge of environmental protection by Lenin. Rejecting the crude interpretation of the base-superstructure model of society as technological determinism, the interpretation that led Marx to proclaim that if there was one thing he knew it was that he was not a Marxist (Engels 1962, p.486), Bogdanov argued that technology and ideology were different components of culture. These radical Marxists then argued that to create a socialist society it is necessary to create a new culture (*Proletkult*), including a new form of science, to overcome the deficiencies and distortions of understanding generated by capitalism and to counter the cultural hegemony of the bourgeoisie and their managers (White 2013). Bogdanov developed a new science of organization, or *Tektology*, through which workers could both understand the world and organize themselves, overcoming the division between workers and managers. The movement for a new culture was endorsed by Lenin in 2018 (White 2019, p.392) and later, this call for a new culture influenced Marxists outside the Soviet Union, including Antonio Gramsci (Merli 2013, p.427ff.).

Biology had a major role to play in creating this new culture. Soviet biology, along with psychology, became a major centre of what came to be known as the Third Way – neither vitalist nor mechanist; that is, an anti-reductionist naturalism. Ecology with its focus on biotic communities and the inter-relatedness of organisms and its challenge to previous disciplinary boundaries (most importantly, between physics, geology, chemistry and biology) had an important place in advancing this new science (Weiner 1987; Gare 1994). Even before the Bolshevik revolution, Russia had been a major centre for research in ecology and other geosciences, with a particular focus on symbiosis in biotic communities (Rispoli 2014). It was characterized as the study of biocenoses or biotic communities rather than ecosystems, focussing on the relationship between organisms and how their interactions worked to augment the conditions for their existence and further evolution. This had been the basis for Peter Kropotkin's democratic federalism based on the significance accorded to mutual aid as a defining feature of life. In the 1920s research in ecology in the Soviet Union, incorporating thermodynamics along with ideas from Engels, was highly original and more advanced than anywhere else in the world (Weiner 1987, ch.6). Ecology was strongly supported in the 1920s by Lunacharsky who also supported the work of Vladimir Vernadsky and his concepts of the biosphere and noosphere.

While many ecologists were persecuted by Stalin and his followers hostile to any claims that nature could not be completely controlled, this movement of radical science was not completely destroyed, and was sustained in the Soviet Union in what Douglas Weiner characterized in the title of a later book as, *A Little Corner of Freedom* (1999). Work in the Soviet Union in the 1920s attracted attention of radical scientists, particularly biologists, elsewhere, including Britain. A delegation from the Soviet

Union led by Nicolai Bukharin (who had been influenced by Bogdanov) participated in a conference on science in London in June, 1931, conveying Soviet research on the relationship between science and society (Ienna and Rispoli 2019). The Russian contributions to this conference, edited by Bukharin, were published as *Science at the Crossroads* (1971), originally in the same year. While most of the Russian contributors to this were subsequently persecuted under Stalin's regime and Bukharin executed, this conference had a huge influence on some British biologists inspired by advances in physics, Marxism, including Engels' *Dialectics of Nature*, developments in German and Russian biology, and the process philosophy of A.N. Whitehead (Peterson 2017, p.55). These were committed socialists trying to develop new ideas in biology, focussing on embryology, with Joseph Needham, who attended the 1931 conference and C.H. Waddington, being the most prominent of these. They established the theoretical biology club in 1932 and defined their research program as 'mathematico-physico-chemical morphology'. After the group failed to get support from Cambridge University and the Rockefeller Foundation backed away from supporting them, largely due to Warren Weaver who was opposed to their communist sympathies (Peterson 2017, p.119), Waddington moved to the University of Edinburgh and continued to promote the development of theoretical biology.

