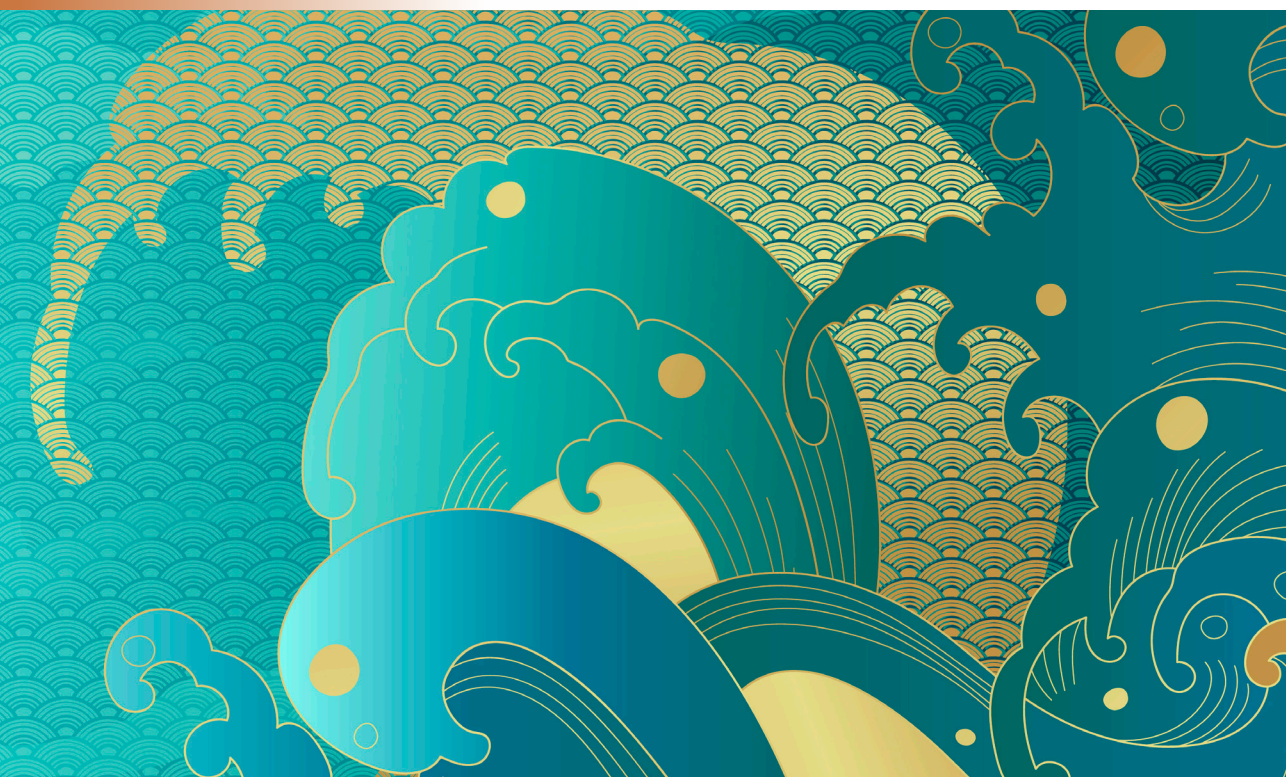
International Quarterly for

Asian Studies

Volume 53, Autumn 2022

China beyond China, Part II

Infrastructuring and Ecologising a New Global Hegemony?



Published from 1970 to 2016 as
Internationales Asienforum
ISSN 2566-686x (print)
ISSN 2566-6878 (online)

International Quarterly for Asian Studies

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Special Issue edited by David Tyfield and Fabricio Rodríguez

Current Debate

Special Issue Article

Book Review

IQAS Vol. 53 /2022 III, pp. 327–336

China's Coercive Environmentalism Revisited: Climate Governance, Zero Covid and the Belt and Road

Current Debate

Judith Shapiro, Yifei Li

It has been more than two years since the publication of our jointly written book, *China Goes Green: Coercive Environmentalism for a Troubled Planet*. Since then, multiple developments have confirmed and strengthened our core thesis that China's "ecological civilisation" framework and programmes serve not only to achieve lower carbon and other environmental goals but also to strengthen the hand of the state over individuals and communities – and even to help export the state's model of authoritarian governance. This short essay is intended to update this argument and to provide an overview of recent developments with respect to China's carbon policies, pandemic response and international investment on the Belt and Road. We find that rather than becoming more open to citizens' groups and public participation, the Chinese state is turning with yet more confidence to draconian approaches. As China rises to superpower status and Western democracies display ongoing inadequacies in dealing with a range of environmental problems and public health emergencies, and as the latter fail to address acute needs for capital and aid in the developing world, China has long abandoned its approach of "hiding its strength and biding its time", as Deng Xiaoping famously directed. The contributions to this special issue illustrate how China is now in pursuit of a far more active, prominent and assertive role in global affairs. More importantly, China beyond China is not simply an extension of the Chinese state's domestic experience, but amounts to a wholesale realignment of global environmentalism, geopolitics and technocracy.

In the prior volume (Part I) of this special issue, Ping Huang, Linda Westman and Vanesa Castan Broto deconstructed the meaning of "ecological civilisation"

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DOI 10.11588/iqas.2022.3.20396

as it is used to promote the goal of social "harmony" (aka obedience) to the state. They showed how the state uses the concept selectively to achieve its environmental goals, deploying it for the purposes of environmental protection and the implementation of ecological "red lines" but not for supporting environmental litigation or governing resource extraction (both of which are more contentious). Given the intense, often uncritical excitement around China's use of the concept, David Tyfield and Fabricio Rodríguez, in this volume (Part II), advance the conversation around this term, critically deconstructing its meanings and practice within China and "beyond China" in the international realm.

China and climate change

In the past few years, much attention has been paid to China's plans to achieve carbon neutrality and peak emissions. Urgent attention to the climate crisis focused on COP26 in Glasgow in 2021 and Sharm El-Sheikh in Egypt in 2022. While observers hoped China would live up to its "ecological civilisation" formulation and take the lead, they were disappointed when President Xi Jinping declined to attend and when both the United States and China, the world's biggest emitters, experienced setbacks, casting doubt on whether the world would be able to achieve meaningful reductions in carbon emissions. In 2021, rolling blackouts and power cuts led the Chinese state to increase coal production, as there was a clear conflict between providing basic public goods such as electricity and reducing output from coal-fired power plants. Since then, coal production has only increased under economic pressure due to zero-Covid lockdowns. Such problems underline that the Chinese state has multiple competing agendas. It has done a poor job of involving the public in the climate change effort and of explaining the connection between energy use and rising sea levels, floods and extreme weather events.

Ironically, there is a surprising synergy between China's top-down, technocratic and quantitative approach to climate governance and that of the international policy apparatus, which is increasingly turning toward geoengineering, computer modelling and forecasting, quantitative target-setting, "green" infrastructure construction and technological fixes at a time when other approaches seem to have failed. Whether focusing on the quantified amount of carbon that must be removed from the atmosphere in order to forestall devastating change or delineating target areas of sea and land that must be put aside as protected carbon sinks, international climate negotiators share a lot with Chinese policy makers' basic approach. As we documented in *China Goes Green*, target-setting, campaign-style top-down approaches may often appear in the short term to provide results on paper, but in the long run they are not sustainable because they have not earned public buy-in and support. Nonetheless, given these syn-

ergies, and despite China's lack of significant global leadership in recent climate negotiations, we can expect China to become increasingly comfortable and dominant in its approach to climate change. Its status as an economic, political and military superpower leads other countries to defer to it both because it has become a valued source of international investment and because they hope that China's approach will provide a way forward at a moment when other solutions seem elusive.

That said, in Part I Dan Banik and Benedicte Bull argue that it is unlikely that China will assume a prominent leadership role in multilateral forums. They point out that while it is often thought that China's increased dominance of such institutions is due to support from small developing countries looking for a greater voice and perhaps a champion, China's approach does not allow much space for such voices and continues to favour bilateral relationships over multilateral ones. We may add that this has been China's preference for decades. For example, in the Mekong River region, China has adopted a divide-and-conquer approach by refraining from submitting to the Mekong River Commission's authority. A more nuanced understanding of China's rise to prominence in institutions ranging from the World Trade Organization to the World Health Organization may thus be advisable.

Even though many are disappointed that China has not done more at international climate fora, China has continued to expand initiatives in pollution control, carbon exchange, electric vehicles, waste control and alternative energy, and has committed to achieving carbon neutrality by 2060. On the domestic front, positive trends include aggressive efforts with respect to subsidies and incentives for electric vehicles, as well as investment in renewable energies such as solar and wind. The rollout of a national emissions-trading scheme has been successful enough that carbon is now expected to peak three years earlier than planned, in 2027.

Despite the ongoing construction of coal-fired power plants domestically, China has officially committed to stop building coal-fired power plants overseas (with uneven performance on that commitment). China's earlier claims that in building such plants it was merely responding to the needs and wishes of partners on the Belt and Road were widely criticised; it appears China has, uncharacteristically, bowed to international pressure in this regard.

Within China, climate change mitigation/adaptation and coercion are closely linked. Many low-carbon policies have strengthened state authoritarianism. For example, hydropower projects that local communities might once have successfully resisted have become enmeshed in international commitments to portfolio percentages for renewable energy. Recycling mandates nominally intended to reduce dependency on plastics made from fossil fuels serve to provide the state with new opportunities to intervene radically into the behaviour and movements of individual citizens. Data-driven carbon exchanges provide the state with yet more detail about the workings of enterprises and companies, while

at the same time intensifying the power of the state through its control of the allocation of pollution credits. Polluting companies are more easily shut down when carbon emissions are invoked as justification, even when such companies are small in scale and support the livelihoods of China's most vulnerable, as shown in the Chinese documentary film "Smog Town" (Han / Du 2019).

One important recent development is that resettlement programmes in nomadic areas are increasingly framed not only in terms of biodiversity conservation but also in terms of carbon sequestration. In climate-change negotiations, there has been a renewed emphasis on concepts such as "nature-based solutions" and a shifted focus towards forests and biodiversity. As their efforts to reduce fossil fuel use hit multiple roadblocks, negotiators have turned to the potential to reduce carbon by protecting "carbon sinks". Protected areas, reforestation and also the oceans have become a major part of this conversation, and expanding the areas of protected land and sea appears to be a win-win for biodiversity and the climate. In China, however, it will be essential to monitor how such protections are achieved. When climate change is added to justifications for relocating local communities and the ethnic minorities who rely on these lands, it becomes that much more difficult for them to maintain traditional livelihoods and identities.

China and zero Covid

China's "zero Covid" policy has much to teach about the connection between coercion and the state's approach to the delivery of public goods. The 2022 Covid lockdowns in Shanghai and multiple other cities, in particular, extend our argument into the public health realm. In Shanghai, in the name of stamping out even a flicker of the virus, agents at different levels of the city government issued multiple orders that disregarded the rule of law, citizens' wellbeing and basic science. They separated toddlers from parents, denied life-saving medical treatment to critically unwell patients, allowed the non-Internet-savvy elderly to run out of food and medicine, banned essential service workers from returning to their residences – leaving them to sleep in public phone booths or camp in tents under overpasses – and slaughtered pet dogs and cats when their Covid-positive owners were forced into makeshift quarantine camps. The city's official reports indicate that, of the 33,816 patients who tested positive, 22 developed severe conditions, all of whom were of old age and had pre-existing conditions (Ma et al. 2022). While the city indeed managed to keep Covid infection numbers at or near zero, this "success" story was overshadowed by numerous unofficial reports of suffering, hardship and even death. Some residents died at the doors of emergency rooms after being refused admission due to their lack of a sufficiently recent negative Covid test result. Many more died at home when un-

sympathetic officials ruled that medical attention was "unnecessary". Numerous others faced severe food insecurity when the supply chain was brought to a complete halt in a city of 25 million. Some jumped from their high-rise apartments in despair.

Remarkably, the Shanghai lockdown was extensively documented, reported and analysed despite the censorship apparatus's endless attempts to restrict and remove information. This was possible because of the sheer size of the population, their extensive ties to the outside world and the city's substantial contingent of foreign residents who told their stories. Many other cities and provinces, from Jilin in the northeast to Chengdu and Dongxing in the southwest to Shenzhen in the southeast, languished in even more devastating lockdowns for much longer, but state censors had near-total success in preventing news from being leaked. The experience of Shanghai offers glimpses into the human costs of zero Covid.

What this tells us about state coercion and China's authoritarian model is that, if anything, in the past two years the state has become even more confident in its use of invasive technologies that monitor individual behaviour, whether in "real life", as when apartment doors open and trigger alarms at local security offices, or on the web, as when citizens attempt to vent their frustrations at the near-complete loss of freedom of movement, only to be "harmonised" (censored) and their posts erased. War language is routinely deployed by the state in its attempt to rise above the law, thus replicating its supposed success in the "war against air pollution" in the realm of public health. Daily, citizens in the most populous country on Earth are mobilised to join the war-like frenzy against Covid, lining up for tests, giving state authorities increasing access to private information and acquiescing to endless forcible lockdown and quarantine orders.

While framed as a public good (zero Covid), such intrusions by the state into the lives of ordinary individuals mark a new extreme of state intervention into the private sphere. Even a domestic train ride within China entails multiple mandatory PCR tests, as passengers are required to be tested at the points of departure, transfer and arrival. This is because local authorities refuse to acknowledge the validity of test results from other cities. These test results are then collected into government big-data centres, which assign various QR codes to citizens and residents alike. Numerous times each day, residents of China have had to display their health and travel QR codes in order to enter public places such as subway stations, schools, hospitals and shopping malls. These QR codes are color-coded like traffic lights, giving supposedly low-risk users a green code and high-risk ones a red one. The state has a monopoly over the algorithm behind the QR codes, and officials keep changing the color-coding rules to avoid being outsmarted by tech-savvy users. In various places in China, a red code has been assigned to individuals who have fully recovered from Covid, to those who were released from government quarantine camps, to those whose nucleic acid test results were inconclusive and to those who were in close contact

with a positive case or even in close contact with a close contact (aka secondary close contact) with a positive case. Moreover, as we saw in the June 2022 incident of would-be protestors who travelled to Zhengzhou when their bank deposits were frozen because of an investigation into corruption and financial malpractice, the state used its control of their online Covid statuses to stifle dissent on a completely unrelated matter. On the train, green Covid status turned magically to red and arrivals were detained. With the big exclamatory square of a Covid red code on one's cell phone, one is immediately cast out from the life previously known, powerless and at the mercy of the next state agent in a hazmat suit.

A similar development unfolded in Tangshan, where brutal gang violence against four young women drew national attention in June 2022. The local government acted swiftly, not to safeguard citizens, but to assign red health codes to everyone who dared to enter the city from outside to protest, and forcibly transporting incoming journalists, lawyers and rights activists to government-monitored quarantine facilities in the name of public health. Likewise, in Beijing, the local government bragged about the adoption of "smart technologies" at the entrances to residential compounds and industrial parks, where a robotic system checks for body temperature, health code status, vaccination record, citizenship status and other personal information, all within a nanosecond of a facial recognition scan. Health QR codes have given Chinese state authorities unprecedented ability to monitor and control the residents.

The Shanghai lockdown also showcases the strength and resilience of the people. When the supply chain for consumer products was cut off, residents banded together to make bulk purchases large enough to warrant direct delivery from suppliers. When the public transportation system was suspended, couriers on scooters volunteered to help strangers get to their destinations. When most hospitals and pharmacies were closed, residents relied on crowd-sourced guides to find essential medication, sometimes via clandestine channels. When getting food and water became a daily challenge, food service companies delivered free bento boxes to senior citizens living alone. We do not wish to romanticise community self-help under what was the world's most draconian lockdown, but to stress that when China's "zero Covid" policy rendered life impossible in the country's most industrialised city, ordinary people became each other's last resort.

China on the Belt and Road

In the past few years, the honeymoon period came to an end for many of China's Belt and Road partners. There has since been significantly more caution among those signing development deals, given the difficult experiences of Sri Lanka, Malaysia and other countries that found themselves unable to repay loans or were forced to renegotiate terms for projects that sounded better in concept

than they proved in implementation. But China remains the only game in town for much of the world.

With the financial difficulties of Covid lockdowns and concomitant supply chain disruptions, China's overall international investment volume declined (Duan et al. 2020). Still, even though coal has been dropped and some coal projects cancelled, there are grey areas in which Chinese investments in coal projects continue. Oil and gas investments have actually gone up since the coal ban was announced (Gallagher / Qi 2021).

Not every international investment made by China has some sort of nefarious alternative motivation – such as counterbalancing the West geopolitically, facilitating China's extraction of raw materials or placing weak countries in a dependent relationship with their "big brother". Many such projects are indeed welcome and successful double wins for investors and recipients (Tritto 2021). But we need to pay attention to the fact that many state-led authoritarian tools that end up depriving ordinary people of privacy, agency and voice are also present in China's overseas investments. China exports facial-recognition technologies, drones and other potentially intrusive tools in the name of environmental protection and win-win green development.

In Part I, Julia Gurol and Benjamin Schuetze's contribution on the China–Gulf States relationship underlines this trend. As they note in their article on China's partnerships with authoritarian countries in the Arab world, such relationships are comfortable for China. Oftentimes, Chinese investors partner with more or less authoritarian recipient countries such as Serbia or Venezuela, thinking that government support is sufficient for success. They then discover that local people are incensed because the project is a violation of their rights. Environmental Impact Assessments are flawed, indigenous communities have not been consulted or given their consent, and landscapes are permanently degraded. The project may be litigated. Days or months of work are lost, and there are riots. Often these are weapons of the weak, however, and an emerging literature is exploring the skill with which China uses infrastructure development to co-opt civil society resistance and local culture and legitimise its activities. Of course, problems with projects that go awry on the ground are not unique to Chinese investors. The World Bank, Asian Development Bank and other development agencies have similar track records of supporting megadevelopment projects that destroy communities and degrade ecosystems. China has adopted a surprisingly similar playbook, even as the rhetoric is all about providing alternatives and "win-win green development".

Chinese officials are often genuinely surprised at grassroots resistance to projects and at anti-Chinese sentiment on the ground. That puzzlement comes from not understanding what would make these projects more sensitive to local concerns and from not obtaining local buy-in. Chinese investors have not had such experiences within China, as they do not need to ask for local

permission when they implement projects at home. When the state decides, it imposes. But in Latin America, for example, laws are emerging about the rights of rivers and the Free, Prior and Informed Consent (FPIC) of indigenous groups. In the constitutions of Bolivia and Ecuador, "pachamama" (Mother Earth) has legal rights – the rights of nature itself. Such political philosophies differ greatly from the Chinese approach, and as of now, China does not have much experience working with governments and citizens' groups who hold these views.

As John Wilkinson, Ana Saggioro Garcia and Fabiano Escher argue in Part I, relationships between China and recipients are often more complex than they appear. In the case of Brazil, anti-Chinese sentiment on the part of President Bolsonaro as well as domestic pressures to reduce deforestation have led China to increase its own soy production so as to reduce its perceived dependence on foreign suppliers. To this insight we may add that while China's global interconnectivity is likely to increase, the "going out" momentum competes with a strong domestic imperative toward self-reliance and a mistrust of the outside world. These competing themes date to the Mao years and even earlier and are likely to continue to play a role as China finds its footing on the international stage.

While Chinese investors face quite a learning curve, a number of intergovernmental agencies, trusted consultants and even Chinese environmental NGOs such as the Global Environment Initiative have been increasingly successful in making the case that strong social and environmental screening mechanisms ultimately make good business sense as a form of risk reduction. Thus, we are gradually seeing shifts in commitments to social and environmental protections on a range of issues, carbon neutrality being the most prominent. The Chinese state, unfortunately, addresses carbon emissions through a technocratic, quantifiable approach, omitting attention to other environmental and social issues. Nuanced considerations such as the value of local cultures or ecosystems need a great deal more sensitivity and do not lend themselves well to targets and top-down solutions, so the Chinese state has a long way to go in these areas.

Despite widespread criticisms of the BRI's record of natural resource extractivism, labour controversies, financial opaqueness and geopolitical ambitions, especially as the world economy is rattled by Covid, the Xi Jinping administration is nonetheless doubling down on the BRI through a recent, much-expanded programme that it calls the "Global Development Initiative" or GDI (The Economist 2022). While much about the GDI remains in an incipient stage, a picture is emerging that valorises hard infrastructure, material wealth and technological dominance, all of which are framed as manifestations of a "Chinese wisdom" that is at odds with supposedly Western-centric ideas of human flourishing, inclusiveness and tolerance (CIKD 2022).

Lessons for the future

Climate change is often an indirect driver of instability, scarcity and suffering. Those who suffer most are not always well placed to understand the underlying causes of the typhoons, floods, droughts, fires, diseases, insect infestations and changes in crop production that are produced by the overall rise in global temperatures. While governments may be angry and impatient with one another for not doing enough on climate, the real victims are ordinary people whose leaders have failed them. Yet in China, if anything, the state is doing "too much", in the wrong directions, as we see even more clearly in developments over the past few years. This is causing a loss of citizen confidence in the state, after quite a few years of growing national pride in the rise of China on the global stage and widespread support for Xi Jinping. President Xi's "green" discourse, and the generally robust economy that has brought China prosperity and superpower status, as well as steps toward cleaning up corruption and pollution, have made him generally popular. In recent years of reduced freedoms and tightened surveillance, however, the rule of the Communist Party has been discredited. As the Party demonstrates its lack of trust in their own people, many Chinese citizens become alienated, bitter and scornful.

In some ways, the increasingly vocal support for China's hoped-for climate leadership among international observers in the policy and scholarly worlds makes little sense. The country's recent history has been marked by prolonged coal-fuelled hazes, polluted waterways, contaminated farmlands, desertified landscapes, declining biodiversity, overlogged forests and overfished seas. But the Party's legitimacy rests in part on its ability to provide increasingly wealthy citizens with clean air and water as well as food that is safe to eat, and in the past few years the Chinese state has been taking aggressive steps to make improvements in these areas. Moreover, carbon mitigation is an increasingly urgent domestic security imperative in the face of rising seas, melting glaciers and extreme weather. Given that China's ability to curb its massive carbon emissions both within the country and overseas will likely determine whether global warming will be catastrophic, it is understandable, indeed necessary, to continue to focus on China with both hope and fear.

From the perspective of the Chinese state, the environmental path to global leadership is only one of many. Others include creating new financial instruments and lending institutions, repositioning China's role in such long-established bodies as the WTO, WHO and even the International Olympic Committee, and insisting on China's seat at the table in such far-flung enterprises as the Arctic Council. But the environmental path remains attractive, if unclear. Despite recent economic setbacks, China remains eager to fill the void now that the United States has retreated from environmental leadership, but they do not see clearly how

to become that leader. There is an apparently sincere expression of hurt whenever Chinese state capital-funded projects are met with local resistance. Chinese state actors need to think about the problems they are encountering more seriously if they hope to achieve true ecological civilisation suitable to the challenges of the 21st century.

References

Chang, Jiwen (2015):《中华人民共和国气候变化应对法》有关公众参与条文的建议稿 [Draft Proposal of Public Participation in the PRC Law on Climate Change]. 法学杂志 [*Law Science Magazine*] 36(02), pp. 11–18. https://doi.org/10.16092/j.cnki.1001-618x.2015.02.002

CIKD – Center for International Knowledge on Development (2022): Global Development Report, Center for International Knowledge on Development, http://sydney.china-consulate.gov.cn/eng/zgxw/202206/P020220620444256180663.pdf (accessed 17 October 2022).

Davidson, Helen (2022): Xi Jinping Says "Persistence Is Victory" as Covid Restrictions Return to Shanghai and Beijing. *The Guardian*, 10 June 2022.

Duan, Wenjing / Zhu, Shujin / Lai, Mingyong (2020): The Impact of COVID-19 on China's Trade and Outward FDI and Related Countermeasures. *Journal of Chinese Economic and Business Studies* 18(4), pp. 355–64. https://doi.org/10.1080/14765284.2020.1855395

Gallagher, Kelly Sims / Qi, Qi (2021): Chinese Overseas Investment Policy: Implications for Climate Change. *Global Policy* 12(3), pp. 260–72. https://doi.org/10.1111/1758-5899.12952

Global Times (2022): China's Zero-COVID Strategy: Minimum Costs for Maximum Gain, Economists Say. *Global Times*, 17 February 2022.

Han, Meng / Du, Vincent (2019): "Smog Town", a film production of Meng Han and Vincent Du, Sona Films & MF Production.

Li, Yifei / Shapiro, Judith (2020): *China Goes Green: Coercive Environmentalism for a Troubled Planet*. Cambridge, UK: Polity.

Ma, Xin / Ai, Jingwen / Cai, Jianpeng / Chen, Shu / Wang, Sen / Zhang, Haocheng / Lin, Ke / Zhang, Wei / Wang, Hongyu / Zhang, Yi / Sun, Feng / Li, Yang / Zhang, Shu / Shen, Leer / Chen, Shunjie / Lu, Guanzhu / Xu, Jie / Chen, Xiaohua / Zhang, Wenhong (2022): Dynamic Disease Manifestations Among Non-Severe COVID-19 Patients Without Unstable Medical Conditions: A Follow-Up Study. Shanghai Municipality, China, March 22–May 03, 2022. China CDC Weekly 4, pp. 1–6. https://doi.org/10.46234/ccdcw2022.115

Pike, Lili (2022): China's Promise to Stop Building Coal Plants Overseas Is Full of Caveats and Loopholes. *Grid News*, 28 April 2022.

Saudelli, Giulia / Cui, Mu (2019): In Italy, China's New Silk Road Is Not Seen as a Threat. Deutsche Welle, https://www.dw.com/en/in-italy-chinas-new-silk-road-is-not-seen-as-a-threat/a-48441190 (accessed 7 October 2022).

The Economist (2022): China's Global Development Initiative Is Not as Innocent as It Sounds. The Economist, 9 June 2022.

Tritto, Angela (2021): China's Belt and Road Initiative: From Perceptions to Realities in Indonesia's Coal Power Sector. *Energy Strategy Reviews* 34, p. 100624. https://doi.org/10.1016/j.esr.2021.100624

IQAS Vol. 53 / 2022 iii, pp. 337–356

Eco-civilisation and Reformed Communism in a Contested G-One World

Dan Smyer Yü

Abstract

This article offers an ideological examination of China's ecological civilisation initiative with respect to its globalisation agenda. The basic argument is that the Chinese state's eco-civilisation project is an open-ended, statist technocratic bricolage that appropriates a philosophy of human–nature harmony and facilitates a reformed communism intended to enchant both domestic and global audiences with a set of human universal values. The article considers eco-civilisation to be technically devised as an attractive initiative packed with the Chinese state's propagated universal values without a specific manual of operations. It is a one-size-fits-all concept but provides enough room for creative tailoring under specific circumstances in different geographical, cultural, economic and political contexts. In the course of delivering this argument, the article discusses how eco-civilisation is domestically and internationally promoted and how it is an inherent part of the renewed but reformed communism of the Chinese state.

Keywords: China, ecological civilisation, geopolitics, value, environmental governance, Two Mountains theory

In ecology, a science of multispecies relations, humans are understood as just one of many biological species on earth. When ecology is linked with civilisation, an exclusively human-centric concept, to produce the neologism "ecological civilisation" it inevitably raises the question of how the inclusivity of a multispecies worldview and the exclusivity of human political and economic development can work together comfortably. The word "civilisation" carries heavy loads of the histories of human empires, their exploitative relations with the earth, and their standardisation of diverse local and regional political systems into a singular order. In its historical process, it has produced derivative lexical meanings pertaining to value-based, linear progress from one stage to another and to comfort and convenience environed in the ethos and the material abundance of a given empire or a modern state.

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DOI 10.11588/iqas.2022.3.14001

Commonly, those who are territorially, racially or politically considered to be out of the civilisational sphere are often deemed "primitive" and, therefore, uncivilised (Comaroff / Comaroff 1991: 218). Needless to say, civilisation and empire are intimately intertwined in what Prasenjit Duara calls "circulatory histories" (Duara 2015: 53). Continental empires and dynasties were often the harbingers of their civilisational values and ideologies, such as when Christianity propagated in Europe via the Roman Empire and Confucianism/Neo-Confucianism spread from Chinese dynasties to their sphere of influence in Northeast and Southeast Asia (Fredriksen 2006: 587–606, Harrell 1995: 3–36).

Ecologically, many of the agriculture-based, imperial economic systems were the anthropogenic forces that converted multispecies habitats into lands exclusively for human use, inducing the transition from nonfossil fuel to fossil fuel, and laid the foundation of the Industrial Revolution that marked the advent of the Anthropocene (Cruzen / Stoermer 2000), the current geological cycle of the earth forged by human environmentally unsustainable activities. Historical civilisations of continental scale inevitably impress us with their ecological hostility as the price of technological advancement and material abundance (Crosby 2004). Of course, if civilisation is now understood as a body of innovative values and actionable visions toward a sustainable future cornucopia, it is only fair to hear what an ecological civilisation can do to navigate the currently colossally stressed world of nations out of environmental and health crises, and away from the accelerated clashes of economic and military superpowers in the arenas of international trade, post-cold war arms race, regional security and the disorderly competition for a new world order.

I write this article to provide an ideological examination of the ecological civilisation initiative (hereafter eco-civilisation) from the Chinese state regarding its globalisation agenda. My basic argument is that the Chinese state's eco-civilisation project is an open-ended, statist technocratic bricolage that appropriates a philosophy of human–nature harmony and facilitates a reformed communism in euphemistic terms intended to enchant both domestic and global audiences with a set of human universal values. Like the notion of sustainable development initiated by the United Nations in 1987 (Brundtland 1987), eco-civilisation is technically devised as an attractive initiative packed with the Chinese state's propagated universal values without a specific manual of operations. It is one-size-fits-all initiative but provides enough room for creative tailoring under specific circumstances in different geographical, cultural, economic and political contexts. Geostrategically, it is a global governmentality of the Chinese state enacted through its membership in intergovernmental organisations, promoted through bilateral and multilateral international relations, and showcased in China's global economic and humanitarian projects. In the course of delivering this argument, I start with the global context of this article and move toward the discussions of how eco-civilisation is domestically and inter-

nationally promoted and how it is an inherent part of the renewed but reformed communism of the Chinese state.

Contextualising China's eco-civilisation in a G-One world

In 2011, Ian Bremmer and Nouriel Roubini (2011) proclaimed that "we are now living in a G-Zero world, one in which no single country or bloc of countries has the political and economic leverage – or the will – to drive a truly international agenda" (Bremmer / Roubini 2011: 1). In 2012, Bremmer revised the G-Zero world as "a world order in which no single country or durable alliance of countries can meet the challenges of global leadership" (Bremmer 2012: 1). Apparently, the G-Zero world order looks like disorder, without effective order-keeping leadership and instruments. However, it may be surprising to Bremmer that many Chinese patriots in both elite and popular social constituencies of contemporary China perceive the current state of global affairs rather as a G-One world or a unipolar world dominated by the United States but being contested (Wang / Tang 2000, Zhou 2017). Of course, this collective perception rests upon the regional and global issues immediately pertinent to China's national interests and global future, such as Sino-US geostrategic competition, the Belt and Road Initiative, and the conflicts around Taiwan, the Southern China Sea and the Korean peninsula. It fundamentally considers the US as the ultimate source of China's frustrated national integrity and global freedom.

Recalling his "awe-inspiring experience" of walking on the deck of the Carl Vinson, a nuclear-powered aircraft carrier of the US Navy, in the South China Sea, David Shambaugh deems the supercarrier "a potent reminder of America's unrivaled military power – which has been projected throughout East Asia and the western Pacific for more than seven decades" (Shambaugh 2021a: xiii-xiv). Shambaugh's geopolitical vista from the deck of the supercarrier inadvertently attests to the G-One world order perceived by the Chinese patriots mentioned above. Appearing prolifically as the topic of "China going global", the China in Shambaugh's texts is a seventy-two-year-old People's Republic of China, whose global track record is said to have begun in the 1980s after the normalisation of the Sino-US relations and the commencement of China's economic reform (Shambaugh 2020: 14). It is thus assumed by Shambaugh that this young China was isolated and, therefore, nonglobal.

If I take a revisionist approach to recent history, China was indeed contained by the US Navy; however, it globally counteracted the United States and its European allies by building geopolitical cooperation with the Global South throughout the Cold War era. It was excluded from the membership of the Global North but forged a global community of its allies and supporters in Asia, Africa and South America – the regions concentrated with the so-called

"Third World countries". Maoism and foreign aid packages were directed to these regions as China's nonprofit global venture in the decades of the 1960s, 1970s and 1980s. Now, this Cold War geopolitical legacy of China's South-South outreach has been transformed into China's geo-economic strengths in competing with the US-dominated West. The enactment of China's Belt and Road Initiative in these continents, for instance, demonstrates the PRC's ongoing global outreach to the Global South but with a new, super-economic and ideological orientation.

To continue this revisionist perspective a little further, this seventy-two-year-old China had multiple previous lifetimes in a cultural and territorial sense. Immediately relevant to this article, its previous incarnations, such as the Tang, Yuan, Ming and Qing Dynasties, were inter-Asian or continental empires, not mono-ethnolinguistic societies, with recorded histories of transregional trade and military conquests. The presence of the past is an inherent part of the PRC. In particular, the current republic emphasises the historical territories of the Mongol Yuan and the Manchu Qing Dynasties as the basis of its sovereign territorial claim. Therefore, the past imperiality is reincarnated in a modern republic. This is not a unique historical process but is also found elsewhere in the world. China's current globality displays the presence of its past and projects its future, especially as demonstrated in its Belt and Road Initiative as a New Silk Road project in Eurasia.

By adding these revisionist historical perspectives to the globalisation of China discerned in Shambaugh's work, I see two concurrent patterns of China's current globality. On the one hand, it is actively pushing the limits of and transforming the US-dominated world order into a multipolar world order (Qi 2019). On the other hand, it is weaving together its own non-Western-oriented global network with the Global South and with nations that are shopping for new trade partners and geopolitical alternatives to the West. Both are contributing to tipping the US-centred world order toward what Bremmer calls the G-Zero world.

In this global context, I state my understanding of eco-civilisation as an integral part of China's projected global leadership for a multipolar world order. As it weighs more on the political side than on the ecological side, I treat eco-civilisation as a state political ecology or an ecology without ecology but with a plenitude of human-centred political and economic visions mutually shared with other state projects. By "an ecology without ecology", I mean the secondary and tertiary presence or sometimes complete absence of the physical environment, animals and plants in many official documents and research publications concerning eco-civilisation. When I deem eco-civilisation a global political ecology of the Chinese state, it is fundamentally a political conceptualisation of environmental governance and economic conversion of ecological resources. It is not congruent with the common understanding of political ecology

predicated "on an ecologically conceptualized view of politics" (Peet et al. 2011: 23), in which ecology takes precedence for the sake of environmental justice and human wellbeing. In this sense, eco-civilisation can be understood as the global environmental governmentality of the Chinese state, unavoidably manifested as a technocratically-conceived civilising project. It is designed to trend with the UN sustainable development goals, green transition and renewable energy use, to be driven by growth-based national economies, and to be embedded with the intent of propagating state ideology as a set of human universal values for a new world order in the making.

The conception of a statist civilising project

The late agricultural scientist Ye Qianji (1909–2017) initially coined the phrase *shengtai wenming* or eco-civilisation in his conference paper "Ecological Needs and the Construction of Ecological Civilisation," presented at the National Symposium of Ecological Agriculture in 1987 (Ministry of Ecology and Environment 2012). He offered a brief but widely cited definition:

> So-called eco-civilisation means that humans and nature mutually benefit from each other. While changing [benefitting from] nature, humans protect nature; therefore, humans and nature keep a harmonious relationship. (Xu 2010: 39)

Ye's coinage is often regarded as the source of the intellectual conceptual development of eco-civilisation as opposed to the state's political appropriation and expansion of it (Marinelli 2018: 372). In my understanding, Ye's conference paper was an integral part of the PRC's nation-building process, as his agricultural science was conscientiously applied toward building a modernised China. His proposal for the construction of ecological civilisation was situated in the greater context of Deng Xiaoping's nationwide promotion of what is known as "the two civilisations" throughout the decade of the 1980s, namely the "socialist spiritual civilisation" and "socialist material civilisation". The former refers to communist belief, while the latter to the modernised material basis of a socialist society (Deng 1993: 28). The ideologically-connoted notion of civilisation has actually permeated both state media and the popular realm since the Deng era. It is thus reasonable to discern the construction of eco-civilisation, as occurring initially in Ye's paper and currently in all social realms of the contemporary China, as a socialist state civilising project.

Although Ye's coinage of eco-civilisation discernibly maintained the ideological value of the "two civilisations", it was nevertheless narrowly limited within the sphere of China's agricultural science. It was twenty years later when Hu Jintao, the third post-Mao president of China, made it as a national buzzword in his address to the Seventeenth National Congress in 2007. He and his

successor Xi Jinping take the credit for China's national and international promotion of eco-civilisation as a worldwide civilising project of China. For an effective understanding of eco-civilisation as a state project, I find relevant Shambaugh's leadership-biographical approach to China's domestic and geopolitical policy-making when he suggests the need "to explore the intersection between each individual's persona and style of rule with China's developments domestically and internationally" (Shambaugh 2021b: 26).

Hu's ten-year presidency from 2002–2012 coincided with the Chinese state's more serious consideration of the UN's proposal for sustainable development, which had been introduced into China but not yet practiced. The sustained annual 10 per cent economic growth of China from the 1990s to the 2000s reflected the environmentally unsustainable development period. Hu's address to the Seventeenth National Congress marked the official connection of eco-civilisation with sustainable development:

> Building ecological civilisation, in essence, is building a resource-efficient and environmentally friendly society that is based on the carrying capacity of resources and the environment, complies with natural laws and aims at sustainable development. (Pan 2016: 29)

However, Hu did not offer a clear delineation of what eco-civilisation is about except a set of growth-based principles to balance economic development and environmental sustainability. Hu's eco-civilising leadership style fits Shambaugh's characterisation of him as "a technocratic apparatchik" (Shambaugh 2021b: 26). This is where I start discerning eco-civilisation as a state political ecology that had not actually previously contained ecological elements.

In the intervening years, eco-civilisation has evolved into a double-purposed instrument for practicing the slippery idea of sustainable development and channelling China's experiences of it into the international arena of economic development. By "slippery", I mean that the UN's well-intended notion of sustainable development has not yet proven itself successful, given the fact that the environment of the earth has instead become increasingly less sustainable since the concept's inception. It is worded with enough environmental ambiguity to permit either the economic sustainability of growth-based development or the prerequisite of environmental sustainability for economic development. Thus far, the former has been well in evidence while the latter continues to cry out for actual sustainable actions worldwide. Hu's euphemistic appropriation of the UN's ambiguously defined concept of sustainable development empowered the public relations necessary for the internationalisation of eco-civilisation for the years to come.

When Xi Jinping became the president of China in 2012, he inherited Hu's inchoate foundation of eco-civilisation but began his own creative ways of propagating it worldwide. Shambaugh's characterisation of Xi in his leadership style as "a modern emperor" (Shambaugh 2021b: 26) appears to be more a value-judgment than an analytical expediency. I will substantiate what I mean

by "value judgement" toward the end of this article. Given the centralised political system of the PRC, anyone in its leadership could be seen as an emperor. Since Shambaugh evokes the Weberian typology of political authority – charismatic, traditional and legal-rational (Shambaugh 2021b: 30) – I lean toward characterising Xi as the second charismatic leader in contemporary China, after Mao, based on my work and daily living experiences inside the country and on my routine browsing of a wide range of Chinese-language social media. The solidification and growth of Xi's political charisma is often event-based, in the examples of pushing back against what the Chinese state perceives as US aggression in the Sino-US trade conflict, the launching of China's two self-made aircraft carriers Shandong and Fujian respectively in 2017 and 2022, the completion of the Tiangong Space Station in 2021 and the eighteen sorties of Y-20 transporters delivering military supplies to Serbia in the span of a week in spring 2022. Xi's leadership currently has millions of the "Young Red Fans" (*xiaofenhong*; Yu 2021, VOA 2021). The pattern of Xi's growing charisma is centred on the growing patriotism in Chinese society expressed through the national reaction to the contested G-One world order and the popular support for a multipolar world in which China is expected to take a co-leading position.

In the arena of eco-civilisation, Xi's public discourse is much more colloquial and, therefore, accessible than Hu's. Xi's metaphor for ecological civilisation is known as the "Two Mountains" theory (*Liangshan lilun*), in which the physical environment is metaphorised as either "green mountains" or "gold mountains" or both. The former refers to the natural state of the land in the forms of wooded hills and water-rich earth, while the latter means the economic value of the environment as the source of natural resources. His metaphoric style is rooted in his youth and his currently continued affinity with rural China. Because his father was persecuted by the far-left of the Chinese Communist Party during the Cultural Revolution, Xi was involuntarily sent to a village in Yanchuan County, Shanxi Province, for "re-education" in 1969 at the age of fifteen. In his biographical article "I'm a Son of this Yellow Earth", a popular read inside China, he writes:

> At the age of fifteen when I arrived at this yellow earth [the Loess Plateau], I was lonely and confused. At the age of twenty-two when I was leaving it, I had a solid life goal filled with confidence. As a civil servant, the Loess Plateau is my root because it nurtured me with an unshakable faith to serve the people! (Xi 2002: 110)

His personable approach to the Chinese public is winning a growing number of young patriots in China. Bearing his biographical signature, the Two Mountains theory was conceived when Xi was the governor of Zhejiang Province, a province known for its green hills and scenic river landscapes. In 2005, he visited a village in the hills of Anji County, to receive the village's report on their livelihood transition from a mining economy (heavy metal mine in the hills) to a tourist economy relying on the surrounding natural beauty and human

cultural heritage. After the report, Xi remarked, "We often say we want green mountains and clean water as well as gold and silver mountains [economic returns]. In fact, green mountains and clean water are gold and silver mountains" (Xia 2015). A few days later, Xi wrote an article titled "Green Mountains are Gold Mountains" (Xi 2005), published in a provincial newspaper, formally proposing the Two Mountains theory. The commonly understood thesis of Xi's perspective is that "if the ecological advantage of a place could be translated into ecologically-friendly agriculture, industries, and tourism, its green mountains and clean water naturally become gold and silver mountains" (Wang et al. 2017: 2). When the Two Mountains theory was officially incorporated into the policy implementation of China's sustainable development and eco-civilisation in 2015, it began to enter an era of formal feasibility studies and public discussions on how to balance environmental conservation with the economic use of natural resources.

Situated in the context of China's pursuit of environmentally-friendly but growth-based development, the relationship between green mountains and gold mountains is currently being rigorously studied and debated in China regarding the meanings of sustainable development framed in eco-civilisation. The debates are centred on the question of how ecological values are converted into economic values and vice versa. Currently, there are three options for the ecology-economy relationship discerned among scholars based in China (Wang et al. 2017: 3–4, Zhuang / Ding 2020: 26–27). These are: 1) to trade green mountains for gold mountains – sacrificing the environment, e.g. mining and felling forests, for full-scale economic gains; 2) to keep both green and gold mountains – balancing the integrity of the environment and the economic desires; 3) to see the synonymity of green and gold mountains – green mountains are gold mountains when their unique ecological values are discovered.

When the Two Mountains theory is applied as the principle of eco-civilisation, the second and the third variants of the relationship are the goals to be pursued, although China's environmental track record attests to the first set. Inside China, the theory is being practiced through the state's centralised environmental management, implemented in environmental laws, hailed as the environmental guidance toward the common good of humankind and nature (Ke et al. 2018: 4). At the same time, the theory adds Xi's distinct biographical characteristic to the internationalisation of eco-civilisation. After all, the application of the Two Mountains theory in eco-civilisation is a governmental affair rather than an environmental movement in which common citizens have an active voice.

Divergent global feedback

China's global promotion of eco-civilisation through intergovernmental organisations appears to be successful. The UN Environmental Program (UNEP) has welcomed it as an "innovative, coordinated, green, open and shared development" (UNEP 2016: 3). Its latest positive remark comes from Neville Ash, director of UNEP-WCMC:

> Ecological Civilization not only reflects the essential role that nature plays in underpinning people's lives but also the need to improve our relationship with nature in all areas, from the way we govern to the way we produce and consume goods around the world. (UNEP 2019)

However, both positive and negative assessments in the academic world are concurrently ongoing among scholars. Since the inauguration of Xi's presidency in 2012, the environmental policy outcome of the PRC has often been deemed "authoritarian environmentalism" (Gilley 2012) and "coercive environmentalism" (Li / Shapiro 2020). The two terms are synonymous. Coined by Yifei Li and Judith Shapiro (2020), the latter characterises Xi's ecological civilisation and proposition for green development as an "environmental fix in action" with both global and domestic implications. On the one hand, "through the exercise of coercive environmentalism, China is affixing manifestations of state power on the surface of the planet" and, on the other hand, the authors continue:

> coercive environmentalism also constitutes a metaphorical fix for the authoritarian state. The green initiatives at home help state power penetrate into the everyday lives of citizens, from the industrial East to the borderlands. (Li / Shapiro 2020: 190)

This negative assessment of China's sustainable development is based on the poor environmental track records of the PRC since its inception over seventy years ago as well as on the authors' understanding of the Chinese state as an authoritarian state.

Equally critical but without political labelling, based on their research, Mette Halskov Hansen and her co-authors assert that the official documents and promotional literature from the Chinese state provide

> no basis for claiming that eco-civilisation is likely to result in profoundly new practices of, for instance, resource extraction, investments, or redistribution of resources [...] it largely ignores the environmental risks involved in continued global growth dependency. (Hansen et al. 2018: 203)

While praising China's signing of the Paris Climate Agreement in 2015, Richard Stahel also makes a factual statement: "China is the world's largest polluter" (Stahel 2020: 166). Likewise, Jean-Yves Heurtebise acknowledges that China's ecological civilisation is ideologically valuable for the Chinese state but he also recognises its prioritisation of "growth over rights in the name of national sovereignty", which "leads to poor environmental performance" (Heurtebise 2017: 11).

Regarding the environmental track record of the PRC since its founding, the assessments of Hansen, St'ahel and Heurtebise are similar to their scholarly counterparts based in China. Wang Zhihe, a proponent of eco-civilisation, points out that "half a million die each year because of air pollution" and China is a "pollution haven" (Wang et al. 2014). In his effort to substantiate eco-civilisation as not merely "empty propaganda", Pan Jiahua, secretary general and director of Sustainable Development Research Center at the Chinese Academy of Social Sciences (CASS), acknowledges the "damages to natural environment, soil and water erosion, resource degradation, and ecosystem imbalances" (Pan 2016: 36) caused by China's industrialisation and modernisation projects in the decades of the 1950s and 1960s. Similarly, Pan Yue, the former Vice Minister of Environmental Protection acknowledged:

> While becoming the world leader in GDP growth and foreign investment, we have also become the world's number one consumer of coal, oil and steel – and the largest producer of CO2 (carbon dioxide) and chemical oxygen demand (COD) emissions. (Pan 2006)

Based on these commonly recognised environmental consequences of China's modernisation path, it is reasonable to say that the eco-civilisation initiative is more akin to damage control or an environmental restoration attempt rather than a forward-thinking, substantiated and actionable practice that is preparing China to be an "environmental leader of the world" (Kassiola 2013: xvii).