While this whole research program was ignored and marginalized in the fifties, with growing awareness of ecological destruction and the rise of radicalism in the 1960s it became possible to gain support for and successfully promote these ideas. Waddington organized major world conferences in theoretical biology in the late 1960s and early 1970s in Bellagio, Switzerland, the proceedings of which, edited by Waddington, were published in four volumes as *Towards a Theoretical Biology* (Waddington 1968-72). These generated an international theoretical biology movement that provided a reference point for the subsequent development of post-reductionist biology, including dialectical biology, catastrophe theory, complexity theory and hierarchy theory (Gare 2017a and 2017b). While the initial focus of these theoretical biologists was on morphogenesis in individual organisms, the concepts developed there were generalized to all other sciences, and they were also concerned to develop ecology. Waddington himself was increasingly concerned with the environmental problems engendered by global capitalism. His last work, *The Man-Made Future* (1978), began:

Whatever the future will be, it will have been made by Man. The great problems the world-wide species is facing is essentially and inescapably complex. It is made up of a series of major world problems - of population, food supplies, energy, natural resources, pollution, the condition of cities, and others – and they are inextricably interconnected, so that no one of them can be properly dealt with in isolation. (p.9)

Humans will make their future by understanding this, and taking appropriate action, not by allowing the forces of the market to determine the future. Waddington corresponded with theoretical biologists and ecologists in the Soviet Union who continued to uphold the anti-reductionist third-way of biologists from the 1920s. He corresponded with Kalevi Kull from the Department of Systems Ecology of the Institute of Zoology and Botany of the Estonian Academy of Sciences between 1974-5, and sent him the four volumes of *Towards a Theoretical Biology*. A theoretical biology group was set up in Tartu in 1976, reviving an anti-mechanistic tradition of Estonian biology going back to Karl Ernst von Baer and Jakob von Uexküll as well as more recent work in ecology and theoretical biology, and holding international conferences on theoretical biology (Kull and Tiivel 1988). This was highly regarded by scientists in Moscow. This set the stage for the development of the ideas of an ecological culture and their reformulation as the quest for an ecological civilization.

The China Connection: Joseph Needham and *Science and Civilisation in China*

While Waddington continued his work on theoretical biology, grappled with environmental problems and also engaged with the arts, Needham who retained his position as Professor of Biochemistry at Cambridge, had turned to the history of science. Initially he focussed on the history of embryology in Western science, but then inspired by the Russians to understand the past successes and current failures of Western science took up the mammoth project of contrasting the development of science in Europe and China published in the multi-volume *Science and Civilisation in China*. His later historical work explained in much more detail than the Soviet historians of science the relationship between the development of capitalism and rise of scientific materialism in the Seventeenth Century. He showed how nature came to be conceived of as matter in motion, moving blindly, endlessly and meaninglessly according to immutable laws, by using the new developments in codified law as a metaphor for nature, which in turn legitimated the emerging social order of capitalism, and the subsequent bias in a capitalist society towards upholding and extending this conception of nature, extending it into economic theory and other human sciences. Needham's Marxist approach to the history of science was continued by Robert Young, who in *Darwin's Metaphor* (1984) showed how Darwinism overcame a cultural crisis in Victorian England where economic progress was associated with impoverishment of the working class and imperialism, with devastating consequences for colonized people, by using capitalist social relations as characterized by economics a metaphor for nature, and then using this to defend economics as a science and the brutal consequences of capitalism.