In spite of the research-based critical feedback, the Chinese state presents eco-civilisation as a forward-thinking, global environmental policy instrument widely promoted through the UN. Pan Jiahua proclaims, "China is entering the new era of building an ecological civilisation. Ecological civilisation as a new paradigm for green economy requires experimentation in practice and academic research" (Pan 2016: xii). In his view, this new paradigm is being promoted as a traditional cosmology of "harmony between human and nature" in a modern guise. It admittedly attracts international proponents, particularly from the fields of religion and ecology, as well as eco-Marxism. Known for his work on Confucianism and ecology, Tu Weiming regards the timing and importance of eco-civilisation as "a new Axial Age" (Tu 2013), commensurate with Karl Jasper's conception of the era between the eighth and the third century BCE that saw the emergence of Eurasian thinkers such as Heraclitus, Plato, Zarathustra, Shakyamuni, Confucius and Laotzu. Matching Tu's high acclaim but situated in the eco-Marxist perspective, Roy Morrison lauds the emergence of eco-civilisation as "an epochal transition" toward "a new civilisation" (Morrison 2013); Arran Gare considers it "a new vision" with "radical implications" (Gare 2017: 13, 2012: 21); and David Korten eulogises it as "the New Enlightenment" (Korten 2017: 17).

In addition to Tu's positive appraisal from the perspective of religion and ecology, Mary Evelyn Tucker and John Grim offered their impression of Pan

Yue as someone "who has studied these [Chinese religious] traditions and sees them as critical to Chinese environmental ethics" (Tucker / Grim 2017: 10) and, therefore, as someone who holds the knowledge of "the harmonious unity of man and nature" (Pan 2011) found in Confucianism, Buddhism and Daoism. Pan's appropriation of the human–nature harmony concepts from Asian religious traditions is persuasive enough for James Miller to qualify eco-civilisation as "a new cultural whole" (Miller 2013: 143). As a traditional eco-philosophical idea, *tianren heyi* (天人合一) or the "unity of human nature" is frequently referenced to support the conceptual foundation of eco-civilisation among many scholars and policy specialists inside and outside China (Bao 2014, Lü 2021). It is discerned as "the essence of ancient Chinese philosophy on ecological civilisation" (Pan 2016: x), as "the root of life" (Yuan 2017: 4), and as "the cultural gene for green development" (Lin et al. 2020: 44). However, the philosophical support borrowed from religious traditions does not free eco-civilisation from its impression of being generic and ambiguous. While recognising its vagueness, John Cobb Jr., a renowned Christian theologian and a proponent of eco-civilisation, notes that "China's official goal of ecological civilisation could become the global goal" (Cobb Jr. / Vltchek 2019: 55).

Given the atheist state ideology, it is reasonable to point out that religious ecology was not initially intended by the Chinese leaders. Apparently, the Chinese state's coinage of eco-civilisation has sparked prominent religious ecologists to recognise ancient eco-civilisations that long existed before the birth of their modern counterpart; however, they do not make a clear distinction between traditional ecological knowledge and the current growth-based design of eco-civilisation.

In principle, eco-Marxists from Western countries would be the natural allies of Chinese eco-civilisation, as many of their research publications have been translated into Chinese, including James O'Connor's *Natural Causes: Essays in Ecological Marxism* (1998) and John Bellamy Foster's *Marx's Ecology: Materialism and Nature* (2000). However, eco-Marxism is visibly marginalised in the Chinese statist environmental discourse. Its instrumentality is acknowledged as a means to fight capitalism in the West rather than as an additional building block of eco-civilisation in China. For instance, Pan Jiahua limits his discussion of eco-Marxism within "the capitalist system", which is deemed "the origin of ecological crisis" (Pan 2016: 32). Pan's distancing from Western eco-Marxists suggests that capitalism rather than socialism is the cause of the worldwide environmental crisis and, therefore, that eco-Marxist critique is not relevant to socialist China. This official perspective is echoed among the scholarly enthusiasts of eco-Marxism based in China; as Wang Zhihe and his colleagues point out, "Chinese ecological Marxists are using [Western] ecological Marxism only to criticize foreign capitalist countries" (Wang et al. 2014). It is thus not surprising that Western eco-Marxism receives a marginal welcome.

The suspicion is mutual. Leading eco-Marxist scholars based in the West are critical of China's eco-civilisation. In his plenary address to the World Cultural Forum held in Hangzhou, China in 2013, while emphasising China as a potential global "green leader," Roy Morrison remarked that "the Chinese model is a startling amalgam of the most effective growth at any cost measures drawn from the worst of capitalist and totalitarian socialist industrial practice" (Morrison 2013). Likewise, John Bellamy Foster reminds his readers that "China's environmental problems are massive and growing" (Foster 2015). While eco-Marxists and Chinese ecological civilisers share Marxist roots, they are apparently not ready to accept each other as comrades in both environmental and political senses. Environmentally, eco-Marxists prefer a radical slowdown of resource extraction and consumption, and advocate human rights and environmental justice; whereas ecological civilisers in China would like to continue with their GDP-based economic growth but turn this high-percentage growth into environmentally friendly "green development", however that might be conceived. Politically, eco-Marxism and ecological civilisation have emerged from two diametrically opposed social systems, namely the Western democratic system and the Chinese centralised system. The Western democratic system affords a politically tolerant society that makes the emergence of eco-Marxism possible in spite of its opposition and hostility to the capitalist system. The Chinese centralised system provides top-down solutions to all national issues including environmental problems. Fundamentally, it is not their Marxist denominational differences that set eco-Marxism and eco-civilisation apart; instead, it is the Western-derived acceptance of civil liberty found in eco-Marxism that poses destabilising threats to the centralised governing system of China.

The ideological drive of eco-civilisation

The diverse international scholars' responses have limited impact on China's domestic environmental policy-making process and the globalisation of eco-civilisation. The global sound bite of eco-civilisation mostly comes from the UN as its primary promotional site. Since 2016, the UN's introduction of eco-civilisation has added a Xi characteristic, namely the Two Mountains theory. The publication *Green is Gold: The Strategy and Actions of China's Ecological Civilization* (UNEP 2016) enthusiastically promotes eco-civilisation as a Chinese model of environmental management and protection in a future tense, in terms of what it can and will accomplish for the UN 2030 Sustainable Development Goals and beyond. For its 2020 biodiversity conference held in Kunming, China, the UN continued to endorse Xi's vision by designating "Ecological Civilization: Building a Shared Future for All Life on Earth" as its theme. Eco-civilisation has

been warmly and successfully ushered into UN's global community, in which China is being lauded as a global environmental leader. Recognisably, China is an active contributor to the UN Sustainable Development Goals and has committed itself to tackling climate change under the terms of the Paris Agreement.

Immediately relevant to the ideological inquiry of this article, the wording of the UN 2020 biodiversity conference theme shows a direct linkage of eco-civilisation with what I call a reformed communist ideology expressed as human universals in seemingly non-communist terms. The subtitle "Building a Shared Future for All Life on Earth" is discernibly a slight revision of the CCP's newest global ideological mission, officially phrased as "building the community of a shared future for mankind [构建人类命运共同体]" (hereafter "shared future"; Xi 2018). This phrase was written into the Constitution of the Communist Party of China and the Constitution of the People's Republic of China respectively in 2017 and 2018. It has now become the fresh ideological framework for promoting China's global leadership. This is where I argue that, in addition to its environmental and economic development objectives, the globalisation of eco-civilisation is simultaneously driven by and facilitates a reformed communism euphemised as a project of building the shared future for humankind.

In the last three years, eco-civilisation has rapidly dovetailed with the "shared future" initiative. In delivering his keynote speech at a conference in 2018, Pan Yue announced:

> Ecological civilisation will be an integral part of the Community of Shared Future for Mankind. This is the unique contribution from Xi Jinping's ecological thought to contemporary China and global civilisation. (Pan 2018)

According to the ongoing expositions from state-sanctioned research in China, the notion of a "shared future", which might be better translated as "common future", consists of the practical guidance and ideological foundation of the CCP based upon Marxism and Leninism. The practical guidance consists of building common ground with the international community in the arenas of economic development, global responsibilities and universal values that transcend nation, ethnicity and worldviews (Zhang / Duan 2017: 64). The ideological foundation refers to Marx's notion of the "real community" in contrast to the "illusory community" (Marx / Engels 1970: 83). According to Chinese Marxist scholars, the difference between the "real" and the "illusory" is the diametrical opposition between communism and capitalism (Qiao 2019: 22). The former is self-proclaimed to be real, while the latter is deemed illusory. Thus, Marx's notion of "real community" is the ideological foundation of the "shared future", which is believed to lead to "the ultimate value" of communism (Li 2018: 137). Therefore, "the realisation of communism is the ultimate goal of the 'Community of Shared Future for Mankind'" (Qiao 2019: 24). In dovetailing ecological civilisation and the "shared future" as an innovative Communist vision of the PRC, Chinese Marxist scholars are openly expressing their commonly shared

perspectives: 1) in essence, ecological civilisation can only be socialist because socialism is the social form congruent with ecological civilisation (Zhang 2014); 2) for practical materialists such as Communists, revolutionising the current world is the solution to all problems by working for the antithesis to, or transforming, the current state of affairs. On this basis, the construction of the proposed ecological civilisation is foremost a developmental revolution (Liu / Tian 2020: 9); 3) ecological civilisation conveys to the world the wisdom and responsibility of Chinese Communism (Li 2018: 14).

This trend of dovetailing eco-civilisation with reformed communism, which has been taking place in the Chinese language media inside China for the last five years, is rarely questioned: "Is Green the New Red?" (Imbach 2020). Environmentally and economically, the equation of Green = Gold is now globally known, but not of Green = Red as an ideological equation. The New Red embedded in eco-civilisation is the reformed communism, by which I mean a creative system capable of public image-shifting aimed at the resilience, preservation and propagation of communism with Chinese characteristics. While the essence of communism remains the same, its expressions and representations are being adapted to the globally accepted lingua franca of human universals. It has undergone a transformation from what I call an "infrared phase" to an "open phase". The former refers to the decades of the 1980s through the 2000s, during which the Chinese Communist Party often downplayed its ideological doctrines in the global public sphere (Shambaugh 2020: 17). The latter refers to the 2010s, when the Chinese Communist Party began to openly promote communist values in both domestic and international spheres. In this sense, reformed communism is a reinvigorated communism complexly saturating the public domain, intergovernmental organisations and the business world.

Post-Communist-minded scholars may contend with my argument by insisting on contemporary China as a post-Communist state because of its globally known market economy. It is indeed irrefutable that the Chinese economy is an integral part of the global economy upheld by the West; however, it is equally irrefutable that the Chinese Communist Party wishes to sustain the current socialist system and the communist ideology. The geographically-correct designation of the phrase post-Communism is Europe, which is marked by the fall of Berlin Wall in 1989 and the demise of the Soviet Union in 1991. Both events engendered a global perception of the departure of communism. However, this is not the case with China and East Asia in general. While the former Soviet Union was ideologically and territorially shattered, the PRC has grown economically and militarily stronger and, territorially, it regained sovereignty over Hong Kong and Macau. From the neoliberal perspective, the capitalist investments from the West were supposed to transform the communist state into a democratic nation with a familiar Western, election-based political system; instead, China is now transforming the world with its creative economic

and geopolitical projects, ideologically guided by its reformed communism. The Chinese state's ideological creativity clearly demonstrates an ability to invent metaphors and euphemisms that allow its reformed communism to shapeshift itself in globally accepted human universals. Eco-civilisation, or rather the ecological civilising project, is an integral part of the Chinese state's ideological teleology.

Conclusion

Ecology, as a science, is an integral part of humanity's long-standing drive to better understand how we are physically surrounded by and interact with the earth in both biological and cultural terms. It is a product of human civilisation. If we look into the Earth's ecosphere beyond the existence of *Homo sapiens* in the last 200,000 years, the earth is unimaginably more ancient than humankind, and has an "ecological civilisation" of its own, as evidenced in its self-regulated geophysiology (Margulis 1998: 114). However, the course of the imperial-scale human civilisations in different parts of the world has been a process of what I would call the "humanisation of the earth" in terms of our extractive relations with nature through intensive farming, pastoralism and industrial mining.

"Humanisation" in this regard perceptually conveys a sense of owning and physically overwhelming the earth's own geophysiological agency. The Anthropocene hypothesis conceived at the turn of the twenty-first century is the extreme point of the humanisation of the earth on a geological scale. Given the anthropogenic condition and the state ideology of contemporary China, it is reasonable to see China's eco-civilisation as an initiative of ecological restitution on the one hand, and as an instrument of propagating the Chinese state's own universal values drawn from its reformed communism. Thus, it inevitably falls under the spotlight of geopolitical and value debates.

The portrayal of the international community and the current world order in the texts of Shambaugh and Bremmer suggests the US-EU centredness of world affairs. The alliance of the United States and the European Union is undoubtedly the economic engine of the world. From the perspective of the Global South or developing countries, the ending of the bipolar world order of the Cold War in early 1990s was the starting point of the unipolar world order that has been challenged but maintained. The presence of the US military superpower in all oceans and continents suggests the physical force maintaining the order of a G-One world.

The democratic values of the West have been equally powerful in transforming the political landscapes of individual nations but are currently encountering both

domestic and international challenges in the arenas of national elections, the social ethics and responsibilities of the IT giants, and the debates of human rights vs. the right to subsistence. China, as the second largest economy on earth, is not merely a global factory (Smyer Yü 2015: 15) but is also an agent of change with its own production of human universal values. Framed in the reformed communist global initiative for "Building the Community of Shared Future for Mankind" and spread through UN agencies and projects, eco-civilisation is indisputably a civilising project. In principle, it is a restitutive project that cleans up the polluted environments and recovers environmental health from the extractive practice of economic development. In practice, it promulgates the values of the Chinese state, which the West opposes.

Earlier, when I said that Shambaugh's characterisation of Xi as a modern emperor appears to be a value judgment, I meant to point out a head-on collision of two value-systems. Shambaugh's image of "modern emperor" suggests the authoritarian political system of China on the one hand, in contrast to the democratic system of the United States and its Western allies on the other hand. This value-collision frequently occurs in the diplomatic diatribes in Sino-US and Sino-EU relations. Western politicians unprecedentedly express concerns about China's challenge to the common values they hold, namely civil liberty, democracy, equality and the rule of law. Charles Michel, the President of the European Council, said in a press release after the 22nd EU-China Summit videoconference in June 2020:

> We [the EU and China] do not share the same values, political systems, or approach to multilateralism. We will engage in a clear-eyed and confident way, robustly defending EU interests and standing firm on our values. (EU 2020)

His Chinese counterparts, in return, allege the hypocrisy and double-standards of Western democracy in the extradition case of Julian Assange, the treatment of Syrian refugees in Europe and the post-war humanitarian crisis in Afghanistan (Ministry of Foreign Affairs PRC 2011–2022). The common hypocrisy from both sides is that they continue to trade with each other while professing their conflicting values. Value in this case bears a twofold ontological meaning. On the one hand, it signifies the ongoing opposing ideological values of China and the West. On the other hand, it points to the common economic value from their international trade and investments. The former ideologically and politically divides them, while the latter irrefutably ties them together in the global economic system. Both sides wish to accept only the universal value of capital while trying to reject each other's political values. In this midst, China's eco-civilisation appears to play a role of transcending the ideological differences by strengthening the mutually desirable economic values with an added incentive to promote environmental wellbeing. However, given the future orientation of eco-civilisation as a communist utopia, its ultimate outcomes are not yet known.

References

Bao, Zhimin (2014): Ecological Civilization from the Sociological Perspective (社会学视野中的生态文明建设). *Inner Mongolia Social Sciences* 35(1), pp. 1–5.

Bremmer, Ian / Roubini, Nouriel (2011): A G-Zero World: The New Economic Club Will Produce Conflict, Not Cooperation. The Council on Foreign Relations, 31 January 2011, http://www.foreignaffairs.com/print/67210?page=show (accessed 22 November 2020).

Bremmer, Ian (2012): *Every Nation for Itself: Winners and Losers in a G-Zero World*. London / New York: Penguin.

Brundtland, Gro Harlem (1987): Our Common Future: Report of the World Commission on Environment and Development. Geneva, UN-Dokument A/42/427, http://www.un-documents.net/ocf-ov.htm (accessed 25 November 2020).

Cobb, Jr. John / Vltchek, Andre (2019): *China and Ecological Civilization*. Jakarta: Badak Merah.

Comaroff, Jean / Comaroff, John (1991): *Of Revelation and Revolution: Christianity, Colonialism, and Consciousness in South Africa*. Volume 1. Chicago: The University of Chicago Press.

Crosby, Alfred W. (2004): *Ecological Imperialism: The Biological Expansion of Europe, 900–1900*. Cambridge: Cambridge University Press.

Curtzen, Paul J. / Stoermer, Eugene F. (2000): The "Anthropocene". *Global Change Newsletter* 41(May), pp. 17–18.

Deng Xiaoping (1993): *Selected Works of Deng Xiaoping* (邓小平文选). Beijing: People's Press.

Duara, Prasenjit (2015): *The Crisis of Global Modernity: Asian Traditions and a Sustainable Future*. Cambridge: Cambridge University Press.

EU (2020): EU-China Summit: Defending EU Interests and Values in a Complex and Vital Partnership. Press release by President Michel and President von der Leyen. https://www.consilium.europa.eu/en/press/press-releases/2020/06/22/eu-china-summit-defending-eu-interests-and-values-in-a-complex-and-vital-partnership/pdf (accessed 25 November 2020).

Foster, John Bellamy (2015): Marxism, Ecological Civilization, and China. Resilience, 20 June 2015, https://www.resilience.org/stories/2015-06-20/marxism-ecological-civilization-and-china/ (accessed 25 November 2020).

Foster, John Bellamy (2000): *Marx's Ecology: Materialism and Nature*. New York: Monthly Review Press.

Fredriksen, Paula (2006): Christians in the Roman Empire in the First Three Centuries CE. In: David S. Potter (ed.): *A Companion to the Roman Empire*. Malden, MA: Blackwell Publishing, pp. 587–606.

Gare, Arran (2012): China and the Struggle for Ecological Civilization. *Capitalism Nature Socialism* 23(4), pp. 10–26.

Gilley, Bruce (2012): Authoritarian Environmentalism and China's Response to Climate Change. *Environmental Politics* 21(2), pp. 287–307.

Hansen, Mette Halskov / Li, Hongtao / Svarverud, Rune (2018): Ecological Civilization: Interpreting the Chinese Past, Projecting the Global Future. *Global Environmental Change* 23(10), pp. 195–203.

Harrell, Stevan (1995): Introduction: Civilizing Projects and the Reaction to Them. In: Stevan Harrell (ed.): *Cultural Encounters on China's Ethnic Frontiers*. Seattle: University of Washington Press, pp. 3–36.

Heurtebise, Jean-Yves (2017): Sustainability and Ecological Civilization in the Age of Anthropocene: An Epistemological Analysis of the Psychosocial and "Culturalist" Interpretations of Global Environmental Risks. *Sustainability* 9, p. 1331.

Hu Jintao (2007): The Address to the Seventeenth National Congress, 26 October 2007. The State Council Information Office of the People's Republic of China, http://www.scio.gov.cn/37231/Document/1566887/1566887_11.htm (accessed 25 November 2020).

Imbach, Jessica (2020): Is Green the New Red? Briefs/Analyses, October 2020. European Institute for Chinese Studies, http://www.eurics.eu/publication_analyses-n-5--chine--une-civilisation-ecologique-_en (accessed 25 November 2020).

Kassiola, Joel Jay (2013): Series Editor's Preface: The Environment, Economic Growth, and Political Legitimacy: Will China Seize the Opportunity to be a World Environmental Leader? In: Bingqiang Ren / Huisheng Shou (eds): *Chinese Environmental Governance: Dynamics, Challenges, and Prospects in a Changing Society*. New York: Palgrave, pp. xi-xiii.

Ke, Shuifa / Liefu, Zhu / Hang, Yuan / Puhua, Ji (2018): An Economic Interpretation and Policy Enlightenment of the "Two Mountains" Theory: An Analysis Based on the Example of Complete Cessation of Commercial Logging of Natural Forests. *Chinese Rural Economy* 12(8), pp. 1–15.

Korten, David (2017): Ecological Civilization and the New Enlightenment. *Tikkun* 2017(Fall), pp. 17–70.

Li, Meng (2018): Community, Justice and Nature: On the Philosophical Foundation of "Man and Nature Forming a Community of Life" and the Ecological Dimension of "Community with Shared Future for Mankind". *Journal of Xiamen University (Arts and Social Sciences)* 249(5), pp. 9–15.

Li, Xiumin (2018): A Study of the Relationship between "Real Community" and "Community of Shared Future for Mankind" ("真正的共同体冶与"人类命运共同体冶关系之辨). *Marxism Studies* 11, pp. 135–142.

Li, Yifei / Shapiro, Judith (2020): *China Goes Green: Coercive Environmentalism for a Troubled Planet*. Cambridge, UK: Polity Press.

Lin, Xiaoli / Hao, Yuping / Xie, Yuantai (2020): The Cultural Origin and Main Connotation of Green Development Concept. *Finance and Management* 4(4), pp. 43–47.

Liu, Haijuan / Qibo, Tian (2020): The Core Concept and Internal Logic of Xi Jinping's Thought on Ecological Civilization (习近平生态文明思想的核心理念与内在逻辑). *Journal of Shandong University* 1, pp. 1–9.

Lü, Zhongmei (2021): Ecological Civilization's Rule of Law in Xi Jinping Thought (习近平法治思想的生态文明法治理论). *China Legal Science* 1, pp. 48–64.

Margulis, Lynn (1998): *Symbiotic Planet: A New Look at Evolution*. Amhurst, MA: Basic Books.

Miller, James (2013): Monitory Democracy and Ecological Civilization in the People's Republic of China. In: Lars Trägårdh / Nina Witoszek / Bron Taylor (eds): *Civil Society in the Age of Monitory Democracy*. Oxford: Berghahn Books, pp. 137–148.

Ministry of Ecology and Environment of the People's Republic of China (2012): Ye Qianji's Construction of Ecological Civilization (叶谦吉的生态文明建设). Special column, 13 August 2012. Ministry of Ecology and Environment of the People's Republic of China, https://www.mee.gov.cn/home/ztbd/rdzl/stwm/zjwl/201211/t20121108_241630.shtml (accessed 25 November 2020).

Ministry of Foreign Affairs of the People's Republic of China (2022): Spokespersons' Remarks 2011–2022, Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/mfa_eng/xwfw_665399/s2510_665401/2535_665405/ (accessed 25 November 2020).

Marinelli, Maurizio (2018): How to Build a "Beautiful China" in the Anthropocene: The Political Discourse and the Intellectual Debate on Ecological Civilization. *Journal of Chinese Political Science* 23, pp. 365–386. https://doi.org/10.1007/s11366-018-9538-7

Marx, Karl / Engels, Friedrich (1970): *The German Ideology*. New York: International Publishers.

Morrison, Roy (2013): Building an Ecological Civilization. A plenary address to World Cultural Forum in Hangzhou, China, 17 May 2013. https://www.ecozoicstudies.org/musings/2013/building-ecological-civilization/ (accessed 25 November 2020).

O'Connor, James (1998): *Natural Causes: Essays in Ecological Marxism*. New York: Guilford Press.

Pan, Jiahua (2016): *China's Environmental Governing and Ecological Civilization*. New York: Springer.

Pan, Yue (2006): The Rich Consume and the Poor Suffer the Pollution. China Dialogue, 27 October 2006. Chinadialogue.net/en/business/493-the-rich-consume-and-the-poor-suffer-the-pollution/ (accessed 25 November 2020).

Pan, Yue (2018): Building the Community of Shared Future for Mankind through the Ecological Civilization. CPC News, 18 October 2018. http://theory.people.com.cn/n1/2018/1018/c40531-30349251.html (accessed 25 November 2020).

Pan, Yue (2011): Ecological Wisdom of the Ages. China Dialogue, 11 January 2011. https://chinadialogue.net/en/nature/4045-ecological-wisdom-of-the-ages/ (accessed 22 November 2020).

Peet, Richard / Robbins, Paul / Watts, Michael (2011): Global Nature. In: Richard Peet / Paul Robbins / Michael Watts (eds): *Global Political Ecology*. London: Routledge, pp. 1–47.

Qi, Huaigao (2019): The Experience, Characteristics and Challenges of New China's Multilateral Diplomacy in the Last Seventy Years (新中国70年周边多边外交的历程、特点与挑战). *World Economics and Politics* 6, pp. 43–64.

Qiao, Wenwen (2019): "Community of Human Destiny" Is the Theoretical Inheritance and Development of Marxist "Community" Thought. ("人类命运共同体"是马克思主义"共同体"思想的理论传承与时代发展). *Modern Education Forum* 2(6), pp. 22-24.

Shambaugh, David (2020): China's Long March to Global Power. In: David Shambaugh (ed.): *China and the World*. Oxford: Oxford University Press, pp. 3-21.

Shambaugh, David (2021a): *Where Great Powers Meet: America and China in Southeast Asia*. Oxford: Oxford University Press.

Shambaugh, David (2021b): *China's Leaders: From Mao to Now*. Cambridge, UK: Polity Press.

Smyer Yü, Dan (2016): Environmental Perspectives on Ecological Civilization. In: Jon Sawyer (ed.): *Ecological Civilization: Proceedings International Conference on Ecological Civilization and Environmental Reporting*. Beijing: Yale Center Beijing, pp. 21-22.

Sťahel, Richard (2020): China's Approach to the Environmental Civilization. *Human Affairs* 30, pp. 164–173. https://doi.org/10.1515/humaff-2020-0016

Tu, Weiming (2013): Understanding Ecological Civilization: The Confucian Way. Hangzhou International Congress on "Culture: Key to Sustainable Development", 15–17 May 2013, Hangzhou, China.

Tucker, Mary Evelyn / Grim, John (2017): The Movement of Religion and Ecology. In: Willis Jenkins / Mary Evelyn Tucker / John Grim (eds): *Routledge Handbook of Religion and Ecology*. New York: Routledge, pp. 3-12.

UNEP (2016): *Green is Gold: The Strategy and Actions of China's Ecological Civilization*. New York: UNEP.

UNEP (2019): Building an Ecological Civilization: Theme for 2020 UN Biodiversity Conference Announced, 10 September 2019. UNEP, https://www.unep-wcmc.org/news/building-an-ecological-civilization--theme-for-2020-un-biodiversity-conference-announced (accessed 17 November 2020).

V.O.A. - Voice of America (2021): After the June 4th Has Been Sealed in the Dust for Thirty-two Years, Are "Xiaofenghong" Becoming the Mainstream of Chinese Youths?" (六四走过尘封的32年 "小粉红"成中国青年主流力量?). Voice of America – Chinese language, 1 June 2021. https://www.voachinese.com/a/from-Tiananmen-Movement-to-thirty-two-years-of-change-the-rise-of-China-s-little-pinks-20210601/5912118.html (accessed 25 November 2020).

Xi, Jinping (2002): I'm a Son of this Yellow Earth. *National New Books Information* 12.

Xi, Jinping (2005): Green Mountains are Gold Mountains (青山绿水就是金山银山). *Zhejiang Daily*, 15 August 2005.

Xi, Jinping (2018): *On Building a Human Community with A Shared Future* (论坚持推动构建人类命运共同体). Beijing: Central Party Literature Press.

Xia, Baolong (2015): Walking the Path of "Green Mountains and Clean Water as Gold and Silver Mountains". *Contemporary Zhejiang* 16.

Xu, Chun (2010): The Position of Ecological Civilization in Human Culture (生态文明在人类文明中的地位). *Journal of Remin University of China* 2, pp. 37–45.

Wang, Hui / Xuemei, Jiang / Jiancheng, Chen / Weiming, Song (2017): A Theoretical Explanation for the Relationships between "Green Hills" and "Golden Hills". *Chinese Rural Economy* 4, pp. 1–11.

Wang, Yiwei / Xiaosong, Tang (2009): From Hegemonic Stability to Unipolar Stability: The Return of the New Pragmatism after the Cold War (从霸权稳定论到单极稳定论——冷战后新现实主义的回归). *World Economics and Politics* 9, pp. 14–19.

Wang, Zhihe / He, Huili / Fan, Meijun (2014): The Ecological Civilization Debate in China: The Role of Ecological Marxism and Constructive Postmodernism: Beyond the Predicament of Legislation. Monthly Review, 1 November 2014. https://monthlyreview.org/2014/11/01/the-ecological-civilization-debate-in-china/ (accessed 17 November 2020).

Yu, Liang (2021): The Genealogy and Ecology of Xiaofenhong and the Future of Chinese Youths (小粉红的系谱、生态与中国青年的未来). Beijing Cultural Review, 6 October 2021. http://www.21bcr.com/xiaofenhongdexipushengtaiyuzhongguoqingniandeweilai/ (accessed 25 November 2020).

Yuan, Shuai (2017): Confucianism and Ecological Civilization: A Comparative Study. *Culture Mandala: Bulletin of the Centre for East-West Cultural and Economic Studies* 12(2), pp. 1–8.

Zhang, Jun (2014): Marxist Ecological Thought and the Construction of Ecological Civilization (马克思主义生态观与生态文明建设). Paper presented at the Forum for Celebrating Henan Provincial Commemoration of the 90th Anniversary of the Chinese Communist Party, 2014. https://scumlt.cn/upload/file/20161127/o0hl272eqqj4apb30oog1s8q12.pdf (accessed 24 November 2020).

Zhang, Yonghong / Wengui, Duan (2017): A Discussion of Xi Jinping Thought on "Community of Shared Future for Mankind" (习近平"人类命运共同体"理念初探). *Observation and Reflection* 6, pp. 62–67.

Zhou, Fangyin (2017): Chinese Scholars' Perceptions and Debates on Geopolitics (中国学者对国际格局的认识与争鸣). *Quarterly Journal of International Politics* 2(2), pp. 1–32.

Zhuang, Guiyang / Fei, Ding (2020): Lucid Waters and Lush Mountains Are Invaluable Assets: Transformation Mechanism and Path Selection. *Environment and Sustainable Development* 4, pp. 26–30.

IQAS Vol. 53 / 2022 iii, pp. 357–384

The Geotechnical Imaginary of the Belt and Road: Mobilising Imaginative Labour

Andrew Chubb

Abstract

What is the Belt and Road? Academics, pundits and policymakers have offered divergent answers ranging from a grand geostrategic gambit to an incoherent frenzy of sub-state commercial opportunism, from an inward-looking hinterland development strategy to the building of a global "community of common destiny for mankind", and from an overflow of industry to a vacuous propaganda slogan. While there is evidence to support each of these arguments, this long and growing list lacks an integrative framework that could shed light on the relationships among the individual phenomena. This article offers a step in this direction, drawing from science and technology studies. It contends that these disparate perspectives on the BRI can be integrated into an understanding of the BRI as a geotechnical imaginary – a collectively imagined form of global life and order reflected in the design and performance of specific technological projects. This perspective foregrounds how China's party-state's capacious BRI slogan has mobilised imaginings – both affirmatory and oppositional – on a global scale. These shared imaginings, with divergent normative implications, suggest a broadening of the existing concept of sociotechnical imaginaries.

Keywords: China, Belt and Road, geopolitics, imaginative labour, sociotechnical imaginaries

> I wisely started with a map, and made the story fit [. . .]. The other way about lands one in confusions and impossibilities. (J.R.R. Tolkien)

Introduction

What is the Belt and Road? Since late 2013, the People's Republic of China (PRC) has touted the "Silk Road Economic Belt" and "New Maritime Silk Road" as a visionary, globe-spanning infrastructure and connectivity program. Academics, pundits and policymakers have offered divergent explanations, ranging from a grand geostrategic plan to dominate Eurasia to an incoherent product of sub-state bargaining and opportunism, from a provincial hinterland develop-

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DOI 10.11588/iqas.2022.3.13954

ment strategy to the construction of a "community of common destiny for mankind", from an overflow of excess industrial capacity to a vacuous propaganda slogan.[1] There is evidence to support each of these arguments, but the long and growing list lacks an integrative axis that could shed light on the relationships among the diverse phenomena that comprise the Belt and Road Initiative (BRI). This article makes a modest step in this direction, drawing from science and technology studies (STS). It proposes that many of these disparate views can be integrated into an understanding of the BRI as a geotechnical imaginary – a collectively imagined form of global life and order reflected in the design and performance of technological projects. This global BRI imaginary reflects how the PRC party-state has mobilised imagination on both a national and global scale. However, in contrast with standard understandings of "sociotechnical imaginaries" (Jasanoff / Kim 2009, Jasanoff 2015), the normative implications of the BRI imaginary have been sharply contested, lurching between utopia and dystopia.

The PRC's Belt and Road has been a remarkable success in leveraging the imaginative energies of both Chinese and international intellectual and economic actors. Many areas of contemporary Chinese policymaking have reflected this development, with the party leadership putting forward broad, capacious slogans that invite lower-level agencies, societal actors and even international audiences to fill in the blanks. In the 1980s the party used airy maxims such as "Development is the overriding principle" and "Cross the river by feeling the stones" to mobilise local economic experimentation (Huang 2008). Such slogans set a general overall goal while inducing lower-level actors to imagine ways of moving in that direction based on local conditions. This process of top-down/bottom-up interplay, which Yuen Yuen Ang (2016) encapsulates as "directed improvisation", has been a highly effective means of mobilising and harnessing imaginative labour in China's domestic context. Contrary to critics who argue that Beijing's BRI sloganeering has lacked coherence (Jones / Zeng 2019, Ye 2019, Zeng 2020), this paper argues that the unleashing of such imaginative energies of audiences both at home and abroad has been a core element of the campaign.

However, the PRC's success in mobilising imaginative labour does not imply that individual BRI projects will succeed, nor that the campaign overall will achieve its multifarious goals. As existing works on the BRI have highlighted, these likely include preserving Chinese Communist Party (CCP) rule at home, alleviating industrial overcapacity issues (particularly in construction), developing China's western hinterland and expanding Beijing's geostrategic influence abroad. But mobilising forces of imagination on a global scale carries risks that have not been present in the PRC's domestic context. Unlike within China's borders, where the ruling party's supreme political authority has enabled

1 Cf. Yu 2017, Gibson / Lee 2018, Jones / Zeng 2019, Hillman 2018, Zeng 2016.

the party-state to both suppress oppositional imaginings and also to nip nascent economic crises in the bud, the BRI's geotechnical imaginary is a co-creation of both Chinese and foreign actors operating in a world of intensifying hegemonic contestation. This leaves Beijing struggling to control the BRI imaginary's basic normative content and calls into question its ability to cultivate the "directed improvisation" so integral to the PRC's economic success at home.

The paper begins by reviewing the literature on the BRI, highlighting a schism between geostrategic and domestic political accounts of its nature and the more recent emergence of works examining the BRI as a process. Next, it outlines the theoretical framework of "sociotechnical imaginaries", identifying their key features and utility as analytic constructions, and distinguishing the BRI as a geotechnical rather than sociotechnical imaginary. The third section traces the mobilising visions of the BRI – and its component parts, the "New Silk Road Economic Belt" and "21st Century Maritime Silk Road" – via examination of the PRC party-state's key official statements and documents on the subject. Deploying textual analyses of publications from think tanks, organisations and governments on the BRI, together with convenience samples of popular BRI imagery derived from leading internet search engines, the fourth and fifth sections detail the responses of the PRC and overseas actors who have co-produced a BRI imaginary that envisages the PRC as a techno-civilisational hub from which infrastructures of capitalist connectivity radiate.

Belt and Road Studies – an overview

Studies of the BRI can be divided into three broad categories. One line of analysis, termed here the *strategic BRI* literature, approaches the BRI as a top-down strategy to boost the PRC's global influence with the ultimate goal of building a hegemonic order with the PRC at the top and centre. The second, termed here *domestic BRI* interpretations, views the BRI as a product of internal political priorities, contradictions and processes of contestation, emphasising its uncoordinated implementation, its economic drivers and ultimately non-strategic aspects. A third line of analysis, termed here *BRI-as-process*, has viewed the BRI as a process of interaction between high-level political initiative and lower-level responses, innovations and – the focus of this article – imagination.

Strategic BRI perspectives broadly share the view that the BRI is designed to achieve international political influence. Hong Yu (2017: 356, 367), for example, argues that the BRI represents the PRC's "aspirations for global ascendancy" by "leveraging its financial power and strong manufacturing and infrastructure development capacity". Flynt Leverett and Wu Bingbing (2017) describe it more broadly as a product of China's "grand strategy", meaning the concerted

mobilisation of the state's military, economic and cultural resources for geostrategic goals. Daniel Kliman and Abigail Grace (2018: 1) take it as a "power play" aimed at realising "Beijing's emerging vision – a world defined by great power spheres of influence, rigged economic interactions, and ascendant authoritarianism". The PRC party-state's own propaganda initially referred to the Belt and Road as a "strategy", though as shown below this was soon replaced with the more semantically indeterminate "initiative".

A closely related lens is that of economic statecraft, or the use of economic inducements and punishments for international political goals (Baldwin 1985). This line of argument points to the BRI as an exercise in the deployment of infrastructure and finance for strategic gain. Proponents of this view point to the potential for PRC infrastructure, especially information and communication systems, to result in long-term dependency and political vulnerability of recipient countries (Kliman / Grace 2018). In the area of finance, critics argue that the BRI constitutes a deliberate campaign of "debt-trap diplomacy" (Chellaney 2017). This argument has mainly relied on the case of the port of Hambantota in Sri Lanka, which was transferred to PRC state-owned enterprises in 2018 after the Sri Lankan side was unable to keep up with repayments (Kliman / Grace 2018: 9).

Domestic BRI analyses also come in two broad variations, one emphasising China's economic imbalances, the other domestic political contestation. First, it has been argued that the BRI's infrastructure projects reflect the imperatives of correcting regional underdevelopment and deploying excess industrial capacity and capital – a "spatial fix" for issues of Chinese capitalism (Harvey 2001, Sum 2019). John Gibson and Chao Lee (2018) note that major economic investments are most likely in areas of China's western hinterland, which have long been a priority of the central leadership. Raffaello Pantucci and Sarah Lain (2017: 17–29) detail how the BRI addresses domestic insecurity issues, particularly over Xinjiang. The BRI also stands to help address internal imbalances in the PRC economy, particularly industrial overcapacity. Consistent with this domestic-first motivation, Jonathan Hillman's (2018) analysis of the location of 173 PRC infrastructure projects announced between 2013 and 2017 found little correlation with the transnational geographic corridors that officially comprise the BRI.

Domestic political contestation has also been central in numerous analyses of the BRI. Adopting state transformation theory's emphasis on sub-state competition among capitalist interests, Lee Jones and Jinghan Zeng (2019) highlight the influence of various domestic Chinese actors' lobbying efforts and narrowly self-interested reinterpretations of the BRI's geography and nature. They present evidence of diverse competing interests that the central agencies in Beijing have struggled to coordinate, resulting in the BRI "unfolding in a fragmented, incoherent fashion" (Jones / Zeng 2019: 1416). Among the strongest evidence for this

interpretation is the fact that the lead agency for the project, the National Development and Reform Commission (NDRC), has repeatedly been overruled or had its preferences disregarded, for instance in the designation of the BRI as an "initiative" rather than a "strategy" and in the BRI's global scope, as against the NDRC's preference for specific lists of involved countries.

Yet both the geostrategic and domestic politics interpretations are incomplete, as they fail to account for each other's empirical observations. Baogang He (2018) notes the paradox of the BRI's being both strategic and uncoordinated at the same time. Similar potential contradictions abound: How can it be both historical and futuristic? State-led and market-driven? Networked and hierarchical? Sinocentric and all-inclusive?

A third line of analysis has begun to wrestle with such contradictions by focusing on the BRI as a process. In particular, scholars have identified the importance of interplay between Chinese central leaders' strategic intentions and sub-state actors' narrowly self-interested responses. Min Ye (2019: 697), for example, argues that the BRI illustrates the nexus of a top-down "mobilization campaign" and "subnational and corporate actors improvis[ing] projects and programs that serve their own economic interests". The targets of such mobilisation – and thus the direct implementers of the policy – are state-owned enterprises, financiers and local governments (Ye 2019: 699). In performing the implementation of the BRI these actors have considerable scope to shape what the BRI actually is.

In a similar vein, Astrid Nordin and Mikael Weissmann (2018) examine how Chinese intellectual elites have imagined the BRI, highlighting the apparently productive interplay of global networked capitalism and China as a national unit in the PRC elites' future-oriented discourses. Based on interviews with PRC scholars, they find a consensus among Chinese researchers that envisions the BRI as both "government-led" and "market-driven" (Nordin / Weissmann 2018: 240). Nordin and Weissman draw attention to the paradox of China's communist party-state being imagined as a source of future global capitalism – a form of imagining that, as this article will show, has been shared by numerous international organisations.

Jinghan Zeng (2020) approaches the BRI's top-down/bottom-up interplay as an example of CCP "slogan politics". While the primary impetus for such slogans is Xi Jinping's political power, Zeng argues, the processes they set in motion serve three other purposes: stimulating action by constituencies (such as those described by Ye); persuading domestic and international target audiences; and mobilising intellectual support to fill the empty-vessel concepts with concrete meanings. Building on the latter insight, this article will show how involvement in this process of imaginative labour, and subsequent feedback into the content of the original vision, is not limited to Chinese domestic constituencies.

Following Maximilian Mayer and Dániel Balazs (2018), this paper draws on the concept of imaginaries as used in STS to develop lines of enquiry that this "BRI-as-process" literature has not yet fully explored. This opens up a new interpretation of the BRI as a "geotechnical imaginary", a dynamic and influential collective imagining that extends well beyond the PRC's borders, and whose normative implications are sharply contested, even as its underlying visions are shared. This foregrounds the performance of imaginative labour in the production of the BRI imaginary – from economic actors that signal loyalty to Xi by reimagining their own priorities through the lens of Xi's "Belt and Road" slogan politics, to the international organisations that see in the BRI an opportunity to advance preferred reform agendas, to foreign governments and analysts who leverage the same BRI visions to warn of an impending Sinocentric techno-dystopian future.

Imaginaries, sociotechnical and geotechnical

The concept of sociotechnical imaginaries refers to processes of collective imagining that constitute societies' relationships with technologies. Sheila Jasanoff and Sang-Hyun Kim (2009: 120) defined sociotechnical imaginaries as

> collectively imagined forms of social life and social order reflected in the design and fulfilment of nation-specific scientific and/or technological projects. […] Imaginaries, in this sense, at once describe attainable futures and prescribe futures that states believe ought to be attained.

The concept thus focuses attention to how these collective imagining processes have effects on technological policies and practices, which in turn feed back into the process of collective imagining in a process of "co-production".

Sociotechnical imaginaries have offered an explanation for variation across different states' and societies' relationships with particular technologies, or in a single society's relationship with technology over time. In their paradigmatic case study, Jasanoff and Kim compared the prevailing visions of nuclear power in American and South Korean societies, arguing that variation in such sociotechnical imaginaries produced significantly different outcomes in the relationship between the technology and society. In the US case, where nuclear technology was widely imagined as a threat, the state's proper role was one of regulation and containment. In Korea, by contrast, where nuclear technology was imagined as a source of development, the state's proper role was to unleash the technology's economic potential (Jasanoof / Kim 2009).

Within this original "nation-specific" formulation, the influence of sociotechnical imaginaries could help explain cross-national divergences in a range of policy areas such as genome sequencing, surveillance and nanotechnology.

But many more examples of sociotechnical imaginaries come into view if the "nation-specific" element of the original definition is relaxed (Jasanoff 2015: 4). Utopian and dystopian visions put forward by future-oriented fiction writers like Mary Shelley in *Frankenstein* and George Orwell in *Nineteen Eighty-Four* introduced visions that have profoundly shaped imaginings of the society-technology nexus across borders and generations. Politicians, corporations, activists, legislatures and courts have also helped bring particular visions of future technology to collective prominence. But while competing *visions* proliferate, Jasanoff (2015: 4) emphasises it is only in their communal adoption that they become *imaginaries*.

Jasanoff (2015: 20) has carefully distinguished sociotechnical imaginaries from other alternative concepts. Sociotechnical imaginaries are less specifically goal-directed and institutionally accountable than plans or policies, though they may help explain them. Nor are sociotechnical imaginaries "master narratives" concerning immutable pasts – rather, imaginaries are primarily about the changeable future. Nor are they media frames: imaginaries are more concrete, being associated with "active exercises of state power, such as the selection of development priorities, allocation of funds, investment in material infrastructure, and acceptance or suppression of political dissent" (Jasanoff / Kim 2009: 123).

A key analytic payoff of the concept of the sociotechnical imaginary is its conceptualisation of imagination as a "cultural resource" and "an organized field of social practices" that states and other actors can shape to real-world effect (Jasanoff / Kim 2009: 122, Jasanoff 2015: 8). It offers a way of understanding how collective imaginings – as distinct from the individual visions of brilliant individual scientists, inventors, thinkers, artists or dreamers – impact, and are impacted by, real-world phenomena in a process of "co-production". As Mayer and Balazs (2018: 205) have shown, applying the lens of sociotechnical imaginaries to the BRI reveals how "seeing, planning, and strategizing the future of Eurasia already affects the present, even before the promised investments in the countries along the modern Silk Road materialize".

How exactly "imaginative labour" is mobilised as a resource is a subject requiring further research. At least three general mechanisms are plausible. For David Graeber (2006) it is structural violence – the systematic threat of force – that compels the powerless to perform "interpretive labour" that enables the maintenance of social relations. But while the Chinese party-state's coercive power certainly structures the process of collective imaginings within the PRC's borders, the BRI case also suggests that material inducements and bureaucratic-organisational practices can generate imaginative labour. As Arjun Appadurai (1996: 31) observed, "the imagination has become an organized field of social practices, a form of work (both in the sense of labor and of culturally organized practice)". In the case examined here, imaginative labour appears to have primarily

been generated through a combination of eye-watering financial inducements and light-touch organisational orchestration (Reilly 2021).

But the BRI imaginary examined here also poses challenges to the standard concept of sociotechnical imaginaries. For Jasanoff (2015: 4) it is the *communal* adoption of visions of *desirable* futures that constitutes imaginaries. Yet shared visions of the future can transcend national borders, in the process acquiring geopolitical dimensions. As this article will show, there is no shortage of commonality in the BRI imaginations of its key proponent, the PRC party-state, and its opponents, whose fears often centre precisely on the same imagined future. This indicates how, when visions of the society-technology nexus spread beyond national borders, their communal adoption may produce imaginaries with sharply disjointed normative significance and an even greater multiplicity of meanings (Kim 2015).[2]

Mayer and Balazs's (2018) detailed study of Chinese BRI cartography emphasised the distinctiveness of the PRC's collective imagining of global futures centred on Eurasia – particularly when compared with competing visions found in India. In contrast, this article focuses on the convergence in the imaginings shared by Chinese and international actors. Rather than a sociotechnical imaginary driving towards a desirable future, the BRI imaginary examined here is akin to Appadurai's (1996) idea of global imaginaries as constituted by a series of "scapes" whose fundamentally common (global) content nonetheless appears differently depending on one's vantage point. Law (2002: 3) describes such processes of collective imagining as "fractional": neither singular nor plural; coherent but without forming a consistent whole.

Jasanoff (2015: 4–5) defends the privileging of "desirable" futures in the definition of sociotechnical imaginaries by observing that "efforts to build new sociotechnical futures are typically grounded in positive visions of social progress". But even if this is so as a general rule, the BRI imaginary examined here offers an illuminating counterexample. It shows how, where sociotechnical and geopolitical visions of the future intersect – and interact – on a global scale, they can be communally adopted without entailing a common normative significance. I term this transnational but fractional and normatively contested vision of a geopolitical-technological future a "geotechnical imaginary": a collectively imagined form of *global* life and *global* order reflected in the design and performance of technological projects.

The remainder of the article examines the BRI as constituted by these processes of collective imagining both within and beyond China. It starts with the PRC party-state, whose leader Xi Jinping, I argue, consciously initiated the process of collective imagining from the top of the party-state apparatus. The focus then turns to Chinese policymakers, intellectuals and economic actors

2 It follows logically that either imaginaries are not singular but multiplicitous, per Appadurai 1996, Law 2002 and Kim 2015, or they are in general nationally bounded, per the original Jasanoff / Kim 2009 definition.

whose imaginative labour was integral in turning a largely empty slogan into a shared but multiplicitous transnational imaginary. The third section examines how the co-imaginings of foreign political, economic and policy actors have made the BRI a global, normatively contested, shared vision of a geotechnical futurescape.

The official BRI: mobilising imagination

The BRI vision originated in late 2013 with a pair of speeches by Chinese Communist Party General Secretary Xi Jinping introducing, respectively, the idea of a land-based "Silk Road Economic Belt" and a seaborne "21st Century Maritime Silk Road". This was followed up at a central party work meeting on "peripheral diplomacy" (周边外交) in October 2013, at which Xi listed the two as part of China's policy towards Central and Southeast Asia. By mid-December, officials such as Foreign Minister Wang Yi had begun using the shorthand "One Belt, One Road" (一带一路) in public comments (Zhang / Yang 2013). This marked the synthesis of Xi's two speeches into a single "Belt and Road". Below, I argue the content of the two speeches clearly suggests that mobilising imagination was a key goal of Xi himself.

Xi's speeches: exhortation, evocation and exemplars

The first reference to the "belt" can be traced to Xi's speech at Kazakhstan's top university on 7 September 2013. Prefaced by an exhortation to "expand regional cooperation with a more open mind and broader vision to achieve new glories", the speech introduced the concept of a "Silk Road Economic Belt":

> To forge closer economic ties, deepen cooperation and expand development space in the Eurasian region, we should take an innovative approach and jointly build a Silk Road Economic Belt. This will be a great undertaking benefitting the people of all countries along the route.

According to Xi, the Belt was home to 3 billion people, "the biggest market in the world, with unparalleled potential".

The "great undertaking" was to play out in five areas: policy coordination, road connections, unimpeded trade, monetary circulation, and people-to-people understanding. Far from narrowing the scope or giving the vision concrete definition, these "Five Connectivities" (五个畅通) reinforced the capaciousness of Xi's vision, expanding its scope from economic activity to cover a broad set of sociopolitical policies.

Four weeks later, in a speech in Jakarta on 2 October 2013, Xi proposed the construction of a "21st Century Maritime Silk Road". This virtually doubled

the geographical scope to cover not only the transcontinental Eurasia-Africa landmass, but also the Asia-Pacific and Indian Ocean maritime spaces in between.

While Xi's Silk Road exhortations prominently referenced "ancient times", the speeches not only acknowledged the enormous gap between current reality and the vision of the future, they actively emphasised it. In Astana, Xi explicitly stated: "To turn this into a reality, we may start with work in individual areas and link them up over time to cover the whole region." In Jakarta Xi described the Maritime Silk Road as requiring a "joint effort to build", using the occasion to announce an Asian Infrastructure Investment Bank (AIIB) to fund relevant projects.

Some observers have characterised the expansion of the BRI's geographic scope as a function of domestic and international lobbying that took advantage of Xi's attempt to build domestic legitimacy through grandiose sloganeering (Jones / Zeng 2019). But the above observations indicate that the expansive, flexible and progressively growing scope of the BRI was present in its initiator's vision from the beginning. Indeed, since the initial pair of speeches, Xi has continuously affirmed the "open and inclusive" (开放包容) nature of the BRI. As Xi told the Bo'ao Forum in March 2015: "It is not closed but open and inclusive; it is not a solo by China (中国一家的独奏), but a chorus (合唱) of the countries along the route (沿线国家)." Such comments suggest that the BRI was from the beginning intended to be more than an assertion of individual political supremacy. It was, rather, a conscious invitation to Chinese and foreign actors to unleash imagination and envision a world of comprehensive technological and political connectedness, with the PRC at the centre.

Xi's choice of historical imagery also consistently referenced a Sinocentric past, on both land and sea. At the 2017 BRI Summit meeting in Beijing, Xi exhorted participants to reprise the "glory of the ancient silk routes" in surmounting geographical distance. There is little doubt that such sloganeering was intended in part to legitimise Xi's own authority at home and to generally assert the benign nature of its current political regime abroad. But the historical imagery also serves an arguably even more important function in mobilising imaginations through exemplars. Xi's 2017 BRI Summit speech began by invoking a rollcall of specific ancient characters whose diplomacy, trade and learning had, he said, embodied the "Silk Road Spirit". The elevation of such exemplars has been a hallmark of the PRC's campaign-style governance since before it took power in 1949 (Li 1994). Exemplars are designed to stimulate the target constituencies' activities by offering concrete demonstrations of how to implement the party's goals to real-world action. Xi's own words indicated that such a methodology of mobilisation was once again in play – this time both within and beyond China's borders.

Further evidence of the kind of response Xi sought has emerged in subsequent speeches by the CCP General Secretary. In 2018, at a domestic symposium mark-

ing the fifth anniversary of the BRI, Xi used a Chinese painting analogy to announce a transition in the focus of BRI work from "broad freehand" (大写意) to "meticulous brushwork" (工笔画) – that is, away from freewheeling creativity, towards controlled specific action (Xinhua 2018). Ang (2019) argues that this was a sign that the BRI had failed to achieve its practical goals. However, Xi's retrospective analogy to traditional freehand painting equally suggested Xi's BRI sloganeering had, to that point, been significantly oriented towards mobilising imagination and creativity.

PRC official announcements

Two years after Xi's speeches, the NDRC, the Ministry of Commerce (MOFCOM) and Ministry of Foreign Affairs (MFA) laid out more concretely the "great undertakings" that Xi had flagged. Clarifying the BRI's scope was a prime task of a document the three agencies issued in March 2015 under the title *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* (推动共建丝绸之路经济带和21世纪海上丝绸之路的愿景与行动). Yet, the document did not specify the extent of the BRI, and instead explicitly reinforced its geographical indeterminacy: "It covers, but is not limited to, the area of the ancient Silk Road."

The *Vision and Actions* document also elaborated on the purposes of the "open and inclusive" designation. According to the document, the BRI

> accommodates the interests and concerns of all parties involved, and seeks a conjunction of interests and the "biggest common denominator" for cooperation so as to give full play to the wisdom and creativity, strengths and potentials of all parties. [...] It is a pluralistic and open process of cooperation which can be highly flexible, and does not seek conformity.

Shortly after the release of the *Vision and Actions*, PRC policy banks began announcing financial support for BRI participation. In June 2015, for example, the China Development Bank announced more than $890 billion to be poured into Belt and Road projects (He 2015). Crucially, while the figures were astronomical, very little prescription was made as to the specific purpose of such funds. At the 2017 BRI summit Xi announced a further 480 billion RMB in finance, and "encourage[ment]" of financial institutions to conduct a further 300 billion in RMB transactions. The deliberate lack of specificity ensured that actors responding to these eye-catching financial incentives would need to mobilise their imaginations in order to access the material benefits. The rhetoric of "openness" and "not seek[ing] conformity" showed that this was intentional.

One component that the *Vision and Actions* document did specify, however, was the BRI's geopolitical content. Cooperation was to occur "on the basis of respecting each other's sovereignty and security concerns". First among the Chinese regions mentioned was Xinjiang, indicating the importance of developing the restive province as part of PRC state security strategy. The *Vision and Actions*

document also called for "creating an Information Silk Road", an idea with clear techno-political implications associated with the adoption of PRC information technology. This announcement marked the beginning of the idea of a "Digital Silk Road" comprising enhanced internet and communication links emerging from the PRC along the paths of the ancient silk routes. This stands to provide connectivity infrastructure such as fibre optic cables to recipient countries, as well as the potential for PRC modes of internet governance to be adopted by local governments or utilised by PRC actors (Mozur et al. 2019).

The PRC party-state agencies' preferred mode of implementation of BRI cooperation has been the signing of Memoranda of Understanding (MoUs). The primary purpose of such non-binding "soft law" documents is to affirm cooperative intent without generating binding commitments. As Jack Nolan and Wendy Leutert (2020) explain, this "enables each side to flexibly tailor commitments based on circumstances particular to a given time and place". Such MoUs are understandings to actively dedicate imaginative energies towards integrating the parties' own agendas into the BRI framework.

Many critics have observed inconsistencies in the official presentation of the BRI. The English-language name vacillated from "One Belt One Road" to "Belt and Road", and its nature from "strategy" to "initiative". For authors in the domestic BRI school, these changing characterisations are indicative of a chaotic and un-strategic process of sub-state competition (e.g. Zeng 2020). Yet the party-state's eventual firm choice of "initiative" (倡议) as the official descriptor does not only reflect its concern that "strategy" could amplify foreign threat perceptions; "initiative" also implies a recognition that the BRI's eventual form and content would depend on the interpretations – imaginings – of other actors, both Chinese and foreign. This is precisely what has occurred, and the result has been the formation of the collective, transnational BRI imaginary.

To summarise, the PRC party-state's most authoritative pronouncements on the BRI indicate that a primary goal was to mobilise the imaginative capacities of lower-level institutions and individuals. The combination of capacious vagueness and evocative imagery was accompanied by explicit, materially incentivised invitations to a variety of domestic and international audiences to start filling in the blanks: these ranged from foreign governments and international organisations to local PRC authorities and state-owned enterprises (SOEs), intellectuals and private entrepreneurs. Given this diverse array of target audiences, it was inevitable that the imaginings produced would diverge in important ways and eventually require adjustment – as in the cycles of "directed improvisation" that produced the co-evolution of the PRC state and economy at home (Ang 2016). However, the BRI imaginary has been a co-creation of actors both Chinese and foreign, many located beyond the locus of the PRC's formal political authority. As the next two sections show, their various BRI imaginings converge

around a vision of a geotechnical future focused on the PRC, but diverge sharply on its desirability.

Chinese BRI imaginings

General Secretary Xi and the party-state's pronouncements inspired an exponential proliferation of BRI imagery positioning China in the role of a techno-civilisational hub of infrastructure, connectivity and development. Many if not most PRC provinces, prefectures, think tanks, universities and other organisations in China have established a BRI programme and plans (Pantucci / Lain 2017: 51). The party-state's capacious BRI visions mobilised a massive undertaking of research and analysis to fill in the blanks in the concept, while provincial and local governments jostled to position themselves as part of the BRI's geographic scope, and state-owned enterprises and other economic actors have expanded its scope (Zeng 2020). This domestic BRI imaginary has overwhelmingly projected normatively desirable futures based around a coherent, benign PRC bringing state-led capitalist development to the globe.

Popular imagery

The geotechnical, as opposed to more narrowly sociotechnical, nature of the BRI imaginary is evident first of all in popular imagery. Image search results from China's leading internet search engine, Baidu, are reproduced in Figure 1. Such search results are influenced by the search engine's largely opaque algorithms, which are believed to customise results on the basis of factors such as the user's location, search history and past browsing behaviour, but also the level of user engagement that the content generates. Thus, while the results are neither representative nor replicable, they offer a convenient indicative illustration of how the BRI has been visualised for, and among, China's online population. As of 2018, internet users included more than 60 percent of the total PRC population.[3]

A key feature of the top Baidu results collected is the tight commonality of images, revolving first around maps and then images of technological infrastructure. In the maps, linkages radiate outward from China across the globe, often accompanied by references to the historical narrative of a China-centred trading order. Among the first 20 images collected in 2018, three quarters were world maps, while most of the remainder were Silk Road references and images of Xi Jinping. Within the first 100 images a second key theme, modern technology – overwhelmingly transport infrastructure – rises to prominence.

3 See https://datacommons.org/place/country/CHN?utm_medium=explore&mprop=count&popt=Person&cpv=isInternetUser%2CTrue&hl=en (accessed 21 September 2022).

Table 1: Thematic breakdown of first 100 "Belt and Road" images on Baidu Image search, compiled by author, September 2018 (images can contain more than one theme; see Appendix for data and coding).

theme	first 100 images		first 20 images	
world map	40	40 %	15	75 %
technology	28	28 %	0	0 %
domestic China maps	9	9 %	0	0 %
historical Silk Road imagery	8	8 %	2	10 %
PRC party-state / leaders	10	10 %	2	10 %

Figure 1: Top 20 Baidu Image search results for "Belt and Road" (一带一路). Screenshots collected by author, 26 September 2018.

A third key feature of this popular online BRI imagescape is its encoded exceptionalism. Consistent with Mayer and Balazs's (2018: 210) study of Chinese BRI maps, most of the online cartographic depictions of the BRI set China apart from an otherwise undifferentiated Eurasian landmass, while decentring Europe and excluding North America. This is evident first of all in the colouring or shading of China on the maps. However, China's exceptional status is also implicit in the themes of desert imagery and camel trains, which project the

past glory of Chinese empires inspiring traders from distant, peripheral, locales to undertake arduous expeditions to reach the centre of world civilisation. In short, the breakdown of themes encoded in these popular online images suggests how, in popular imagination within China, the BRI has been constituted as a nexus of geography, technology and politics.

Intellectual response

The party-state's initial vision-setting mobilisations prompted an enormous intellectual undertaking to fill in its blanks. As Zeng (2020: 84) notes, China's National Social Science Foundation funded hundreds of research projects on the subject. Figure 2 vividly illustrates the explosion in the number of articles with "Belt and Road" in the title in China's leading academic database.

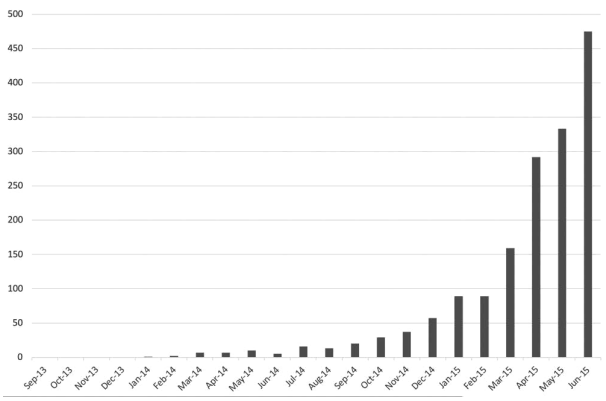


Figure 2: Numbers of CNKI articles with "Belt and Road" in title, 2013–2015, China National Knowledge Infrastructure (CNKI) academic journals search; 2 September 2020

The intellectual campaign has formed a basis for subsequent real-world BRI activity. As Zeng observes:

> the "Belt and Road Initiative" was put forward as an immature idea to be developed, requiring substantial intellectual support. It functions as a slogan to invite China's academic and policy community to devote their expertise to produce concrete, actionable plans. (Zeng 2020: 84)

Academic expertise and attention have been particularly important in interpreting and forecasting – with varying degrees of accuracy – international responses to the BRI, in some cases leading to direct policy impact. Zeng (2020: 85) points out that analysis from strategists in the Central Party School, for example, helped turn the leadership away from an explicitly defined geographical scope for the BRI by emphasising the need to counter foreign perceptions of it as an exclusive economic bloc. As noted above, however, popular imaginings of the BRI have overwhelmingly constructed it as a Sinocentric Eurasia, with Europe on the distant periphery and the Americas invisible.

The first wave of PRC intellectual discussions of the BRI was just showing signs of tailing off in 2015 when the first Belt and Road strategic document, the 2015 Vision and Actions document, was published. This sparked a further acceleration of research efforts; over the next four years China's academic publications averaged more than 700 articles with "One Belt One Road" in the title each month, according to searches of the China National Knowledge Infrastructure (CNKI) database. Not all of the thousands of books and articles and hundreds of research projects were necessarily rich in imagination, and in many cases the reimagining was oriented towards particular local or provincial interests. Yet even those that did little more than reproduce the sweeping imagery put forward by the party leadership still helped expand the BRI vision into a collective imaginary.

Local governments and commercial enterprises

Following Xi and the central party-state's mobilising announcements, local governments jostled to position themselves as important nodes on the BRI map, while SOEs and other economic actors sought to maximise their share of the financial and political largesse. Inland provinces competed to claim the mantle of "eastern terminus" of the Silk Road, while coastal provinces argued over where the "Maritime Silk Road" began (Zeng 2020: 91–93). Some launched historical research projects aimed at buttressing their claims, adding further energy to the wave of BRI academic discourse discussed above. As Zeng (2020: 93–94) observes, there is evidence that these and other lobbying campaigns by provinces seeking inclusion resulted in an expansion of the BRI's official geographic scope within China. While only 15 provinces were invited to an early symposium on the subject, 18 provinces were eventually named in the 2015 *Vision and Actions* document.

SOEs and other enterprises rapidly moved to perform their implementation of the BRI, in many cases by rebadging existing projects with BRI labels. According to official statistics from the PRC's State-owned Assets Supervision and Administration Commission (SASAC), central SOEs had undertaken a total of more than 3,100 BRI projects by 2019, with the vast majority of the PRC's 96 central SOEs having participated (Nolan / Leutert 2020). More broadly, PRC commercial actors both inside the PRC and abroad have flocked to reimagine and rebrand their existing projects as part of the BRI and to initiate new projects that could be argued to fall within its scope. In some cases this has produced absurdities, such as a proposed theme park on Australia's Gold Coast and gambling operations in Cambodia being presented (and imagined) as BRI projects (Ang 2019, Ferchen 2021). Such opportunism echoes the "carpetbagging" of the United States' Reconstruction Era, in which northern commercial and political entrepreneurs sought to benefit from post-war reconstruction of the southern

states by aligning their self-interested activities with Washington's abolitionist policies.

In the view of authors such as Lee Jones and Jinghan Zeng (2019), provincial lobbying campaigns and commercial opportunism have rendered the BRI an incoherent undertaking that has expanded far beyond its original intent. Such observations may be accurate, but are only partial. Lower-level state and non-state actors who competed to align themselves with the BRI and shape its specific content were not only taking advantage of the central policy slogan for their own purposes, they were simultaneously producing the BRI vision and in many cases performing its specific technological content. The question of Xi Jinping's intention in announcing the "grand undertaking" of the two Silk Roads in late 2013 is central here. Xi's primary motivation may well have been to consolidate his own political authority through the introduction of new foreign policy slogans. But as shown above, Xi made a clear choice to imbue his "Belt and Road" slogan with strong mobilising content, and for the next five years opted not to rein in the "broad freehand" style of response it generated.

The exuberant responses of PRC provincial governments, SOEs and commercial enterprises abroad were a foreseeable consequence of Xi's choice of political slogan – a grandiose geotechnical vision with an indeterminate scope. Even if we assume, for argument's sake, that Xi failed to predict the responses of PRC economic and sub-state actors at the time he launched his BRI slogan, he nonetheless had numerous subsequent decision-points over subsequent years at which he appeared to reinforce, rather than rein in, these trends. Yet, at late as the 2017 BRI Summit, Xi continued to make strong exhortative statements of BRI purpose. On that occasion he called it the "project of the century" and declared:

> History is our best teacher. The glory of the ancient silk routes shows that geographical distance is not insurmountable. If we take the first courageous step towards each other, we can embark on a path leading to friendship, shared development, peace, harmony and a better future [...] thanks to our efforts, the vision of the Belt and Road Initiative is becoming a reality and bearing rich fruit.

Delivered directly to an audience of Chinese and foreign leaders eager to engage in BRI projects, the speech strongly affirmed the ongoing surge of imagination and reimagination of a wide array of economic activities through the geotechnical vision of the BRI.

The state's control over domestic actors' real-world performances of the BRI was by no means complete, but it still possessed significant capabilities to curtail these performances, if necessary, and to shape public discourse. One such mechanism was declaratory statements, as in the announced reorientation of the BRI in 2018, away from "broad freehand" to "meticulous brushwork", signalling a greater emphasis on quality and governance of technical projects. A second lever was policy, constraining the funds dispersed by the PRC's key

policy banks, ExImBank and China Development Bank, which peaked at US$75 billion in 2016 and slowed to $4 billion in 2019 (Ray / Simmons 2020). Such processes of state mobilisation, sub-state interpretation and implementation, followed by state readjustment, follow a pattern identified as critical to China's economic development (Huang 2008, Ang 2016). But beyond China's borders, as the next section shows, imaginative responses to the initial mobilising vision have proven to be significantly less amenable to adjustment and control.

International imaginings

International analysts, organisations and governments have applied their imaginations to the vague visions initiated by Xi and the PRC party-state, intellectuals and economic actors. International BRI imaginings overwhelmingly share their vision of the PRC as a hub of networked capitalism from which infrastructural technologies of development and governance are destined to unfold across the globe. Yet, unlike the classic sociotechnical imaginaries that reflect shared norms of the imagining society, the geographical spread of the BRI imaginary has been accompanied by sharp bifurcations on the normative desirability of its envisaged – and performed – geotechnical futures. To be sure, the BRI has had plenty of international proponents, but beyond the PRC's borders, future-oriented analyses have also often focused on downside risks, or even in many cases have characterised the vision itself as dystopian.

Numerous authors in the BRI-as-process literature have picked up on these observations to argue that the BRI vision is ineffective outside of the PRC's borders (e.g. Zeng 2020: 100, Ye 2019: 705). In particular, they point to the vagueness of the initiative as provoking incomprehension, dismissal or apprehension among foreign audiences. Yet, the following sections of this paper show that such a characterisation of the slogan's international uptake is only partly accurate, for the BRI has also generated a broadly shared geotechnical imaginary of a world order connected in commerce via technological infrastructures centred on the PRC and its party-state. As shown below, politicians, institutions and analysts worldwide have taken up Xi's invitation to imagine a global capitalist order constituted by the spatial unfolding of PRC technologies – but have reached diverging conclusions as to its desirability.

Popular imagery

A rough illustration of the geotechnical nature of international BRI imaginings can be gleaned from search data from Google. The most visible themes correlate with China's Baidu search imagery for "Belt and Road", but with an even greater domination of international maps – especially in the first couple

Table 2: Thematic breakdown of first 100 images resulting from a search for the term "Belt and Road" on Google Image search, sampled by author in January 2021 (images can contain more than one theme; see Appendix for data and coding).

theme	first 100 images		first 20 images	
world map	72	72 %	19	95 %
technology / infrastructure	8	8 %	1	5 %
domestic China maps	0	0 %	0	0 %
historical Silk Road imagery	4	4 %	0	0 %
PRC party-state / leaders	12	12 %	0	0 %

of pages of imagery, where maps were ubiquitous. In common with the Chinese imaginary discussed above, technology and the PRC party-state were the other key motifs among Google's top BRI imagery. Ancient Silk Road mythology was less visually prominent, while the geographical iconography understandably focused on global maps rather than domestic Chinese ones. The fundamental similarities – mapping, technology, and the PRC party-state – support the notion that the BRI has generated a fundamentally shared geotechnical imaginary spanning Chinese- and English-speaking online populations.

Google Trends search activity data offers a further indication of the key terms through which English-language online audiences worldwide developed an interest in the BRI. The evocative initial vision of a "New Silk Road" evoked interest from late 2013, shortly after Xi's pair of initial speeches. "One Belt One Road" rose from April 2015, reflecting the release of the *Vision and Actions* document the previous month. The term "Belt and Road", which replaced "One Belt One Road" as PRC propagandists' preferred term in 2016, finally caught on from the May 2017 BRI Summit, and overtook the original translation in early 2018.

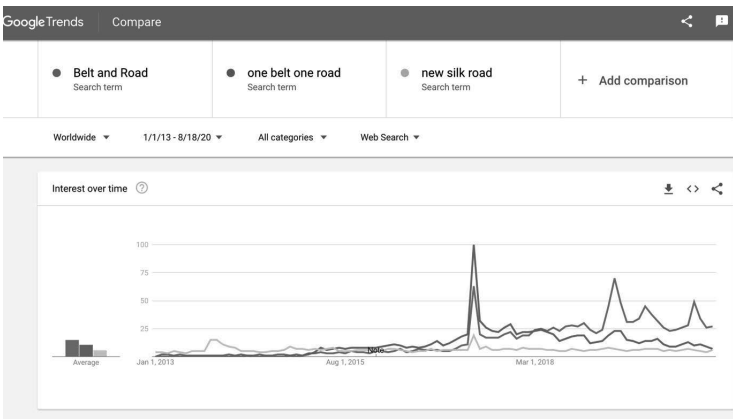


Figure 3: Google search activity data on BRI-related terms, 2013–2020, screenshot by author, 18 August 2020

Finally, data from Google also suggest that interest among the foreign online general public is significantly attributable to the initiative's combination of grandiose scope and indeterminacy. Among users of Google's search engine worldwide, the most popular related search inquiries are variations of "What is the Belt and Road" and "Belt and Road map". While critics have pointed to the confusing name as a weakness, if it were clear what and where the Belt and Road is, such audiences would have less scope to invoke their own imaginations in constructing its meaning. The financially grandiose but linguistically and geographically indeterminate BRI vision, in other words, has been a stimulant for foreign imaginings – but although such imaginative labour may serve to support the PRC's political interests, it could also undermine them.

Intellectual response

International academia has shown an extraordinary level of interest in the BRI. Policy reports, books and commentaries on the topic have massively proliferated, to the point where WorldCat, a global database of books, contains more than 450 English-language books with "Belt and Road" in the title, as well as books in at least 12 other languages besides Chinese.[4] The majority of these BRI books have focused on economics, political science and law, but interpretations have emerged from authors in a wide variety of other disciplines, from engineering and environmental sciences to history and sociology, education, linguistics, architecture and fine art. Indonesian Christian theologists have examined the "opportunities for mission" arising from the BRI's "global urbanisation", for example, and a German philosophy scholar published a book interpreting the BRI's "Silk Road Diplomacy" from a classical liberal standpoint (Chen 2018, Witzke 2020).

Cartographic imagery created by foreign observers vividly illustrates the global, PRC-centred characteristics of these cross-national imaginings. The Mercantor Institute for Chinese Studies, for example, has since 2015 generated a series of spectacular BRI maps depicting the BRI's present and future infrastructural projects (Figure 4). These and other similar visual interpretations have been widely adopted, not only in academic papers such as those listed above and in think tank research, but also in news media reports, expanding the BRI's geotechnical imaginary beyond academia and towards the mainstream of English-language discourse.

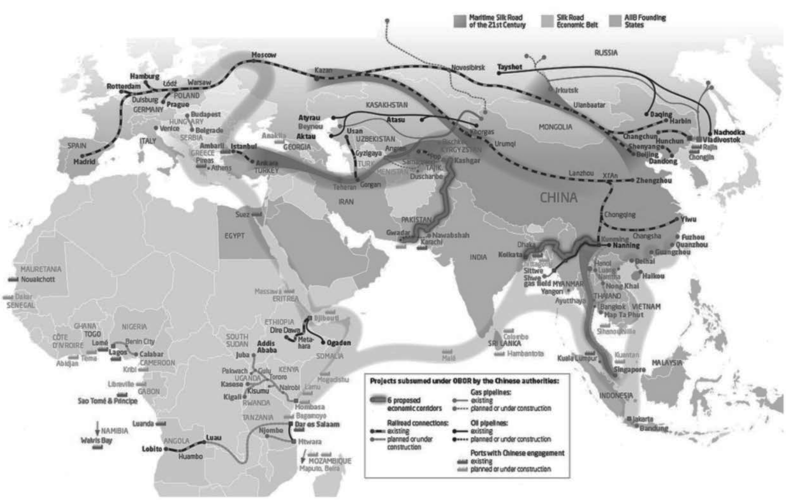
Whether out of conviction or political necessity, PRC interpretations of the BRI virtually all characterise the BRI vision as a positive development. But outside the PRC, many authors have explored its inconsistencies and contradictions. Nadege Rolland's (2017) *China's Eurasian Century? Political and*

4 As of 1 February 2021. See: https://www.worldcat.org/search?q=ti%3A%22belt+and+road%22&fq=x-0%3Abook&qt=advanced&dblist=638

Strategic Implications of the Belt and Road, for example, argues that the BRI serves the CCP's ambition of realising a "Sinocentric Eurasian order" but warns of potentially "devastating consequences for the poorest economies of the region, which could find themselves saddled with unmanageable debt and forced to relinquish control over valuable national assets". In *Belt and Road: A Chinese World Order*, former Portuguese government minister Bruno Maçães (2018) declares: "The Belt and Road is the Chinese plan to build a new world order replacing the US-led international system." English-language think tank reports have envisaged the BRI as a new and innovative system of "weaponising" investment, finance and technology (Russel / Berger 2020).

The diverse foreign intellectualisations of the BRI are all premised on the vision of a global future in which technological infrastructures radiate outward from the PRC. Whether authors ultimately seek to affirm or denounce the idea of an attempt to build a "Sinocentric world order", it is impossible to do so without first *imagining* what that would mean, in the process consolidating the BRI's existence as a collectively imagined form of global life and order reflected in the design and performance of technological projects. The present special issue, "China beyond China: Infrastructuring and Ecologising a New Global Hegemony?" illustrates how, even where critical approaches are adopted, the BRI's very indeterminacy demands engagement with the vision of a PRC-centred, technologically focused, global order as a precondition for any inquiry. To critique, investigate, affirm or debunk the BRI is to expand the reach of its geotechnical imaginary.

Figure 4: Example of foreign cartography of the Belt and Road



Source: Mercantor Institute for Chinese Studies' BRI mapping project in 2015, https://merics.org/en/analysis/mapping-belt-and-road-initiative-where-we-stand (accessed 31 January 2021)

International organisations and business

The work of international organisations (IOs) on the BRI has been an important source of BRI imaginings, as well as stimulating international commercial actors' involvement in its performance. Consistent with Chinese actors' responses, international organisations' analyses have generally focused on the opportunities presented by the BRI, but the vision is complicated by a significantly greater focus on downside risks. These risks, in turn, are to be managed through the adoption of the IOs' preferred policies and standards.

Some of the most vivid international BRI imaginings have been embedded in images produced in the international organisations' reports. The World Bank Group's 2019 report, *Belt and Road Economics: Opportunities and Risks of Transport Corridors*, featured striking cover art envisioning the BRI as a single transcontinental city (Figure 5). The six official "corridors" were represented as brightly coloured subway lines, while nominated BRI nodes such as Kashgar and Urumqi appear as stations. This reflected the report's emphasis on the benefits for particular urban hubs near border crossings, which spatial geographers had found were likely to gain disproportionately (Lall / Lebrand 2019). The PRC appears at the core of the multi-continental city.

The *Belt and Road Economics* report took on the formidable task of quantifying the impact of the BRI using economic modelling. This project demanded imaginative labour in two key respects. First, many missing parameters and assumptions required to model the BRI's economic impact needed to be added. As World Bank Vice President Ceylar Pazarbasioglu noted in an understated foreword to the report: "Quantifying impacts for a project as vast as the BRI is a major challenge." Second, once the models had been run, this produced an array of visions of the future, some diverging from the PRC's political orthodoxy, but all consonant with the broad vision Xi had outlined, such as sharply increased trade and foreign direct investment, and the lifting of 7.6 million people out of extreme poverty.

IOs' reports have projected futures in which the performance of BRI projects is modified and shaped to the IOs' preferred policy reforms. As the World Bank Group's *Belt and Road Economics* report argued: "Complementary policy reforms are essential for countries to unlock BRI benefits. Real incomes for BRI corridor economies could be two to four times larger if trade facilitation is improved and trade restrictions are reduced." Similarly, a 2017 report from the UN Development Programme and the NDRC's think tank – *The Belt and Road Initiative: A New Means to Transformative Global Governance towards Sustainable Development* – provided a detailed "roadmap" for aligning the BRI with the UN's Sustainable Development Goals for 2030. The future envisaged is one which the IOs' preferred policies are implemented.

The imaginative labour contained in the reports from international institutions such as the World Bank Group, UNDP and OECD have been matched by local and national business lobby groups to imagine the opportunities presented by the Belt and Road. The potential investment and infrastructure largesse linked to the vision has understandably attracted great attention in business circles. As the China-Britain Business Council's (CBBC) chief executive wrote in a 2015 report, *One Belt One Road: New Opportunities in China and Beyond*: "The ambition is high. The complexity is high. And the geopolitics is potentially challenging. *But [BRI] has captured imaginations* (emphasis added)." The report's cover art, like that of the World Bank Group, also invoked the mass rapid transportation metaphor, with a cover depicting warp-speed locomotion of trains on an elevated track overlooking a futuristic city (Figure 5).

In contrast to the IOs' publications on the BRI, the business-oriented reports focus almost exclusively on opportunities. Many business groups' reports acknowledge the existence of risks, and counsel due diligence, but refrain from discussing the specifics or featuring potential downsides associated with the BRI – especially in their choice of titles and imagery. The inattention to risk is, on the surface, counterintuitive given the ubiquity of risk management in business, but becomes more understandable in light of political considerations. With the BRI having been designated as the personal flagship political project of the PRC leader, praise stands to ease the political costs of doing business in China, while dampeners or warnings could do the opposite.

A second feature of business-oriented uptakes of the BRI imaginary has been the construction of a narrative of broad political support for the BRI. This is reflected in the numerous forewords to business groups' publications on the BRI. The CBBC's 2015 report, for example, featured forewords from both its own CEO and the UK's Ambassador to China. A publication from the Australia China One Belt One Road Initiative (ACOBORI) featured no less than four introductions, including one from Ou Xiaoli, the director of the CCP BRI Leading Small Group.

The ACOBORI report's many forewords made clear that its prime purpose was to mobilise the imaginations of Australian businesses. Former Australian Trade Minister Andrew Robb urged Australian businesses to "use this report to reflect on why engagement with Chinese enterprises through the Belt and Road Initiative could benefit them and provide a clear narrative for how they can get involved". Malcolm Broomhead, Chair of the ACOBORI Advisory Board, similarly described the aim of the report as "prompt[ing] companies to question how the Initiative can be applied as a frame¬work for strengthening collaboration with the Chinese market". However, as the next section will show, foreign governments have exhibited a range of responses to the BRI imaginary, ranging from enthusiastic collaboration to suspicion and outright hostility.

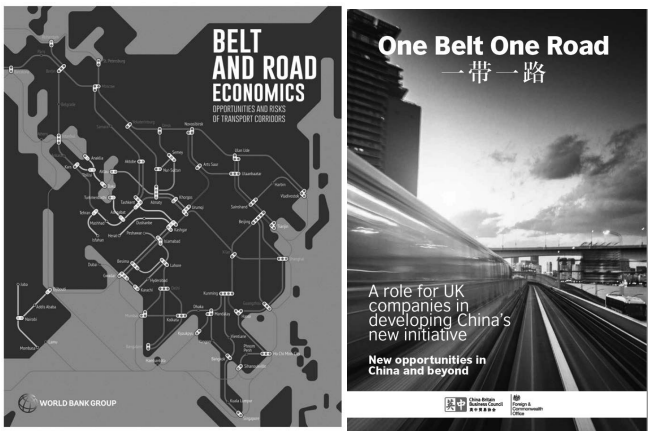


Figure 5: Covers of World Bank Group report of 2019 (left) and of China-Britain Business Council report on BRI 2015 (right)

Foreign governments

By the start of 2020, 138 countries had formally joined the initiative, most via non-binding MoUs (Nolan / Leutert 2020). The grand rhetoric and indeterminacy that characterises MoUs, combined with the political theatre that has typically surrounded their agreement, has invited widespread local imaginings of what they might mean in practice. As noted in the previous section, for business enterprises and industry groups – along with development and infrastructure bureaucracies – this is likely to prompt a search for ways to locate the country within the BRI's scope in order to boost economic cooperation. But the sweeping BRI vision has triggered the imaginations not only of governments eager to work with the PRC on development, infrastructure, investment and finance, but also from those keen to build political opposition to the PRC's rising geo-political influence.

The BRI vision met with an enthusiastic response from countries on China's continental periphery, particularly Pakistan, Kazakhstan and other central Asian states (Pantucci / Lain 2017: 47–48). The imaginings of foreign governments further afield also affected on the BRI's scope. Zeng (2020: 81–84) documents how what began as an initiative of diplomacy towards China's periphery quickly expanded: first to include Africa and Eastern Europe by 2014; and then again to include the whole world by 2015. Zeng shows how, in particular, interest from countries beyond the originally announced geographic scope, such as the UK and Ireland, led to a series of declarations by PRC officials in response in 2015 that the BRI was in fact open to all, regardless of location. The imaginings of foreign governments had thus fed back into the PRC's own BRI imaginary in an iterative process of collective, but "fractional" imagining (Law 2002).

In some cases, it has been sub-national foreign governments that co-produce the BRI imaginary. The Australian state of Victoria, for example, signed an MoU with the NDRC in 2018, and followed this with a 2019 Framework

Agreement for implementation. Yet even the latter, a supposedly more concrete document, contained indeterminate, future-oriented language that demands imagination on the part of the reader to make meaning. For example, the agreement hails the two parties' "great future and prospect" in infrastructure development, but the concrete measures agreed were only to "encourage", "promote", "explore", "provide information" and send delegations. The specifics, in other words, were left open to interpretation.[5]

However, it is not only foreign governments keen to cooperate whose collective imaginations have been stimulated. China's strategic adversaries, too, have availed themselves of the opportunity to fill in the blanks of Xi's sweeping vision. Commenting on Victoria's BRI agreements in May 2020, US Secretary of State Mike Pompeo suggested that the US might "simply disconnect" from its ally Australia over the deal, and claimed that BRI agreements increased Beijing's capacity to "do harm" (Murray-Atfield 2020). At the 2020 Munich Security Conference, US Defense Secretary at the time Mark Esper characterised the BRI as a coercive scheme to undermine the security of smaller states: "Through its Belt and Road Initiative, for example, the PRC is leveraging its overseas investments to force other nations into sub-optimal security decisions."

Indian politicians have likewise exhibited great suspicion towards the BRI vision. Prime Minister Narenda Modi even implicitly criticised the BRI at a 2017 meeting of the Shanghai Cooperation Organisation in China, stating that "connectivity in itself cannot override or undermine the sovereignty of other nations" (Mayer / Balazs 2018: 212). India's suspicions are hardly surprising, given the privileged place of its regional rival Pakistan as the site of one of the six "corridors" and the fact that the China-Pakistan Economic Corridor traverses disputed territory claimed by India. In addition, as Pantucci and Lain (2017: 48–49) observe, the BRI's maritime component fitted neatly with existing Indian imaginings of a future PRC "string of pearls" network of bases in the Indian Ocean. Most importantly, Indian officials' comments on the BRI have consistently touted problems with "openness" and "transparency" – precisely the factors of indeterminacy that have made the BRI vision so conducive to varied local imaginings around the world.

Conclusion

This article has attempted to integrate diverse perspectives on the Belt and Road Initiative by locating its central features in a cross-national geotechnical imaginary: a collectively imagined form of global life and order reflected in the design and performance of technological projects. The global BRI imaginary reflects how the PRC party-state has successfully mobilised imaginative

5 See the full text at https://www.vic.gov.au/bri-framework (accessed 20 August 2020).

labour on both a national and global scale, but in contrast to the classical sociotechnical concept of imaginaries, the geographical scope and normative implications of the BRI imaginary have been sharply contested. The geotechnical imaginary is fractional in nature, combining convergent global imaginings of a geotechnical future with divergent and contested interpretations of its significance and desirability.

The PRC leadership's official statements on the BRI indicate that the mobilisation of domestic and international imaginative labour was a key goal from the earliest stages of the BRI's existence. In this regard, it arguably represents a scaling-up of the domestic "directed improvisation" development model that has preserved and expanded the party-state's authority within China across the reform era (Ang 2016). Second, the imaginative response from PRC intellectuals, sub-state bureaucracies and economic actors, while also fractional and multifarious, has laid an integral foundation for its performance in real-world projects. Whether such projects will prove to be economical is beyond the scope of this article, but the real-world effects reaffirm that imagination is a resource that can be induced and organised at the societal level. However, as the third section showed, mobilising imaginative labour on a global scale – beyond the bounds of the party-state's powers of compulsion – has produced both utopian and dystopian interpretations of the same imagined future.

This article is has not attempted to assess how the real-world performance of BRI projects will feed back into the already fractured global imaginings of the BRI. The concept of sociotechnical imaginaries highlights the interplay between societies' collective imaginings about their nexus with technologies and the performance of specific technological projects at the societal level, and how this feeds back into those collective imagining processes. This article has highlighted collective, but fractional and contested, global imaginings about the intersection of future geopolitics and technology, but it remains to be seen how the *performance* of BRI undertakings will feed back into those collective imaginings.

References

Ang, Yuen Yuen (2016): *How China Escaped the Poverty Trap*. Ithaca: Cornell University Press.

Ang, Yuen Yuen (2019): Demystifying the Belt and Road. *Foreign Affairs*, 22 May 2019.

Appadurai, Arjun (1996): *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press.

Chellaney, Brahma (2017): China's Debt-trap Diplomacy. Project Syndicate, 23 January 2017, https://www.project-syndicate.org/commentary/china-one-belt-one-road-loans-debt-by-brahma-chellaney-2017-01?barrier=accesspaylog (accessed 21 September 2022).

Chen, Lip Siong (2018): Global Urbanization through China's Belt and Road Initiative: Opportunities for Mission. In: Lip Siong Chen / Weng Kit Cheong (eds): *Urbanization: Impacts on the Church, Mission and Society Today*. Kota Kinabalu: Asian Centre for Mission, pp. 145–172.

Ferchen, Matt (2021): The Two Faces of the China Model: the BRI in Southeast Asia. In: Florian Schneider (ed.): *Global Perspectives on China's Belt and Road Initiative: Asserting Agency through Regional Connectivity*. Amsterdam: Amsterdam University Press, pp. 245–264.

Gibson, John / Lee, Chao (2018): The Belt and Road Initiative and Comparative Regional Productivity in China. *Asia and the Pacific Policy Studies* 5, pp. 168–181.

Graeber, David (2006): Dead Zones of the Imagination: On Violence, Bureaucracy and Interpretive Labor. *HAU: Journal of Ethnigraphic Theory* 2(2), pp. 105–128.

Harvey, David (2001): Globalization and the "Spatial Fix". *Geographische Revue* 2, pp. 23–30.

He, Baogang (2019): The Domestic Politics of the Belt and Road and its Implications. *Journal of Contemporary China* 116, pp. 180–195.

He, Yini (2015): China to Invest $900b in Belt and Road Initiative. *China Daily*, 28 May 2015, https://usa.chinadaily.com.cn/business/2015-05/28/content_20845687.htm (accessed 21 September 2022).

Heath, Timothy (2014): *China's New Governing Party Paradigm*. Basingstoke: Ashgate.

Hillman, Jonathan E. (2018): China's Belt and Road is Full of Holes. CSIS Briefs, 4 September 2018. CSIS – Center for Strategic and International Studies, https://www.csis.org/analysis/chinas-belt-and-road-full-holes (accessed 21 September 2022).

Hillman, Jonathan E. (2020): *The Emperor's New Road: China and the Project of the Century*. New Haven: Yale University Press.

Jasanoff, Sheila / Kim, Sang-Hyun (2009): Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea. *Minerva* 47(2), pp. 119–146.

Jasanoff, Sheila (2015): Future Imperfect: Science, Technology, and the Imaginations of Modernity. In: Sheila Jasanoff / Sang-Hyun Kim (eds): *Dreamscapes of Modernity*. Chicago: Chicago University Press, pp. 1–34.

Jones, Lee / Zeng, Jinghan (2019): Understanding China's Belt and Road Initiative: Beyond "Grand Strategy" to a State Transformation Analysis. *Third World Quarterly* 40, pp. 1415–1439.

Kim, Sang-Hyun (2015): Social Movements and Contested Sociotechnical Imaginaries in South Korea. In: Sheila Jasanoff / Sang-Hyun Kim (eds): *Dreamscapes of Modernity*. Chicago: Chicago University Press, pp. 152–173.

Kliman, Dan / Grace, Abigail (2018): *Power Play: Addressing China's Belt and Road Strategy*. Washington DC: Center for a New American Security.

Lall, Somik / Lebrand, Mathilde (2019): Who Wins, Who Loses? Understanding the Spatially Differentiated Effects of the Belt and Road Initiative. World Bank Group Policy Research Working Paper 8806 (April), World Bank Group.

Law, John (2002): *Aircraft Stories: Decentering the Object in Technoscience*. Durham: Duke University Press.

Leutert, Wendy (2020): State-owned Enterprises in Contemporary China. In: Luc Bernier / Massimo Florio / Philippe Bance (eds): *Routledge Handbook of State-Owned Enterprises*. Abingdon: Routledge.

Li, Kaiyu (1994): Exemplars and the Chinese Press: Emulation and Identity in Chinese Communist Politics. *Media Information Australia* 72, pp. 84–93.

Leverett, Flynt / Bingbing, Wu (2017): The New Silk Road and China's Evolving Grand Strategy. *The China Journal* 77, pp. 110–132.

Mayer, Maximilian / Balazs, Daniel (2018): Modern Silk Road Imaginaries and the Co-Production of Space. In: Maximilian Mayer (ed.): *Rethinking the Silk Road*. Singapore: Palgrave Macmillan, pp. 205–226.

Murray-Atfield, Yara (2020): Ambassador Intervenes after Mike Pompeo Warns US Could "Disconnect" from Australia over Victoria's Belt and Road Deal. ABC News, 24 May 2020, https://www.abc.net.au/news/2020-05-24/mike-pompeo-warning-over-victoria-belt-and-road-deal/12280956 (accessed 21 September 2022).