However, Needham also identified a counter tradition beginning with Leibniz and running through Herder, Schelling, Hegel, Marx, Engels, Alexander and Lloyd Morgan to Whitehead and the work of the theoretical biology movement. In place of matter in motion, such thinkers conceived nature as a realm of relational processes or patterns of activity capable of giving rise to sentience, consciousness and spirit. Needham argued that the fundamentally different ways of thinking characterizing this tradition were inspired by the influence of Chinese thought, particularly the Twelfth Century Song Dynasty neo-Confucian philosopher Zhu Xi (Chu Hsi), on Leibniz. The spectacular originality of Leibniz, the ultimate source of the opposition to the tradition of Galilean-Newtonian science, Needham argued, derives from the influence on him of Zhu Xi. According to Zhu Xi, nature consists of patterns (*li*) of energy (*qi*) developing through the interaction of two opposing but interpenetrating and mutually supporting principles or forces, *yin* and *yang*. Of Zhu Xi, Needham wrote: 'Behind him he had the full background of Chinese correlative thinking, and ahead of him he had - Gottfried Wilhelm Leibniz' (Needham 1956, 291; Needham 1969). While modern science originated in Europe, post-reductionist science has absorbed ideas from China to transcend reductionist scientific materialism and is now becoming a global science, drawing on the best of all civilisations. As Needham put it: 'Chinese bureaucratism and the organicism which sprang from it may turn out to have been as necessary an element in the formation of the perfected world-view of natural science, as Greek mercantilism and the atomism to which it gave birth' (Needham 1956, p.339).

He suggested that 'perhaps socialism was the spirit of un-dominating justice imprisoned within the shell of Chinese medieval bureaucracy. Basic Chinese traditions may perhaps be more congruent with the scientific world co-operative commonwealth than those of Europe' (Needham 1969, p.202). From Needham's perspective, the attraction of the notion of socialist ecological civilisation in China can also be understood. While Marxism was embraced in China primarily to assimilate Western ideas on industrialization in order to overcome its poverty and military humiliations, Chinese traditional culture kept alive the value accorded benevolence and respect for people promoted by Confucianism as virtues inimical to treating people as commodified instruments, and the Daoist respect for the intrinsic value and autonomous dynamics of nature, supported by the Song Dynasty neo-Confucian cosmology

developed by Zhang Zai, Zhou Dunyi, the Cheng brothers and Zhu Xi, which dominated Chinese philosophy for 700 years. Needham's work on China, aligned with Waddington's work in theoretical biology, explains why Chinese scientists with some appreciation of their own intellectual traditions, partly due to the influence of Needham, should be able to take up and advance ecology and ecological thinking. Needham's prognostications are now coming to be realized (Gare 2014).

Needham's work provides strong support for Pan Yue's claims that China does have the unique cultural resources to promote the development of an eco-socialist global ecological civilization. However, neither Pan Yue nor Wang Zhihe or the organic Marxists so far have acknowledged Needham as a precursor in their efforts to synthesise Marxism and Whitehead's philosophy.

Ecological Civilisation as the Culture for Eco-socialism

While the notion of ecological civilization originated in China, in light the *Vpered* group in the Soviet Union in the 1920s, of Needham's work and the influence of this on the Soviet Union in the 1970s and 1980s, it should not be seen as just a Chinese ideological movement. The call for ecological civilisation in China and the Russians who originated the quest for ecological culture in the Soviet Union should be seen as only a part of this much broader global movement of radical scientists and philosophers struggling, very often against hostile intellectual environments, to develop the forms of thinking, that is, the consciousness required to create and legitimate socialism, a new form of society in which people would gain control over their destinies and recognize themselves as creative participants in a creative nature. While neither Bogdanov, nor Lunacharsky, nor Vernadsky, nor Waddington, nor Needham put forward the idea of a global ecological civilisation, their work provides the background against which the introduction into China and the prominent place it has gained there can be understood, and also, the failure to achieve a consensus about what is meant by it. Frolov and other Russians calling for an ecological culture were carrying forward Lunacharsky's conception of culture as the forms of consciousness through which people produce and organize themselves. From this perspective, socialism requires the development of a new culture, overcoming the deficiencies of previous cultures while incorporating all that is best within them. The development of post-reductionist science is central to this development. Bogdanov, Lunacharsky, Vernadsky, Waddington, Needham and Frolov were all anti-authoritarian eco-socialists, and saw their work in science as a challenge to mainstream science engendered by capitalism and as central to creating genuine socialism, and saw genuine socialism involving a new appreciation of nature. Needham's work explains why China embraced socialism and has provided the cultural environment where the notion of ecological civilisation could not only be put forward, but be accepted by its government. Ecological civilisation is underpinned by this radical socialist tradition within the sciences. As such, it involves a very fundamental challenge to the culture of capitalism and its legitimacy as a natural form of life, and conversely, it legitimates and maintains the trajectory of movements, institutions and governments set up to challenge capitalism, instituting socialist forms of life, affirming the meaning of life to create a socialist world-order.