Niewenhuis, Lucas (2020): China's Belt and Road Lending Dries Up. SupChina, 8 December 2020, supchina.com/2020/12/08/chinas-belt-and-road-lending-dries-up (accessed 21 September 2022).

Nolan, Jack / Leutert, Wendy (2020): Signing up or Standing aside: Disaggregating Participation in China's Belt and Road Initiative. Brookings Institution, October, https://www.brookings.edu/articles/signing-up-or-standing-aside-disaggregating-participation-in-chinas-belt-and-road-initiative (accessed 21 September 2021).

Nordin, Astrid / Weissman, Mikael (2018): Will Trump Make China Great Again? The Belt and Road Initiative and International Order. *International Affairs* 94(2), pp. 231–249.

Pantucci, Raffaelo / Lain, Sarah (2017): *China's Eurasian Pivot: The Silk Road Economic Belt*. London: RUSI.

Ray, Rebecca / Simmons, Blake (2020): Tracking China's Overseas Development Finance. Boston University Global Development Policy Center, 7 December 2020, www.bu.edu/gdp/2020/12/07/tracking-chinas-overseas-development-finance (accessed 21 September 2021).

Reilly, James (2021): *Orchestration: China's Economic Statecraft Across Asia and Europe*. Oxford: Oxford University Press.

Rolland, Nadège (2017): *China's Eurasian Century? Political and Strategic Implications of the Belt and Road Initiative*. Washington: National Bureau of Asian Research.

Sum, Ngai-Ling (2019): The Intertwined Geopolitics and Geoeconomics of Hopes/Fears: China's Triple Economic Bubbles and the "One Belt One Road" Imaginary. *Territory, Politics, Governance* 7(4), pp. 528–552.

Witzke, Maximilian (2020): *Belt and Road Initiative: A Qualitative Analysis of China's Silk and Road Diplomacy from a Liberal Perspective*. Chisinau: Lambert Academic Publishing.

Ye, Min (2019): Fragmentation and Mobilization: Domestic Politics and the Belt and Road. *Journal of Contemporary China* 119, pp. 696–711.

Yu, Hong (2017): Motivation behind China's "One Belt, One Road". *Journal of Contemporary China* 105, pp. 353–368.

Xinhua (2018): 习近平出席推进"一带一路"建设工作5周年座谈会并发表重要讲话. *Xinhua*, 27 August 2018, https://www.gov.cn/xinwen/2018-08/27/content_5316913.htm (accessed 21 September 2022).

Zeng, Jinghan (2020): *Slogan Politics: Understanding China's Foreign Policy Concepts*. Basingstoke: Palgrave MacMillan.

Zhang Niansheng / Qu, Yang (2013): 中国特色大国外交的成功实践(2013年度特别报道). *People's Daily*, 19 December 2013.

Zeng, Lingliang (2016): Conceptual Analysis of China's Belt and Road Initiative: A Road towards a Regional Community of Common Destiny. *Chinese Journal of International Law* 15, pp. 517–541.

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Terraforming "Beautiful China"
Island Building and Lunar Exploration in the Making of the Chinese State

Laurence Bashford, Jonathan Galka

Abstract

Chinese terraforming projects in the South China Sea have been condemned as geopolitically and ecologically destabilising. Following years of escalating construction and tourism initiatives, China pivoted in January 2019 by announcing ecosystem restoration efforts on several terraformed islands. Days later, the Chinese National Space Agency made the first soft landing on the far side of the moon, carrying with it a micro-ecosystem of living seeds and insect eggs. The micro-ecosystem sprouted the first plant on the moon, whose brief lifespan was met with rapt attention by the Chinese public as it disseminated across the national mediascape. This article contends that terraforming efforts in the South China Sea and the Chang'e 4 lunar biosphere project are related material-symbolic instantiations of a uniquely Chinese sociotechnical imaginary. Prevailing interpretations of Chinese island-building, outer space ventures and ecological civilisation tend to construe Beijing's intentions as primarily antagonistic. These accounts are useful yet insufficient for comprehending China's terraforming projects on Earth and beyond. The authors instead refigure terraformation as an imaginative, material and bio-geophysical process enacted in the globalising pursuit of new Chinese horizons.

Keywords: China, South China Sea, Paracel islands, Chang'e 4, lunar biosphere project, terraforming, ecological civilisation

Legends tell of a beautiful woman called Chang'e, who lived long ago, at a time when ten suns had risen in the sky, rendering farmland barren and life unlivable. In a bid to save the Earth from total desolation, her husband, an expert archer, shot the suns down and was rewarded for his efforts with an elixir of immortality. Chang'e stole the potion and fled toward the heavens, where she found refuge upon the moon. Chang'e is depicted as a lonely figure, at times even addicted to the elixir, which she spends her days brewing so as to live in solitude on the moon forever (An et al. 2005).

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DOI 10.11588/iqas.2022.3.13946

In May 2016, Liu Zhen[1] reported for the *South China Morning Post* from aboard a Chinese tourist cruise in the Paracel (Xisha) islands. One evening on the journey, participants viewed the 1974 state-made documentary *Battle of Xisha*, which depicts Peoples' Liberation Army ships heroically wresting control of the archipelago from South Vietnamese forces, while "a thin new moon appeared in the sky above the Crescent Group, in the western part of the Paracels. The golden curve was silently reflected on the surface of the sea, in between naval vessels lying at anchor" (Liu 2016a). Some years later, on 3 January 2019, the Chang'e 4 Lunar Lander came to rest on the far side of the moon, carrying with it a biological module containing insect eggs, potato and *Arabidopsis* seeds, and life-sustaining support systems, intended together to "establish a simple ecosystem on the moon" (Graham 2018).

This paper asks what relationships might emerge in narrating how these reflections and refractions pass through one another – the story of Chang'e in the South China Sea (SCS) islands and of Chinese islands on the moon, and their material and imaginative resonances within the People's Republic of China (PRC) and beyond.

One of the most widely discussed trends in recent Chinese development strategy has been the promotion of sustainability and environmental objectives, notably culminating in amendments to the Chinese national constitution in 2018.[2] When considered in light of China's well-documented "war against nature" (Shapiro 2001) and established record of environmental devastation in the pursuit of industrial growth (Economy 2010), this volte-face on the part of Beijing has naturally been met with scepticism in international fora. Yet the speed with which the PRC and its corporate agents have invested in renewable energy research, generation and distribution suggests the perception of a unique opportunity.

China's new strategy promises a chance not only to avoid further damage from climate change and industrial pollution, while reducing China's dependence on foreign fuel imports, but also to assume a new position of global leadership in the field of green technologies (Lo 2014). Whether or not claims to a new era of "ecological civilisation" (*shengtai wenming*) herald a fundamental shift for state-building and global geopolitics remains to be seen. While the possibility exists that this rhetorical posturing serves only to disguise the pursuit of nationalistic self-interest, nevertheless the implications of these claims are

1 Chinese names in this article follow the conventional order of family name first, followed by given name – e.g., "Xi Jinping" – unless stated otherwise.

2 Under Part 6, Article 89 of the revised Constitution, the protection of the environment forms part of the duties and powers of the State Council: "*lingdao he guanli jingji gongzuo he chengxia jianshe shengtai wenming jianshe* [to lead and manage economic affairs, urban and rural development, and the construction of an ecological civilisation]"; see http://www.gov.cn/guoqing/2018-03/22/content_5276318.html (accessed 11 December 2021).

far-reaching on local and planetary scales, and so continue to warrant thorough consideration.[3]

Following recent studies of contemporary Chinese development, we turn to Sheila Jasanoff's theorising of "sociotechnical imaginaries" to consider the expansive scope of Chinese ecological civilisation. Broadly defined as processes of collective imagining that undergird co-constitutive relations between society and technology, sociotechnical imaginaries are articulated by Jasanoff as "collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology" (Jasanoff 2015a: 4). Implicit within such an approach is a close attention to the interpellation of Chinese publics (both human and non-human), whose affective and economic participation is essential to long-term development.[4]

According to Jasanoff, one of the central quandaries entailed in any approach to theorising sociotechnical imaginaries is how to reconcile the inherent multiplicity of actors, mediations and conflicting visions that coexist and constantly proliferate within any given social context. In recent studies of Chinese sociotechnical imaginaries, given the degree of state control over domestic political discourse, this problem has given rise to debates surrounding the relative dominance of state-sponsored versus grassroots imaginative practices (Huang / Westman 2021). Rather than treating these two modalities as discrete components of one imaginary whole, we focus instead on a historically comparative approach, to comprehend the two sets of technological and cultural practices, enacted by state and civilian actors, that render new material realities from political imaginaries.

In an investigation of air pollution in Zhejiang province, Mette Hansen and Zhaohui Liu (2018) have specifically explored the concept of "ecological civilisation" in China as a "top-down" imaginary. In their account, this framework can be figured as a "state-guided initiative", circulating via a combination of "traditional and social media" channels and thus providing the basis for new forms of "environmental consciousness" that appear in diverse guises.

In the context of Chinese waste disposal economies, Yvan Schulz and Anna Lora-Wainwright (2019) have further discussed the extent to which top-down imaginaries can coexist with local ones, in ways that might align, contradict or partially overlap to varying degrees. Similarly, anthropologist Jerry Zee (2017) has taken anti-desertification campaigns in China as processes through which

3 Reports have detailed some of the alleged strategies used by China to mask harmful environmental practices, in order to maintain the illusion of fulfilling international sustainability commitments, e.g. the "outsourcing" of pollutant industrial operations to partner countries via the Belt and Road Initiative. See Li et al. (2014).

4 William A. Callahan's China: *The Pessoptimist Nation* (2010) provides further context regarding the affective engagement of Chinese citizens in popular and state-based narratives of national humiliation and renewal.

experimental political forms interact with environmental futures across a range of spatial and temporal scales. We build upon these contributions by bringing a comparative framework of sociotechnical imaginaries to bear upon Chinese terraforming projects, broadly construed. This also follows recent moves in the growing field of SCS studies that historicise ongoing upheavals in the region (Chubb 2021). Our intervention thus aims to shed new light upon the dynamic historical creation of Chinese space and its contingent social worlds. In taking as our object of inquiry the processes by which islands are formed and sustained in their habitability, we aim to elucidate some of the distributed means by which sociotechnical imaginaries might engineer the material bases for their own existence and evolution (Jasanoff 2015a).

Chinese terraforming: Imagination and materialisation

Ecological civilisation, as a Chinese sociotechnical imaginary, aims to construct a moral dichotomy with Western "industrial civilisation", casting the latter as a dystopian corollary to the former, which by the PRC government's account looks instead to "a socialist-ecological future with Chinese characteristics" (Hansen et al. 2018). Likewise, Chinese ecological civilisation stands in putative opposition to so-called "Western traditional philosophy", presupposing instead a Chinese tradition of ecological thought that spans several millennia, from ancient Confucian teachings to post-Maoist writings on "socialism with Chinese characteristics", in addition to the recent future-oriented pronouncements by President Xi Jinping (Pan 2006). All of this is to say that ecological civilisation is inextricable from a PRC nationalist project, and is linked to a constellation of master narratives and civic ideologies – notably the "China Dream" and "Building a Beautiful China" – which, though prominent since before the 2008 Summer Olympics, have proliferated and intensified across PRC political discourse since the start of Xi Jinping's presidency.[5]

At the Third Plenum of the 18th National People's Congress in November 2013, President Xi unveiled his ambitious plan of "comprehensively deepening economic reforms", at the same time noting in particular that "ushering in a new era of ecological progress and building a beautiful China is an essential element of the China Dream" (Marinelli 2018). Indeed, from existing slogans such as Xi's famous "clear waters and green mountains are like mountains of gold and silver [*lüshui qingshan jiu shi jinshan yinshan*]", a common genesis

5 The "China Dream" accelerated in popular discourse as a notable slogan used by newly-elected Xi Jinping in November 2012, when he proclaimed a collective longing for "the great rejuvenation of the Chinese nation" (Callahan 2017). "Advance Ecological Civilization and Build a Beautiful China" comprises a section of Xi Jinping's self-titled book, *Xi Jinping: The Governance of China* (Beijing: Foreign Languages Press, 2014).

can be inferred among these rhetorical projects of national rejuvenation (Beijing Review 2019). Their entwined pronouncements of social and economic value exemplify how political imaginaries may, in Jasanoff's words, "encode not only visions of what is attainable through science and technology but also of how life ought, or ought not, to be lived; in this respect they express a society's shared understandings of good and evil" (2015a: 4).

Extensive scholarship has documented the rhetoric of statecraft through which "ecological civilisation" has been enunciated, as well as the tangible policy outcomes that can be traced back to its implementation (Schmitt 2016). Such investigations, we contend, might be extended by heeding Sheila Jasanoff's call to bring "performance back into the realm of political theory", as a means of refocusing upon "science and technology as key sites for the constitution of modern social imaginaries" (2015a: 10). To this end, we borrow the term "terraforming" from the conceptual archive of science fiction and scientific futurism, as it specifically allows us to synthesise two material instantiations of this Chinese sociotechnical imaginary – island-building in the South China Sea and biosphere habitat construction on the moon – which we show to be linked as representational, political and bio-geophysical performances of state-building.

Scholars have identified the extent to which the (spatially) horizontal dimensions of the Chinese technosphere, for example in SCS commercial shipping, have come to interact in increasingly intimate ways with the vertical dimension of the technosphere, for example the Beidou satellite network (Chubb 2017). We contribute to these analyses an explicit focus on the reinforcing relationships among Chinese publics and the extension of life-supporting and sustaining technological systems across those horizontal and vertical dimensions. To do this, we map a particular genealogy of the concept of terraforming.

"Terraforming" demonstrates the rich feedback loops that conjoin scientific and cultural discourse. In the first instance, "terraforming" as a science-fictional phenomenon has often historically referred to planetary adaptations aimed at rendering the environmental conditions of alien planets fit for habitation by lifeforms from Earth. This definition follows science fiction tropes depicting the human colonisation of space, refashioning new worlds in the literal image of Earth. However, after the Second World War, notions of engineering radical changes to planetary landscapes began to appear closer to home (see for example Hamblin 2013). Western dreamers of a future on an eminently alterable Earth positioned "hydrospace" as the place where those dreams would be realised, and terraformation projects were conceived and proposed on gigantic scales, from fertilising seas to creating artificial coastal upwelling zones through the strategic placement of nuclear reactors (Rozwadowski 2019). At the same time, the oceanic "Inner Space", as well as Outer Space, transformed into a Cold War theatre for the movement of technoscientific (particularly nuclear) objects and ideas (Oreskes 2014, 2021).

Visions of Earth as a planetary whole after the late 1960s, from James Lovelock and Lynn Margulis's Gaia Hypothesis to Buckminster Fuller's popularisation of Spaceship Earth, came to view the world as a complex network of feedback loops that might be changed and redirected through geological and biological alteration, for example of nutrient cycles, greenhouse gases and albedo effects. Later, as anxieties around anthropogenic climate change and the viability of future planetary survival grew over the latter part of the twentieth century, the concept of terraforming evolved from these sets of linked concerns and in turn grew rhizomatically among scientific communities. In both speculative media and also scientific discourses, intensifying global environmental crises after the mid-twentieth century gave rise to a new mythos of geoengineering and bioengineering as interdependent solutions – via the practice of terraformation – to the Earth's rapidly changing biogeological conditions.[6]

In 1982, NASA planetary scientist Christopher McKay wrote: "it is becoming increasingly clear that humanity is already engaged in both deliberate and inadvertent global modifications of at least one planet – Earth" (Pak 2016: 2). A new definition of the verb "terraform" was added to the *Oxford Dictionary of Science Fiction*, dated to 1997, which read simply: "to modify the Earth's environment." Ostensibly, these two modes of terraforming appear fundamentally at odds with one another. The former deals with the remaking of alien landscapes in line with Earthly environs. However, as literary scholar Chris Pak asks: what does it mean to alter Earth to make it more closely resemble itself? We propose that the heuristic of terraformation – referring to a plurality of interfacing aspirations and practices that seek to recover for the future an idealised Earth located in a liminal temporality – corresponds usefully to these simultaneous materialisations of Chinese self-imagination within and beyond its borders.

Our focal points here are ongoing Chinese island-building in the South China Sea and the Chinese Lunar Exploration Program (also known as the Chang'e Project). These case studies evince the social and technoscientific processes by which a Chinese state is constructed, both as artificial islands in the Paracel, Spratly and surrounding archipelagos, and as the lunar biosphere project to sustain terrestrial life on the far side of the moon. By tracing the imbricated histories of Chinese infrastructural megaprojects in the South China Sea and on the moon, we examine how these practices also tap into popular fantasies of China's place in the world, while engineering these visions into global reality.

6 See Conde-Pueyo et al. (2020). This genealogy of terraforming suggests that there is a relationship between collectively held visions of Earth's potential futures and our (or its own) capacity to affect biogeological change toward realising those visions. Indeed, the ways in which histories of engineering Earth systems processes have interacted with histories of theorising planetary change broadly over the 20th century remain historiographically underexplored. We propose that the argument presented in this paper might contribute to stimulating thought on these historical intersections in a new context.

Chinese terraforming manifests as attempts to reclaim spaces by prefiguring them as part of a sociohistorical Chinese imaginary. In doing so, these spaces are at once refashioned in accordance with an imagined Chinese past and an idealised Chinese future. Whereas Jasanoff relates her "sociotechnical imaginaries" in terms of a "Future Imperfect", referring to the inherent tensions between competing visions for social development and the "shared fears of harms that might be incurred through invention and innovation, or of course the failure to innovate" (Jasanoff 2015a: 5), Maurizio Marinelli (2018) notes that the rhetoric of Chinese eco-civilisation repeatedly evokes an undivided future that can and will be manufactured to perfection.

In this register, according to Marinelli, the PRC enacts "a recurring projection of perfection into an allegedly perfect future [...] China *will* respect and protect nature; It will remain committed to the basic state policy of conserving resources and protecting the environment; We *will* leave our future generations a working and living environment of blue skies, green fields and clean water" (Marinelli 2018: 368–80). These visions of utopian possibilities are inextricable from carefully curated readings of a Chinese collective past in an ongoing state of revision and refinement.

A closer look at the machinations undergirding terraformation throws the unevenness of Chinese political time into sharp relief. This has been demonstrated by Zee (2017: 217), whose examination of landscape engineering around the Gobi Desert interprets these projects as "chronopolitical experiments […] where state practice does not merely have temporal dimensions but is indeed explicitly conceived and practiced as action on time, a catching-up to History". The work of terraformation as part of a larger state agenda of ecological civilisation is therefore to reconcile these temporal, imaginative and material disjunctures.

Transcending geopolitical borders and planetary orbits, the spaces we examine are technologically and culturally remade as Chinese, together telling a unique story about the making of Chinese eco-civilisation. Moreover, these two examples are notable for the ways in which the investment and interaction of broader Chinese publics are summoned and sustained, in ways that are both conducive to and attainable by large-scale technopolitical projects – as tourists being shuttled to and from the new islands, and as an audience participating in the technical and imaginative dimensions of China's astronautical forays.

Knowledge about the ocean is techno-politically mediated, meaning that cultural imaginations of ocean spaces and technologies are central to understanding the history of ocean places (Rozwadowski 2019, Ratté 2019, Helmreich 2009). The same is true of outer space, which is often constructed in recursive refraction with and through ocean space. Scholars including Andrew Chubb (2017) have argued convincingly that Chinese civil technologies, from fishing vessels to cell phone signals, interface to performatively enact territorial sovereignty; to these studies we add the study of making and sustaining life itself.

Aspirational Chinese terraforming projects that seek to construct the conditions of biological habitability out of the ocean and on the moon, enacted among both citizens and state apparatuses, speak through one another synergistically in their imaginative and material dimensions. What becomes increasingly clear, now more than ever, is that the geographical and historical delimitations of China are subject to fluidity and contestation. To study Chinese terraforming, then, is to map concretely the extension of China beyond itself.

Extra/terrestrial islands: The historical bedrock of a terraforming imaginary

Though scholarship has tended to emphasise the novelty and rapidity with which China has achieved an "unprecedented land-to-sea conversion", analyses that centre comparative historical frames have identified a rich and contentious history of island-building and usage in the South China Sea (Chubb 2017, 2021; Hayton 2018). China's 1974 seizure of the Paracel (Xisha) islands from South Vietnam was materially founded on the fact that, in 1956, the PRC established a permanent presence on the largest Paracel island: Woody (Yongxing) Island had been demarcated in 1953 by the Chinese State Council as a county-level administrative division. In 1984, the administration of the islands was transferred to Hainan, designated in 1988 as the Hainan Province Paracels, Spratlys and Zhongsha Islands Authority.

At the same time, the occupation, seizure and progressive development of the islands has been founded more profoundly on the ideological basis that they were always Chinese. To substantiate this notion, official claims suggest that the archipelago had been used by Chinese people and was Chinese territory since ancient times. This narrative has been complicated of late, with historians questioning the validity and continuity of these claims across time. A more fractious image of historical territorial control in the islands of the South China Sea has consequently emerged that has lent weight to similar historically-rooted claims to island territories from Vietnam, Malaysia and the Philippines.[7] Whether

7 Bill Hayton (2018) finds that it was only in 1907 that Qing officials became interested in offshore islands, after learning of entrepreneurial activities on Pattas island. Hayton also says: "a 1909 article by the Australian newspaper *The Examiner* tells us that foreigners, two Germans, one Japanese, and several Malays (China and Her Islands 1909, p. 8), had begun mining operations on Hainan Island without the authorities finding out until much later. It also records the presence of foreigners on the Paracels themselves who'd carved their names into trees" (Hayton 2018: 10). Hayton presents a historical vision of the South China Sea that saw China as mostly disinterested in the archipelagos throughout the late 19th and early 20th centuries, even choosing to forgo opportunities to claim territory in the SCS in 1933. Hayton finds that the Chinese government undertook efforts to historicise claims to SCS territory by furtively depositing dated stone markers on islands in 1937, and by revising place-names from simple English transliterations to Chinese descriptors in 1947. All of this points to the SCS as being virtually ungoverned, particularly by China, through the mid-20th century.

or not the history of occupation, use and inhabitation of the SCS islands was ever Chinese to begin with, or at all, the ideological groundwork had been laid for a sea of islands, visited haphazardly by fishermen, that was always already Chinese – to be filled in with permanent residents and infrastructure later (Bonnett 2020).

Nonetheless, earlier histories, written and rewritten by China at several points in the 20th century, were easily taken up beyond China by the time of the first English-language analyses of territorial disputes in the South China Sea in the 1970s. In 1988, when UNESCO sought to build a weather station in the South China Sea, they turned to China, who obliged and began the first major terraformation of a Spratly (Nansha) island on Fiery Cross Reef for this purpose.[8] Stung by prior defeat in the Paracel islands, Vietnam sent ships and materials to commence their own construction project, before being promptly sent away by Chinese naval forces.

Yet the PRC's usage of islands in the South China Sea began prior to 1988. The indigenisation of technologies related to remote seawater sensing underwent periods of intensive research at the Chinese Academy of Sciences' Institute of Oceanology at Qingdao between 1965 and 1966 and between 1970 and 1977.[9] These periods saw the development of the hydrometeorological buoys and satellite receivers that would later be central to the functionality of scientific research that formed some of the justifying ideological bedrock for early island-building projects.

Though work on marine instrumentation was substantial before 1984 – by which time Qingdao had amassed a collection over more than 1,000 related devices – these projects still did not form the bulk of Chinese oceanographic innovation. Oceanographer Qin Yunshan reported in 1995 that a particular focus of scientific effort since 1958 had been the development of seawater desalination technologies (Qin 1992). Resulting in a cadre of more than 3,000 specialists, research included studies on ocean thermal energy conversion to drive distillation processes, reverse osmosis systems and theorising processes by which salinity gradients might be exploited for the production of energy. Observing the interrelated crises in "society, economy and ecology" spurred by freshwater insecurity, Qin noted the potential of technologies like reverse osmosis to supply the world, and particularly small islands (like Malta, whose cooperation with China on research projects he mentions), with freshwater.

In fact, by 1981 the Institute of Oceanology had completed a seawater desalination station on Woody (Yongxing) Island: an experiment and demonstration project that filtered 200 tonnes of seawater daily. These efforts, aimed at getting

8 We use the Chinese and English names for these islands interchangeably. For more on the relationships among UNESCO, oceanography and developing over the mid-to-late 20th century, see Torma 2016.

9 Qin Yunshan, "The State Oceanic Administration, Beijing", in Elisabeth Mann Borgese (ed.), *Ocean Frontiers: Explorations by Oceanographers on Five Continents*, New York: Harry N. Abrams Inc Publishers, 1993, p. 203.

ahead in "a new area of marine technology development that may well be of crucial importance for the future", laid the groundwork for infrastructure and habitation to come (Qin 1992: 203).

As the Space Race between the Soviet Union and the United States reached its apogee on the moon, Mao Zedong and Zhou Enlai decided in July of 1967 that China would not be left behind. A Chinese manned mission to space was conceived for the first time. The following two decades saw a series of many failures and some successes, as well as the transition under Deng Xiaoping from PRC-named projects to mythologically-inspired nomenclatures (a new generation "Long March" carrier rocket, for example, became a "divine arrow" or *shenjian*).[10] In 1992, Project 921 was devised, which would produce the Shenzhou series of four uncrewed flights and two crewed missions. Shenzhou 1, launched in 1999, orbited the Earth fourteen times uncrewed. As the millennium approached, China was technologically and politically poised to send organised missions of humans, among other organisms, to sites far afield, from archipelagos to near-Earth orbit, and soon, the moon.

Teeming with lively engagements: Towards a future China in the 21st century

Near the end of the final decade of the 20th century, a dog attempted to swim out to sea from Yagong Island in the Paracels. After finding nowhere to go, the dog returned and died, lonely and depressed. At the time, Yagong was still a stopover for fishing boats with a few semi-permanent fishing residents managing a difficult existence where "the dazzling sun grilled the corals" (Liu 2016b) and the dog, whose grave is marked today on the island, was likely the only dog in the South China Sea. Meanwhile, around the same time, a Chinese dog was rumoured to have entered space for the first time.

Shenzhou 2 apparently launched 19 species of biological organisms into orbit, among which were rumoured to be mollusks, a rabbit, a monkey, and … a dog (Burgess / Dubbs 2007). Today, Yagong Island bustles with life of many kinds. By 2000, the civilian population of the Paracels, particularly on Woody (Yongxing) Island, was growing. By 2006, Woody Island had created internal subdivisions that were set to work on building infrastructure in what was then a census-town. In 2007, it was announced that a city would be established on Woody Island, to be administered logistically via Wenchang on Hainan. In 2012, Sansha

10 Hayton tells us that the same process of re-imagining nomenclature transpired in the SCS during transitions from the ROC government to the PRC. Scarborough Shoal first appeared on Chinese maps as *Si-ge-ba-luo*, a transliteration, before being renamed *Minzhu Jiao* (Democracy Reef) by the ROC and then *Huangyan* by the PRC in 1983.

became China's newest city, by far the smallest in land area – yet paradoxically the largest in total geographical area taking into account surrounding waters – and the least populated city in the country (Rowen 2018).

In 2003 meanwhile, Shenzhou 5 sent Yang Liwei into space, making China the third nation to put a human into orbit, celebrated as China's first taikonaut (from the Mandarin word for "space", *taikong* 太空; also known in Chinese as *yuhangyuan* 宇航员). State news agency Xinhua was quick to draw comparisons with Wan Hu, a 14th century man who died while attempting flight using gunpowder-filled rockets attached to a bamboo chair (Siddiqi 2010). The present, refracted through the historical past, enabled the visualisation of a Chinese space-faring future.

In the same year, the NASA Space Shuttle Columbia broke up upon re-entry, carrying in addition to astronauts a payload of experiments sourced from schoolchildren around the world. China, via Beijing Jingshan Middle School, had sent silkworms (NASA's John F. Kennedy Space Center 2003). After the disaster, the experimental design lived on, and a copy of the experiment was sent into space aboard the 22nd Fanhui Shi Weixing retrievable satellite launched in late 2005. For China, recoverable satellites had long been foundational to the production of knowledge about biology in space, with dozens of experiments probing organism metabolism and development carried out over several such missions (Harvey 2013). Silkworms were now full-fledged participants in the Chinese space programme.

In 2007, China turned to the moon, establishing the Chinese Lunar Exploration Program (CLEP). The orbital probe Chang'e 1 completed a mission to map features of the surface of the moon. Chang'e 2, launched in 2010, mapped the moon in greater detail in preparation for a lunar soft landing before leaving lunar orbit to explore the asteroid 4179 Toutatis and test China's deep-space tracking systems. At the same moment when Chinese citizens and scientists could first visualise the moon using Chinese technologies, China also turned to the developing world, marketing itself as the primary benefactor of space technologies and resources for a world mostly left behind in space exploration (Hansen 2008).

China, in the first decade of this century, was accelerating in multiple directions across seas, terrains and atmospheres. Where the Paracels had very recently hosted only itinerant fishermen and solitary dogs, there were now subdivisions of permanent residents with county-level authority administering the Paracel, Spratly and nearby archipelagos. Where half a century ago the USS Pargo had shelled and decimated all life on Japanese-occupied Woody Island, China constructed a living city (Hayton 2018). China also entered the post-Cold War tradition of space exploration in part by sending into orbit, aboard retrievable satellites and Shenzhou rockets, a variety of organisms – from mouse embryos

to Chinese cabbage, from silkworms to humans (Solomone 2006). The material and infrastructural work involved in these projects, from island date-marker stones to orbiting silkworms, was essential to the enduring permanence of a China oriented toward space and the South China Sea.

Moreover, these technological undertakings served as crucial reiterations of the China Dream and related ideological projects, enkindling visions of a future that would be – and had always been – as Chinese as the past, in the eyes of practitioners and proponents of state discourses (Anagnost 1997). In 2006, when NASA sent astronaut and biochemist Shannon Lucid on the administration's first trip to China, she returned remarking, "their enthusiasm [for space exploration] seems authentic, and no mere invention of the communist state" (Dick 2008: 115). James Hansen (2008) traced the emergence of this putatively genuine enthusiasm through the mythic status accrued by the figure of the taikonaut, namely, as both an everyman and instrumental agent of historical Chinese aspirations of technoscientific progress and exploration.[11] The taikonaut, as both individual and idea, represents just one such material and imaginative conduit through which political time and space is reconfigured, extending Chinese past, present and future into new territories in the process.

Mary Ann O'Donnell writes that, "in the PRC, the future has not been a time but rather an ongoing project to reclaim the country's rightful place in the world" (O'Donnell 2018: 247). A Chinese future is already everywhere, manifested in the historical past and waiting to be enacted vis-à-vis new instantiations of the China Dream, including most recently Xi Jinping's vision for "Beautiful China" and "eco-civilisation". China's future is also rendered multifarious and liable to change, dissipating some visions and aspirations and foregrounding others in the process. Scholars such as those mentioned above have emphasised that what this construction reveals above all is the instability of the political present (Anagnost 1997, Zee 2018, Marinelli 2018).

Here we can observe the cyclical motions of what Yomi Braester (2016) conceives of as a Chinese "politics of emergence". Fishermen, taikonauts, silkworms, humans, animals – a diverse cast of characters moves in both distant and intimate relation to one another, "populating the present with specters of past and future temporalities [in a manner that] serves the dominant economic and political powers" (Braester 2016: 17). Looking toward the third decade of the 21st century, territorial space and political time are effectively collapsing together in the cosmic and archipelagic weaving of China's future.

11 Hansen (2008) likens this material-imaginative linkage as akin to that produced to justify human spaceflight under the Apollo 11 mission in the USA.

Terraforming Beautiful China I: "Everyone's heart has a sea like this"

In 2013, satellite images of Yagong Island began to display the blooming of terrestrial greenery. Ye Xingbin, village head of Yagong, was supplied with 120 tonnes of soil and 300 tonnes of fresh water, as well as with coconut fibre (to lock moisture in the soil), in order to forest the barren sun-baked island. Each tonne of water apparently cost RMB 100 yuan to transport from Hainan (approximately USD 16.30 at the time), and altogether each of the 400 trees growing on Yagong in 2013 cost around 20,000 yuan (roughly USD 3,260).[12] A suite of new equipment followed the year after, including a desalination device, solar panelling, generators, satellite infrastructure and even public toilets, each of the latter costing in the range of what it would cost to construct an entire village on the mainland (Liu 2016b).

The terraforming of Yagong joined similar projects on other Paracel islands, including nearby Silver Islet, as well as projects in the Spratly Islands, including most famously on Fiery Cross Reef. By the close of 2014, as part of a multi-pronged effort to encourage Chinese citizens to establish permanent residency in the archipelagos, simple tin-roofed housing and commercial structures laid on coralline foundations had gone high-tech, each with the capability to desalinate water and generate solar electricity in order to produce and sustain human, among other, life.

In 2015, the cruise ship Coconut Princess embarked on a maiden voyage from Sanya on Hainan into the Paracel islands. Ian Rowen, tracing tourism as a strategy of creative territorialisation in the disputed territories through the Chinese tourism blogosphere, found a post on Hainan International Travel Airways website that positions the destination of the advertised four-day cruise into the Paracels as "heaven, half of water, half of fish", before going on to state that "everyone's heart has a sea like this. What a pity that most people will never arrive in their lifetime" (Rowen 2018: 67-68).

Throughout 2015, Coconut Princess transported hundreds of tourists to several destinations in the islands twice monthly, including Yagong. Tourism as a "creative territorialisation strategy", in Rowen's terms, is a process contingent upon the participation of multiple unique groupings of actors. Different people need to find the sea in their hearts in distinct, synergistic ways. By 2013,

12 Though perhaps not on its face a staggering figure for cost per tree, each tree cost around eight times the average annual earnings of an agricultural worker on the mainland, and about one third of the annual earnings of residents in Huaxi, Jiangsu Province, another village where state-sponsored tourism initiatives and agricultural futurism had conspired to create a "village of the future" (Lim 2006). Bearing in mind that Ye Xingbin's first round of trees imported from Hainan to green Yagong island died due to high temperatures and a lack of irrigation infrastructure, and another round of more drought- and heat-tolerant coconut palms and Casuarina trees needed to be imported (along with rich soils and fertilisers) to the island, the cost of terraforming Yagong has indeed been very high.

as Yagong was seeing its first greenery, tourist cruises began regularly visiting the island and for the first time, villagers could both purchase groceries from ships and sell seafood and handicrafts to visitors.[13] Tourism also adjusted the rhythms of life in the islands, with seafood catches being adjusted to coincide with tourist visitation.

Cruise ships became essential infrastructure in the making of Chinese life in the islands beyond the majorly populated civilian and military centres. In order to make the South China Sea a destination to which only Chinese can arrive, all the while pitying all those others who can never do so (including, on a rhetorical level, claimant countries such as Vietnam, which in 2015 also announced cruises to their claimed Paracel islands), tourists and settlers and corresponding industries needed to imagine and materially create the islands as precious – as heavenly places, liable to disappear under too much pressure, and worthy of many kinds of protection.

Indeed, well before environmental damage and responsibility came to the fore in international arbitration, new infrastructure projects in the Paracel and Spratly islands were being cast by local state actors as nodes in a networked system of ecological protection (Hui 2014). Where the greening projects that terraformed inhabited islands were framed as anti-erosion and windblocking efforts that also attracted diverse seabird species, new wastewater treatment and solid waste collection plants doubled in value as they not only made the islands "livable" but also "eco-friendly". The comfort of island residents was twinned with minimising their own environmental impacts. By 2014, the city of Sansha's ecological protection plan, which interfaced with "dynamic marine monitoring systems" and "ecological protection stations" across the South China Sea archipelagos, was completed under its own department of land resources and environmental protection (Hui 2014).

2016 was a watershed year for the Chinese position in the South China Sea and by extension in the world. In 2013, the Philippines had lodged an arbitration case against China concerning the legality of their nine-dash line claims[14] to SCS territory under the UN Convention on the Law of the Sea, with a ruling expected in mid-2016. Fresh satellite photos of the Spratly islands from 2015 showed the appearance of a 3,000-meter-long airfield on Fiery Cross Reef, building the island up to eleven times its 2014 size. For China, terraformation was a project meant to catch up China's presence in the SCS with those of other claimant countries, most of which had built island airstrips decades before.

13 In 2016, the Coconut Princess was replaced by the much larger and newer Star of Northern Bay, which greatly increased the capacity of the system, "bringing not only tourists eager to taste seafood delicacies and buy dried fish from the islanders, but also transporting supplies like fresh vegetables and cigarettes to the villagers and taking away household waste" (Liu 2016a).

14 The nine-dash line refers to the cartographical convention used by PRC (and previously ROC) state agencies, by which China asserts territorial claims to large contested regions of the South China Sea.

Outside of China, the island-building was seen as destabilising to regional maritime security, with China far outpacing any other claimants with the magnitude of the project (Hansen 2015, Storey 2015).

Along with revealing construction above water, satellite photos also revealed the signatures of underwater change. University of Miami marine biologist John McManus told *The Guardian* in 2015 that "strands of white silt streaming visibly into the [Fiery Cross] lagoon were evidence of the mucus emitted by millions of dying corals smothered by sediment" (Allen-Ebrahimian 2016). Swirling in the green and blue hues of satellite imagery were new forests, suspected surface-to-air missiles, deepwater ports and messages from coral – all of which had come to take on a range of ideological valences.

In the months leading up to the impending 2016 Hague ruling, it was time for the rhetoric of ecological civilisation to take centre stage. On 6 May, Ministry for Foreign Affairs spokesman Hong Lei had this to say:

> As owners of the Nansha Islands, China cares about protecting the ecological environment of relevant islands, reefs and waters more than any other country, organization or people in the world. China's activities on the Nansha Islands strictly follow the principle of conducting green projects and building ecological islands and reefs. Based on thorough studies and scientific proof, China adopts dynamic protection measures along the whole process so as to combine construction with ecological environmental protection and realize sustainable development of islands and reefs (Hong 2016).

A Chinese approach to building green projects in the archipelagos would follow the idea of "natural stimulation" of wave action from natural storms that redistributes biological and geological material, in the process gradually evolving an "oasis on the sea" while leaving the impact on coral reefs limited. Deputy Director-General of the Ministry Wang Xining elaborated four days later the notion of green projects to visiting journalists, explaining that land reclamation in the SCS "is carefully designed, carefully built, [to] try to minimise ecological effect" (Allen-Ebrahimian 2016). On 25 June, Sansha City announced the designation of funds toward a maritime ecological protection fund. The city's environmental protection bureau announced that the funds would add to the already more than 30 million yuan (~USD $4.5 million) spent in four years on coral reef and islet restoration, as well as the captive breeding and release of reef fish, mollusks and sea turtles (China Daily 2016).

Still, less than two weeks later, the Hague ruled in favour of the Philippines, stating on the subject of China's environmental responsibilities that large-scale land reclamation on seven features in the SCS had caused significant damage to reef ecosystems, and that China had failed in its obligation to protect the habitats of endangered species, including sea turtles and corals (Robles 2020). China had already declared the arbitration claim null and void in 2014, but this did not mean that the ruling was without impact. The ruling intensified the sentiment in China that not only were the islands Chinese, but also that an important way to emphasise this inalienable relationship was through a distinctly

Chinese approach to ecological stewardship alongside terraforming islands and building island environments.

More than 10,000 Chinese tourists had been to the Paracels by June of 2016, with enthusiasm for SCS tourism only growing after the ruling. Tourism surged into 2017, as Hainan and China Southern Airlines sought to establish commercial flights to the Paracels (Wong 2017). Alongside private companies, Chinese state-owned enterprises including China Cosco Shipping Corporation and China Service Travel Group had begun seeking opportunities to expand tourism in the SCS to connect the islands not only with ports on Hainan, but also in Taiwan and other states as part of a Maritime Silk Road cultural tour (Xue 2016). On Silver Islet in the Paracels, 2016 saw 22 permanent residents acquire desalination equipment and solar panels, in addition to a vegetable greenhouse. As Conde-Pueyo et al. (2020: 6) remark in the context of planetary terraformation, plants join humans in partnerships of ecosystem engineering, where "coevolution between biological and environmental properties pervades the creation of habitats suitable for the maintenance of complex and diverse life forms". Within the systems that support both tourists and residents across the South China Sea islands, terraformation designates the ongoing coordination of a variety of humans, nonhuman organisms, nutrients and technologies.

Still, tourism, while a tool for "sustaining inhabitation", has hard limits. The islands are seen as too ecologically fragile for the construction of accommodation facilities (Liu 2016a). Visitors can see and touch but not take, unless they become pioneering residents. The establishment of ecological civilisation here sees the islands as taking on two potentially competing, but ultimately constitutive, identities. Despite being built environments, they are positioned as vulnerable places to be ecologically protected (Rice et al. 2016). At the same time, they are spaces to be settled by Chinese pioneers and inhabited using complex life-sustaining technologies.

After the arbitration tribunal ruling, with the islands taking on fresh identities as mouldable spaces in which to enact Chinese visions for the future, Beijing – via state-owned enterprises – regarded them as nodal points within the wider constellation of sites on the Maritime Silk Road. In 2017, Xinhua live-streamed a documentary on Robert (Ganquan) Island to YouTube, where one such "ecological protection station" was constructed in 2014.[15] The documentary was part of a series covering the Belt and Road Initiative, denoted by the hashtag #BeltandRoad.

The episode on Ganquan Island focuses on material and ideological linkages between the Ancient Belt and Road and the contemporary Belt and Road Initiative. In the film, a presenter clutching bleached corals and seashells combs the shore for ancient Chinese pottery shards that, she is told, once spilled from ship-

15 "Secrets of Ganquan Island in South China Sea" (2017), available at https://www.youtube.com/watch?v=hrj3YZX0_3Y (accessed 8 September 2020).

wrecks to litter the fringing reef. She accompanies a state scientist across coralline beaches and on paths through young vegetation, advertising the island as simultaneously an escape from city life, in nature and without cell phones, while also boasting high-speed wireless internet coverage, "to stay connected with family while on holiday" (New China TV 2017).

Meanwhile, in orbit, Chinese silkworms were weaving silken cocoons aboard a Chinese space station. A week after docking with Tiangong-2, Shenzhou 11 taikonauts Jing Haipeng and Chen Dong reported via live video feed on the silkworm experiment designed by Hong Kong middle school students. Andrew Jones writes that although taikonauts face extraordinarily difficult odds of being selected for a mission, the silkworms have it worse, with the six aboard Shenzhou 11 selected for optimal silk-weaving from among 4,000 specifically bred candidates (CENAP 2016).

The space station Tiangong-2 had enabled China to send humans into prolonged orbit, granting access to space to the Chinese public via video feed and by participatory experimentation. A system emerged that allowed pioneering taikonauts, as well as silkworms and other experimental organisms, to venture far afield to a fragile but habitable celestial palace (*tiangong*) and that invited the participation, alongside them, of the Chinese public via livestream. This system was paralleled back on Earth in the cruise ships carrying goods to islets in the South China Sea. Through the generation of ecosystems necessarily maintained via complex organisations and systems from the Chinese mainland, China could place its future in spaces far removed from itself.

Terraforming Beautiful China II: Blooming on the far side of the moon

In April 2018, as Western accusations against China of militarising the SCS islands continued to mount and China conducted its largest naval review in the SCS to date, a quieter statement was made in Beijing (The Economist 2018). A biological payload to be sent aboard the Chang'e 4 mission, intended to make the first soft landing on the far side of the moon, was announced. Selected from among a reported 300 crowd-sourced entries in 2016 and built by the Chongqing University Space Biology Research Team in collaboration with 27 other Chinese universities, Chang'e would take to the lunar farside a 3-kilogram biosphere, equipped with water, air, a nutrient solution, living seeds, yeast, insect eggs, a camera and data transmission systems to relay the progress of the experiment back to Earth (Song 2018).

The hope was to make the first life blossom on the lunar surface; a difficult goal to actualise. Wildly fluctuating temperatures on the lunar surface would

need to be kept within a narrow range inside the biosphere, and light would need to be concentrated for plant growth. According to chief designer of the container Zhang Yuanxun, if abiotic parameters could be kept within range, then seeds would germinate and eggs would hatch, setting into motion the self-regulating nutrient and gas exchange among plants, insects and fungi characteristic of a potential "simple ecosystem on the moon" (Graham 2018).

Chang'e 4 landed on the lunar farside on 3 January 2019, and the biosphere system immediately began watering dormant seeds. Four days later, footage from inside the biosphere displayed a new green leaf, showing for Xie Gengxin, chief designer of the experiment, that China had "sprouted the first bud on the desolate moon" (Westcott / Xiong 2019, Jones 2018, Zheng 2019). Five days and 170 still shots of the living interior later, the experiment was remotely shut down. Head of the experiment Liu Hanlong and Xie Gengxin both reported that temperatures inside had grown too erratic to sustain life, and that the biological matter would be left to decompose slowly in the long lunar night (Xiong / Westcott 2019). That the experiment failed to reach completion was immaterial to its larger goals. An Earth-like Chinese island had been cultivated on the moon, and China was already looking beyond rudimentary ecosystems and organisms to schemes for human habitation. Chang'e 4 sailed gently toward deeper space. Progress had been achieved.

Earthly means to imaginary ends

Here we find it prudent to address the scope of what we refer to as terraforming as it iterates from island-building to biosphere construction. Scholars of Earthly terraformation point to stark differences between efforts of geo- and bio-engineering, such as the attempt by Canadian scientists to fertilise waters off the coast of British Columbia using a massive quantity of iron, and biosphere projects, like the famous Biosphere-2 in Oracle, Arizona. Chris McKay describes the latter as entirely unrelated to terraforming, and more like "biologically-based life support" (McKay 2015, Press Association 2012).

We see this distinction as a fair one, but we also see both SCS islands and the lunar micro-ecosystem as constructed along the same temporal continuum and operating within tightly related spatial-logistical dynamics. Both projects can be seen, through the lens of ecological civilisation for the China Dream, as systems contingent on intense techno-management that are positioned ideologically in a future always on its way, yet already here. As Valerie Olson finds in the context of US space programming for experimental closed-loop system habitats like BIO-Plex, while systems seem inextricable from social reality, they are also technologies of reality (Olson 2018). We concur with Marinelli and

others that contemporary Chinese realities are transposed onto the rhetorical future, and as a consequence find elasticity in defining terraformation more broadly to include the lunar micro-ecosystem as well as SCS land reclamation in its definitional purview. Doing so allows us to draw attention to the contours of the closed-loop systems of transhabitation that see the exchange of life-supporting systems, essential nutrients and Chinese human and nonhuman life across atmospheres and oceans in the pursuit of the China Dream.

Liu Hanlong emphasised the importance of the biosphere for the prospect of sustaining life in space and on the moon, saying "We have given consideration to future survival in space. Learning about these plants' growth in low-gravity would allow us to lay the foundation for our future establishment of a space base" (Stewart 2019). Lie Jinzeng, of the National Astronomical Observatory, noted that the briefly flourishing "moon garden" was a key first step towards human life on the moon (Zhang 2019). Xie Gengxin similarly echoed, "although it is a biological payload for popularizing science, it laid a foundation and technological support for our next step, that is, to build a lunar base for living" (Bullard 2019).

More so than serving as a precursor to a potential Chinese human lunar mission, Liu Hanlong also stated that "the interest in scientific research enhances people's awareness of environmental protection" (Zheng 2019). Indeed, a large number of Chinese citizens and especially young people participated in Chang'e 4, from submitting to contests for payload designs (including the biosphere) in the "creative moon probe load design collection campaign" to viewing live streams of the lander and the biosphere experiment, to the more than 100,000 people who wrote down their names and hopes for lunar and space exploration, to be carried with the Chang'e 4 relay satellite into deep space upon mission completion (Song 2018).

Two days before the biosphere landed on the moon, the Chinese Ministry of Natural Resources announced plans to begin coral reef restoration at facilities constructed on Fiery Cross, Mischief and Subi Reefs, the three largest of the seven Chinese terraformed Spratly Islands. The Ministry proclaimed that "to protect the coral ecological system is the key to ensuring the ecological security of the Spratlys as well as the entire South China Sea" (Liu 2019). On 4 January 2019, as Chinese seeds soaked up water in a metal tube on the lunar surface, the Ministry of Natural Resources announced that facilities had been launched for the protection and restoration of ecosystems on Yongshu, Zhubi and Meiji Reefs in the Nansha Islands, stating that experiments toward developing methods and technologies would be tailored to the local ecological characteristics of the archipelago and would employ natural, as well as artificial approaches to restoration.

Chen Hong, director of the Hainan South China Sea Institute of Tropical Oceanography, lauded progress made through cooperation between govern-

ment and industry in creating a real awareness around care for the environment and protection of ecological systems. Having already led a team in planting 30,000 corals in the Paracel islands, he looked to plant a million in total across the SCS by the end of 2020 (Ma 2019). When asked about reef-building projects in the SCS, Assistant Professor of Marine Biology at the University of Hong Kong David Baker noted: "One of the things I think comes in concert with China's sovereign claims over the South China Sea is also environmental stewardship. What really worries me is that the island building is also happening" (Zhen / Ng 2019).

In fact, both processes are contextually inextricable from one another, and for environments to be stewarded in the Chinese SCS, they must have already been made Chinese. Indeed, these processes press on. In April 2020, Sansha City on Woody Island was granted approval from the State Council to generate two new administrative districts, Nansha and Xisha, administering from Fiery Cross Reef and Woody Island the entirety of China's claims to the Paracel, Spratly and Eastern (Zhongsha) archipelagos (Panda 2020b, Wang 2020).

To be composed of an archipelago: The prospects of Chinese island-building

Spectators, analysts and policymakers outside of China view Chinese efforts at conservation in the South China Sea with scepticism (Liu / Ng 2019). This is a familiar view, extending genealogically from earlier contentions surrounding the purpose of SCS island terraforming in the first place. These misgivings have circulated widely in the West, where Chinese claims in the SCS tend to be perceived as both acts of historical revisionism and violations of international law (Davenport 2022). The terraforming project is said to antagonise, coerce or else threaten its southern neighbours, to say nothing of upsetting wider geopolitical stability. Such perspectives have only seemed to gain further traction in popular narratives, thus widening the rift between China's self-positionality and its positioning by the West (Panda 2020a, Mastro 2019).

That the expansion of a Chinese presence beyond mainland China, from the SCS to outer space, is bound up in militaristic goals with implications for security is not only a banality, however, but also an oversimplified explanation of these phenomena. The more than 3,200 square kilometres of terraformed islands in the South China Sea are more than simple performances of militarising antagonism, and more than "symbolic outpost[s] in a brackish backwater" (Moss 2012), as China's turn to biologising space is about more than creating an oppositional facsimile of Western space exploration. Rather, the vegetables presently germinating on Silver Islet, the silkworms that spun exemplary cocoons

on Tiangong-2, the *Arabidopsis* leaf that unfurled before cameras on the moon and corals mounted to artificial reefs in the Paracel islands all tell a more nuanced story.[16]

Non-Chinese understandings of the "global" are presently being rewrought along the winding paths travelled by Chinese materials, laborers and financial investment in pursuit of ever-expanding Silk Road Economic Belt and the Maritime Silk Road initiatives. The combined Belt and Road Initiative (BRI) springs from hopes of the China Dream, and thus flows out into infrastructural projects the world over, linking ports, industrial parks and other nodes through energy pipelines, railways, roads and shipping channels. In response, observers and stakeholders outside of China have increasingly parsed the relative significance of these efforts beyond making claims around purported goals of military dominance and toward consideration of the complex creation and maintenance of BRI lending economies, and the integration of vast and heterogenous geographical areas through multifaceted infrastructural development.

The conditions and consequences of island-building and lunar surface infrastructures examined in this paper point to more spaces wherein China's global extension might be wrought anew. Evolving discourses of eco-civilisation for a beautiful future China are enacted materially through wide public participation in constructing and developing islands and biospheres as dynamic spaces to be visited, inhabited and manipulated by a range of Chinese bodies, yet simultaneously as delicate (eco)systems to be protected using uniquely tailored Chinese methods. For Chinese publics, terraformed islands and lunar biospheres are sites where ecological civilisation comes to synergise with other facets of the China Dream that extend across new Silk Roads in new spheres of influence. Taken together and framed within Chinese political rhetorics and public futures, these cases suggest that both physical distance and historical time are mediated and relativised by state and public-driven (re)production of material-imaginative links among locations on and beyond Earth.

Our inquiry thus far has engaged principally with processes of "embedding" and "extension" (Jasanoff 2015a: 28). By the former, we refer to the "deployments of labor and capital" through which ecological civilisation has been engineered into the material world, as well as the "group reflection by publics and other nonstate actors on remembered pasts and desired futures" (Jasanoff 2015b: 328). By the latter, we refer to the ways in which "scientific and technological ideas acquire dominion over time and territory" (ibid.: 333), thus becoming capable of translating into new sociopolitical domains. Yet returning once more

16 Historians attending to this nuance have increasingly sought out alternative genealogies for island-making in the South China Sea. Jennifer Gaynor, for example, studying land reclamation projects in Southeast Asia, articulates these projects and Chinese island-building as sharing an inheritance with the land reclamation via sedimentary dredging in East and Southeast Asia. See Gaynor (2020) for a rich discussion of the social and technological relations shared among large infrastructural projects of canal-building, island-making and more in the region.

to Jasanoff's four-part theory of sociotechnical imaginaries, there remain the much-debated questions of both "origins" and "resistance": where exactly do these imaginaries come from, and what happens when their internal contradictions and external complications stretch their symbolic and tangible meanings beyond recognition?

These critical lenses indicate in brief the degree to which these stories of China's terraforming remain untold. An analysis of developments around projects, both physically realised and aspirationally rhetorical, of Chinese exploration in "inner space" (the deep-sea) for example, especially in contraposition to outer space, remains a fascinating avenue for further research. Moreover, it warrants qualifying that our enquiry is necessarily partial insofar as it concerns itself primarily with state-sponsored media reportage and other published accounts of these projects. It is our hope that by delineating some initial lines of connection between these processes of terraforming, further comparative studies will continue to yield more important findings that emerge from a breadth of alternate standpoints on Chinese infrastructural megaprojects.

Interwoven projects of island terraformation and lunar exploration urge a reading of the shifting nature of the "global" that takes seriously the meaning-making potential of rhetoric across states and publics, and that reaches beyond real and imagined anxieties around coercion, antagonism and competition that so often characterise international views of these cases and the BRI generally, in the service of productively reconciling disparate perspectives on China's global positionality. On the moon and in the sea, terraforming projects (re)make life and its attendant conditions in the spirit of Chinese state orientation towards a potentially perfectible future.

What kind of approach to nationalism, or nativism, or anti-traditionalism this system might yet engender is a subject for essential further research (Zheng 1999, Hansen 2008). Likewise, the continued extension of Chinese infrastructural megaprojects will undoubtedly warrant ongoing attention. Recent studies increasingly question the place of islands within the Belt and Road Initiative's Maritime Silk Road, Polar Silk Road, and Ice Silk Road projects. They have pointed on the complex multiplicity of effects felt both on islands near and far afield and within China itself as China reaches beyond itself.[17] Ecological civilization discourse not only has implications for the management of islands themselves; it interfaces, in these scattered islands, with other discourses of the China Dream with wide geopolitical and economic import. For now, though, we maintain that a comparative approach to terraformed islands and lunar biospheres as related material-symbolic instantiations of ecological civilisation with Chinese characteristics offers greater analytical purchase for placing China in the South China Sea, in outer space and in the world.

17 See for example Woon (2020); also the November 2020 thematic section in *Island Studies Journal* entitled "Silk Road Archipelagos: Islands in the Belt and Road Initiative", especially Grydehøj et al., "Silk Road Archipelagos".

References

Allen-Ebrahimian, B. (2016): Beijing Calls South China Sea Island Reclamation a "Green Project". Foreign Policy, 26 May 2016, https://foreignpolicy.com/2016/05/26/china-calls-south-china-sea-island-reclamation-a-green-project-spratly-islands/ (accessed 5 November 2019).

An, D. / Yang, L. / Anderson Turner, J. (2005): *Handbook of Chinese Mythology*. Santa Barbara: ABC-CLIO.

Anagnost, A. (1997): *National Past-Times: Narrative, Representation, and Power in Modern China*. Durham: Duke University Press. https://doi.org/10.1215/9780822378402

Beijing Review (2019): Key Terms to Understand Reform and Opening Up. *Beijing Review*, 1 October 2019, http://www.bjreview.com/Nation/201901/t20190107_800153482.html (accessed 24 January 2021).

Bonnett, A. (2020): *The Age of Islands: In Search of New and Disappearing Islands*. Atlantic Books.

Braester, Y. (2016): Traces of the Future: Beijing's Politics of Emergence. In: C. Rojas / R. A. Litzinger (eds): *Ghost Protocol: Development and Displacement in Global China*. Durham: Duke University Press, pp. 15–36.

Bullard, B. (2019): China Sprouted Cotton on the Moon but Now It's Dead. SYFY Wire, 18 January 2019, https://www.syfy.com/syfy-wire/china-sprouted-cotton-on-the-moon-but-now-its-dead (accessed 9 September 2022).

Burgess, C. / Dubbs, C. (2007): *Animals in Space: From Research Rockets to the Space Shuttle*. New York: Springer Science.

Callahan, W.A. (2010): *China: The Pessoptimist Nation*. Oxford: Oxford University Press.

Callahan, W.A. (2017): Dreaming as a Critical Discourse of National Belonging: China Dream, American Dream and World Dream. *Nations & Nationalism* 23(2), pp. 248–270.

CENAP (2016): Shenzhou-11 Silkworms Start Spinning Cocoons on Space Lab. CENAP Blog, 28 October 2016, CENAP, https://www.hjkc.de/_blog/2016/11/13/7097-Raumfahrt---Shenzhou-11-Crew-im-Orbit-zu-Tiangong-2---Update-3/[-cartlink] (accessed 24 January 2021).

China Daily (2016): China's Sansha Launches Maritime Ecological Protection Fund. *China Daily*, 25 July 2016, http://www.chinadaily.com.cn/business/2016-07/25/content_26214163.htm (accessed 25 May 2020).

Chubb, A. (2017): China's "Blue Territory" and the Technosphere in Maritime East Asia. *Technosphere Magazine*, 15 April 2017, https://technosphere-magazine.hkw.de/p/Chinas-Blue-Territory-and-the-Technosphere-in-Maritime-East-Asia-gihSRWtV8AmPTof2traWnA (accessed 21 September 2021).

Chubb, A. (2021): PRC Assertiveness in the South China Sea: Measuring Continuity and Change, 1970–2015. *International Security* 45(3), pp. 79–121.

Conde-Pueyo, N. / Vidiella, B. / Sardanyés, J. / Berdugo, M. / Maestre, F. / de Lorenzo, V. / Solé, R. (2020): Synthetic Biology for Terraformation Lessons from Mars, Earth, and the Microbiome. *Life* 10(2), p. 14. https://doi.org/10.3390/life10020014

Daniels, C.L. (2014): *South China Sea: Energy and Security Conflicts*. Lanham, Maryland: Scarecrow Press.

Davenport, T. (2022): "Lawfare" in the South China Sea Disputes. *The Interpreter*, 1 April 2022, https://www.lowyinstitute.org/the-interpreter/lawfare-south-china-sea-disputes (accessed 9 April 2022).

Dick, S.J. (ed.) (2008): *Remembering the Space Age: Proceedings of the 50th Anniversary Conference*. Washington, D.C.: National Aeronautics and Space Administration, Office of External Relations (History Division).

Economy, E. (2010): *The River Runs Black: The Environmental Challenge to China's Future*. Ithaca: Cornell University Press.

Gaynor, J. (2020): Liquid Territory, Shifting Sands: Property, Sovereignty, and Space in Southeast Asia's Tristate Maritime Boundary Zone. In: I. Braverman / E.R. Johnson (eds): *Blue Legalities: The Life and Laws of the Sea*. Durham: Duke University Press, pp. 107–28.

Geall, S. / Ely, A. (2018): Narratives and Pathways towards an Ecological Civilization in Contemporary China. *The China Quarterly* 236, pp. 1175–1196.

Graham, K. (2018): Space 2018: China Mission Will Create Miniature Ecosystem on Moon. *Digital Journal*, 6 January 2018, https://web.archive.org/web/20180404035410/http://www.digitaljournal.com/tech-and-science/science/space-2018-china-mission-will-create-miniature-ecosystem-on-moon/article/511479 (accessed 20 May 2020).

Grydehøj, A. / Davis, S. / Guo, R. / Zhang, H. (2020): Silk Road Archipelagos: Islands of the Belt and Road Initiative. *Island Studies Journal* 15(2), pp. 3–12.

Hamblin, J.D. (2013): *Arming Mother Nature: The Birth of Catastrophic Environmentalism*. Oxford: Oxford University Press.

Hansen, J. (2015): China's Airfield Construction at Fiery Cross Reef in Context: Catch-Up or Coercion? Asia Maritime Transparency Initiative, https://amti.csis.org/chinas-airfield-construction-at-fiery-cross-reef-in-context-catch-up-or-coercion/ (accessed 14 November 2019).

Hansen, J.R. (2008): The Great Leap Upward: China's Human Spaceflight Program and Chinese National Identity. In: S. J. Dick (ed.): *Remembering the Space Age*. Washington, D.C.: National Aeronautics and Space Administration, p. 12.

Hansen, M. H. / Li, H. / Svarverud, R. (2018): Ecological Civilization: Interpreting the Chinese Past, Projecting the Global Future. *Global Environmental Change* 53, pp. 195–203.

Hansen, M.H. / Liu, Z. (2018): Air Pollution and Grassroots Echoes of "Ecological Civilization" in Rural China. *The China Quarterly* 234, pp. 320–339.

Harvey, B. (2013): Recoverable Satellites. In: B. Harvey (ed.): *China in Space: The Great Leap Forward*. New York, NY: Springer, pp. 105–133.

Hayton, B. (2018): Writing the History of the South China Sea Disputes. In: J. Spangler / D. Karalekas / M. Lopes de Souza (eds): *Enterprises, Localities, People, and Policy in the South China Sea: Beneath the Surface*. Cham: Palgrave Macmillan.

Helmreich, S. (2009): *Alien Ocean: Anthropological Voyages in Microbial Seas*. Berkeley: University of California Press.

Hong, L. (2016): Foreign Ministry Spokesperson Hong Lei's Regular Press Conference on 6 May 2016. Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/mfa_eng/xwfw_665399/s2510_665401/t1361284.shtml (accessed 5 November 2019).

Huang, B. / Ouyang, Z. / Zheng, H. / Zhang, H. / Wang, X. (2008): Construction of an Eco-island: A Case Study of Chongming Island, China. *Ocean & Coastal Management* 51(8), pp. 575–588. https://doi.org/10.1016/j.ocecoaman.2008.06.007

Huang, P. / Westman, L. (2021): China's Imaginary of Ecological Civilization: A Resonance between the State-led Discourse and Sociocultural Dynamics. *Energy Research & Social Science* 81, p. 102253. https://doi.org/10.1016/j.erss.2021.102253

Huang, P. / Westman, L. / Castán Broto, V. (2021): A Culture-led Approach to Understanding Energy Transitions in China: The Correlative Epistemology. *Transactions of the Institute of British Geographers* 46(4), pp. 900–916. https://doi.org/10.1111/tran.12453

Jasanoff, S. (2015a): Future Imperfect: Science, Technology, and the Imaginations of Modernity. In: S. Jasanoff / S.-H. Kim (eds): *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*. Illinois: University of Chicago Press, pp. 1–33.

Jasanoff, S. (2015b): Imagined and Invented Worlds. In: S. Jasanoff / S.-H. Kim (eds): Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power. Illinois: University of Chicago Press, pp. 321–342.

Jasanoff, S. / Kim, S.-H. (2013): Sociotechnical Imaginaries and National Energy Policies. *Science as Culture* 22(2), pp. 189–196. https://doi.org/10.1080/09505431.2013.786990

Jones, A. (2018): Student Experiment to Put Plants, Silkworms on Far Side of the Moon with Chang'e-4 Mission. *GBTimes*, 22 April 2018, https://gbtimes.com/student-experiment-to-put-plants-silkworms-on-far-side-of-the-moon-with-change-4-mission (accessed 24 January 2021).

Junren, W. (2013): The Philosophical Wisdom and Action Implications of "Beautiful China". *Social Sciences in China* 34(4), pp. 143–153.

Kong, D. (2014): South China Islands See Green Transformation. Xinhua News Agency, 30 July 2014, http://en.people.cn/n/2014/0730/c90882-8762890.html (accessed 5 January 2020).

Li, H. et al. (2014): Regional Disparities and Carbon "Outsourcing": The Political Economy of China's Energy Policy. *Energy* 66, pp. 950–958.

Li, M. (2010): Reconciling Assertiveness and Cooperation? China's Changing Approach to the South China Sea Dispute. *Security Challenges* 6(2), pp. 49–68.

Li, V. / Lang, G. (2010): China's "Green GDP" Experiment and the Struggle for Ecological Modernisation. *Journal of Contemporary Asia* 40(1), pp. 44–62.

Lim, L. (2006): Chinese Village Provides Model for Prosperity. NPR, 16 May 2006, https://www.npr.org/2006/05/16/5406900/chinese-village-provides-model-for-prosperity (accessed 8 September 2020).

Liu, Z. (2016): Yagong Island Was No Place for a Dog, Now It's Home to 400 Trees. *South China Morning Post*, 23 May 2016, https://www.scmp.com/news/china/diplomacy-defence/article/1948520/yagong-island-was-no-place-dog-now-its-home-400-trees (accessed 14 November 2019).

Liu, Z. (2019): Beijing to Restore Coral Reefs after Island Building in South China Sea. *South China Morning Post*, 1 February 2019, https://www.scmp.com/news/china/diplomacy/article/2180426/beijing-restore-coral-reefs-damaged-island-building-south-china (accessed 5 November 2019).

Liu, Z. (2016a): Sun, Surf and Patriotism. Life as a Tourist Cruising the South China Sea. *South China Morning Post*, 23 May 2016, https://www.scmp.com/news/china/diplomacy-defence/article/1948479/sun-surf-and-patriotism-life-tourist-cruising-south (accessed 14 November 2019).

Liu, Z. / Ng, T. (2019): Can Beijing Bring Ravaged South China Sea Coral Reefs back to Life? *South China Morning Post*, 21 December 2019, https://www.scmp.com/news/china/diplomacy/article/3043035/can-beijing-bring-south-china-seas-ravaged-coral-reefs-back (accessed 25 May 2020).

Lo, K. (2014): A Critical Review of China's Rapidly Developing Renewable Energy and Energy Efficiency Policies. *Renewable and Sustainable Energy Reviews* 29, pp. 508–516.

Lo, K. (2020): Ecological Civilization, Authoritarian Environmentalism, and the Eco-politics of Extractive Governance in China. *The Extractive Industries and Society* 7(3), pp. 1029–1035. https://doi.org/10.1016/j.exis.2020.06.017

Ma, Z. (2019): Facilities Launched to Protect Nansha Islands' Ecosystems. The State Council, People's Republic of China, http://english.www.gov.cn/state_council/ministries/2019/01/04/content_281476464359212.htm (accessed 5 November 2019).

Marinelli, M. (2018): How to Build a "Beautiful China" in the Anthropocene. The Political Discourse and the Intellectual Debate on Ecological Civilization. *Journal of Chinese Political Science* 23(3), pp. 365–386. https://doi.org/10.1007/s11366-018-9538-7

Mastro, O.S. (2019): South China Sea of Troubles. *The Economist*, 25 November 2019, https://worldin.economist.com/edition/2020/article/17356/south-china-sea-troubles (accessed 16 January 2020).

McKay, C. (2015): Why Don't We Just Terraform Earth? Hopes & Fears, http://www.hopesandfears.com/hopes/future/science/213981-terraform-earth (accessed 21 January 2020).

Messeri, L. (2017a): Gestures of Cosmic Relation and the Search for another Earth. *Environmental Humanities* 9(2), pp. 325–340. https://doi.org/10.1215/22011919-4215325

Messeri, L. (2017b): Resonant Worlds: Cultivating Proximal Encounters in Planetary Science. *American Ethnologist* 44(1), pp. 131–142. https://doi.org/10.1111/amet.12431

Moss, T. (2012): Birth of Sansha City Signals Death of Diplomacy in South China Sea Dispute. *South China Morning Post*, 1 August 2012, https://www.scmp.com/article/1008213/birth-sansha-city-signals-death-diplomacy-south-china-sea-dispute (accessed 18 May 2020).

NASA's John F. Kennedy Space Center (2003): Migrogravity Research Mission/SPACEHAB, STS-107, Space Shuttle, Mission Archives. NASA, https://www.nasa.gov/mission_pages/shuttle/shuttlemissions/archives/sts-107.html (accessed 21 May 2020).

O'Donnell, M. A. (2018): Excavating the Future in Shenzhen. In: T. Bunnell / D.P.S. Goh (eds): *Urban Asias: Essays on Futurity Past and Present*. Berlin: Jovis, p. 16.

Olson, V. (2018): *Into the Extreme: U.S. Environmental Systems and Politics beyond Earth*. Minneapolis: University of Minnesota Press. https://doi.org/10.5749/j.ctvgd2z0

Oreskes, N. (2014): Scaling Up Our Vision. *Isis* 105(2), p. 14.

Oreskes, N. (2021): *Science on a Mission: How Military Funding Shaped What We Do and Don't Know about the Ocean*. Illinois: University of Chicago Press.

Pak, C. (2016): *Terraforming: Ecopolitical Transformations and Environmentalism in Science Fiction*. Liverpool: Liverpool University Press.

Pan, Y. (2006): Evolution of an Ecological Civilization. *Beijing Review*, 9 November 2006, http://www.bjreview.com.cn/expert/txt/2006-12/15/content_50890.htm (accessed 19 August 2020).

Panda, A. (2020a): Are China's South China Sea Artificial Islands Militarily Significant and Useful? *The Diplomat*, 15 January 2020, https://thediplomat.com/2020/01/are-chinas-south-china-sea-artificial-islands-militarily-significant-and-useful/ (accessed 26 May 2020).

Panda, A. (2020b): Making Sense of China's Latest Bid to Administer Sovereignty in the South China Sea. *The Diplomat*, 21 April 2020, https://thediplomat.com/2020/04/making-sense-of-chinas-latest-bid-to-administer-sovereignty-in-the-south-china-sea/ (accessed 26 May 2020).

Press Association (2012): B.C. Geoengineering Experiment Attracts Worldwide Attention at UN. CTV News, 28 October 2012, https://www.ctvnews.ca/sci-tech/b-c-geoengineering-experiment-attracts-worldwide-attention-at-un-1.1013948 (accessed 26 May 2020).

Qin, Y. (1992): The State Oceanic Administration, Beijing. In: E.M. Borgese (ed.): *Ocean Frontiers: Explorations by Oceanographers on Five Continents*. New York: Abrams, p. 203.

Ratté, S. (2019): (Un)seen Seas: Technological Mediation, Oceanic Imaginaries, and Future Depths. *Environment and Society* 10, pp. 141–158. https://doi.org/10.3167/ares.2019.100109

Rice, S. / Tyner, J. / Munro-Stasiuk, M. / Kimroy, S. / Sirik, S. (2016): Making Land to Make Life: Island-building in the South China Sea and the Biopolitics of Geophysical Transformation. *The Geographical Journal* 182(4), pp. 444–448.

Robles, A.C. (2020): *Endangered Species and Fragile Ecosystems in the South China Sea: The Philippines v. China Arbitration*. Singapore: Springer Singapore.

Rowen, I. (2018): Tourism as a Territorial Strategy in the South China Sea. In: J. Spangler / D. Karalekas / M. Lopes de Souza (eds): *Enterprises, Localities, People, and Policy in the South China Sea: Beneath the Surface*. Cham: Palgrave Macmillan.

Rozwadowski, H. M. (2019): *Vast Expanses: A History of the Oceans*. London: Reaktion Books.

Schmitt, E. (2016): The Atmosphere of an Ecological Civilization: A Study of Ideology, Perception and Action in Chengdu, China. PhD thesis, Chinese University of Hong Kong, Hong Kong.

Schulz, Y. / Lora-Wainwright, A. (2019): In the Name of Circularity: Environmental Improvement and Business Slowdown in a Chinese Recycling Hub. *Worldwide Waste: Journal of Interdisciplinary Studies* 2(1). https://doi.org/10.5334/wwwj.28

Shapiro, J. (2001): *Mao's War against Nature: Politics and the Environment in Revolutionary China*. Cambridge: Cambridge University Press.

Siddiqi, A. A. (2010): Competing Technologies, National(ist) Narratives, and Universal Claims: Toward a Global History of Space Exploration. *Technology and Culture* 51(2), pp. 425–443. https://doi.org/10.1353/tech.0.0459

Solomone, S. (2006): China's Space Program: the Great Leap Upward. *Journal of Contemporary China* 15(47), pp. 311–327. https://doi.org/10.1080/10670560500535019

Song, L. (2018): Flowers on the Moon? China's Chang'e-4 to Launch Lunar Spring. Xinhua News Agency, 12 April 2018, https://web.archive.org/web/20181227200955/http://www.xinhuanet.com/english/2018-04/12/c_137106440.htm (accessed 25 May 2020).

Spangler, J. / Karalekas, D. / Lopes de Souza, M. (eds) (2018): *Enterprises, Localities, People, and Policy in the South China Sea: Beneath the Surface*. Cham: Palgrave Macmillan.

Stewart, J. (2019): China Sprouts the First Ever Seeds on the Far Side of the Moon. My Modern Met, 17 January 2019, https://mymodernmet.com/plants-sprout-moon-change-4/ (accessed 9 September 2021).

Storey, I. (2015): China's Terraforming in the Spratlys: A Game Changer in the South China Sea? *ISEAS Perspective* 29, p. 12.

Sze, J. (2015): *Fantasy Islands: Chinese Dreams and Ecological Fears in an Age of Climate Crisis*. Oakland: University of California Press.

The Economist (2018): China Has Militarised the South China Sea and Got away with It. *The Economist*, 21 June 2018, https://www.economist.com/asia/2018/06/21/china-has-militarised-the-south-china-sea-and-got-away-with-it (accessed 5 November 2019).

Torma, F. (2016): Science, the Media and Development: The International Indian Ocean Expedition (1959–1965). In: K. Anderson / H.M. Rozwadowski (eds): *Soundings and Crossings: Doing Science at Sea 1800–1970*. Sagamore Beach: Science History Publications, pp. 315–44.

Tseng, C. K. (2001): Algal Biotechnology Industries and Research Activities in China. *Journal of Applied Phycology* 13(4), pp. 375–380. https://doi.org/10.1023/A:1017972812576

Valencia, M.J. (2020): Is China Exploiting Global Covid-19 Distraction in the South China Sea? *South China Morning Post*, 27 April 2020, https://www.scmp.com/comment/opinion/article/3081472/world-focuses-covid-19-china-exploiting-distraction-south-china-sea (accessed 25 May 2020).

Van der Putten, F.-P. / Meijnders, M. (2015): *China, Europe, and the Maritime Silk Road*. (Clingendael Report). The Hague: Clingendael Netherlands Institute of International Relations.

Wang, X. (2020): China's Sansha City Establishes Xisha, Nansha Districts in Major Administrative Move. Ministry of National Defence of the People's Republic of China (online), http://eng.mod.gov.cn/news/2020-04/18/content_4863772.htm (accessed 26 May 2020).

Westcott, B. / Xiong, Y. (2019): China Might Just Have Grown the First Plant Ever on the Moon. CNN, 15 January 2019, https://www.cnn.com/2019/01/15/asia/china-moon-cotton-intl/index.html (accessed 5 November 2019).

Wong, C. (2017): First Cruises, Now Flights: China Plans Air Tours to South China Sea Islands. *South China Morning Post*, 3 July 2017, https://www.scmp.com/news/china/diplomacy-defence/article/2076669/first-cruises-now-flights-china-plans-fly-tourists (accessed 14 November 2019).

Woon, C.Y. (2020): Framing the "Polar Silk Road" (冰上丝绸之路): Critical Geopolitics, Chinese Scholars and the (Re)Positionings of China's Arctic Interests. *Political Geography* 78, p. 102141. https://doi.org/10.1016/j.polgeo.2019.102141

Xiang-chao, P. (2018): Research on Xi Jinping's Thought of Ecological Civilization and Environment Sustainable Development. *IOP Conference Series: Earth and Environmental Science* 153, p. 62067. https://doi.org/10.1088/1755-1315/153/6/062067

Xiong, Y. / Westcott, B. (2019): China's First Plant to Grow on the Moon is already Dead. CNN, 17 January 2019, https://www.cnn.com/2019/01/17/asia/china-moon-seed-dead-intl/index.html (accessed 5 November 2019).

Xue, G. (2016): Welcome to Conflict Tourism: How Chinese State Firms Are Using the South China Sea. *South China Morning Post*, 19 September 2016, https://www.scmp.com/week-asia/geopolitics/article/2020096/welcome-conflict-tourism-how-chinese-state-firms-are-using (accessed 25 May 2020).

Yin, X. / Zhang, J. (2018): Connotation of Xi Jinping's Thought on Construction of Ecological Civilization in the New Era. *Asian Agricultural Research* 10(7), pp. 22–25. https://doi.org/10.22004/ag.econ.281250

Zee, J.C. (2017): Holding Patterns: Sand and Political Time at China's Desert Shores. *Cultural Anthropology* 32(2), pp. 215–241. https://doi.org/10.14506/ca32.2.06

Zhang, Z. (2019): "Moon Garden" a Success for Chang'e Probe. *China Daily*, 19 January 2019, https://www.chinadaily.com.cn/a/201901/19/WS5c426798a3106c65c34e5591.html (accessed 9 September 2021).

Zheng, W. (2019): Chinese Lander's Cotton Seeds Spring to Life on Far Side of the Moon. *South China Morning Post*, 15 January 2019, https://www.scmp.com/news/china/science/article/2182111/chinese-lunar-landers-cotton-seeds-lead-way-plant-life-germinates (accessed 25 May 2020).

IQAS Vol. 53 / 2022 III, pp. 413–439

Infrastructuring Cyberspace
Exploring China's Imaginary and Practices of Selective Connectivity

Ying Huang, Nicolas Huppenbauer, Maximilian Mayer

Abstract

Connectivity and fragmentation coexist as two interlinked discourses on the relationship between infrastructures and societies. In response to the Digital Silk Road initiated by the Chinese government, Chinese companies have built numerous digital infrastructures globally. Simultaneously, China's government seeks to strengthen domestic internet governance through laws and administrative regulations, such as the Cyber Security Law. This paper utilises the interpretive framework of "sociotechnical imaginaries" to explore the controversial tension between digital fragmentations and connectivity in cyberspace along technical, institutional and political dimensions. Scrutinising two cases studies – New IP and smart city – the study finds that China's approach to infrastructuring cyberspace can be best understood as selective connectivity. China not only integrates into global cyber infrastructures to enhance its technological and regulatory capabilities, but also attempts to reshape global cyberspace governance to strengthen its political structures and enhance digital autonomy, seeking a balance between digital sovereignty, regime security and economic development. However, selective connectivity brings its own complexities and drawbacks.

Keywords: China, New IP, smart city, connectivity, cyberspace, sociotechnical imaginaries

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DOI 10.11588/iqas.2022.3.13947

> Across the Great Wall, we can reach every corner of the world.[1]

Introduction

Cyberspace is under reconstruction.[2] Global digital infrastructures – an integral part of globalisation enabling cross-border interactions and creating multi-layered interdependencies – have come under growing pressure. Restrictions, interventions and boundaries are multiplying in a realm that was once envisioned as borderless, popularised through notions such as "global village" and "network society". Ultimately global in their reach by nature, digital infrastructures embody the idea of ubiquitous connectivity. They are also, however, crucial sites where major technopolitical reconfigurations can be observed (Munn 2020).

As a quintessential "infrastructural state" (Bach 2016, Schindler et al. 2022, Ho 2020), China is perceived by many as the main agent that aims at reshaping cyberspace in its own image. Chinese actors are seen as both ideational promoters and technical engineers of data nationalism, cyber sovereignty and digital authoritarianism, thereby splintering the internet (Deibert et al. 2010, Diamond 2019). To grasp the ways in which the Chinese government and firms are indeed reshaping cyberspace is therefore a highly relevant yet complex issue. Two conflicting approaches can be observed: China emphasises cyber sovereignty for the sake of domestic stability and technological autonomy (Segal 2020) and maintains the Great Firewall that partially disconnects more than a billion internet users in China from global communication flows. Simultaneously, the Chinese President Xi Jinping publicly defends globalisation and advances the technical integration of global networks, as Chinese companies construct optical cables, satellites and other communication networks and software platforms to improve local, inter-regional and planetary connectivity.

This complexity indicates the salience of the scholarship on balkanisation, splinternet and islandisation and complicates this research subject at the same time. To empirically and conceptually capture the dynamics of the emerging technopolitical reality of digital "fragmentation" (Malcomson 2016, Mueller 2020) requires nuance. While some focus on the reinforcement of national jurisdictions as the main culprit (Drezner 2004, Mueller 2017), others distinguish between technical, governmental and commercial fragmentation (Drake et al.

1 From the first email sent via CSNET from the Beijing Institute for Computer Application of State Commission of Machine Industry, China, to the Karlsruhe Institute of Technology, Germany, on 14 September 1987.

2 Cyberspace can be defined as "a global domain [...] framed by the use of electronics and the electromagnetic spectrum to create, store, modify, exchange, and exploit information via interdependent and interconnected networks using information-communication technologies" (Kuehl 2009: 28).

2016) and identify diverse actors and processes that produce fragmentation (Hill 2012). A binary distinction tends to underpin views on Chinese cyber policies, dividing approaches to cyber governance into democratic and authoritarian (Hoffmann et al. 2020). To go beyond such a reductionist view and to avoid the trap of "digital orientalism" (Mayer 2020, Mahoney 2022), we argue that the inherent complexity of China's bearing on global cyberspace governance requires a conceptual approach that captures the current blending of digital fragmentation and connectivity. For that purpose, two empirical questions guide our research: What kind of imaginary of connectivity animates Chinese practices of infrastructuring cyberspace? And what are the outcomes of employing this imaginary while building digital infrastructure abroad?

The paper employs the interpretive framework of "sociotechnical imaginaries" (Jasanoff / Kim 2015) to explore China's vision and practices concerning cyberspace in a broader social, economic and political context. Understanding infrastructure as an activity – *infrastructuring* – shifts the focus from a supposedly stable system to the practices needed to create and maintain or enlarge them further (Korn et al. 2019, Star / Ruhleder 1996). We explore how social and political contexts shape sociotechnical imaginaries of connectivity in China and how, in turn, the involvement of Chinese tech companies in the build-up of infrastructures changes global connectivity (Shen 2021). By analysing two digital infrastructures in the making, specific practices of fragmentation / connectivity ranging from the local to the global scale are scrutinised.

We analyse, firstly, the public controversies around the "New IP" proposal, a Chinese initiative at the International Telecommunication Union (ITU). Various organisations and commenters have claimed that New IP would not only harm interoperability in cyberspace, but also potentially make internet censorship and data regulation more convenient (IETF 2020). Secondly, we investigate the "Smart City Duisburg" in Germany, where Huawei's involvement attracted international attention. Based on the analysis of press releases, interviews and policy documents, we trace Huawei's impact on interoperability and internet governance norms at the nexus of digital urban transformation and contestations over transparency and participation.

In the following section, we lay out the key concerns with connectivity and fragmentation. In the third section, we introduce the framework of sociotechnical imaginaries and demonstrate its general applicability to exploring China's practices of infrastructuring cyberspace. In the fourth section, we examine two case studies – "New IP" and "the Smart City Duisburg" – in light of China's imaginary of selective connectivity. The fifth section discusses the main lessons from the two case studies. We conclude by reflecting on the notion of selective connectivity.

Connectivity and fragmentation in cyberspace

Connectivity and fragmentation coexist as two powerful and interlinked discourses on the relationship between infrastructures and societies. The notion that infrastructures should facilitate the circulation of goods, people and information has been an influential discourse since at least the 17th century (Mattelart 2000, van der Vleuten 2004: 396–399).[3] In 1841, Friedrich List lamented in his *National System of Political Economy* that a lack of railway connections would impede unification of the scattered German states (List 1885). Deepened global connectivity has been at the root of discussions about globalisation, while various large technical systems became the backbone of modern international relations (Mayer / Acuto 2015). Andrew Giddens claims that modernity was "inherently globalising", leading to the "intensification of worldwide social relations" (Giddens 1990: 63).

Building on Giddens, John Tomlinson argues that connectivity implies sociocultural proximity: "connectivity means changing the nature of localities and not just occasionally lifting some people out of them" (Tomlinson 1999). Manuel Castells's influential notion of "network society" was derived from the observation that the rise of global information and communication networks had induced a historic transformation of human existence, allowing for a change in practices of organising (Castells 2010). In addition, connectivity has become a buzzword among policy-makers and business elites. For example, the Association for Southeast Asian Nations (ASEAN) has for over a decade put connectivity at the heart of its Master Plan:

> Connectivity in ASEAN refers to the physical, institutional and people-to-people linkages that comprise the foundational support and facilitative means to achieve the economic, political-security and sociocultural pillars towards realising the vision of an integrated ASEAN Community (ASEAN 2011: 8).

A report by the global management consulting firm McKinsey highlights the significance of connectivity for industrial applications such as the Internet of Things[4] (Alsen et al. 2017), while the World Bank Group (2019) regards connectivity as a distinctive feature of the modern economy and a major trend in the 21st century. Godehardt and Kohlenberg (2020) argue that the narratives and proposals around the BRI have been a major promoter of this spatialised discourse of globalising geoeconomics.

The concern with the fragmentation of the internet, however, is increasingly taking centre stage. The problem of the internet's "splintering or breaking up into loosely coupled islands of connectivity" (Drake et al. 2016: 3) is not new.

3 See Edwards (2003) on the link between infrastructures and modernity.

4 "Internet of Things", abbreviated as IoT, refers to the network of sensor-equipped and interconnected objects, such as streetlights, cars and house appliances.

Even before the global expansion of the internet, in 1991, Al Gore called for the prevention of a splintering of the emerging cyberspace by establishing common standards and technologies (Gore 1991). Internet fragmentation was constitutive to the creation of the internet from the beginning, it occurred in the technological as well as in the governmental and commercial domains (Herrera 2002, Mueller 2010, Drake et al. 2016).

After the Snowden revelations in 2013, the idea that states should intentionally produce fragmentation gained legitimacy: advocates of "data localisation" demanded that data storage, movement and processing be organised within their jurisdictional borders (Hill 2014). Cyber borders also became a positive idea more broadly connected to resurging populism (Cox 2017) and strongly linked with ideas of sovereignty and a resurgence of national interests (Nussbaum 2010, Paris 2020). The prominence of ideas such as "decoupling" and the US Clean Network initiative indicates that disconnectivity is not only an issue limited to China: "the United States has been deploying a multi-faceted campaign since the Trump administration that combines persuasion, coercion and incentives to dissuade Washington's allies from accepting projects involving Chinese suppliers" (Velliet 2022: 21).

For instance, the European Union's "Global Gateway", set out on 1 December 2021, is seen as the European alternative to China's Belt and Road Initiative (BRI). Policy makers and the public at large, it seems, are progressively developing the sense that globalisation is undergoing a significant transformation, calling into question the goal of ever-deepening connectivity (Fontaine 2020, Lund et al. 2019). This shift of thinking about connectivity is reflected in the new theorisation of interdependence and its weaponisation (Drezner et al. 2021, Farrell / Newman 2019, Keohane / Nye 2012). Observers point out that various states have begun to instrumentalise economic flows and interactions, thereby giving rise to a "connectivity war" (Leonard 2016). Connectivity infrastructures are conceptualised as subject to great power competition.

China's imaginary of selective connectivity

China's approach to connectivity is ambiguous. It can best be described as selective: on the one hand, China's integration into cyberspace has continually grown since 1987, when the first email from China was sent abroad. In 1995, the country set up its first commercial internet connection (Choy / Cullen 1999: 105). According to official estimates, China had 1.032 billion internet users in 2021 (Global Times 2022). In 2019, the Chinese mainland together with Hong Kong had cross-border data flows of 111 million Mbps, accounting for 23 per cent of global data flows (Nikkei 2020). The country's techno-political strategies

such as the Digital Silk Road (DSR), China Standards 2035 and New Infrastructure represent initiatives to further connect the country domestically and globally.

On the other hand, the establishment of a legal and regulatory frameworks to control information flows and enable greater technological autonomy has emerged as one of China's key priorities. Since the origins of the internet in China, the government has constructed and updated the Great Firewall. This infrastructure functions to selectively block access to foreign websites and communication, which seems to contradict the purported focus on connectivity (Barme / Ye 1997). Moreover, since the 2010s, there is an emerging consensus among Chinese political and economic elites that digital technology can not only help China to withstand a variety of economic and social troubles, but even be applied as a tool to enhance the functions and stability of the Chinese political system (Creemers 2020: 113, Huang / Tsai 2022). In sum, China seeks to continuously strengthen technical and commercial connections with and through the global cyberspace, but wants to partially reduce the influence of western values, shielding its institutional and socio-cultural norms. The emphasis on mitigating technical and economic interdependencies seems to counteract the bid by Chinese tech firms to develop greater influence in global cyberspace (Mayer / Huotari 2015, Huang / Mayer 2022).

As reflected in China's practices of infrastructuring its internal cyberspace, a mix of connectivity and fragmentation characterises the Chinese sociotechnical imaginary. The concept of "sociotechnical imaginaries" (STI) was first introduced by Sheila Jasanoff and Sang-Hyun Kim (2009) in order to explain the relationship of science and technology to political power. STIs are "collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology" (Jasanoff 2015: 4). STIs have been employed to study which features of national political culture are embedded in the development and expectations of science and technology and, thus, how technoscientific and political orders are coproduced. We draw on the insights of earlier work. While STIs have been used to explore cyberspace as coproducing freedom (Barker 2015), democracy (Felt 2015) and citizenship (Isin / Ruppert 2020), the framework also offers a way to investigate infrastructuring practices and connectivity in both democratic and authoritarian environments.

Imaginaries are widely reproduced by collective thinking and reflected in national decision-making. STIs can be traced in the meaning that is transported by acts of speech and performance, and by acts of stabilisation, such as the foundation of new institutions and organisations, the drafting of legal texts and policy documents, the launching of hallmark strategies and initiatives, and the construction of material infrastructures. Scholars point out that Chinese

policies and emerging sociotechnical systems reflect negotiations between various actors within the Chinese government, but also from industry and civil society (Shen H. 2016). Notable examples include cases such as the Hainan provincial government seeking an exemption from the comprehensive online censorship regime (Lu 2020) and disputes among consumers, firms and the government over the neutrality of Chinese telecommunications and service providers (Murphy / Qian 2021, Wu / Wan 2014).

Despite a variety of actors and interests in the Chinese context, it is possible to distinguish some broad directions of the Chinese policy-industry-society nexus (Cai / Dai 2021). The key question is not whether an STI determines the outcomes of all of China's actions on cyberspace, but rather whether it shapes and is reproduced by practices across various societal sectors and points in time. Moreover, the Chinese government is a powerful actor that seeks to push through its vision, for example by allocating funds in a certain way, and that can actively influence which visions are collectively adopted and maintained (cf. Jasanoff / Kim 2009). For example, Hong Yu (2017), though stressing the diverging interests of Chinese organisational actors in the creation of nationwide telecommunications infrastructures, acknowledges that they may still imagine a similar destination for China as a country.

In the 1990s, Chinese elites were generally receptive to US demands for a more open telecommunications sector. Their approach to partially adopting rules and structures of global digital capitalism was shaped by the country's experience of introducing market reforms in the communications sector while trying to avoid the neoliberal failures observed in the West. As China was preparing to join the WTO in 2001, competing views and objectives within the Chinese government and between the state and industry persisted. But the aspiration to integrate into and eventually to shape global information infrastructures nonetheless led to a common vision for both state and business (Hong 2017: 150–153). Samuel Lengen argues that the convergence of Chinese government and industry narratives on the promises of digital connectivity for the Chinese nation would not have been achieved without the daily experiences and contributions of Chinese citizens. The everyday use of Alibaba's digital platforms by Chinese from all over the country, he suggests, made the company a symbol of national pride and of China's international competitiveness (Lengen 2022).

In the following, we focus on two practices to illustrate the sociotechnical imaginary of selective connectivity: institutionalisation and public performance.

Institutionalising cyber sovereignty

> [Institutions are] stable repositories of knowledge and power [...] through which the validity of new knowledge can be accredited, the safety of new technological systems acknowledged, and accepted rules of behavior written into the as-yet-unordered domains that have become accessible through knowledge-making (Jasanoff 2004: 39–40).

Perhaps the most well-known example of institutionalised selective connectivity in China is the Great Firewall – a term that refers to everything from restrictions on access to foreign websites (Zhang C. 2020), to comprehensive online censorship (Abbott 2019), to the set of regulations on data localisation to manage cross-border data flows (Liu 2020). The term "Great Firewall" first appeared in a *Wired* article in 1997 (Barme / Ye 1997) but is used likewise in Chinese official newspapers (for example, Global Times 2011). It is a reference to the Great Wall of China, which, according to Selina Ho (2020: 8), represents both the material power of the state to draw together resources from the whole of society, and the symbolic and imagined contrast between the "civilised Chinese" versus the "barbaric others". The Great Firewall is also indicative of the previously mentioned complexity and heterogeneity of actors surrounding cyberspace governance in general (Nye 2014). Just as in the case of the Chinese evolving data governance, various private and public actors are involved in the Great Firewall's functioning, from strategy and policy-setting by the central government to various ministries to private firms (Zhao / Feng 2021, King et al. 2013).