Once the seeds of radically new ways of thinking have gained a foothold, especially when they are included in narratives defining communities, they can set in train the system innovations that can totally transform societies and civilisations. Making ecological civilisation the official narrative in China might look to some like a public relations exercise. However, having this in place has resuscitated the grand narrative of socialism in its eco-socialist form (Gare 2020). As Sam Geall and Adrian Ely argued in 'Narratives and Pathways to Ecological Civilization in Contemporary China' (2018), this narrative is likely to gain strength and influence pathways to a sustainable social order both in China and

internationally over the coming years, a view supported by Marinelli (2018, p.375ff.). What is emerging is a new, reinvigorated grand narrative of socialism as ecological civilization that can challenge and replace the reductionist materialist, social Darwinist grand narrative of neoliberalism, the grand narrative that launched the last major advance of capitalism in the 1970s.

Conclusion

Civilization has always been defined in opposition to barbarism and decadence, and in late capitalism we are facing a combination of hi tech barbarism with the decadence of consumerism (Stiegler 2011). For the Ancient Romans and for Renaissance philosophers, civilized people were those who could govern themselves, who have been cultivated or educated to do so, with the virtues required to understand, value and defend their liberty, and more broadly, to understand the value of life. In ancient 'civilisations' only a minor proportion of the population could be civilized, dependent upon slaves, serfs or peasants to do the backbreaking work required to support them. Marx realized that for all its faults, capitalism was creating a world in which all this oppressive work could be done by machines and the entire population could be civilized, realizing their full potential to augment the life of their social and natural communities. The impetus to realize this potential is the inherent instability of capitalism due to the contradictions built into its structure. The celebrated progress of late capitalism is rendering most people in the current core zones of the world economy powerless, de-civilizing them, portraying lives of irresponsible self-indulgence as free, despite even people's consumption being proletarianized and their economic conditions rendered increasingly precarious. The most important contradiction, however, as James O'Connor (1998) argued, the capitalist telos of economic growth involves the destruction of the ecological conditions for its continued existence. Marx appreciated the disastrous effects of capitalism on the environment, not only in creating a metabolic rift between cities and the countryside, but also, through destruction of forests, changing the climate (Saito 2018, ch.6).

Ecology focusses on the system of 'homes' or 'households' of 'organisms', that is, on the conditions of their existence. 'Organisms' in this sense can be taken to include ecosystems, people and their communities, while individual organisms are themselves highly integrated ecosystems or biotic communities. Ecology examines how the interaction between such organisms as ecosystems succeed or fail to provide the conditions where their components and they themselves can develop so that they augment these households, and thereby the resilience of themselves as biotic communities and of the broader communities of which these communities are participants. It is a science that challenges the basic assumptions of mainstream, reductionist scientific materialism and thereby the culture of capitalism (Ulanowicz 1997; Gare 2017b). Along with ecology, human ecology is providing the forms of thinking and categories of existence required to rethink economics and the other human sciences, and also ethics and politics (Gare 2002 & 2010; Gare 2017b; Hornborg 2019a and 2019b). An ecological civilization would be a civilization based on these categories, where the self-realization of each individual, each organization, each community, including each nation and region, would be aligned to augment the conditions for the self-realization of the whole of humanity and all other species, individuals, organizations and communities, thereby augmenting life, including the health of the ecological communities within which humanity has evolved and on which it is dependent, including the current regime of the global ecosystem.

While the quest for ecological civilization should be understood as a global movement aimed at creating a new global world order, China will play a major role in realizing this vision of the future. The rise of China, finally challenging the domination of the world by Europeans and their colonies,

predicted by Adam Smith, now appears inexorable (Arrighi 2007; McCoy 2017). Pan Yue was right to see that China has more reason to lead the world to an ecologically sustainable world-order because it is facing such huge ecological problems, and also because it has the cultural resources, integrating traditional Chinese culture with the best of Western culture, including the heritage of Marxist thought, to lead such a transformation. It is also developing the power to do so. While the notion of ecological civilization might appear unclear from the way it has been taken up within China, that the notion was first put forward as such in China and promoted there as a new vision of the future, that is, a new social imaginary, supports Pan Yue's claims. There is no reason to be sceptical about Pan Yue's ideals and his vision for China and humanity, or those who have aligned themselves with him.

This does not mean that some members of Chinese power elites will not attempt to use the notion of ecological civilization cynically to serve their struggle for power and wealth, hoping to replace USA as the dominant hegemonic power within the capitalist world-order rather than replacing capitalism, with Chinese billionaires joining the global corporatocracy, upholding neocolonialism and exploiting the peripheries in alliance with comprador elites. However, it is typical and necessary for the success of challengers to the dominant hegemonic power that they portray themselves as upholding superior ideals than the old hegemonic power, and that they conform at least to some extent to their purported ideals. In the power struggle between Germany and USA with the decline of Britain in the first half of the Twentieth Century, USA prevailed at least in part because it opposed the imperialism of European powers and, led by Woodrow Wilson, supported the setting up of the League of Nations after the First World War and then, with a strong impetus from Franklin Roosevelt, the United Nations after the Second World War to guarantee the right to self-determination by nations, while Germany simply sought to join and even displace Britain and France as the major imperial power. While the ideals of USA were corrupted by the subsequent development of neo-colonialism in which USA and other core zones co-opted comprador elites to exploit local populations and natural resources (Bunker 1986; Hudson 2003; Arrighi 2007, p.253f.; McCoy 2017), USA could only succeed while claiming to be defenders of the Free World. And this vision of self-determining nations, did advance the liberty of people to some degree and constrain US predatory behaviour, especially of countries bordering communist countries. Neo-colonialism was less oppressive than the old colonialism.

Even if it were the current strategy of the Chinese government to use the notion of ecological civilization cynically as nothing but an ideological front to expand its power and control of the world's resources, it would fail. The international market which has enabled the core zones of the world economy to exploit the peripheries and semi-peripheries is not 'natural' but has been imposed and held in place by force, by Britain during the Nineteenth Century after the Napoleonic Wars, then after two World Wars in the Twentieth Century, by the United States. The United States, as the Norwegian founder of peace studies, Johan Galtung (2009) predicted after successfully predicting the collapse of the Soviet Union ten years before it happened, is beginning to dismantle its global empire, including its military bases around the world. Capitalism requires force to impose and maintain market relations, and China is in no position and is never likely to be in a position to replace the US in this regard. Already, Chinese assertiveness is producing reactions against it in Africa (Venkateswaran 2020), and it has been suggested by Alfred McCoy (2017, ch.7) and Graham Allison (2017) their assertiveness could even lead to war with the US, leading Europe dominated and led by Germany to take the place of USA as the hegemonic world power. The global movement for ecological civilization amounts to a struggle not only against all forms of oppression and the ecological destruction engendered by it, but against this system based on competitive struggles for power and domination, and it is in the interests of China to work towards achieving this. This was the strategy pursued earlier as the Beijing Consensus,

opposing the Washington Consensus of using US military power to impose a global market to enable it to control the world's resources.

Pan Yue and his allies are almost certain to prevail in the long-run. The emerging global movement for ecological civilization will strengthen those in China who are genuinely working for a global eco-socialist system based on justice and humanity to subordinate and control markets to force them to serve communities, and to this end, China will need to support those genuinely struggling for the liberty of their own people and the whole of humanity to augment life, not just those serving China's particular interests (Arrighi 2007, p.387ff.).

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