Domestically, the Cybersecurity Law, which officially went into effect on 1 June 2017, defines norms and principles for cybersecurity legislation in China (Creemers 2020). It emphasises the importance of protecting critical information infrastructure that could cause serious damage to national security, the national economy and public interest. China Standards 2035 is another illustration of national policymaking that reflects efforts to reduce technological dependencies and enhance international influence. The document outlines domestic industrial standards and aims to promote the construction of standards systems in key areas, such as blockchain, the Internet of Things, new cloud computing, big data, 5G, new artificial intelligence, new smart cities and geographic information technologies (SAC 2020). China Standards 2035 also proclaims a new emphasis on Chinese industry to shape international standards (The State Council of the People's Republic of China 2021).

These efforts are underpinned by China's "cyber sovereignty" approach to cyberspace governance.[5] In March 2017, China released an international strategy

5 At the 2015 World Internet Conference in Wuzhen, Xi Jinping defined cyber sovereignty as "the right of individual countries to independently choose their own path of cyber development, model of cyber regulation and Internet public policies, and participate in international cyberspace governance on an equal footing" (Xi 2015).

on cyber issues – the "International Strategy of Cooperation on Cyberspace" (ISCC). According to the strategy, the goal of China's participation in international cyberspace cooperation is both to safeguard the country's sovereignty and security in cyberspace and to improve global connectivity (The Ministry of Foreign Affairs and the Cyberspace Administration of China 2017).

Cyber sovereignty – a key term in the document – refers to viewing cyberspace as an extension of states' physical territory. It implies a larger role for states in protecting digital infrastructure, processes and internet governance. The "Three-Perspective Theory of Cyber Sovereignty" advanced by Hao Yeli, a retired major general of the People's Liberation Army, provides a layered approach to explain the Chinese vision of cyber sovereignty. Hao (2017) distinguishes between the physical level of cyberspace, in which global connectivity and standardisation are to be pursued; the application level, in which local conditions should determine the balance between cyber sovereignty and freedom; and the "unchallengeable" core level, consisting of regime, law, political security and ideology.

China's interpretation of cyber sovereignty results in a multilateral approach towards internet governance, in which states are more influential than other stakeholders, such as firms and international organisations. Western observers tend to see China's governance approach mostly in opposition to the values of a free and open internet and to the established multi-stakeholder approach of participatory governance (Gady 2016). Over the past years, concerns have broadened that, together with the export of Chinese digital technologies, also the notion of cyber sovereignty is spreading into global governance (Segal 2020). Cyber sovereignty is also increasing the trend towards fragmentation into incompatible national networks (Mueller 2017).

Finally, technical standardisation, as outlined in China Standards 2035, is being directly brought together with foreign policy (Rühlig 2020). For instance, the "Action Plan on Belt and Road Standard connectivity (2018–2020)", issued by the National Development and Reform Commission of China (2018), aims to promote a wider adoption of China's technical standards and supports greater connectivity. China increasingly engages multilateral institutions, such as the ITU, to help establish new standards in the field of telecommunications technology (Cheney 2019). Thanks to massive financial investments and political support from the government, combined with a huge domestic market, Chinese technical companies are strengthening their influence as international global standard-setters. For example, the Chinese telecommunication provider Huawei has played a critical role in setting global technology standards for 5G. The introduction of New IP servers is another important attempt on the part of Huawei to internationalise Chinese government-backed technological standards. According to some observers, the approach "greater involvement by Chinese

companies in multilateral technology standards-setting efforts could materially alter the course of global norms in ways the US and other democracies would not support" (Triolo / Greene 2020).

Performing connectivity

Complementing the institutionally prescribed vision, the STI of selective connectivity is represented by several public performative practices. Public performance here refers to theatrical practices of public communication, deploying visual, verbal and gestural symbols of all kinds.[6] An important part of the performativity of political practice is the (re)framing of new and established vocabularies. Domestically, at the Central Economic Work Conference in December 2018, the State Council introduced the term "New Infrastructures",[7] which refers to technologies such as 5G networks and data centres. New infrastructure is different from traditional infrastructure such as railways, roads and bridges, and mainly refers to key digital facilities in the era of the digital economy (People's Daily Online 2020). It includes three aspects: information infrastructure, innovative infrastructure and integrated infrastructure. In the vision of the Chinese government, new infrastructure construction contributes to greater connectivity and sustainable development through digital industries (Wang 2020).

Internationally, the BRI has made the term connectivity more prominent. Proposed in 2013, the BRI officially has five goals: policy coordination, facilities connectivity, unimpeded trade, financial integration and people-to-people bonds, also summarised as five modes of connectivity (五通, Wu Tong). The BRI's focus on connectivity has a very broad scope including economic, strategic and cultural connectivity (OECD 2018: 10). Connectivity is regarded as "the foundation of development through cooperation". China's president Xi Jinping referred to connectivity in the dimensions of land, maritime, air and cyberspace. He pledged to "promote connectivity of policies, rules and standards so as to provide institutional safeguards for enhancing connectivity" (Xi 2017).

Since announcing the Digital Silk Road (DSR) in 2015, the Chinese government has organised a series of events for and together with European policymakers to enhance global digital connectivity in developing economies. For example, in 2017, China organised a forum on digital connectivity in Qingdao

6 Performativity is an important category for analysing Chinese politics (Ding 2020, Stern et al. 2022). Iza Ding, leaning on a definition by Judith Butler, defines performative governance as "the state's theatrical deployment of visual, verbal, and gestural symbols to foster an impression of good governance before an audience of citizens" (Ding 2020: 5–6).

7 "Xinxing Jijian"(新型基建) or "Xin Jijian" (新基建) for short. New infrastructure includes seven key areas: 5G networks, industrial internet, inter-city transportation and rail system, data centres, artificial intelligence, ultra-high voltage power transmission and new-energy vehicle charging stations.

through the platform of the Asia-Europe Meeting (ASEM). In another 2017 meeting in Brussels, Chinese diplomats joined an ASEM working group to discuss and define connectivity as an ambition for both digital and non-digital spheres of cooperation (Gaens 2019: 9). Gong and Li (2019) argue that China's confidence in promoting the DSR and connectivity abroad draws from domestic lessons on the benefits of building digital infrastructure for rural development. That the imaginary of connectivity is gaining transformative force is evidenced by the DSR initiative to sign up corporations and countries one after another (Eder et al. 2019, Fung et al. 2018).

Another noteworthy example is the "Global Initiative on Data Security" that China announced in September 2020, aiming to establish global standards on data security. This again indicates that, for China, cyber sovereignty is a prerequisite for digital connectivity. As Chinese diplomats advocate for cyber sovereignty, they urge governments to respect other countries' sovereignty in how they handle data collection and protection (Wong 2020). In contrast to this obvious state-centrism, corporate performative elements of China's cyberspace imaginaries focus on the enhancement of commercial connections. Alibaba's record initial public offering on the New York Stock Exchange in 2014 and its opening of e-commerce hubs in Malaysia and Ethiopia were celebrated with great fanfare. Similarly, China's "Single's Day" – an equivalent to the Black Friday shopping event – was internationally promoted on the digital marketplace Lazada and popularised in Southeast Asia (Keane / Yu 2019).

These public performances, however, have sometimes led to unintended effects and responses: sceptical perceptions of China as a cyber power are on the rise. Some assert that the state-led BRI enables China to extend the international influence of its values and norms (Cheney 2019: 11). For instance, American policymakers believe that China is exporting its "techno-authoritarian" model to countries along the BRI (Triolo et al. 2020: 2).

Case Studies: New IP and smart city

To explore the imaginary of selective connectivity further, we focus on two case studies and ask how Chinese actors in these cases institutionalise and perform their visions of infrastructuring cyberspace. The first case examines New IP, an initiative by Huawei and a number of other Chinese organisations to open up research into a new addressing system in cyberspace, put forward at ITU-T in September 2019.[8] Technical standardisation at ITU and other organisations has in recent years grown as a topic of geopolitical interest (Bishop

8 ITU-T, one of three sectors of the International Telecommunication Union, deals with the standardisation of ICT, alongside international organisations such as ICANN and IETF.

2015, Rühlig 2020, Seaman 2020). In the field of cyberspace governance, standardisation is just one in a row of topics that have recently been characterised by disputes between traditionally strong actors from Western countries and powerful newcomers, such as China, but also India and others. The conflicts relate to a variety of issues, such as domain names, distribution of responsibilities, decision-making processes and others (Mueller 2010, Zeng et al. 2017).

The second case is about the Smart City Duisburg, a municipal project in Duisburg, Germany, started in 2017, to digitise the administration and provide a variety of services for its citizens and businesses. Huawei was centrally involved in the planning and testing stages of the project, but eventually saw its cooperation halted due to a combination of persistent negative media coverage and competing local interests. In contrast to international standardisation, projects of urban digital transformation can be seen as local instances of the infrastructuring of cyberspace.[9] Smart cities, in particular, have raised interest in the literature on cyberspace governance due to their contribution to a variety of governance challenges (DeNardis / Raymond 2017). A growing number of scholars are engaging with the role of urban data in the production of global knowledge (Robin / Acuto 2018, Sadowski 2020).

The cases of New IP and the Smart City Duisburg illuminate the implementation of selective connectivity on both global and local scales. In the following, we analyse public communication such as press releases, supported by secondary literature and media articles, to draw a picture of the complexities of China's STI. The coverage of both cases by international media has to some extent pushed the involved actors to position themselves publicly vis-à-vis important technical and political questions.

The New IP proposal

During a September 2019 ITU-T meeting, Huawei, along with the state-owned telecommunications companies China Mobile and China Unicom, and the Chinese Ministry of Industry and Information Technology (MIIT), put forward a proposal for New IP. In the proposal, the firms outlined many challenges the current internet was facing. They proposed to brief ITU-T experts on already conducted research, to initiate strategic planning and to set up new questions for related study groups at the ITU-T. The engineers argued that the current internet design was insufficient for new applications, was already in the process of fragmenting into mutually incompatible technical systems and needed enhanced security and trust (Huawei et al. 2019). To address these challenges, New IP was supposed to enhance current IP by introducing addresses of different length, semantics

9 A smart city can be defined as a city "connecting the physical infrastructure, the information-technology infrastructure, the social infrastructure, and the business infrastructure to leverage the collective intelligence of the city" (Mohanty et al. 2016: 1).

to identify objects and user-definable IP headers (Chen et al. 2020).[10] Huawei estimated that the investments and business value of New IP would run into trillions of US dollars (Sheng 2019: 21). In the weeks and months that followed, Huawei presented New IP at an ITU workshop (in October 2019), at a side meeting to the Internet Engineering Task Force (IETF)[11] (in November 2019) and at various other meetings at ITU and IETF.[12]

Initial reactions were sceptical about New IP's technical capabilities. For example, the Internet Corporation for Assigned Names and Numbers (ICANN), which is responsible for coordinating the maintenance and procedures of several databases, questioned the interoperability of New IP with the earlier protocols IPv4 and IPv6. Moreover, experience with IPv6 had shown that complete replacement of old protocols would probably take decades (Durand 2020: 24–25). Similarly, IETF (2020) argued that New IP could not provide a solution to the problem of interoperability, and that the replacement of existing IP would "most assuredly create network islands, damage interconnection, and jeopardise interoperability".

The topic of New IP reached a broader public through two articles in the *Financial Times* in March 2020 (Gross / Murgia 2020, Murgia / Gross 2020). In the articles, the authors described the New IP proposal in the context of broader debates about the future of cyberspace and the geopoliticisation of internet governance. They argued:

> Whereas today's internet is owned by everyone and no one, [New IP] could put power back in the hands of nation states, instead of individuals (Murgia / Gross 2020).

This line of argument was picked up by other commentators, who pointed out how certain envisaged characteristics of New IP would be especially favourable to the state-centric internet governance model. According to ICANN, the deployment of New IP would facilitate digital surveillance:

> [New IP involves] a strong regulatory binding between an IP address and a user [that] would allow any intermediary element (router, switch, and so on) to have full access to exactly which user is doing what (Durand 2020: 3).

The technical possibilities of New IP have political implications that could, according to some views, ultimately "splinter the global internet's shared and ubiquitous architecture" (Hoffmann et al. 2020: 239). A substantially different software infrastructure would thus deepen the rift between two opposing camps in a long-standing debate about internet governance reform: on the one hand, those states pursuing an open internet, and, on the other hand, those states perceiving benefits from more centralised governmental control (Deep 2020).

10 Routing means to designate parts of an IP address for certain purposes (Farrel / King 2022).

11 IETF is an important Internet standards organisation, which is responsible to develop the technical standards that make up the Internet protocol suite.

12 See ITU-T 2020; Network 2030, Description of Demonstrations for Network 2030 on Sixth ITU Workshop on Network 2030 and Demo Day, 13 January 2020.

Another point of criticism was related to the fact that the Chinese companies had presented the proposal to ITU-T rather than (only) to IETF. IETF (2020) argued that the creation of a top-down design of New IP "would fail to match the diverse needs of the continuously evolving application ecosystem". The European Telecommunications Network Operators' Association (ETNO) explained that a shift of responsibility from the IETF to the ITU-T would represent a duplication of standardisation work (ETNO 2020). RIPE Network Coordination Centre (NCC), one of five Regional Internet Registries (RIR), agreed that the New IP proposal would create significant overlap with the ongoing work of the IETF (ITU 2020). This point of criticism reflected the sense of mutual competition between ITU and IETF, which had both developed capacities to regulate certain aspects of cyberspace.

These institutional rivalries over responsibilities need to be situated within more general discourses about China's dissatisfaction with the global internet governance regime (Shen Y. 2016). For years, some authors have argued that China would prefer to shift more responsibility for internet governance to ITU, where states are more dominant than in ICANN or the RIRs (Mueller 2011). As a consequence, so the argument, China wanted to reshape internet governance so that it is more aligned with its vision and norms (Bozhkov 2020). Moreover, others suggested that, by proactively pursuing international standardisation, China aims to create and protect potential markets for its globally active large tech corporations (Hoffmann et al. 2020: 246). Presenting New IP at ITU-T thus reflected China's approach to shift internet governance into a direction more in line with its domestic agenda and approach (Sharma 2020).

After a barrage of critical commentary on New IP, Huawei lamented the politicisation of New IP: "New IP is just a purely technical topic. Don't politicise New IP from the beginning," Huawei's rotating chairman Xu Zhijun stated in an interview (Zhang P. 2020). Others tried to maintain a more measured position. For example, Milton Mueller, a renowned scholar in the field of internet governance, argued that the Internet community should resist the tacit politicisation of technical standards (Mueller 2020). Eventually, at ITU-T study group meetings during December 2020, the decision was taken to stop discussing New IP for a while.[13]

Smart City Duisburg

Huawei's involvement with Duisburg reaches back to 2017, when Duisburg was in the process of developing a master plan for the city's digital transformation and was looking for hardware and technological expertise (Ahlemann / Murrack 2018). In October 2017, Huawei and Duisburg signed a Memorandum

13 Yet, according to some observers, elements of the proposal have since appeared in various places (Bertuzzi 2022, Internet Society 2022: 3).

of Understanding (MoU) in Shenzhen (Huawei 2017). The MoU was meant to summarise the current vision and agreements and facilitate further talks on the development of "innovative ICT concepts for intelligent and safe cities" (Stadt Duisburg / Huawei 2017: 2). Huawei stated that it wanted to work on projects together with the municipal firms DVV and DU-IT, stimulate the development of 5G, and share its technical know-how with the city administration and the University of Duisburg-Essen.[14] In January 2018, during another delegation visit by Duisburg to Huawei in Shenzhen, the partners formally announced the smart city cooperation to the public (Huawei 2018a, Stadt Duisburg 2018).

Huawei's management made the Smart City Duisburg a major reference point in its promotion of smart city technologies, and continually expanded the cooperation with Duisburg. In June 2018, Huawei invited Duisburg's head of digitalisation Martin Murrack and the CEO of DU-IT, Stefan Soldat, to deliver speeches at the CEBIT fair in Hanover (Bordel 2018, Smart City Duisburg 2018). In July 2018, Huawei, along with several other organisations from Duisburg, signed a letter of intent to enter into cooperation for the smart city (Stadt Duisburg 2019a: 14). In September 2018, Duisburg's mayor led another delegation to visit Huawei's headquarters in Shenzhen (Huawei 2018b). And in October 2018, at a conference organised by Huawei, Huawei presented Duisburg as a critical example of its international smart city cooperation (Huawei 2018c).

A key piece of Huawei's vision of a fully interconnected smart city was the Rhine Cloud, a cloud infrastructure jointly provided by Huawei and DU-IT (Huawei 2018d). All collected data would be stored in the Rhine Cloud to service citizens and business users. The Rhine Cloud was to serve as the foundation of the smart city nervous system (Huawei 2018e: 13), perhaps even the "brain" and "command centre", modelled after a Huawei project in Longgang district of Shenzhen (Huawei 2018f, Huawei 2018g). Using the Rhine Cloud, Duisburg could "break down data silos", complete the first stage of smart city development, and reach towards the "Smart Duisburg 2.0 vision" (Huawei 2018h, 2018g). Smart city 3.0 would then use the Internet of Things to "truly integrate technology and urban governance" (Huawei 2018e: 5). In the fourth stage, cities would use artificial intelligence to continually analyse urban data for governance purposes (Huawei 2018g). In July 2018, Duisburg explained that the Rhine Cloud was already in operation (Ahlemann / Murrack 2018: 4).

Soon after its announcement, the cooperation between Huawei and Duisburg was taken up by a wide range of national and international actors, including from media, academia and civil society. Many reports were critical about the cooperation, arguing that it was a security risk to involve a foreign, and especially a Chinese, company in the provision of data sensitive infrastructure. Moreover,

14 DU-IT is a subsidiary of DVV, which belongs to Duisburg municipality (Stadt Duisburg 2021: 4).

Huawei's smart city vision, as realised in Longgang, Shenzhen, demonstrated a level of interconnected surveillance that was incompatible with German laws and regulations (Sassenrath 2019, WAZ 2019). A research report, prepared for the US-China Economic and Security Review Commission, described the Chinese smart city projects, including the one in Duisburg, as a means for Chinese firms to expand abroad, source foreign technology and expertise, develop partnerships, promote Chinese technology standards and improve their international reputation (Atha et al. 2020).

After September 2019, when Duisburg's city council approved the master plan for digital transformation (Stabsstelle Digitalisierung 2019, Stadt Duisburg 2019b), public communication from both Duisburg and Huawei about the cooperation ceased. Since the beginning of 2021, media articles have begun to mention that the cooperation with Huawei has been put on hold due to security considerations (Prantner 2021). Despite that pause, Duisburg continues to elaborate on its China strategy, as the city has developed a new understanding of its global connections due to its interactions with Huawei.[15]

Discussion: The politics of selective connectivity

The exploration of China's infrastructuring of cyberspace raises a number of questions. First, there is a tension between the performative practices of Chinese actors that celebrate boundless connectivity versus the efforts to institutionalise national security and digital autonomy. In the smart city case, Huawei was very proactive in communicating with its partners and the public. China was presented as an example of connected modernity symbolised by Shenzhen as the smart city par excellence. Issues such as data privacy and digital sovereignty, which could interfere with the global leadership of Chinese tech firms (Holch 2020), were played down. In the case of New IP, Huawei and the other initiators did not publicise much of their activity. The performative side of connectivity was superseded by efforts to institutionalise research into a technology. How New IP was introduced, in addition, intended to give a greater role to the ITU, where states have more say, in contrast to IETF and other fora, where states are less influential. Overall, the practices of selective connectivity, while contributing to the development of the digital economy, also tend to increase asymmetries and vulnerabilities, by creating new obligatory passage points and thereby enabling the potential weaponization of telecommunication and data infrastructures.

Second, the importance of non-Chinese agency is underappreciated, as the ultimate failure of infrastructuring in these two examples suggests. The discus-

15 Interviews by the authors with involved city representatives conducted in 2021 and 2022.

sion of the weaponisation of interdependence is arguably a case in point (Farrell / Newman 2019). China and Chinese firms insert themselves into the central nodes of global cyber networks, so the argument goes, to occupy choke points that enable them to potentially monitor internet traffic (Cavanna 2021). New IP, due to its centralising tendencies, would likely be more vulnerable to weaponisation. In the smart city as imagined by Huawei, the actor controlling the city's central server architecture and envisioned artificial intelligence would gain the opportunity to misuse its critical position at the centre of data flows. However, as is evident from the cases, contestations over knowledge claims and diverging views on data security led to a pause or even a complete halt of infrastructure projects.[16] Chinese actors, in other words, cannot simply export political norms through technology, as is often claimed (Cheney 2019). In brief, attempts at infrastructuring cyberspace call forth responses from other actors while the realisation of China's own vision and practices has to rely on consensual negotiations.

Third, China's imaginary of selective connectivity reinforces a growing mistrust that undermines the internationalisation of Chinese firms, especially in Western countries. It contributes to an unfavourable global economic environment in which geopolitics can easily trump commercial logic. Domestically, Chinese firms need to comply with regulations on national and public security. Those same practices are frowned upon by international users (Ruan 2019). China's growing standardisation power similarly invokes anxieties and critical analysis of the central role the Chinese state plays in related activities (Rühlig 2022, Rühlig / ten Brink 2021). Moreover, the increasing popularity of notions such as cyber sovereignty and digital sovereignty – which Chinese officials have been actively promoting – lends legitimacy to the restrictions by the United States and its allies against Chinese firms and products. US commenters supported the Trump administration's ban of the Chinese apps TikTok and WeChat as a tit for tat because many American Internet companies have been blocked in China for years (Wu 2020).

Fourth, the Chinese STI has lost its uniqueness. The imaginary of selective connectivity is no longer only characteristic of China's approach to cyberspace. It has become normalised internationally as a vision related to the growig prominence of the notion of „digital sovereignty" (see Monsees / Lambach 2022). For instance, a comparison of China's and the EU's respective "sovereignty" approaches to the regulation of cyberspace indicates a partially shared understanding of the regulatory challenges that digital platform monopolies pose to market economies (Wang / Gray 2022). It needs to be noted that this convergence is not due to the success of Chinese diplomatic efforts and the adoption of Chinese norms. Instead, a growing number of countries embrace cyber sovereignty because of "threats to

16 The New IP proposal made factual claims about the desired data transmission speed. The need and (im) possibility for achieving global sub-millisecond latencies due to the limitations of the speed of light were questioned by other expert bodies (Internet Society 2022: 6).

privacy, and concentration of economic and political power by big technology firms" (Segal 2020). Furthermore, on a structural level, this convergence stems from the confluence of several global trends such as platform regulation, data nationalism and the discourse of systemic confrontation (see Huang / Tsai 2022, Paris 2020) – all of which tend to render selective connectivity the new normal.

Conclusion

This paper applied the framework of sociotechnical imaginaries to explore China's vision and practices of infrastructuring cyberspace. China's imaginary of selective connectivity is characterised by a tension between seeking more connectivity – realised by strong private firms in the Chinese ICT sector – and, at the same time, institutionalising measures to control the flow of data and information to ensure national security and regime stability. The notion of cyber sovereignty, which has already found its way into international fora and settings, exemplifies the constitutive power of China's imaginary of selective connectivity. Yet, the two case studies on New IP and the Smart City Duisburg also demonstrate the drawbacks of this imaginary. In the case of New IP, Huawei communicated its proposal to work on a new, potentially more centralised internet architecture as a way to facilitate more connectivity and high-tech applications. The underlying technology raised concerns. It would, as some argued, not only create problems of interoperability in the short term; it also would hand more power to national agencies. In the case of the Smart City Duisburg, Huawei promoted a vision of ubiquitous connectivity, including a levelling up of cities. Its perceived model of a smart city in Shenzhen, powered by a central artificial intelligence, led to serious concerns as it exhibited characteristics potentially prone to centralised control.

Four conclusions can be drawn from this study concerning selective connectivity to advance further research into the splintering of the internet: First, the realisation of China's imaginary abroad strongly depends on Chinese private firms, which are not always in line with the state-centric vision of Chinese policymakers. Second, the manifestation of selective connectivity may cause tensions between a heterogenous set of Chinese actors promoting connectivity and the Chinese government's simultaneous efforts to institutionalise state-centric regulation. Third, how other actors respond to and contest China's vision and practices plays a crucial role in shaping the outcome of cyber infrastructure projects. Fourth, China's imaginary of selective connectivity may eventually make the internationalisation of Chinese companies difficult, for example, by providing legitimacy to other countries' bans of Chinese companies and products.

Finally, some limitations of this study need to be addressed. The underlying theory of sociotechnical imaginaries tends to deemphasise differences and heterogeneity. On the one hand, we can observe that selective connectivity as a vision is sufficiently flexible and attractive to assemble various types of actors. To begin with, the realisation of digital infrastructure projects depends to a large extent on private technology companies (Meinhardt 2020). Due to good relationships that large firms in China need to maintain with officials, proposals like New IP and Huawei's global smart city initiatives could be seen as closely corresponding with the Chinese government's policy visions.[17] On the other hand, the STI held by Chinese policymakers does not always completely overlap with that of Chinese digital tech giants. On the contrary, the domestic struggle over regulation reveals far-reaching conflicts of interest between tech firms and the country. This is obvious from the recent high-profile cases of industry regulation that led to a USD 1 billion fine for ride-hailing giant DiDi and a record USD 2.75 billion antitrust fine against Alibaba (Zhu et al. 2022) – public demonstrations that it is the state-led vision of connectivity rather than corporate-led visions that prevails. Elsewhere, Alibaba promoted a "limited government intervention" model, which was in contradiction with the Chinese state-centric internet governance model (Vila Seoane 2020). In sum, the STI of selective connectivity is not sufficient to capture the full range of complexities of China's infrastructural politics.

17 Because of the complex technical nature of digital infrastructure, it seems reasonable to assume that political guidance must be on a rather high, abstract level, and is unlikely to extend down into the technical details of individual products and projects. In any case, in the explored cases, practices by Huawei do not run contrary to and reproduce to some extent the government-promoted STI of selective connectivity.

References

Abbott, Jason P. (2019): Of Grass Mud Horses and Rice Bunnies: Chinese Internet Users Challenge Beijing's Censorship and Internet Controls. *Asian Politics and Policy* 11(1), pp. 162–168.

Ahlemann, Frederik / Martin Murrack (2018): Vorstellung Kernpunkte Masterplan Digitales Duisburg. Presented at the Auftaktveranstaltung Smart City Duisburg. https://www.duisburg.de/allgemein/fachbereiche/digitalisierung.php.media/70447/Smart_City_Auftaktveranstaltung_-_Masterplan_Digitales_Duisburg_v07_FAh.pdf (accessed 25 July 2022).

Alsen, Daniel / Patel, Mark / Shangkuan, Jason (2017): The Future of Connectivity: Enabling the Internet of Things. McKinsey & Company, 29 November, https://www.mckinsey.com/featured-insights/internet-of-things/our-insights/the-future-of-connectivity-enabling-the-internet-of-things (accessed 24 July 2022).

ASEAN (2011): *Master Plan on ASEAN Connectivity*. 1st Reprint. Jakarta: ASEAN Secretariat, Public Outreach and Civil Society Division.

Atha, Katherine / Callahan, Jason / Chen, John / Drun, Jessica / Francis, Ed / Green, Kieran / Lafferty, Brian / McReynolds, Joe / Mulvenon, James / Rosen, Benjamin / Walz, Emily (2020): China's Smart Cities Development. Research Report Prepared on Behalf of the U.S.-China Economic and Security Review Commission. SOS International LLC, https://www.uscc.gov/research/chinas-smart-cities-development (accessed 24 July 2022).

Bach, Jonathan (2016): China's Infrastructural Fix. *Limn* 7, https://limn.it/articles/chinas-infrastructural-fix/ (accessed 24 July 2022).

Barker, Joshua (2015): Guerilla Engineers: The Internet and the Politics of Freedom in Indonesia. In: Sheila Jasanoff / Sang-Hyun Kim (eds): *Dreamscapes of Modernity. Sociotechnical Imaginaries and the Fabrication of Power*. Chicago / London: University of Chicago Press, pp. 199–218.

Barme, Geremie R. / Ye, Sang (1997): The Great Firewall of China. *Wired*, 6 January, https://www.wired.com/1997/06/china-3/ (accessed 24 July 2022).

Bertuzzi, Luca (2022): China Rebrands Proposal on Internet Governance, Targeting Developing Countries. Euractiv, 6 June, https://www.euractiv.com/section/digital/news/china-rebrands-proposal-on-internet-governance-targeting-developing-countries/ (accessed 6 July 2022).

Bishop, Andrew D. (2015): Standard Power: The New Geopolitical Battle. *The National Interest*, 7 October, https://nationalinterest.org/feature/standard-power-the-new-geopolitical-battle-14017 (accessed 24 July 2022).

Bordel, Stefan (2018): Smart City auf der CEBIT: Huawei digitalisiert Duisburg. *Com - Das Computer-Magazin*, 12 June, https://www.com-magazin.de/news/digitalisierung/huawei-digitalisiert-duisburg-1545200.html (accessed 28 June 2021).

Bozhkov, Nikolay (2020): *China's Cyber Diplomacy: A Primer*. EU Cyber Direct.

Cai, Cuihong / Dai, Liting (2021): Evolution of Internet Governance in China: Actors and Paradigms. *China Quarterly of International Strategic Studies* 7(1), pp. 79–109.

Castells, Manuel (2010): *The Rise of the Network Society*. 2nd edition. Cambridge: Blackwell Publishing.

Cavanna, Thomas P. (2021): Coercion Unbound? China's Belt and Road Initiative. In: Daniel W. Drezner / Henry Farrell / Abraham L. Newman (eds): *The Uses and Abuses of Weaponized Interdependence*. Washington: Brookings Institution Press.

Cheney, Clayton (2019): China's Digital Silk Road: Strategic Technological Competition and Exporting Political Illiberalism. Council on Foreign Relations, 26 September, https://www.cfr.org/blog/chinas-digital-silk-road-strategic-technological-competition-and-exporting-political (accessed 24 July 2022)."

Chen, Zhe / Wang, Chuang / Li, Guanwen / Lou, Zhe / Jiang, Sheng / Galis, Alex (2020): New IP Framework and Protocol for Future Applications. IEEE/IFIP Network Operations and Management Symposium, pp. 1–5. https://doi.org/ 10.1109/NOMS47738.2020.9110352

Choy, Pinky D. W. / Cullen, Richard (1999): The Internet in China. *Columbia Journal of Asian Law* 13(1), pp. 99–134.

Cox, Michael (2017): The Rise of Populism and the Crisis of Globalisation: Brexit, Trump and Beyond. *Irish Studies in International Affairs* 28, pp. 9–17.

Creemers, Rogier (2020): China's Conception of Cyber Sovereignty: Rhetoric and Realization. In: Dennis Broeders / Bibi van den Berg (eds): *Governing Cyberspace: Behavior, Power, and Diplomacy*. Lanham: Rowman & Littlefield, pp. 107–144.

Deep, Aroon (2020): What Huawei and China's New IP Proposal Is All About. MediaNama, 7 October, https://www.medianama.com/2020/10/223-new-ip-huawei-china/ (accessed 24 July 2022).

Deibert, Ronald / Palfrey, John / Rohozinski, Rafal / Zittrain, Jonathan (2010): *Access Controlled: The Shaping of Power, Rights, and Rule in Cyberspace*. Cambridge: The MIT Press.

DeNardis, Laura / Raymond, Mark (2017): The Internet of Things as a Global Policy Frontier. *U.C. Davis Law Review* 51(2), pp. 475–498.

Ding, Iza (2020): Performative Governance. *World Politics* 72(4), pp. 525–556.

Diamond, Larry (2019): The Road to Digital Unfreedom: The Threat of Postmodern Totalitarianism. *Journal of Democracy* 30(1), pp. 20–24.

Drake, William J. / Cerf, Vinton G. / Kleinwächter, Wolfgang (2016): Internet Fragmentation: An Overview. World Economic Forum, January, https://www3.weforum.org/docs/WEF_FII_Internet_Fragmentation_An_Overview_2016.pdf (accessed 24 July 2022)

Drezner, Daniel W. (2004): The Global Governance of the Internet: Bringing the State Back. *Political Science Quarterly* 119(3), pp. 477–498.

Drezner, Daniel W. / Farrell, Henry / Newman, Abraham L. (eds) (2021): *The Uses and Abuses of Weaponized Interdependence*. Washington: Brookings Institution Press.

Durand, Alain (2020): New IP. ICANN Office of the Chief Technology Officer, 27 October, https://www.icann.org/en/system/files/files/octo-017-27oct20-en.pdf (accessed 24 July 2022).

Eder, Thomas S. / Arcesati, Rebecca / Mardell, Jacob (2019): Networking the "Belt and Road." The Future Is Digital. MERICS, 28 August, https://merics.org/en/analysis/networking-belt-and-road-future-digital (accessed 24 July 2022).

Edwards, Paul N. (2003): Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems. In: Thomas J. Misa / Philip Brey / Andrew Feenberg (eds): *Modernity and Technology*. Cambridge, Mass. / London: The MIT Press, pp. 185–225.

ETNO – European Telecommunications Network Operators' Association (2020): ETNO Position Paper on the New IP Proposal. ETNO, 5 November, https://etno.eu/library/417-new-ip.html (accessed 24 July 2022).

People's Daily Online (2020): "New Infrastructure" in Digital Era to Boost Chinese Economy. *People's Daily Online*, 16 March, http://en.people.cn/n3/2020/0316/c90000-9668794.html (accessed 24 July 2022).

Farrel, Adrian / King, Daniel (2022): An Introduction to Semantic Routing. IETF, 25 April 2022, https://www.ietf.org/id/draft-farrel-irtf-introduction-to-semantic-routing-04.html (accessed 24 July 2022).

Farrell, Henry / Newman, Abraham L. (2019): Weaponized Interdependence: How Global Economic Networks Shape State Coercion. *International Security* 44(1), pp. 42–79.

Felt, Ulrike (2015): Sociotechnical Imaginaries of "the Internet", Digital Health Information and the Making of the Citizen-patients. In: Stephen Hilgartner / Clark A. Miller / Rob Hagendijk (eds): *Science and Democracy. Making Knowledge and Making Power in the Biosciences and beyond*. New York: Routledge, Taylor & Francis Group, pp.176–197.

Fontaine, Richard (2020): Globalization Will Look Very Different After the Coronavirus Pandemic. *Foreign Policy*, 17 April, https://foreignpolicy.com/2020/04/17/globalization-trade-war-after-coronavirus-pandemic/ (accessed 24 July 2022).

Fung, K.C. / Aminian, Nathalie / Fu, Xiaoqing (Maggie) / Tung, Chris Y. (2018): Digital Silk Road, Silicon Valley and Connectivity. *Journal of Chinese Economic and Business Studies* 16(3), pp. 313–336.

Gady, Franz-Stefan (2016): The Wuzhen Summit and the Battle over Internet Governance. *The Diplomat*, 14 January, https://thediplomat.com/2016/01/the-wuzhen-summit-and-the-battle-over-internet-governance/ (accessed 24 July 2022).

Gaens, Bart (2019): The EU-Asia Connectivity Strategy and Its Impact on Asia-Europe Relations. Konrad-Adenauer-Stiftung, https://www.kas.de/documents/288143/6741384/panorama_trade_BartGaensTheEU-AsiaConnectivityStrategyandItsImpactonAsia-EuropeRelations.pdf (accessed 24 July 2022).

Giddens, Anthony (1990): *The Consequences of Modernity*. Cambridge: Polity Press.

Global Times (2011): Great Firewall Father Speaks Out. China.org, 18 February, http://www.china.org.cn/china/2011-02/18/content_21951602.htm (accessed 24 July 2022).

Global Times (2022): China Has 1.032 Billion Internet Users, 73.0% Penetration Rate. *Global Times*, 25 February, https://www.globaltimes.cn/page/202202/1253226.shtml (accessed 11 July 2022).

Godehardt, Nadine / Kohlenberg, Paul J. (2020): China's Global Connectivity Politics: A Meta-geography in the Making. In: Paul J. Kohlenberg / Nadine Godehardt (eds): *The Multidimensionality of Regions in World Politics*. Abingdon / New York: Routledge, pp. 191–215.

Gong, Sen / Li, Bingqin (2019): The Digital Silk Road and the Sustainable Development Goals. *IDS Bulletin* 50(4), pp. 23–46, Brighton: IDS.

Gore, Al (1991): Infrastructure for the Global Village. *Scientific American* 265(3), pp. 150–153.

Gross, Anna / Murgia, Madhumita (2020): China and Huawei Propose Reinvention of the Internet. *Financial Times*, 27 March, https://www.ft.com/content/c78be2cf-a1a1-40b1-8ab7-904d7095e0f2 (accessed 24 July 2022).

Hao, Yeli (2017): A Three-Perspective Theory of Cyber Sovereignty. *PRISM* 7(2), pp. 109–115.

Herrera, Geoffrey L. (2002): The Politics of Bandwidth: International Political Implications of a Global Digital Information Network. *Review of International Studies* 28(1), pp. 93–122.

Hill, Jonah Force (2012): Internet Fragmentation. Harvard Kennedy School, Belfer Center for Science and International Affairs.

Hill, Jonah Force (2014). The Growth of Data Localization Post-Snowden: Analysis and Recommendations for U.S. Policymakers and Business Leaders. The Hague Institute for Global Justice, Conference on the Future of Cyber Governance, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2430275 (accessed 24 July 2022).

Ho, Selina (2020): Infrastructure and Chinese Power. *International Affairs* 96(6), pp. 1461–1485.

Hoffmann, Stacie / Lazanski, Dominique / Taylor, Emily (2020): Standardising the Splinternet: How China's Technical Standards Could Fragment the Internet. *Journal of Cyber Policy* 5(2), pp. 239–264.

Holch, Gabor (2020): WeChat, Zoom, TikTok and the Future of Chinese Technology Culture. Asia Power Watch, 25 September, https://asiapowerwatch.com/wechat-zoom-tiktok-and-the-future-of-chinese-technology-culture/ (accessed 24 July 2022).

Hong, Yu (2017): Networking China: The Digital Transformation of the Chinese Economy. Urbana / Chicago / Springfield: University of Illinois Press (Geopolitics of Information).

Huang, Jingyang / Tsai, Kellee S. (2022): Securing Authoritarian Capitalism in the Digital Age: The Political Economy of Surveillance in China. *The China Journal* 88(1), pp. 2–28.

Huang, Ying / Mayer, Maximilian (2022): Digital Currencies, Monetary Sovereignty, and U.S.-China Power Competition. *Policy & Internet* 14(2), pp. 324–347.

Huawei / China Mobile / China Unicom / Ministry of Industry and Information Technology (2019): "New IP, Shaping Future Network": Propose to Initiate the Discussion of Strategy Transformation for ITU-T. Geneva, 23–27 September, International Telecommunication Union TSAG-C83.

Huawei (2018a): Huawei und Duisburg vereinbaren Zusammenarbeit für die Entwicklung Duisburgs zur Smart City. Huawei, 15 January https://e.huawei.com/de/news/de/2018/huawei-und-duisburg-zusammenarbeit-smart-city (accessed 24 July 2022).

Huawei (2018b): Huawei vertieft Kooperation mit Duisburg, um den deutschen Industriestandort in eine neue Smart City zu verwandeln. Huawei, 3 September, https://e.huawei.com/de/news/de/2018/Huawei_vertieft_Kooperation_mit_Duisburg (accessed 24 July 2022).

Huawei (2018c): Mit künstlicher Intelligenz zu besseren Smart Cities. Huawei, 10 October, https://e.huawei.com/de/news/de/2018/activate-intelligence-to-build-better-smart-cities (accessed 24 July 2022).

Huawei (2018d): Huawei and DU-IT Help Duisburg Become a Smart City. Huawei, 11 June, https://www.huawei.com/en/news/2018/6/Huawei-DU-IT-Duisburg-SmartCity (accessed 24 July 2022).

Huawei (2018e): Better Governance, Better Livelihood, and Better Industry: New ICT, Creating a Smart City Nervous System. Huawei, 10 June, https://e.huawei.com/en/material/industry/smartcity/02ad4d5ab60849-2ea24659ec667f04bd (accessed 24 July 2022).

Huawei (2018f): Huawei Deepens Cooperation with Duisburg to Transform Germany's Industrial Heartland into a Smart City. Huawei, 3 September, https://www.huawei.com/en/news/2018/9/huawei-duisburg-germany-smartcity (accessed 24 July 2022).

Huawei (2018g): Huawei Launches Digital Platform for Smart Cities at Smart City Expo World Congress 2018. Huawei, 13 November, https://www.huawei.com/en/news/2018/11/digital-platform-smart-cities-smart-city-expo-world-congress-2018 (accessed 24 July 2022).

Huawei (2018h): Activate Intelligence to Build Better Smart Cities. Huawei, 11 October, https://e.huawei.com/en/news/global/2018/HC2018/201810111600 (accessed 24 July 2022).

IETF (2020): Liaison Statement. Response to "LS on New IP, Shaping Future Network". IETF, 30 March, https://datatracker.ietf.org/liaison/1677/ (accessed 24 July 2022).

Internet Society (2022): Huawei's "New IP" Proposal: Frequently Asked Questions. Internet Society, 22 February, https://www.internetsociety.org/resources/doc/2022/huaweis-new-ip-proposal-faq/ (accessed 07 July 2022).

Isin, Engin F. / Ruppert, Evelyn Sharon (2020): *Being Digital Citizens*. 2nd edition. London / New York: Rowman & Littlefield.

ITU (2020): Response to "New IP, Shaping Future Network" Proposal. TSAG-C0135-Contribution, 10–14 February, Geneva, https://www.ripe.net/participate/internet-governance/multi-stakeholder-engagement/ripe-ncc_tsag_new-ip.pdf (accessed 24 July 2022).

Jasanoff, Sheila (2004): Ordering Knowledge, Ordering Society. In: Sheila Jasanoff (ed.): *States of Knowledge: The Co-production of Science and Social Order.* London / New York: Routledge, pp. 13–45.

Jasanoff, Sheila (2015): Future Imperfect: Science, Technology, and the Imaginations of Modernity. In: Sheila Jasanoff / Sang-Hyun Kim (eds): *Dreamscapes of Modernity. Sociotechnical Imaginaries and the Fabrication of Power.* Chicago / London: University of Chicago Press, pp. 1–33.

Jasanoff, Sheila / Kim, Sang-Hyun (2009): Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea. *Minerva* 47(2), pp. 119–146.

Jasanoff, Sheila / Kim, Sang-Hyun (eds) (2015): Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power. Chicago: University of Chicago Press.

Keane, Michael / Yu, Haiqing (2019): A Digital Empire in the Making: China's Outbound Digital Platforms. *International Journal of Communication* 13(0), p. 18.

Keohane, Robert O. / Nye, Joseph S. (2012): *Power and Interdependence*. 4th edition. Boston: Longman.

King, Gary / Pan, Jennifer / Roberts, Margaret E. (2013): How Censorship in China Allows Government Criticism but Silences Collective Expression. *American Political Science Review* 107(2), pp. 326–343.

Korn, Matthias / Reißmann, Wolfgang / Röhl, Tobias / Sittler, David (eds) (2019): *Infrastructuring Publics*. Wiesbaden: Springer Fachmedien Wiesbaden.

Kuehl, Daniel T. (2009): From Cyberspace to Cyberpower: Defining the Problem. In: Franklin Kramer / Stuart H. Starr / Larry Wentz (eds): *Cyberpower and National Security*. National Defense University Press: Potomac Books, pp. 24–42.

Lengen, Samuel (2022): Digital Imaginaries and the Chinese Nation State. In: Irfan Ahmad / Jie Kang (eds): *The Nation Form in the Global Age: Ethnographic Perspectives*. Cham: Palgrave Macmillan, pp. 203–223.

Leonard, Mark (2016): Connectivity Wars. Why Migration, Finance and Trade Are the Geo-economic Battlegrounds of the Future. European Council on Foreign Relations, https://ecfr.eu/wp-content/uploads/Connectivity_Wars.pdf (accessed 25 July 2022).

List, Friedrich (1885): *The National System of Political Economy*. London: Longmans, Green and Co. https://oll-resources.s3.us-east-2.amazonaws.com/oll3/store/titles/315/0168_Bk.pdf (accessed 25 July 2022).

Liu, Jinhe (2020): China's Data Localization. *Chinese Journal of Communication* 13(1), pp. 84–103.

Lu, Xiaomeng (2020): Is China Changing Its Thinking on Data Localization? *The Diplomat*, 4 June, https://thediplomat.com/2020/06/is-china-changing-its-thinking-on-data-localization/ (accessed 24 July 2022).

Lund, Susan / Manyika, James / Woetzel, Jonathan / Bughin, Jacques / Krishnan, Mekala / Seong, Jeongmin / Muir, Mac (2019): Globalization in Transition: The Future of Trade and Value Chains. McKinsey & Company, https://www.mckinsey.com/featured-insights/innovation-and-growth/globalization-in-transition-the-future-of-trade-and-value-chains (accessed 24 July 2022).

Mahoney, Josef Gregory (2022): China's Rise as an Advanced Technological Society and the Rise of Digital Orientalism. *Journal of Chinese Political Science* (2022). https://doi.org/10.1007/s11366-022-09817-z

Malcomson, Scott (2016): *Splinternet: How Geopolitics and Commerce Are Fragmenting the World Wide Web*. London: OR Books.

Monsees, Linda / Lambach, Daniel (2022): Digital Sovereignty, Geopolitical Imaginaries, and the Reproduction of European Identity. *European Security* 31(3), pp. 377–394.

Munn, Luke (2020): Red Territory: Forging Infrastructural Power. *Territory, Politics, Governance* (October), pp. 1–20. https://doi.org/10.1080/21622671.2020.1805353

Mattelart, Armand (2000): *Networking the World, 1794–2000*. Minneapolis / London: University of Minnesota Press.

Mayer, Maximilian (2020): China's Authoritarian Internet and Digital Orientalism. In: Denise Feldner (ed.): *Redesigning Organizations: Concepts for the Connected Society*. Cham: Springer, pp. 177–192.

Mayer, Maximilian / Acuto, Michele (2015): The Global Governance of Large Technical Systems. *Millennium* 43(2), pp. 660–683.

Mayer, Maximilian / Huotari, Mikko (2015): China: Geopolitik durch Infrastruktur. *Blätter für Deutsche und Internationale Politik* 60(7), pp. 37–40.

Meinhardt, Caroline (2020): China Bets on "New Infrastructure" to Pull the Economy out of Post-Covid Doldrums. Mercator Institute for China Studies, https://merics.org/en/analysis/china-bets-new-infrastructure-pull-economy-out-post-covid-doldrums (accessed 24 July 2022).

Mohanty, Saraju P. / Choppali, Uma / Kougianos, Elias (2016): Everything You Wanted to Know about Smart Cities. *IEEE Consumer Electronics Magazine* 5(3), pp. 60–70, https://ieeexplore.ieee.org/document/7539244 (accessed 24 July 2022).

Mueller, Milton (2010): *Networks and States: The Global Politics of Internet Governance*. Cambridge: The MIT Press.

Mueller, Milton (2011): China and Global Internet Governance. In: Ronald Deibert / John Palfrey / Rafal Rohozinski / Jonathan Zittrain (eds): *Access Contested: Security, Identity, and Resistance in Asian Cyberspace*. Cambridge / London: The MIT Press, pp. 177–192.

Mueller, Milton (2017): *Will the Internet Fragment? Sovereignty, Globalization, and Cyberspace*. Cambridge, Malden: Polity Press.

Mueller, Milton (2020): About that Chinese "Reinvention" of the Internet. Internet Governance Project, 30 March https://www.internetgovernance.org/2020/03/30/about-that-chinese-reinvention-of-the-internet/ (accessed 24 July 2022).

Murgia, Madhumita / Gross, Anna (2020): Inside China's Controversial Mission to Reinvent the Internet. *Financial Times*, 27 March 2020, https://www.ft.com/content/ba94c2bc-6e27-11ea-9bca-bf503995cd6f (accessed 24 July 2022).

Murphy, Flinn / Tong, Qian (2021): In Depth: Pushback against China Tech Giants Grows with Accusation of Algorithmic "Bullying". *Caixin Global*, 14 January, https://www.caixinglobal.com/2021-01-14/in-depth-pushback-against-china-tech-giants-grows-with-accusation-of-algorithmic-bullying-101650876.html (accessed 15 July 2022).

Nikkei (2020): Divided Internet. China and US Switch Places as Data Powerhouse. Vdata, 23 November, https://vdata.nikkei.com/en/newsgraphics/splinternet/ (accessed 24 July 2022).

Nussbaum, Bruce (2010): Peak Globalization. *Harvard Business Review*, 20 December, https://hbr.org/2010/12/peak-globalization (accessed 24 July 2022).

Nye, Joseph S. (2014): The Regime Complex for Managing Global Cyber Activities. Centre for International Governance Innovation and the Royal Institute for International Affairs, Global Commission on Internet Governance Paper Series 1.

OECD (2018): China's Belt and Road Initiative in the Global Trade. Investment and Finance Landscape, OECD Business and Finance Outlook.

Paris, Roland (2020): The Right to Dominate: How Old Ideas about Sovereignty Pose New Challenges for World Order. *International Organization* 74(3), pp. 453–489.

Prantner, Christoph (2021): China versucht, Deutschland mit der Einheitsfront aufzurollen. *Neue Zürcher Zeitung*, 25 January, https://www.nzz.ch/international/china-rollt-deutschland-mit-der-einheitsfront-auf-ld.1593293 (accessed 24 July 2022).

Robin, Enora / Acuto, Michele (2018): Global Urban Policy and the Geopolitics of Urban Data. *Political Geography* 66, pp. 76–87.

Ruan, Lotus (2019): Regulation of the Internet in China: An Explainer. *The Asia Dialogue*, 7 October, https://theasiadialogue.com/2019/10/07/regulation-of-the-internet-in-china-an-explainer/ (accessed 24 July 2022).

Rühlig, Tim (2020): Technical Standardisation, China and the Future International Order. A European Perspective. Heinrich-Böll-Stiftung, Brussels.

Rühlig, Tim (2022): Chinese Influence through Technical Standardization Power. *Journal of Contemporary China*, https://doi.org/10.1080/10670564.2022.2052439

Rühlig, Tim Nicholas / ten Brink, Tobias (2021): The Externalization of China's Technical Standardization Approach. *Development and Change* 52(5), pp. 1196–1221.

Sadowski, Jathan (2020): Cyberspace and Cityscapes: On the Emergence of Platform Urbanism. *Urban Geography* 41(3), pp. 448–452.

Sassenrath, Henning (2019): "Smart Citys" im Ruhrgebiet: Huawei arbeitet längst an Deutschlands Infrastruktur mit. *Frankfurter Allgemeine*, 27 March, https://www.faz.net/1.6109470 (accessed 24 July 2022).

Schindler, Seth / DiCarlo, Jessica / Paudel, Dinesh (2022): The New Cold War and the Rise of the 21st-century Infrastructure State. *Transactions of the Institute of British Geographers* 47(2), pp. 331–346.

Seaman, John (2020): China and the New Geopolitics of Technical Standardization. The French Institute of International Relations, https://www.ifri.org/en/publications/notes-de-lifri/china-and-new-geopolitics-technical-standardization (accessed 24 July 2022).

Segal, Adam (2020): China's Vision for Cyber Sovereignty and the Global Governance of Cyberspace. In: Nadège Rolland (ed.): *An Emerging China-Centric Order. China's Vision for a New World Order in Practice*. NBR Special Report 87. Washington: NBR – The National Bureau of Asian Research, pp. 85–100.

Sharma, Munish (2020): New Internet Protocol: Redesigning the Internet with Chinese Characteristics? Institute for Defence Studies and Analyses, 15 October, https://idsa.in/idsacomments/new-internet-protocol-msharma-151020 (accessed 24 July 2022).

Shen, Hong (2016): China and Global Internet Governance: Toward an Alternative Analytical Framework. *Chinese Journal of Communication* 9(3), pp. 304–324.

Shen, Hong (2021): *Alibaba: Infrastructuring Global China*. New York: Routledge.

Shen, Yi (2016): Cyber Sovereignty and the Governance of Global Cyberspace. *Chinese Political Science Review* 1(1), pp. 81–93.

Sheng, Jiang (2019): New IP Networking for Network 2030. International Telecommunication Union, https://www.itu.int/en/ITU-T/Workshops-and-Seminars/20191014 16/Documents/Sheng_Jiang_Presentation.pdf (accessed 24 July 2022).

Smart City Duisburg (2018): Duisburg auf der CEBIT. Smart City Duisburg, https://www.duisburg.de/microsites/smartcityduisburg/news/cebit.php (accessed 24 July 2022).

Stabsstelle Digitalisierung (2019): Smart City Duisburg: Masterplan Digitales Duisburg. Stadt Duisburg, 30 September, https://www.duisburg.de/microsites/smartcityduisburg/digitales_duisburg/smart-city-duisburg.php.media/89106/Masterplan_Digitales_Duisburg_-_DIGITAL.pdf (accessed 24 July 2022).

Stadt Duisburg / Huawei (2017): Absichtserklärung. "Memorandum of Understanding" mit der Huawei Enterprise Business Group. Frag den Staat, https://fragdenstaat.de/dokumente/3933/ (accessed 24 July 2022).

Stadt Duisburg (2018): Duisburg wird zur Smart City: Stadt Duisburg und Huawei vereinbaren strategische Zusammenarbeit. Stadt Duisburg, 12 January, https://duisburg.de/guiapplications/newsdesk/publications/Stadt_Duisburg/102010100000062261.php (accessed 24 July 2022).

Stadt Duisburg (2019a): Smart City Duisburg. Stadt Duisburg, https://www.duisburg.de/microsites/smartcity-duisburg/informationen_downloads_/informationen-downloads.php.media/84061/Smart_City_Duisburg_english-Website.pdf (accessed 24 July 2022).

Stadt Duisburg (2019b): Beschlussvorlage 19-0883. 2 September, https://sessionnet.krz.de/duisburg/bi/vo0050.asp?__kvonr=20086242 (accessed 24 July 2022).

Stadt Duisburg (2021): Jahresübersicht über die steuerungsrelevanten Beteiligungsunternehmen der Stadt Duisburg. Berichtsjahr 2020. Stadt Duisburg, 31 December, https://www.duisburg.de/vv/produkte/pro_du/dez_i/20/jahresuebersicht.php.media/137189/JUe-2020.pdf (accessed 24 July 2022).

SAC – Standardization Administration of China (2020): Main Points of National Standardisation Work in 2020 (2020年全国标准化工作要点). Standardization Administration of China, Issue 8.

Star, Susan Leigh / Ruhleder, Karen (1996): Steps toward an Ecology of Infrastructure: Design and Access for Large Information Spaces. *Information Systems Research* 7(1), pp. 111–134.

Stern, Rachel E. / Kim, Jieun / Liebman, Benjamin L. (2022): Performing Legality: When and Why Chinese Government Leaders Show Up in Court. Fairbank Center for Chinese Studies, https://cscc.sas.upenn.edu/events/2022/04/08/performing-legality-when-and-why-chinese-government-leaders-show-court (accessed 24 July 2022).

The Ministry of Foreign Affairs and the Cyberspace Administration of China (2017): International Strategy of Cooperation on Cyberspace. 1 March, https://www.fmprc.gov.cn/mfa_eng/wjb_663304/zzjg_663340/jks_665232/kjlc_665236/qtwt_665250/201703/t20170301_599869.html (accessed 24 July 2022).

The National Development and Reform Commission of China (2018): Action Plan on Belt and Road Standard Connectivity (2018–2020). 11 January, https://www.yidaiyilu.gov.cn/zchj/qwfb/43480.htm (accessed 24 July 2022).

The State Council of the People's Republic of China (2021): China Issues Outline to Promote Standardized National Development. The State Council of the People's Republic of China, 11 October, http://english.www.gov.cn/policies/latestreleases/202110/11/content_WS616370f4c6d0df57f98e1758.html (accessed 24 July 2022).

Tomlinson, John (1999): *Globalization and Culture*. Chicago: University of Chicago Press.

Triolo, Paul / Allison, Kevin / Brown, Clarise (2020): *The Digital Silk Road: Expanding China's Digital Footprint*. New York: Eurasia Group.

Triolo, Paul / Greene, Robert (2020): Will China Control the Global Internet via Its Digital Silk Road? *SupChina*, 8 May, https://supchina.com/2020/05/08/will-china-control-the-global-internet-via-its-digital-silk-road/ (accessed 24 July 2022).

Van der Vleuten, Erik (2004): Infrastructures and Societal Change. A View from the Large Technical Systems Field. *Technology Analysis & Strategic Management* 16(3), pp. 395–414.

Velliet, Mathilde (2022): Convince and Coerce. U.S. Interference in Technology Exchanges Between its Allies and China. The French Institute of International Relations, https://www.ifri.org/sites/default/files/atoms/files/velliet_convince_coerce_united_states_china_2022.pdf (accessed 21 July 2022).

Vila Seoane, Maximiliano Facundo (2020): Alibaba's Discourse for the Digital Silk Road: The Electronic World Trade Platform and "Inclusive Globalization". *Chinese Journal of Communication* 13(1), pp. 68–83.

Wang, Xiaosong (2020): New Infrastructure Can Boost Economy. *China Daily*, 14 May, https://global.chinadaily.com.cn/a/202005/14/WS5ebc85c0a310a8b241155809.html#:~:text=At%20present%2C%20it%20mainly%20includes,and%20development%20for%20public%20benefit (accessed 24 July 2022).

Wang, Yi / Gray, Joanne E. (2022): China's Evolving Stance against Tech Monopolies: A Moment of International Alignment in an Era of Digital Sovereignty. *Media International Australia* 185(1), pp. 79–92. https://doi.org/10.1177/1329878X221105124

WAZ (2019): Chinesischer IT-Riese Huawei ist für Duisburg ein Risiko. *Westdeutsche Allgemeine Zeitung*, 24 May, https://www.waz.de/staedte/duisburg/chinesischer-it-riese-huawei-ist-fuer-duisburg-ein-risiko-id22-1223665.html (accessed 24 July 2022).

Wong, Chunhan (2020): China Launches Initiative to Set Global Data-Security Rules. *The Wall Street Journal*, 8 September, https://www.wsj.com/articles/china-to-launch-initiative-to-set-global-data-security-rules-11599502974 (accessed 24 July 2022).

World Bank Group (2019): Infrastructure Connectivity, Japan G20 Development Working Group. World Bank Group, https://www.oecd.org/g20/summits/osaka/G20-DWG-Background-Paper-Infrastructure-Connectivity.pdf (accessed 24 July 2022).

Wu, Jun / Wan, Qingqing (2014): From WeChat to We Fight: Tencent and China Mobile's Dilemma. PACIS 2014 Proceedings, p. 265. AIS eLibrary, http://aisel.aisnet.org/pacis2014/265 (accessed 24 July 2022).

Wu, Tim (2020): A TikTok Ban is Overdue. *The New York Times*, 18 August, https://www.nytimes.com/2020/08/18/opinion/tiktok-wechat-ban-trump.html (accessed 24 July 2022).

Xi, Jinping (2015): Remarks by H.E. Xi Jinping President of the People's Republic of China At the Opening Ceremony of the Second World Internet Conference. Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/eng/wjdt_665385/zyjh_665391/201512/t20151224_678467.html (accessed 24 July 2022).

Xi, Jinping (2017): Work together to Build the Silk Road Economic Belt and the 21st Century Maritime Silk Road. Opening speech, The Belt and Road Forum for International Cooperation, 14 May, Beijing.

Zeng, Jinghan / Stevens, Tim / Chen, Yaru (2017): China's Solution to Global Cyber Governance: Unpacking the Domestic Discourse of "Internet Sovereignty". *Politics and Policy* 45, pp. 432–464.

Zhang, Chong (2020): Who Bypasses the Great Firewall in China? *First Monday* 25(4). https://doi.org/10.5210/fm.v25i4.10256

Zhang, Phate (2020): Huawei Rotating Chairman: New IP is a Purely Technical Subject. CNTechPost, 3 April, https://cntechpost.com/2020/04/03/huawei-rotating-chairman-new-ip-is-a-purely-technical-subject/ (accessed 24 July 2022).

Zhao, Bo / Feng, Yang (2021): Mapping the Development of China's Data Protection Law: Major Actors, Core Values, and Shifting Power Relations. *Computer Law & Security Review* 40(105498), pp. 1–60.

Zhu, Julie / Yang, Yingzhi / Wu, Kane (2022): China Fines Didi $1.2 bln but Outlook Clouded by App Relaunch Uncertainty. Reuters, 21 July, https://www.reuters.com/technology/china-fines-didi-global-12-bln-violating-data-security-laws-2022-07-21/ (accessed 25 July 2022).

IQAS Vol. 53 / 2022 III, pp. 441–469

Against and For China's Ecological Civilisation: Economising the *Bios* or "Life-ising" Transition?

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Abstract

As the climate crisis intensifies, overlapping with the emergence of a lethal virus, and a planet poisoning economy, questions regarding thinking-and-doing transition become increasingly urgent. In this article, we explore the concept of "ecological civilisation" (EcoCiv) as a productive conjunction of Chinese concepts and ways of thinking that precede China's encounter with Western modernity, and their re-reading and revision from a post-Western modernity lens. China's role in any possible global transition to sustainability is unquestionably central – yet curiously neglected in transition studies. At the same time the official project of EcoCiv is in fact emerging as the very opposite of its proclaimed spirit. The article offers a reconceptualisation of *shengtai wenming* (ecological civilisation) as a paradigm shift to life-ising the economy (and society) instead of economising life. From this altered perspective, the article presents and discusses preliminary evidence of a largely neglected, but potentially significant, bottom-up, extra-state dynamism in contemporary China that entails both elements and principles for a genuinely ecological, trans-modern civilisation. It concludes with reflections on the resulting change in agenda, not least for transition studies, outlining a set of four principles of doing *shengtai wenming* – i.e. of life-ising transition.

Keywords: China, *shengtai wenming*, ecological civilisation, trans-modernity, transition, life-ising, sustainability

Of life and death

2020 opened up a new period of death: of millions of people, but also of social life and the public sphere, of cities and rural livelihoods, of individualist political liberty (and naivety thereon) and of globalisation as a project of seamless human interaction (for those able to participate in it). Worse still, the death of the planet, or at least human "civilisation", has loomed ever larger and darker. This in turn has confronted the world with a newfound urgency – of life, for what is more urgent than that?

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DOI 10.11588/iqas.2022.3.15525

These overlapping crises expose as undeniable the process over the past decades and centuries of a particular, dominant form of techno-economic progress that has been economising (or exploiting and killing) life and building on death since its very colonial origins. Now the imperative is clear: to proceed in the other direction and "life-ise" the economy instead. Where, then, is new life to be found? Or, rather, where is life newly to be found, protected, supported and rebuilt?

An emerging orthodoxy in answer to these questions concerns "transition", and even "global just transition" (Heffron / McCauley 2018). Such transition studies aim to rework and/or to keep in place (what is variously valued in) social structures with a view to guiding and reinforcing informed, rational ways forward. Symptomatically, however, the transition literature focuses overwhelmingly on examples from, and policy guidance for, the liberal democratic and wealthy market economies of the Global North (Smith et al. 2010).

Along these lines of thought, China's role in any possible global transition to sustainability is unquestionably central – yet curiously neglected in transition studies. If anything, China's environmental efforts and credentials are increasingly subject to legitimate, but partial, criticism in an increasingly politicised context, making analysis of and learning from any positive contribution increasingly elusive. In this paper, we address this problem by exploring an unquestionably problematic, but also singularly relevant, concept in confronting the current situation of ecological breakdown and planetary crisis, also referred to as the Anthropocene (aka "Capitalocene"; Moore 2017): China's "Ecological Civilisation" (EcoCiv). Specifically, we explore its contradictory uses and manifestations that emerge from deep tensions between the party-state, on the one hand, and the much broader, complex and dynamic layers of bottom-up innovation within China, on the other.

Regarding the question of *global* transition, the global roll-out of the Ecological Civilisation policy is, in fact, embryonic. Yet there has been a rush of legislation and regulation under this banner with a focus on demarcating ecological zones and other regulatory "red lines" within China's domestic borders. The key question of the extent to which China will inspire, support or even lead sustainable transition on a global scale, however, is effectively that of the potential contribution of EcoCiv to this urgent global challenge.

Transition studies, and the broader, longstanding paradigm of social scientific thought in which it is situated, is ill-suited to engage productively with EcoCiv. For China's EcoCiv is a rapidly moving, multi-layered and contradictory phenomenon. It cannot, therefore, be assessed by comparison against pre-set benchmarks formulated to measure the greening of constitutively different, well-established polities in Western societies. Rather, it must be addressed on its own terms and vis-à-vis its surging and turbulent, not linear and rational, dynamics (Tyfield 2018).

To open up the analytical field of debate for this article, EcoCiv can be defined in two contrasting but interrelated ways along both socio-political and conceptual tensions. First, there is Ecological Civilisation as an official narrative and policy discourse – indeed, written into the PRC's constitution – as opposed to ecological civilisation (here in lower case) as a broader philosophical and socio-political vision and project. Secondly, and lining up roughly alongside the first distinction, is the contrast between, respectively, EcoCiv as a programme of perfecting and rectifying modernity, largely with techno-economic and/or state-governmental interventions, and as the movement altogether *beyond* modernity (hence trans-modern) towards a new (and hence also likely post-capitalist) phase of civilisation per se (Huang et al. 2022).

Trans-modernity refers to the cultural and socio-technical aspects that linger beyond (but are also prior and/or external to) European and North American conventions of what counts as "modern" (Dussel 2012). Engaging with trans-modernity also implies questions of method and positionality. We engage with diverse and contradictory notions of EcoCiv as a conceptual field for the study of how Chinese ideas, policies and practices may affect notions and expressions of conflicting as well as overlapping modernities in the age of ecological emergency and the need for effective transition(s). Thus, we study EcoCiv through an interpretive dialogue that is in itself trans-cultural, as it moves (us) into and across the different cultures that inform the concept as well as our own critical understandings and interpretations of it.

In the process, we do not endorse a particular notion of EcoCiv over another but highlight some of the main tensions at work in the multiple interpretations and political uses of the concept. Our interpretive relationship with trans-modernity operates through the hermeneutical possibilities of Chinese and English readings of *shengtai wenming* and ecological civilisation respectively. The result is not simply a better understanding of Chinese trans-modernity and its techno-cultural projections onto the world. Nor is this endeavour intended to provide a sharper differentiation between Chinese and Western paradigms for transition, as we engage primarily with different understandings of EcoCiv within Chinese thought and policy. The result may simply point towards an alternative way of thinking-and-doing transitions altogether and call for further substantiation of the matter.

Accordingly, we here contrast the emerging official actuality of EcoCiv, as an elitist political project of eco-authoritarianism in China, to the largely occluded potential for "transitioning" entailed in broader, non-official, indeed extra-state, manifestations and conceptualisations thereof. Our priority is firmly on the latter, but conscious of the increasingly influential reach of the former.

We argue that ecological civilisation responds to an emerging and unprecedented phenomenon of Sino-global transformation, which means that EcoCiv is not just a new label for sustainable development nor a neat environmental or socio-technical policy. It is instead precisely a grand-scale societal project

(as in the latter, broader conception above) that holds the potential to shape and alter global understandings and practices of sustainability transition far beyond the influence of actual, individual policy initiatives that unfold under its formal banner. This is where the specifically *civilisational* scale and aspect of EcoCiv arises and is called to our attention. However, complicating matters further while also opening new and promising avenues for enquiry, Chinese (evolving) conceptualisations of "civilisation" are certainly different from Western notions thereof. Hence they call forth yet more conceptual exploration and collective learning – a process that is, of course, cut short and distorted where the term is loaded solely and prematurely with the heavy-lifting of official governmental and political work.

We seek to work with Chinese ideas and examples to (re-)open the concept of "civilisation" beyond the tarnished, self-congratulatory high-modern Western idea of being the (realised) summit of cultural, political and technological sophistication in mastery of the external world, human and "natural". Specifically, we explore an emerging conceptual constellation that reconnects and reintegrates ideas of civilisation with life, as both unending messy process and socio-technical creativity. Thereby, we seek to open ways to enliven or vitalise transition thinking-and-doing through the thought-provoking prisms of ecological civilisation as a productive conjunction of non-official Chinese concepts and ways of thinking, and their discussion from a post-Western-Modernity (or trans-modern) lens.

The article proceeds as follows. In section 2, we introduce the actuality of China's official EcoCiv project by relating it to the Western orthodoxy of ecological modernisation in whose shadow and on whose foundation it has emerged, albeit as a radicalised mutation thereof. In section 3, we explore what are emerging as the even more destructive consequences of this radical mutation of modern Western thought. Sections 2 and 3 together thus argue that the official project of EcoCiv is in fact unfolding as the very opposite of its proclaimed spirit. In section 4, we change tack, exploring the immanent potential of the Chinese conceptual conjunction of *shengtai wenming* as opposed to "ecological civilisation". Thereafter, in section 5, we present prima facie evidence, from this altered perspective, of a largely neglected, bottom-up – and internal – dynamism in contemporary China that provides us with novel elements to think more productively about a genuinely ecological, trans-modern, civilisational scheme through a non-Eurocentric teleonomy. Finally, in section 6, we conclude with reflections on the change in agenda, not least for transition studies, to which the synthesis of the foregoing arguments leads, outlining a set of four principles of doing *shengtai wenming* – i.e. of "life-ising" transition.

Ecological Civilisation: A simple rescaling of eco-modernisation?

We start our analysis by acknowledging the profoundly dysfunctional institutional forms, or building blocks, of the contemporary world, vis-à-vis both efforts to tackle (or even admit) climate emergency and its worsening production in the first place.[1] This concerns:

1) Capitalism, from its colonial origins (Quijano / Wallerstein 1992) to its late, zombie neoliberal or "Googliberal" (Tyfield 2018) form;

2) The nation-state as the pre-eminent form and scale of political organisation and power, and its need to reproduce economic growth and to appropriate nature in order to secure its own conditions of existence (Moore 2014); and

3) A dominant governmental discourse of technological rationalism, including the increasing political centrality of techno-scientific systems and imaginaries of eco-modernisation and techno-fetishism that cut across all social challenges, including climate change and transition, as "problems" awaiting appropriate techno-economic "solutions".

These three dominant institutional modes are not only major hurdles to meaningful climate action or transition towards sustainable practices. Instead of serving enabling functions towards that end, they are also arrangements that tend to develop, and have in fact at present developed, into specific forms that are intrinsically incompatible with such action, rendering them instead key drivers of crisis exacerbation. These are the socio-political structures that are currently driving the relentless economisation of life, i.e. planetary death. The potential contribution of EcoCiv (and hence China) to global transition hinges precisely on its capacity to catalyse the intensification of transformative social forces to drive the emergence of a coherent and systemic alternative to each of these three, combined and separately.

The official Chinese project of EcoCiv, however, does not counter these prevailing institutional forms but rather advances them to unprecedented heights.[2] Indeed, one of the challenges in understanding ecological civilisation and the place this concept occupies in China's complex pathways regarding any potential just, low-carbon transition is this paradigm's relationship with its (apparent) equivalent in Western thought, namely "ecological modernisation". Certainly, in the actual party-state-led project of China's EcoCiv, the "civilisation" thereby envisioned is primarily a project of modernisation, hence "technologisation" and "economisation" (Huang et al. 2022); and, indeed, a specifically powerful form thereof.

1 See, e.g., Lent 2021, Rowson 2020, Tyfield 2018 for the case regarding this system "meta-crisis" and, relatedly, "meta-modernism" as one emerging school of thought on trans-modernism.

2 Hence demonstrating clearly the ageless truth that bears regular reminding, that an alternative to a current but bad status quo – and even one hostile to or critical of what prevails – is not itself, thereby, necessarily good or preferable.

First coined around 1992, and referred to as a social theory of environmental change, ecological modernisation is grounded on the assumption that capitalist relations are not the cause of, but actually the promising solution to, current ecological crises (Fisher / Freudenburg 2001). The basic idea is that capitalism can solve its own problems, if the necessary socio-technological improvements and improvers are properly identified, technologically reengineered and socially reorganised.

Such a modernising process entails also a practical commitment to the logics and workings of the market and its relationship with environmental problems, both of which are assumed to be mediated, facilitated and ultimately invigorated by "the right type" of technological innovation. Reflecting the triumphalism of neoliberalism in the early 1990s, the political powers of the state (i.e. the compound of financial stimuli, regulations and possibilities of social ordering, and even public contestations thereof) are here seen as subordinate to the powers of the "free" market. For the operating mechanisms of the market are believed to deliver the socially feasible fixes for the socio-technological rearrangement of society-nature relations including, ultimately, "sustainability".

China – as a globally entangled economy and major driver of global environmental change – shows the limits of these assumptions. Here, capital accumulation is linked with an entirely familiar cumulative growth in socio-ecological problems, including, increasingly, consequences on a global scale and in different world-regions; but also in ways and with an extent, profundity and complexity that is in fact unprecedented. While it has been a constant refrain over the last 20 years, including amongst Chinese scholars and policymakers and their partners overseas, that China's pollution and ecological problems are just a repeat of, for example, London's "pea-souper" smogs in the 1950s, in fact they are qualitatively different.

As Sang-Jin Han and Young-Hee Shim (2010) note, while the developed "West" got to tackle "first" and "second" modernity sequentially, Chinese society is confronting both simultaneously. In other words, China faces the challenges of reducing poverty through industrialisation's "first modernity" *and* the intensification of socio-ecological challenges of a "second modernity", or the negative and global consequences produced by the success of the first modernity in the early industrialised nations. Indeed, today, with ubiquitous digitisation transforming Chinese society in particular, a "third modernity" (Blühdorn 2022) is now added to this set of challenges, emerging from the successes of the second modernity, in turn. One clear result is that, after 40 years of runaway environmental despoliation, these environmental challenges are also now singularly profound in China and have amassed on a global scale and with unprecedented speed.

It is unsurprising, then, that the way in which China experiences and goes about ecological modernisation is connected to but also divergent from Western experiences and epistemes, gainsaying Western expectations. From the begin-

ning, China's economic modernisation was conceived of as a process merging Western sources of capital and high-tech innovation systems with an overwhelmingly large pool of cheap and "industrious" labour (see Butollo 2014). The modernisation fetishism of the West accompanied its businesses as they expanded operations towards Chinese geographies of production, which promised to boost these firms' profits through enhanced market proximity. These Western companies also held the utterly flawed assumption that the Chinese market could be easily "domesticated" not only to internalise the ecological externalities of Western production chains but also progressively to adopt the ideological underpinnings and "ordering" dynamics of Western neoliberalism.

If anything, however, it is increasingly clear that the adaptation has also occurred in the opposite direction (Tyfield 2018). The titanic dynamism of neoliberal globalisation has been harnessed by CCP-China to transform itself from a battered, little junk to a super-tanker (and still growing),[3] dwarfing even the giant flagships of said neoliberal globalisation for which it posed no competition just decades ago – with this state-capitalist ship an altogether different type of vessel, demanding different global rules. In other words, here too we see that the case of contemporary China is manifestly not just a repeat performance, albeit on a bigger scale, of a drama long since mapped out and mastered in the West, but the emergence of something altogether new and with global significance.

EcoCiv as a political banner of the CCP instantiates perfectly the resulting mutations of ecological modernisation as a project of ecological *hyper*modernisation that is also, inevitably, "with Chinese characteristics". Here, "hyper" denotes a set of particular traits that distinguish Chinese ecomodernisation from that of the West, including the sheer scale and speed of the change that has taken place, and is likely to continue, in China, and its particularly vigorous "sci-tech" (*keji*) techno-fetishism.

But there is also the particular qualitative form adopted in recent years, albeit one that is readily traceable back through the entire history of the PRC, not least to "Mao's war against nature" (Shapiro 2001). Of course, what are thereby considered to be specifically "Chinese characteristics" are currently dictated overwhelmingly by the interests of the CCP, in what now seems set to become an increasingly rough environment of Sino-US competition over how to govern the manifold global challenges of the 21st century, from energy, food and fuel, to pandemics, cyberspace, wars, migration and climate, to name a few.[4] Altogether, then, such Chinese characteristics are arguably now cul-

3 The article counterposes a "CCP-China", i.e. contemporary China as dominated top-down by the CCP and as surface phenomenon that is usually the presumed object of geopolitical discussion, with a "deep China", i.e. the bottom-up reality of the collective life of actual Chinese citizens. The latter term thus resonates with, but does not draw specifically on, the "deep China" described by Kleinman et al. (2011).

4 As we revise this paper, China has pulled out of its bilateral forums with the United States for discussing climate issues, inter alia, following Speaker Nancy Pelosi's visit to Taiwan.

minating in what one could call Xi's global and digital war against and for nature.[5]

China's environmental challenges today are the consequence of a total commitment to the "hard sciences" as the prime fixes for what the Chinese leadership has considered to be the nation's techno-ecological dysfunctions. It was Deng's Four Modernisations – of agriculture, science, industry and defence – that fired the starting gun for China's economic transformation to unfold under the auspices of the reform era since the late 1970s: surely the historical tale of the age in retrospect. Underpinning the epochal magnitude of this agenda's breakthroughs was the (entirely modern and literalistic) notion that both society and nature were objectively "out there" for the political leadership, and the businesses sprouting everywhere, to exploit as a means to bring back "wealth and power" to the nation (e.g. Yu 2015: 1056, Liu / White 2001).

Moreover, in contemporary China, it is the central party-state that is entrusted and required to keep control of what happens in the market, not vice versa. Yet it must not be forgotten that just as capitalism cannot stabilise, so too the capitalist nation state (which unquestionably now includes the PRC), the second building block above, cannot stabilise and is constantly looking for expansion, i.e. reproduction, of its power. Moreover, in China, with power explicitly concentrated in the hands of the party-state itself, not a (more-or-less dispersed) moneyed class separate from the state, these dynamics of nation-state self-preservation are particularly entrenched and unaccountable. This means, in turn, that China's environmentalism is hostage to a particularly growth-obsessed techno-fetishism of "innovation" (the third building block). And this model of innovation reflects decades of commercialisation of (public) science and consequent redefinition, explicitly now serving purely instrumental roles for political-commercial purposes, not intrinsic goals of scholarship, empirical science and (critical) thought.

This culture of governing, with science so dependably obedient, translates into a unique approach of (singularly determined) attempts to scientise problems, drawing on and granting epistemic and political authority to reductionistic understandings of both hard science disciplines (Shapiro / Li 2021: 151) and, paradoxically, of Chinese culture itself. The COVID-19 pandemic (and the "zero COVID" policy orthodoxy that has taken shape) has only contributed to cementing this trait, mobilising both biotech capacity and the increasingly-digitised machine of the Chinese state in a quest to provide total social order. This leads to another trait of eco-hypermodernisation, namely the unquestioned

5 In other words, a frank and concerted return to the Maoist model but now updated, reflecting China's current situation, domestically and in the world: one of global ambitions and influence; digital technological prowess as the pre-eminent means at its disposal; and being "for" nature, not just (if still) against it, in the sense of saving the planet but by disciplining it properly and with all due effort (as opposed to the default complacent, Western, capitalist approach of presuming nature may be simply ignored as an externality; or, indeed, the utopian Western green approach of seeking to "save nature" regardless of the impact on society and its political institutions).

principle to protect societal life, understood as the main source of stability, above protecting the actual life of the individual. Human life is thus not protected for life's sake but rather for its collective, indeed political and strategic, value.

Hence, the baton of eco-modernisation has been picked up and given a rocket boost by a singularly massive and powerful political project (namely the CCP, with its commitment to national rejuvenation), but one that has also inverted the valence of market and (party-)state implicit in the original formulation of that programme. And it has done so through a top-down party-state presiding over an ascendant superpower. In short, EcoCiv as a CCP project cannot be thought of separately from its forebear of neoliberal eco-modernisation, but nor can it be conflated with it, since it is now advancing yet further, quantitatively *and qualitatively*, the three building blocks of that dysfunctional and planet-threatening economic, institutional and techno-cultural order in ways with which eco-modernisation cannot compete. The prospects of EcoCiv delivering any future deserving of that title thus could hardly be more contradictory.

The hypergrowth of yet another death machine

As such, the emergence of China as a global agent of ecological hypermodernisation augurs much more and worse than simply a repeat of the last forty years of environmental despoliation by a globalising neoliberalism. For the shift in primacy from market to (party-)state most likely spells an even greater concentration of unaccountable power committed to the economisation of life. And it is ultimately power, not money per se (except insofar as we mean the "power of money", or the power money can buy),[6] that is definitive in shaping socio-technical and socio-natural trajectories. Similarly, the challenges, emergent paradoxes and dysfunctions of attempts to drive sustainable transition while preserving the structural building blocks of the contemporary socio-political order are even greater and starker in the case of China and its official EcoCiv programme. In particular, as a growing literature has now begun to document, China's environmental authoritarianism and, conversely, authoritarian environmentalism is likely to serve up ever more and deeper challenges (Li / Shapiro 2020).

This development needs to be situated in a longer historical perspective. Five hundred years of Western coloniality/modernity (Quijano 2000) have unleashed an unprecedented period of creative destruction, in which a resurgent "life" of a newly human(ist) civilisation or "culture" – universal in theory, violently differentiating in practice – expanded at the cost of a "nature" presumed

6 In other words, what money can and cannot buy and thus make happen is open to regulation (e.g. electoral finance laws) by way of specific arrangements of power, often on moral grounds (e.g. Sandel 2012). But what power can and cannot make happen can only be shaped by contestation at the level of power itself.

external and inert. In its own ways, the prospect of a CCP global hegemony is, instead, destructively creative, at the cost of the death of both nature *and* culture, in the sense of a free, creative society.

Indeed, as the threat of global environmental change, and ensuing socio-environmental disruption and even catastrophe, looms ever larger, the CCP programme of environmentalism is itself likely to wield ever more Draconian interventions to the point that it – itself – begins to embody the destructive power of climate emergency, or rather the broader and unprecedented planetary-civilisational crisis of which climate change is the most striking manifestation. As such, the PRC will increasingly inhabit a transparently self-contradictory stance, as a self-styled global preserver of life while acting as a de facto global (co-)accelerator of death. Moreover, popular acceptance of any such new hegemony, however destructive or oppressive it proves in practice, will in large part succeed, to the extent that it does, not in spite of but precisely because it goes under the banner of Ecological Civilisation.

From a domestic perspective, first, the parallel emergence under Xi Jinping since 2012 of a newly strident "authoritarian environmentalism" (Li / Shapiro 2020) overlapping with an increasingly pervasive expansion of digital totalitarianism (Strittmatter 2019) marks a distinct socio-political break with the entire Reform period since 1978. In this new reality, CCP leaders "save the environment" by dispensing death directly to the ways of life of (non-Han) nomads, and so indirectly to the people and subjects themselves (Yeh 2005). Rural/urban inequality and intra-urban inequality of rural migrants continues to grow unabated and barely addressed (Rozelle and Hell 2021). There is a new determination from Party leadership to wrestle back totalised control over urban conviviality and protest, including of what was seemingly an emergent, vibrant – and specifically green and digital – public sphere (Yang / Calhoun 2007, Geall 2013) and civil society. And official claiming and distortion of Chinese thought regarding human-human and human-nature "harmony" proliferates as transparently political propaganda, uninterested in any genuine cultural revitalisation (Zhuang 2015).

In short, with qualitatively multiplied assistance of digital technologies and their increasingly omnipresent intermediation and Party control, the actuality of EcoCiv within China is shaping up to be simply the determined super-application of top-down control, as exceptional political machine, in an attempt to manage what are intrinsically complex – and hence participatory, experimental – socio-environmental challenges of collective government. There is, therefore, little that is fundamentally "eco" about the (to date, mostly domestic) actuality of EcoCiv. Rather, EcoCiv has thus far been advanced as an environmentally-mediated civilising project (Smyer Yü, in this issue); "civilising", and thence "civilisational" (Zuev et al. 2019), in the sense of disciplining the masses according to what the

party-state knows is best for all involved (i.e. especially the continuation of that far-sighted party-state rule).

EcoCiv is manifestly not, therefore, a policy committed to the genuinely vital or protean revitalisation of Chinese contemporary society or Chinese civilisation; let alone to any living, re-emergent reconnection with more plural, non-governmental sources of Chinese thought and culture. This is the case notwithstanding all the repeated use to which strident nationalist sentiment is put, including the exaggeration in reference to "(more than) 5,000 years of (unbroken) history" (e.g. NPC 2013, Xi 2017, cf. Economist 2020). Ironically, and to the very contrary, such a political programme is again a radical mutation of fundamentally foreign – i.e. modern, Western – social ideas regarding civilisation-as-modernisation. In this light, EcoCiv is thus a project of techno-economic advancement together with growing nation-state power, albeit with the balance and means-end relationship between these two inverted in favour of the latter.

Meanwhile, parallel dynamics are becoming increasingly evident both domestically and globally. Most obviously and superficially, although oftentimes glossed with green discourse, the BRI until recently was massively exporting infrastructure to perpetuate coal power across the world (now export of coal infrastructure has been formally abandoned in light of the resulting political criticism from abroad) and continues to cement ties with oil interests in the Middle East and focus on mega-infrastructure projects that are premised on contemporary high-carbon globalisation. Indeed, this has elicited growing push-back from activist groups and regulating bodies in host nations, with notable success in the case of Ghana and Costa Rica, for instance (Bressa 2020, Poulden 2013). Moreover, all this activity is based on a domestic energy sector that remains structurally dependent for the foreseeable future on coal (Tyfield forthcoming), regardless of premature prognoses of "peak coal" (Green / Stern 2017), as the post-Covid stimulus (Gao 2020) and 14th FYP (Shi 2021) have demonstrated.

Once it is understood that the key and non-negotiable feature of contemporary Chinese politics is the preservation and strengthening of the CCP, however, then one can understand not only *what* the official policy discourse of EcoCiv actually is or means, but also *how* it works and why it has begun to persuade international institutions (such as UNEP, the UN Environment Programme) of its seeming transformational value at different scales. Specifically, one can see clearly the pragmatic efficacy and strategic advantages of the political certainty of the one-party-state system, and its singular relationship to uncertainty.

"Political certainty" here connotes the exceptional strategic plasticity of means made possible for a political (state) project when its ends are unequivocally defined for all involved: so long as the goal is sufficiently clear and itself beyond argument or reasoning, almost anything goes in terms of means, and certainly rationalist expectations of synchronic coherence, diachronic consistency and accountability of actions may be readily ignored or abandoned without loss.

Indeed, in this context, what one says (or promises or contracts) can legitimately be taken to matter only insofar as what that does or makes happen and how that outcome contributes to strategic advancement of the ultimate (and partisan) goal.[7] This is a condition that CCP-China enjoys – in that the continuation of unrivalled and unquestioned CCP domination of the Chinese polity is clearly understood by all as the ultimate non-negotiable goal of all decision-making – and of which it takes full advantage.

Moreover, such political certainty is particularly significant given the specific context of major uncertainties, amidst the global system dysfunction in which CCP-China is operating today and to which it itself contributes. For instance, such is the constitutive complexity of climate action that actually demanding accountability according to previous norms of, for instance, a clear and medium-term plan would be – is proving, in fact – utterly paralysing. This paralysis then becomes even more intractable where, as is almost guaranteed, there are also value differences in play, regarding the goals of political action and the (entirely speculative, as future) positive outcome to which climate action should be working.

Conversely, if the unknowable future socio-environmental good can itself be discounted and sidestepped because the goal is taken care of by communal commitment to a clearly defined political project, here and now, then such uncertainty is no longer debilitating. Instead, it may be altogether ignored and simply accepted as the arena for further strategic action. Indeed, such a political project can even then itself sow and profit from increased uncertainty, since this unilaterally weakens its competitors. And this also further cements unipolar commitment amongst its loose affiliates to the single clear goal as a singular source of certainty and ontological security (cf. Levitsky / Ziblatt 2019 on the dynamics of the emergence of autocracy, based on commitment to the (likely capricious) personality of the leader, not to any intelligible principle or accountable facts). As a result, the CCP may readily present itself as impressively competent, far-sighted and capable of decisive action, including on such urgent but tricky issues as climate, in ways that its (ideological) competitors are not.

As such, the CCP can, and does, readily deploy a maximal flexibility in the discourse, and indeed in the broader governmental means, that it uses, in full knowledge that the primary consideration is what such discourse *does* – in terms of building legitimacy and support and/or undermining criticism and resistance – not what it actually *says*. The increasingly well-documented, though

7 Of course, this situation resonates strongly with the central "post-truth" condition of digital or "third modernity" regarding the primacy of political action and manoeuvring of (governmental or policy) statements and public discourse – what they *do* – over accountability for the coherence of political positions, amongst themselves or with observable outcomes – what they *say*. Since the power/knowledge contestation is, by definition, endless, there is never any need – or, indeed, possibility – of being ultimately held to account. A pervasive and deepening public cynicism that accepts this game then simply locks it, and its new rules of "no rules", in.

barely concealed, discrepancy between international, foreign-language and domestic, Chinese-language discourses on such contested geopolitical issues as resource diplomacy (Rodríguez 2018), digital technologies (Hannas / Tatlow 2020) and, indeed, environmental policy and EcoCiv (e.g. Smyer Yü, this issue) is perhaps the clearest example of this profound, and effective, political pragmatism. Here, the Chinese discourse may be frank – even stentorian – in affirming an aggressively nationalist, authoritarian and security-focused agenda, while the international discourse makes vague, but richly suggestive and reassuring, nods towards inclusivity, global community, environmental responsibility, etc. The latter can thus "win friends" while the former single-mindedly builds the power needed actually to "influence", and no contradiction between these two need ever be experienced as problematic or cause for pause. On the contrary, they will increasingly seem a demonstrably winning formula.

In this context, then, the problem with (real, existing) EcoCiv is not just that it enables the continued duplicity of massive ecological destruction in the name of "saving the planet". It also acts as a Trojan horse for the smuggling in of the global hegemony of the CCP, potentially fatally undermining the broader "life" of any global democratic civil society that could muster a viable challenge, for a "just transition", to its distinctly non-ecological project (cf. Wainwright / Mann 2018 on "climate Mao").

Rethinking EcoCiv beyond the party-state

The official national project of Ecological Civilisation is thus perhaps best conceived as the *reductio ad absurdum* – and as a matter of historical, not merely abstract and philosophical, urgency – of the conflation of civilisation *as* (hyper-)modernisation that is characteristic of the entire project of (Western) modernity. And yet the negative – deeply troublesome – actualisation of such a project cannot be placed entirely upon the CCP. Rather, deeper conceptual investigation brings out immanent problems of EcoCiv in its constituent concepts of "ecological" and "civilisation", i.e. with both as modern Western concepts themselves. But it is not just the problems but also the potentials for "ecological civilisation" that thereby become apparent. This section and the next thus trace the more positive reading of ecological civilisation immanent in contemporary Chinese society. Our first step is thus to introduce this conceptual work. Here, the Chinese words *sheng* and *wen* not only expose the deep-seated problem of "ecological" and "civilisation" respectively, but also show themselves to be more promising concepts vis-à-vis a trans-modern ecological civilisation.

In contemporary Chinese, "ecological" is translated as *shengtai* (生态). This two-character term is one of a great many early twentieth century neologisms

taken from Japan, where the challenge of updating the character-based language to meet the threat of Western modernisation had a head-start of several decades. *Shengtai* thus comprises two elements, co-opted for these new and essentially defensive purposes: *sheng* (生) or "life" in the sense of natural reproduction, giving birth etc.; and *tai*, meaning "attitude" but made use of as a suffix connoting the abstract noun or "-ness".

Our focus here, however, is on the etymological root of this Chinese word: *sheng*. As Wang Mingming (2019, see also Wang 2014) has persuasively argued, built around *sheng*, the term *shengtai* in Chinese actually has a much stronger and still perceived connection to "life" than does either of the terms connoting "life" à la life science – i.e. the most consequential forms of relation to issues of "life" today – in contemporary English, namely eco- and bio-logy. Each of these words is now a commonplace word, which has assumed its own specific meanings, enabling their disconnection over time from the ancient Greek etymology. As a result, the dominant mode of thinking about "life" in modern Western culture bears the marks, in its very terminology, of a specific historical trajectory dominated by the scientific gaze, with life as an object to be studied (Rodríguez 2021: 276). In other words, today in many European languages and cultures, the phenomenon follows and is subsidiary to the discipline (e.g. ecological-ecology), not any longer, nor common-sensically, vice versa.

Moreover, the ancient Greek terms themselves in any case lack the same vibrant, vital connection to "life" of *sheng* in Chinese. The "eco" of ecological actually comes from the Greek for home or household (*oikos*), also translated and thought of as the "environment", and so has limited obvious connection specifically to issues of life. Its clear connection to "economy" further complicates this connection, and especially given the position of "economics", and of a transparently growth-oriented (and life-disregarding) sort, as the supreme disciplinary lens of the modern world.

Meanwhile, the "bio" of biology does explicitly derive from words connected with other ancient Greek word of "bios", or "life" (ibid.). And yet the "life" thus conceived is simply a "bare life" (cf. Agamben 1998) of that which is animate and self-generating, thought of in explicit contradistinction to the "life" of humanity, its cultures and its values. Such considerations contrast even more starkly with the effect of *sheng* on *shengtai* in contemporary Chinese, with the former still in everyday use (e.g. "birthday" is *shengri*). While "ecology" is thus the study of the entirely modern concept of the "ecological", *shengtai* is unequivocally "life-ness" (and hence as both a premodern and, potentially, trans-modern concept).[8]

Indeed, so complete is the inversion in valence between "economising" and "life-ising" implicit in *sheng* vs. "eco", that business/trade is *shengyi* (生意) in

8 And the discipline of "ecology" (*shengtaixue*) is "life-ness *study*". Similarly, in Chinese biological/biology too has the *sheng* root, as *shengwu(xue)*, literally "living things (study)".

Chinese, which also literally means (and is still used to mean) "tendency to grow" or "life and vitality", hence incorporating "economics" to "life" not vice versa. In short, *sheng*(*tai*) is a richer – more "live-ly" or "life-ising" – concept for "ecological civilisation" than is the English word "ecological" itself.

More important still, though, is the fuller meaning of "life" in the Chinese concept of *sheng*. While one must be wary of romanticising and/or orientalising in such discussion, *sheng* is situated within a broader conceptual network of "nature" as *tiandi* ("heaven and earth")[9] and *tianren heyi* – "harmony of heaven and humanity". Here, then, "life" or *sheng* is a form of life, or way of going on as a living being, that remains in balance despite never being stable, let alone progressing to ever-greater order (as with modernity/modernisation). Rather it is "life giving life to life" (Wang 2019), with the very circularity of definition (and hence, apparently confounding meaninglessness) actually supremely significant in signalling that which is irreducible and ungraspable: hence (to live) life is primary, not to *know* life (and so own and/or control it, from outside and at arm's length), as against the objective gaze of modernity, which systematically prioritises the latter.

Moreover, this "life" is not presumed to be exclusively "natural" as opposed to social/cultural as in the modern Western conceptualisation. Hence, for example, the profound (but much neglected) significance in premodern China to social flourishing and living social order of *not* the Emperor but rather the diversity of peoples moving amongst rural villages and cities, living at the periphery of the imperial political system amongst "mountains and forests" (*shanlin*), "rivers and lakes" (*jianghu*),[10] and mediating between humanity and the spirits of the earth (Wang 2019, Zhao 2021). In this non-dualistic "life" of nature-society, we also find, therefore, strong connections to the Chinese concept of "civilisation", or rather "culture", of *wen* (文).

Regarding Ecological Civilisation, the term civilisation is translated here as *wenming* (文明). Like *shengtai*, however, this two-character term is also a neologism, compounding, updating and seemingly reinforcing the – for millennia, culturally central – (single-character) concept of *wen*. Often placed in duality (yin and yang) with the *wu* (武) of Chinese martial arts (*wushu*), *wen* connotes a virtue of literary culturedness, seen as the summit of human sensitivity and erudition, both intellectual/artistic and practical/pragmatic. Clearly, there remains immanent in this conception a strongly evaluative preference for the urban-as-literary life. And yet here too, appreciation of (what we might now call) "nature" was likewise considered a crucial mark of such culturedness; for instance, in terms of the appreciation of landscape painting or poetry on natural

9 As opposed to the word for "nature" *ziran* (自然), or literally "that which self-corrects or is as it is", the term used in modern science and university departments.

10 The online Mandarin Chinese dictionary Pleco, defines *jianghu* as "rivers and lakes – people wandering from place to place and living by their wits, e.g. fortune-tellers, quack doctors, itinerant entertainers, etc., considered as a social group". *Shanlin* has the same connotations.

or bucolic themes, art forms that reached heights of sophistication with global civilisational significance at various points in pre-modern Chinese history.

Compared to both "ecological" and "civilisation", therefore, *sheng* and *wen* capture a profoundly different and more promising, as not foundationally modern and chauvinistically rationalist, ethos or relation to the world. Yet this turn to non-official Chinese concepts also comes with its own problems. Specifically, modern interpretations of these very terms creep too readily even into the newfound appreciation for such ideas.

Perhaps the most graphic illustration of that disjuncture in understanding that is systematically glossed over is the centrality throughout different streams of Chinese thought of the spiritual and cosmological, epitomised in the concept of *tian* (天) or "Heaven(s)". Too often references to *tian* and cognate concepts are seamlessly co-opted simply to a modern concept of "nature". This illegitimate oversight, however, is of central importance regarding what political and polemical use can and cannot be made of Chinese concepts while remaining honestly committed to understanding those ideas, especially regarding issues of (natural and/or social) "life".

In particular, consider the striking contrast between the figure of the Emperor and the modern CCP (as "organisational Emperor"; Zheng 2009). Both occupy the central and supreme position in their respective hierarchical political orders with, in theory, unchallengeable top-down authority. But while the "good Emperor" ideally stays out of the lives of the people, the Party has both the right and the duty to intervene as much as it deems necessary for the (biopolitical) "health" of the state. And this profound difference hinges on the fact that the former's role is to mediate effectively the relation between the entire society and the Heavens, which may then be entrusted to oversee socio-environmental flourishing and to whom the Emperor is himself in turn accountable (notably via the "mandate of Heaven", 天命). Conversely, the Party has no higher authority to which it must answer (other than, in principle, the "people" of which it claims to be sole representative), and thus has total (self-entitled) power and responsibility for all matters in the life of the state.

Like the Emperor, the freely moving peoples of *jianghu* were also understood to help administer social order in actual society in large part in their capacity as itinerant shamans, fortune-tellers and quacks, with one foot firmly in the (distinctly non-modern) world of spirits and cosmic forces of nature (viz. "rivers and lakes"). Without the crucial concept of *tian*, in other words, other concepts of "traditional" Chinese thought not only lose their meaning but become patsies for an altogether alien and opposed (i.e. modernist, secularised) conception of civilisation.

The reinsertion of *tian*, however, is no trivial matter. To the very contrary, the entire arch of the past 500 years, with the "rise of the West", is one marked by the exceptional world-constructing productivity of the demolition of all such

faith in a cosmic order and instead questioning everything. Modernisation is the process and age of total disillusionment and disenchantment. Such cosmic alienation is not so easily undone. It is, moreover, a civilisational predicament and process, not just a personal decision.

Viewing the planetary imperative of "ecological civilisation" with the potential of non-official Chinese concepts thus signals with particular clarity that the root problem of the Anthropocene is not, in fact, humanity's relation to the "Earth" or "nature" at all but to the "Heavens" (cf. Hui 2017), in the sense of a human-nature-cosmos balance. And yet how does this realisation take us beyond a simple restatement of the problem? Several centuries of systematically disillusioned critical rationalism – and the "Death of God" in the West, experienced as both exile *and* liberation – cannot be simply waved aside with the wish that things were otherwise. Similarly, in China, there are profound and irreversible historical reasons for the cultural supersession of *sheng* and *wen* (connected to *tian*) and their respective updating as *shengtai* and *wenming*.

Indeed, this non-statist way of socially organising life is largely destroyed in contemporary China, deliberately so in many places by the upheaval of the political campaigns of the CCP in the second half of the twentieth century. Yet such cultural practices have not been entirely eradicated, whether from collective memory or from the deep structures of Chinese language and thought. And this history is itself richly suggestive of a strikingly different form of relation to "nature" that remains immanent in Indigenous[11] Chinese thought – and potentially in the (now CCP-cultivated) resurgent thirst for, and pride in, that tradition.

Specifically, with its deep, if buried, connection to ideas such as *tianren heyi* and *tiandi*, *sheng* still resonates with concepts of "life" that are profoundly amodern. Such understanding asserts and seeks to work with an essentially mysterious self-propelling character of life. This, in turn, marks striking contrast with the "naturalised" scientific concepts of "bio" or "eco", which have come to settled connotations that tend to deny the "life of life" and aim instead to master and control it. This contrast also highlights how these concepts ground and found the essentially modern (and Western-originating, or at least rationalistic) political project of the state as site of total control, i.e. as the ultimate custodian and incarnation of the power/knowledge paradigm of modern rationality, which is so planetarily lethal because it *never has had* a conception of the life it subordinates and exploits as *sheng* (i.e. as "life").

As such, *sheng* and *wen*, separately and even more so together, speak promisingly to a conception of life that is monistic, not dualistic, and hence respectful of life's own dynamics, not prioritising human rational knowledge of them, even as life includes the latter but not vice versa. That is also then to adopt a

11 We capitalise this word to signal that the term does not refer to the ethnic but rather to the socio-political and historical conditions of being Indigenous.

relational stance in the engagement with life, and with the thinkers themselves who are part of and "within" life, not seeking to reach and assert perfect objective understanding of a phenomenon that is dualistically posited and is thus treated as external to the enquiring subject. By contrast, the foundational step of cosmic alienation, with the disillusionment with and dissolution of "heaven", underpins the entire prevailing paradigm of scientistic modernity.

A reengagement with *tian*, however, is perhaps not so out-of-reach, if we can apply our philosophical imaginations. For one can credibly resituate *tian* by pursuing a phenomenological approach that sees it as simply the essential yet mundane mystery of the (actualised and experientially undeniable capacity for) self-conscious connection to our relatedness to any and all things (cf. Rosa 2019); the self-awareness that is both the irreducible ground of our specific relationships with and interdependence on all other things (as "selves" and "others") and our own intimate and most precious participation in (the whole of) *life*.

This then manifests in a shift from the primacy of "worldview" – or one's conception of the seemingly objective world-out-there, which, when (mis)understood as primary, becomes and supports the view of the eviscerated, ghostly subject on an inert, de-animated objective world and *bios* – to "lifeview" (Schweitzer 1923/1955), or the first-person view *of life* on other life/living beings and the always-alive possibility of what one may achieve amidst this dynamic and only imperfectly knowable (as itself likewise living) context. Such a lifeview, thus, in its very perspective manifests an ethical "reverence for life" (Schweitzer 1965) not least by acknowledging the constant perceptual creativity of the human mind, social and personal, as *within* "life", not set against it, and expressive of its ongoing evolution.

Moreover, reconnecting with *tian* in this way also thereby resituates *sheng* and *wen*, effecting a broader reorientation for a more general "life-ising" of social and political life/order/institutions. Such reflections, in other words, underpin precisely a reconnection with, and reabsorption in, both life itself (*sheng*) and a culturedness of balanced pragmatic sensitivity (*wen*) that together manifest a newly respectful and self-conscious relatedness that is itself ecological civilisation.

A germinating notion of *shengtai wenming* as an alternative movement for transition

Our first step has thus mapped out a new conceptual territory for, and inspired by, ecological civilisation as *shengtai wenming*. Just as important, however, is how, against the formal project of EcoCiv critiqued in earlier sections, these conceptual explorations open up the possibility of an entirely different – indeed, fundamentally opposed – bottom-up emergent process of Sino-global societal transformation.

The search for evidence of any burgeoning movement of *shengtai wenming* in contemporary China, however, must proceed on noticeably different grounds to the directly-empirical dominant "common-sense" approach. The latter proceeds by looking for Chinese examples (domestic and/or overseas, e.g. in the BRI) of initiatives of ecological innovation or infrastructure that appear to tick many, if not every, box for the criteria expected by contemporary Western transition studies in order to be classed as world-leading. Such criteria include the delivery of unprecedented impacts on decarbonising social systems and ways of life, decoupling the growth of economies and their environmental impact – all while developing newly greened social mores and enabling protocols and/or institutions of deepening democratic participation.

But also relevant, and arguably more important, are issues such as low-tech and low-cost environmental innovations, and infrastructural and socio-technical projects, that are premised on and cultivate explicitly respectful and connected relations to nature (vs. so-called "nature-based solutions") and initiatives that deliberately target gains for both "nature" and "society" as inseparable; cultures of social and business entrepreneurship or "self-efficacy" (Rosa 2019) more generally; and a broad category of what may be called growing civilisational self-confidence. As *shengtai wenming*, hence a "living civilisation of life", what matters primarily is evidence of this quite different sort, and with the "full package" or "finished product" a prima facie unlikely prospect, such evidence is still yet to crystallise and emerge. Here, then, we should instead be looking for signs of dynamism – and hence possibly rapid, ongoing and uncertain change, perhaps through expedited societal learning processes – and evident convergence amongst diverse factors; perhaps even in the face of, or through processes of, increasing tension and antagonism.

Thus reframed, however, there is in fact considerable evidence of the striking dynamism of this irrepressible alternative movement of a bottom-up Sino-global *shengtai wenming*, even as it often requires careful interpretation and may even seem to present the opposite conclusion, especially when interpreted instead through the default (and constantly solidifying) lens of high political tension and tightening authoritarianism. Space here constrains anything but the most

cursory of overviews, though the issue certainly merits a much more comprehensive assessment; perhaps even the other articles of this Special Issue themselves can be (re)read from this perspective in order to both deepen and challenge these arguments with further new evidence.

By way of such initial illustration of the items listed above, however, starting with nature-oriented low-cost infrastructure, a notable example is the work of urban planner and landscape architect Kongjian Yu and his TuRenScape concept,[12] specifically regarding so-called "sponge city" flood defences. Yu (2021) notes the catastrophic and ubiquitous effects of massive "grey" (i.e. concrete-based) water and flood-defence infrastructures across contemporary urban China that aim to channel water as quickly as possible out of urban areas. This default engineering-centric approach – which, to repeat, has reached unprecedented heights in contemporary China – manifests the high-modern, massive construction approaches characteristic of the CCP. Crucially, though, and evidence of the profound weaknesses of the CCP's seeming decisiveness, this approach has simply failed. Sixty-five percent of Chinese cities (including several megacities) remain vulnerable to inundation, with massive and pervasive problems of water (and other) pollution.[13]

In response, Yu has explicitly worked in the opposite direction, developing ways, based on ancestral methods of Chinese agricultural water management, that aim to keep the water – "which is life!" (Yu 2021) – in situ by building up and redeveloping natural parks that are low-cost to build and maintain, with "nature doing the work" on its own terms (ibid.). Yu's work is also noticeably global in its projects (with 500 projects in more than 200 cities, overwhelmingly in China but also across 10 other countries, including the United States) and its outlook. Yet even in its domestic work, his consultancy's striking success in convincing local, municipal governments to adopt an approach diametrically opposed to the "hard science" orthodoxy of Party cadres is itself remarkable. Combined with the explicit referencing of the approach to its founding in Chinese practices and historically rooted techniques, not least in the prioritisation of widely accessible, low-cost and hence low-tech approaches, this work presents an example of "life-ising" practice in contemporary Chinese ecological initiatives.

None of this is to say that Yu's work, or the actual sponge city or park projects he has been involved in building in China, are exemplary, let alone perfect. To be sure, they remain, as would all infrastructure projects, firmly embedded in the hugely suboptimal power-knowledge relations of contemporary China and its systems of governance. They are also, however numerous, mere specks on the massive Chinese landscape and hence hugely constrained in terms of what actual benefits they can provide regarding flood defences. Moreover, even

12 See https://www.turenscape.com/en/home/index.html (accessed 20 July 2021).

13 The terrible floods in Henan of July 2021 graphically illustrated this danger as we originally wrote these words.

with several decades of thought and experience behind them, they are still relatively recent and largely the result of the ingenuity and imagination of one entrepreneurial person. Yet, as argued above, ecological civilisation is living or it is merely an empty slogan. And if it is living, it must – can only – develop and strengthen and unfold over time, organically and immanently, and with no previously existing blueprint. The very inadequacies of existing sponge city projects, thus, offer no counter-evidence and may even be interpreted as supportive of our case, so long as one can witness a relentless process of dynamism and learning, which is indeed clearly in evidence.

Secondly, regarding mass Chinese adoption of similarly low-cost but also "green" innovations, a growing literature has detailed precisely such processes, whether in energy (Gosens et al. 2020, Urban et al. 2016), agriculture (Ely et al. 2016) or mobility (Tyfield / Zuev 2018). Regarding the last, in particular, while the headlines on this score regarding China often focus on its global lead as the largest national market for electric cars (and buses), there are other, arguably more important, stories that are not so high-profile. These concern the miscellany of smaller electric vehicles (EVs), on two, three or four wheels, that have long become the primary form of demotic automobility across China, especially in the less-wealthy or populous cities (Zuev et al. 2019).

Indeed, recent evidence confirms that while the majority of electric cars have been sold in the larger cities that dominate news stories, the appetite for and changing (i.e. positive) attitudes towards EVs (particularly these smaller models) are strongest in these lower-tier cities (Huang et al. 2021). The prospect of a bottom-up emergence in such places of an entirely new model of urban mobility – not just electric, but connected and shared – that is also, crucially, low-cost and thus potentially relevant to the burgeoning urban centres across the Global South, remains a live possibility. Meanwhile, the hi-tech version being actively pursued by governments and car manufacturers alike continues to stutter and struggle (e.g. over access to contested mineral resources, which foster unequal relations of exchange on a global scale).

Thirdly, while not (yet) substantiating a "critical mass" and breakthrough cultural shift, there is certainly significant evidence of a broader cultural movement in China today of entrepreneurs motivated by spiritual-ecological goals or vocations. As Leigh Martindale documents (2019, 2021), for instance, in his study of organic farms that provide digitally-intermediated direct B2C sales of "safe" (viz. Yan 2012) organic produce, the dynamism of this sector resides upon this yearning for reconnection with the land/nature and an edifying simplicity of life amongst the entrepreneurs and their armies of (generally young and well-educated) volunteer workers – a longing also evident in Chinese tourism and travel, not least domestically, amongst both young and old (Xu / Wu 2016). Moreover, noticeable amongst these groups is not just a turning anew to long-standing Chinese thought and concepts for inspiration, but also and inseparably

a profound cosmopolitanism in the double sense of openness to new ideas and cultures and the possibility of remaining connected to, not retreating from, a plurality of (thinkable) urban spaces.

Furthermore, set against the titanic and relentless pressures and sociotechnical changes of contemporary Chinese life, this yearning is increasingly evident – and documented – as manifest in terms of a profound inner appetite for both significant socio-ecological learning, not least amongst those most disadvantaged and exposed to environmental risk (Huang et al. 2022), and for psycho-social development and serenity (Zhang 2020). Such an "inner revolution" (Zhang 2020), however, while unfolding now with great force and turbulence in countless Chinese individuals, is likely difficult indeed to find evidenced in any observable and major shifts in the infrastructural or power-relational presentation of its urban setting, especially insofar as one is focused on looking at such external manifestations judged against settled criteria of "positive" and "green" sociopolitical change.

To be sure, such (potentially positive and hugely productive) developments may seem dwarfed when set against the dominant reality in each context: the continued massive growth of concrete-based urbanisation, coal power and monumental infrastructure in China and increasingly overseas; the still-runaway growth of the fossil-fuel-powered vehicles and associated system of high-carbon urban automobility; the intensification of agriculture and buying up of farms and land across the Global South, etc. Similarly, the whole remains profoundly conditioned by the ever-tightening party-state surveillance and chauvinistic nationalism, on the one hand, and the hyper-consumerism of Chinese society, on the other.

Indeed, environmental concern, or the widespread prioritisation of "natural" or ecological life, may not yet be profound, and sincere and deep-seated demotic reconnection to the ecologically harmonious thought and practices rooted in Chinese cultures may remain comparatively minuscule and superficial. Nonetheless, an emergent Sino-global or global-Chinese civilisation seems vigorously untamed, however frail and small it currently appears. This is, moreover, an emergent social force that is profoundly enabled and energised by the emergent socio-technical, civilisational revolution of the digital in ways that mark a striking contrast to the threat of the digital-and-party-state as an agent of totalised control. In short, what is of the utmost significance regarding *shengtai wenming* is the liveliness and dynamism of this pre- and now trans-modern civilisation, not its green and/or democratic credentials per se. It is the (civilisational) *life* that must come first, and once this has been identified one finds it again and again.

Illuminated by conceptions of a living civilisation as the key starting place for any chance of emergent "ecological civilisation", contemporary "deep China" (as opposed to the more visible state-led workings of "CCP-China") does indeed

evidence rich, if still embryonic, potentiality for large-scale transition. Meanwhile, we can also trace the potential rediscovery and re-imagining of Chinese concepts of *sheng*, *wen* and their (novel) conjunction for this group of life-ising agents.

Conclusions: Principles for life-ising

China has an outsized significance regarding the overlapping planetary crises, centred on environmental emergency. The official policy initiative of Ecological Civilisation has attracted much interest, and many plaudits, globally. EcoCiv seems to feed a widespread appetite for a new age of post-industrial and post-Western-modernity reconnection, both to ecological concerns and to a longer history of human civilisation shorn of the self-congratulatory blinkers of modernist exceptionalism. Yet in exploring the emerging actuality of this official discourse, as China goes global, we have found instead dynamics that increasingly portend the exact opposite: a hypermodernisation that actually perfects the destructive dynamics of modernity in a deepening, totalising alienation not just of "culture" from "nature" but of humanity from itself and so from all things. Ironically, the very plausibility of EcoCiv as what the world urgently needs thereby serves, without any concerted effort, to advance this state project of total global surveillance by the CCP and/or other copycat state-corporate powers.

And yet in a specifically Sino-global ecological civilisation of *shengtai wenming*, there is clear potential for a global societal – or, rather, civilisational – paradigm shift to life-ising the economy instead of economising life. This is manifest in countless bottom-up, "under-the-radar" (Kaplinsky 2011) and neglected developments in and from China, that together have extraordinary dynamism on an unrivalled scale to drive a global learning process. This *shengtai wenming*, however, is premised upon a living practice of enacting a new, life-affirming and life-revering relation to the world – a "lifeview" – in the progressive collective emergence of a living civilisation of life.

Indeed, from this perspective, we may even return to reappraise the dauntingly negative story of the formal EcoCiv itself as it goes global. The "perfection" of hypermodern alienation that the CCP represents is now reaching exceptional – and global – intensity, economising life, both "natural" and "social". Yet for life to prevail, and to be renewed, the great, culturally-seismic challenge is that it *must itself live*, and hence emerge spontaneously (if not necessarily "organically" or "naturally"), not be managed (or willed through "praxis") rationally and intentionally into existence. Such emergence, however, is the result of intensifying pressures, compounding through moments of crisis to entirely unpredictable but qualitative phase changes – and the ongoing construction of a

political machine with unparalleled capacity for causing and delivering death spells precisely this inflection point, if nothing else.

Yet this is not only a supreme stimulus for a civilisational movement beyond modernity, increasingly at the global scale needed. It is also itself entirely asymmetrically dependent for its continuation on the converse vital dynamism of "deep China". Even as the party-state's hypermodernisation project grows parasitically upon this host, however, this dynamic situation is not indefinitely sustainable – indeed, not even for the medium-term of decades.

Moreover, the move from hypermodernisation through the *reductio* of eco-modernisation to the emergence of something else is only possible to the extent that this process takes place in and through a civilisation with a sufficiently capacious "hinterland", or set of cultural civilisational resources, and with sufficient dynamism at a sufficient scale to be globally significant. And this is true not of China-as-CCP/PRC nor even of deep China per se, but only of the unique Sino-global constellation of contemporary China (in its diversity and richness and contradictoriness) with late Western modernity and deepening global encounter.

And yet even in this significantly revised – and more enabling – reading of the present predicament nothing can be taken for granted, with unprecedented stakes and daunting urgency still in play. Yet the present circumstances of contemporary China and its ongoing reconstitution of its relations to the world are not only a necessary condition for a more positive future. They also offer rich possibilities for thinking and doing transition. To close, then, we list a suggested set of four practical principles (drawing on Lent 2021 and Roy 2020) that could be actively adopted to assist and expedite this civilisational emergence.

1) First and foremost is the deliberate and persistent cultivation of the primacy of a "lifeview" perspective and relation to the world in every sphere of practical action, private and public, professional and political, and amongst ever-growing numbers of (influential) stakeholders. For this not only enacts the necessary reorientation of one's activity towards repeated and habitual reaffirmation of life against the default mode that prioritises rational control. It also, and arguably more importantly, continually resituates oneself *within* the "life" that one is seeking to cultivate and help flourish. And thus positioned, one can then respond with maximal creativity and sensitivity to such options for life-affirming collective action and participatory collaboration as unforeseeably – inescapably so given a living and emergent context – arise. Such a perspective thus marks a striking contrast with the "cockpitism" (Hajer et al. 2015) of much transition thought, which seeks to guide the world through an unprecedented crisis to a just and flourishing future with minimal disruption and unique foresight and oversight. By contrast, *shengtai wenming* has optimal chances of emerging spontaneously and unpredictably through a progressive and increasingly dis-

persed reorientation to "life", learning to roll with and surf on the crashing turbulence of disruption, not seeking to minimise and contain it.

2) Secondly, working with an understanding of living systems as symbiotic and interdependent, not instrumental, machinic and parasitic, a further principle would be to apply this conception also to the issue of civilisational life. This, in turn, would involve a prioritisation of approaches that consider a flourishing across scales of the "holarchy", rather than seeing these scales as pitched in zero-sum competition. For example, other "transition" projects should be appraised for the extent to which they enable autonomous flourishing and resilience of subsidiary partners/stakeholders, not just of the leading (state and/or corporate) protagonist. This approach thus acknowledges the constitutive nature of contested relations of power/knowledge in constructing transition and the need for these to be thrashed out in creative ways that are inclusive of, and "life-giving" to, all parties, and in processes of collective learning-by-doing. Indeed, here civilisational life may thus be defined and even possibly measured in terms of the efficacy, inclusiveness and depth of such collective learning and (possibly new) institutions thereof.

3) Thirdly, with the gaze firmly on the prize of an emergent global and globally interdependent civilisational life – surely the stand-out political lesson of the pandemic – such globality should remain prioritised, seeing attempts to achieve purely *national* security in a changing and potentially hostile world as manifestly self-defeating. The ongoing rise of China, specifically, exposes as simple falsehood the idea of a China that exists purely within its own boundaries. Regarding the looming threat of an incipient "new Cold War", which would massively frustrate coordinated global climate action, there remains an imperative of continued openness to Chinese partners. Such openness, moreover, need not be in conflict with new, clear constraints and demands (to deliver on point 2), e.g. on the CCP with regard to its activities overseas and/or regarding Chinese co-option of foreign technologies (Hannas / Tatlow 2020), or even quite explicit competition with Chinese parties and the PRC as a whole (Erickson / Collins 2021), especially if this can catalyse a "race to the top" as against the real prospects of an intensifying "race to the bottom".

4) Fourthly, adopting a "life" perspective entails also according the privilege of unique life and agency to others, including non-human (and more-than-human) systems. As such, one must drop, or at least significantly loosen and qualify, the expectation that political processes and adversaries can be fully appraised on the basis of their explicit official pronouncements. To the contrary, for a living, emergent process of "civilisational life", one should instead adopt a stance of a situated practical wisdom (or phronesis; Tyfield 2018) regarding such socio-political and essentially contested arenas. This thus involves working

always from the premise that the meaning of official pronouncements is not clear or settled but must be "made so" depending on what is done now, in the living present. While profound political differences then remain between the PRC and many would-be climate partners, this approach would at least condition a greater understanding by the latter for the constitutive political processes of the former. Conversely, as already noted, a transition perspective encourages the literalistic appraisal and critique of official policies and goals, against currently unrealistic expectations of democratic participation.

Finally, all four principles together also signal the crucial importance of vital and actively tended (if not necessarily caring) horizontal relations as necessary conditions for optimising the possibility of spontaneous and unplannable emergence vs. top-down, planned transition. In this light, Ecological Civilisation invokes and enables much more than a CCP-led plot for socio-technical transition on a global scale. Instead, ecological civilisation as in *shengtai wenming* emerges from the myriads of deeper, heterogenous and historically self-healing layers of innovation shaping deep China – and its expanding interconnections with the world. This particular notion of *shengtai wenming* is hence better understood as the life-focused, life-driven dynamics (themselves living and self-governing) of social flourishing and disruptive rebuilding within planetary boundaries and possibilities. Understood this way, ecological civilisation (qua *shengtai wenming*) holds the potential to connect with and vitalise the diversity of life-ising projects struggling to achieve full scale and speed while restoring and maximising political oxygen on and for the planet.

References

Agamben, Giorgio (1998): *Homo Sacer: Sovereign Power and Bare Life*. Stanford: Stanford University Press.

Blühdorn, Ingolfur (2022): Liberation and limitation: Emancipatory Politics, Socio-ecological Transformation and the Grammar of the Autocratic-authoritarian Turn. *European Journal of Social Theory* 25(1), pp. 26–52.

Bressa, Rudi (2020): Chibeze Ezekiel, the Activist Who Blocked a Coal Power Plant in Ghana. Lifegate, https://www.lifegate.com/chibeze-ezekiel-coal-ghana (accessed 27 July 2021).

Butollo, Florian (2014): *The End of Cheap Labour? Industrial Transformation and "Social Upgrading" in China*. Frankfurt am Main: Campus-Verlag.

Dussel, Enrique D. (2012): Transmodernity and Interculturality: An Interpretation from the Perspective of Philosophy of Liberation. *Transmodernity: Journal of Peripheral Cultural Production of the Luso-Hispanic World* 1(3), pp. 28–56.

Ely, Adrian / Geall, Sam / Song, Yiching (2016): Sustainable Maize Production and Consumption in China: Practices and Politics in Transition. *Journal of Cleaner Production* 134(2016), pp. 259–268.

Erickson, Andrew S. / Collins, Gabriel (2021): Competition with China Can Save the Planet. *Foreign Affairs* 100(3), pp. 136–149.

Feng, Chen (1998): Rebuilding the Party's Normative Authority: China's Socialist Spiritual Civilization Campaign. *Problems of Post-Communism* 45(6), pp. 33–41. https://doi.org/10.1080/10758216.1998.11655812

Fisher, Dana R. / Freudenburg, William R. (2001): Ecological Modernization and Its Critics: Assessing the Past and Looking Toward the Future. *Society and Natural Resources* 14(8), pp. 701–709. https://doi.org/10.1080/08941920152524891

Gao, Baiyu (2020): China Relaxes Restrictions on Coal Power Expansion for Third Year Running. *Chinadialogue*, 17 April 2020, https://chinadialogue.net/en/energy/11966-china-relaxes-restrictions-on-coal-power-expansion-for-third-year-running/ (accessed 27 July 2021).

Geall, Sam (ed.) (2013): *China and the Environment: The Green Revolution*. London / New York: Zed Books.

Geall, Sam / Ely, Adrian (2018): Narratives and Pathways towards an Ecological Civilization in Contemporary China. *The China Quarterly* 236, pp. 1175–1196. https://10.1017/S0305741018001315

Gosens, Jorrit / Binz, Christian / Lema, Rasmus (2020): China's Role in the Next Phase of the Energy Transition: Contributions to Global Niche Formation in the Concentrated Solar Power Sector. *Environmental Innovation and Societal Transitions* 34, pp. 61–75.

Green, Fergus / Stern, Nicholas (2017): China's Changing Economy: Implications for its Carbon Dioxide Emissions. *Climate Policy* 17(4), pp. 423–442. https://doi.org/10.1080/14693062.2016.1156515

Hajer, Maarten / Nilsson, Måns / Raworth, Kate / Bakker, Peter / Berkhout, Frans / Boer, Yvo de et al. (2015): Beyond Cockpit-ism: Four Insights to Enhance the Transformative Potential of the Sustainable Development Goals. *Sustainability* 7(2), pp. 1651–1660. https://doi.org/10.3390/su7021651

Halskov Hansen, Mette / Liu, Zhaohui (2018): Air Pollution and Grassroots Echoes of "Ecological Civilization" in Rural China. *The China Quarterly* 234, pp. 320–339. https://doi.org/10.1017/S030574101700-01394

Han, Sang-Jin / Shim, Young-Hee (2010): Redefining Second Modernity for East Asia: A Critical Assessment. *The British Journal of Sociology* 61(3), pp. 465–488. https://doi.org/10.1111/j.1468-4446.2010.01322.x

Hannas, William C. / Tatlow, Didi Kirsten (eds) (2020): *China's Quest for Foreign Technology: Beyond Espionage*. London: Routledge.

Hansen, Mette Halskov / Li, Hongtao / Svarverud, Rune (2018): Ecological Civilization: Interpreting the Chinese Past, Projecting the Global Future. *Global Environmental Change* 53, pp. 195–203. https://doi.org/10.1016/j.gloenvcha.2018.09.014

Heffron, Raphael J. / McCauley, Darren (2019): What is the "Just Transition"? *Geoforum* 88, pp. 74–77.

Huang, Ping / Hu, Xiaohui / Tyfield, David / Westman, Linda / Yu, Zhen (2022): *Just Transitions on the Ground: Ecological Civilisation in Urban China*. London: British Academy.

Huang, Youlin / Qian, Lixian / Soopramanien, Didier / Tyfield, David (2021): On the Heterogeneity in Consumer Preferences for Electric Vehicles across Generations and Cities in China. *Technological Forecasting and Social Change* 167, p. 120687. https://doi.org/10.1016/j.techfore.2021.120687

Hui, Yuk (2017): On Cosmotechnics: For a Renewed Relation between Technology and Nature in the Anthropocene. *Techne: Research in Philosophy and Technology* 21(2/3), pp. 319–341.

Kaplinsky, Raphael (2011): Schumacher Meets Schumpeter: Appropriate Technology below the Radar. *Research Policy* 40(2), pp. 193–203.

Lent, Jeremy (2021): *The Web of Meaning*. London: Profile Books.

Levitsky, Stephen / Ziblatt, Daniel (2019): *How Democracies Die*. New York: Random House.

Li, Yifei / Shapiro, Judith (2020): *China Goes Green. Coercive Environmentalism for a Troubled Planet*. Cambridge: Polity.

Ma, Winston (2020): *The Digital War.* New York: Wiley.

Malm, A. (2012): China as Chimney of the World. *Organization & Environment* 25(2), pp. 146–177. https://doi.org/10.1177/1086026612449338

Martindale, Leigh (2019): Tasting the Cosmological Rift: Alternative Food Networks in China's Ecological Civilisation. PhD Thesis, Lancaster Environment Centre, Lancaster University.

Martindale, Leigh (2021): From Land Consolidation and Food Safety to Taobao Villages and Alternative Food Networks: Four Components of China's Dynamic Agri-rural Innovation System. *Journal of Rural Studies* 82, pp. 404–416.

Moore, Jason (2015): *Capitalism in the Web of Life. Ecology and the Accumulation of Capital*. London, New York: Verso.

Moore, Jason W. (2017): The Capitalocene, Part I: On the Nature and Origins of Our Ecological Crisis. *The Journal of Peasant Studies* 44(3), pp. 594–630.

National People's Congress (2013): Address to the First Session of the 12th National People's Congress, Xinhua, http://www.npc.gov.cn/englishnpc/c23934/202006/7954b8df92384c729c02be626840daed.shtml (accessed 27 July 2021).

Pan, Jiahua (2016): *China's Environmental Governing and Ecological Civilization*. Berlin / Heidelberg: Springer.

Poulden Gervase (2013): Chinese-funded Oil Project in Costa Rica Halted amidst Flood of Criticism. *China Dialogue*, 27 June 2013, https://chinadialogue.net/en/energy/6151-chinese-funded-oil-project-in-costa-rica-halted-amidst-flood-of-criticism/ (accessed 27 July 2021).

Quijano, Anibal / Wallerstein, Immanuel M. (1992): Americanity as a Concept, or the Americas in the Modern World-system. *International Social Sciences Journal* 134, pp. 549–557.

Rodríguez, Fabricio (2018): Oil, Minerals, and Power. The Political Economy of China's Quest for Resources in Brazil and Peru. PhD Thesis, University of Freiburg.

Rodríguez, Fabricio (2021): Contested Resources and South-South Inequalities: What Sino-Brazilian Trade Means for the "Low-Carbon" Bioeconomy". In: Maria Backhouse / Rosa Lehmann / Kristina Lorenzen / Malte Lühmann / Janina Puder / Fabricio Rodríguez / Anne Tittor (eds): *Bioeconomy and Global Inequalities. Socio-Ecological Perspectives on Biomass Sourcing and Production*. Cham: Palgrave Macmillan, pp. 265–285. https://doi.org/10.1007/978-3-030-68944-5_13

Rosa, Hartmut (2019): *Resonance: A Sociology of Our Relationship to the World*. Cambridge: Polity.

Rowson, Jonathan (2020): How to Think about the Meta-crisis without Getting too Excited. Emerge, https://www.whatisemerging.com/opinions/how-to-think-about-the-meta-crisis-without-getting-too-excited (accessed 27 July 2021).

Roy, Bonnitta (2020): Corona: A Tale of Two Systems, Part One. Emerge, https://www.whatisemerging.com/opinions/corona-a-tale-of-two-systems-part-one (accessed 27 July 2021).

Rozelle, Scott / Hell, Natalie (2020): *Invisible China: How the Urban-Rural Divide Threatens China's Rise*. Chicago: University of Chicago Press.

Sandel, Michael J. (2012): *What Money Can't Buy*. London: Penguin.

Schweitzer, Albert (1923/1955): *Civilization and Ethics*. London: Adam and Charles Black.

Schweitzer, Albert (1965): *The Teaching of Reverence for Life*. London: Peter Owen.

Shapiro, Judith (2001): *Mao's War against Nature*. Cambridge: Cambridge University Press.

Shi, Yi (2021): The 14th Five Year Plan Sends Mixed Message about China's Near-term Climate Trajectory. Chinadialogue, 8 March 2021, https://chinadialogue.net/en/energy/the-14th-five-year-plan-sends-mixed-message-about-chinas-near-term-climate-trajectory (accessed 27 July 2021).

Smith, Adrian / Voß, Jan-Peter / Grin, John (2010): Innovation Studies and Sustainability Transitions: The Allure of the Multi-level Perspective and its Challenges. *Research Policy* 39(4), pp. 435-448.

Strittmatter, Kai (2019): *We Have Been Harmonized: Life in China's Surveillance State*. London: Old Street Publishing.

The Economist (2020): Digging Up China's Past Is Always Politics. *The Economist*, 30 July 2020.

Tyfield, David (2018): *Liberalism 2.0 and the Rise of China. Global Crisis, Innovation and Urban Mobility*. London / New York: Routledge.

Tyfield, David (forthcoming): China and Sustainable Transition: Chairman Coal vs. Green Cyber-Dragon. In: E. Kavalski / M. Mayer / M. Rudyak / X. Zhang (eds): *The Routledge Handbook on Global China* 17.

Tyfield, David / Zuev, Dennis (2018): Stasis, Dynamism and Emergence of the E-mobility System in China: A Power Relational Perspective. *Technological Forecasting and Social Change* 126, pp. 259–270.

Urban, Frauke / Geall, Sam / Wang, Yu (2016): Solar PV and Solar Water Heaters in China: Different Pathways to Low Carbon Energy. *Renewable and Sustainable Energy Reviews* 64, pp. 531–542.

Wainwright, Joel / Mann, Geoff (2018): *Climate Leviathan: A Political Theory of Our Planetary Future*. London: Verso.

Wang, Mingming (2014): To Learn from the Ancestors or to Borrow from the Foreigners: China's Self-identity as a Modern Civilisation. *Critique of Anthropology* 34(4), pp. 397–409.

Wang, Mingming (2019): Ecological Civilization. Keynote address at Workshop on "Planetary Magic", 8–9 July 2019, Institute for Social Futures, Lancaster University.

Xi, Jinping (2017): Full Text of Xi Jinping's Speech at the 19th CPC National Congress. *China Daily*, https://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm (accessed 27 July 2021).

Xu, Honggang / Wu, Yuefang (2016): Lifestyle Mobility in China: Context, Perspective and Prospects. *Mobilities* 11(4), pp. 509–520.

Yan, Yunxiang (2012): Food Safety and Social Risk in Contemporary China. *Journal of Asian Studies* 71(3), pp. 705–729.

Yang, Guobin / Calhoun, Craig (2007): Media, Civil Society, and the Rise of a Green Public Sphere in China. *China Information* 21(2), pp. 211–236.

Yeh, Emily T. (2005): Green Governmentality and Pastoralism in Western China: "Converting Pastures to Grasslands". *Nomadic Peoples* 9(1/2), pp. 9–30.

Yu, Kongian (2019): Nature-based Solutions for Ecological "Sponge Cities". Frontiers Forum, 21 June 2019, https://www.youtube.com/watch?v=g2tl3zC6wX4&list=PLpCH1XIO3lYtRELTupGHOfrbylNlPhPKR (accessed 27 July 2021).

Yu, Lei (2015): China's Strategic Partnership with Latin America: A Fulcrum in China's Rise. *International Affairs* 91(5), pp. 1047–1068.

Zhang, Li (2020): *Anxious China: Inner Revolution and Politics of Psychotherapy*. Berkeley: University of California Press.

Zhao, Bingxiang (2021): Returning Life to Society: Biography as a Narrative of the Whole. *Chinese Journal of Sociology* 7(2), pp. 217–251.

Zheng, Yongnian (2009): *The Chinese Communist Party as Organizational Emperor: Culture, Reproduction, and Transformation*. London: Routledge.

Zhuang, Yue (2015): Confucian Ecological Vision and the Chinese Eco-city. *Cities* 45, pp. 142–147.

Zuev, Dennis / Tyfield, David / Urry, John (2019): Where is the Politics? E-bike Mobility in Urban China and Civilizational Government. *Environmental Innovation and Societal Transitions* 30, pp. 19–32.

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Book Reviews

Sebastian Strangio, *In the Dragon's Shadow: Southeast Asia in the Chinese Century*. New Haven, CT: Yale University Press. 2020. 337 pages, £29.00. ISBN 978-0-3002-3403-9 (hb)

Two months after entering office, President Joe Biden of the United States remarked that his government's policy towards China was one of "extreme competition".[1] Antithetical to almost everything that his predecessor Donald Trump represented, Biden nonetheless kept to a policy that is an outlier in its continuity with that of the Trump administration. Within the Indo-Pacific region, the strategic landscape where this extreme competition between the US and China primarily takes place, the literal geographical centre is Southeast Asia. Hence, in the past few years there has been much renewed attention to the geopolitics of Southeast Asia, in particular in the context of the intensifying US-China rivalry. The book under review here, *In the Dragon's Shadow: Southeast Asia in the Chinese Century*, by seasoned and skilled journalist Sebastian Strangio, is a welcome addition to this burgeoning literature.

The title of the book, *In the Dragon's Shadow*, seems to suggest that Southeast Asian countries, for better or worse, are destined to endure and cope with the sheer physical presence of their massive neighbour China, an overwhelming, and at times dominating, presence (a similarly titled book, *Under Beijing's Shadow: Southeast Asia's China Challenge* by Murray Hiebert, gives a similar impression). Strangio also strives to provide a more complex picture and to show that leaders and people from Southeast Asia are not just passively "overshadowed" by an overbearing China but have also become agile actors, skilled in making strategic manoeuvres that could at times outwit the larger powers (China and Western powers both). As Strangio writes in the book's conclusion, "far from being passive subjects of Chinese and American attentions – countries to be 'won' and 'lost' by dueling superpowers – the region's governments will do what they can to maintain their freedom of maneuver in a tenser, more constrained world"(p. 283).

But one question remains: As China becomes more powerful economically, politically and militarily, and more active and emboldened in its diplomatic and cultural outreach, could Southeast Asian countries really withstand the orbital pull of this giant? Strangio does not provide a simple answer for all Southeast Asian countries, but the book seems to imply that those countries with stronger maritime connections stand a better chance. China is historically

1 Demetri Sevastopulo: Biden Warns China Will Face "Extreme Competition" from US. *Financial Times*, 2 February 2021, https://www.ft.com/content/c23a4e67-2052-4d2f-a844-e5c72a7de214 (accessed 17 July 2022).

a land power. Strangio contends that had it not been for the arrival of the European powers in the sixteenth century, the historically expansionist Chinese empire could have further expanded and incorporated more lands from mainland Southeast Asia (p. 15). And when China was weak (such as during dynastic changes), mainland Southeast Asia also bore the burden of receiving the fleeing refugees, which in turn potentially invited aggression from the new dynastic rulers of China. Hence, it is China's land-based neighbours that have had to face directly the consequences of whether China was weak, undergoing regime change or strong. As Strangio notes, "[w]hile all Southeast Asian nations face the challenge of living in China's shadow, it is in the mainland countries that the dilemma is most acute"(p. 63).

Hence, Strangio is to be commended for paying substantial attention to the unique and strategic role of Yunnan, a relatively poor province that tends to be overlooked by Western analysts. Yunnan shares borders with Myanmar, Laos and Vietnam. The historical incorporation of Yunnan into the Chinese empire brought the powerful giant right next to the different polities in mainland Southeast Asia in premodern times. During the Cold War, Yunnan was very much a "frontline" province to China as wars raged in Indochina for decades. Because of the intensity of the conflicts in Indochina, Yunnan was a latecomer to China's economic take-off. But now it plays a crucial role as it connects Myanmar (Strangio prefers to use the previous name "Burma" in this book) via the China-Myanmar Economic Corridor and Laos via the China-Laos Railway. A substantial portion of China's economic investment in mainland Southeast Asia, whether legal, illicit or in-between, has some Yunnan connections. Many of Beijing's initiatives with mainland Southeast Asia go through Yunnan. The province hosts the Lancang-Mekong Cooperation, which Strangio describes as Beijing's initiative to secure the Mekong region as China's "sphere of influence"(p. 61).

China's growing impact on the Mekong River is also extensively covered in the book. The still murky case of the gruesome killings of a dozen Chinese crewmembers on a Mekong freighter in 2011 prompted Beijing to press for the initiation a four-country joint patrol (China, Laos, Myanmar and Thailand) against illicit border crossings, drugs and other trans-border crimes. The joint patrol has provided legitimate cover for China to be involved in the security of the middle Mekong. More significant are China's activities on the upstream Mekong (called the Lancang River in China), including damming for hydro-energy and widening the waterway for increased capacity for trade. Such activities alter the Mekong ecology and have negatively impacted the downstream countries. Most alarming, Strangio points out, is the fact that China now seems to have "valve-like control of the upper Mekong"(p. 60), which apparently puts the downstream countries at its mercy. Such a disturbing picture, however, remains more theoretical than real, at least for now. Not all scientists have agreed that China's activities on the upstream Mekong have been the principal causes of

the water conditions downstream. The Mekong River Commission, for example, has issued a report that disputes some of the findings of the research cited by Strangio. Regardless, China certainly has the upper hand in mainland Southeast Asia. Stronger and wealthier mainland Southeast Asian countries that have better connections with the rest of the world (such as Thailand and Vietnam) will be able to resist China's embrace more strongly than their weaker neighbours, but China's pre-eminence in mainland Southeast Asia appears almost as a foregone, and acknowledged, reality.

But the rise of China today is not confined to the mainland region alone. Its oceanic turn since the reform and opening era has arguably been the most crucial factor in cementing its phenomenal role in the global economy. After all, it is the sea-borne trade of China's coastal provinces that powers its remarkable industrialisation and integration with the global economy. In the process, maritime Southeast Asian countries, which have also been very much reliant on international trade and the global supply chain, also benefit tremendously from China's oceanic turn. Yet, Strangio also notes that "China's oceanic push has created considerable friction with the five nations of maritime Southeast Asia"(p. 181). China's greater sea-borne trade with the world makes it increasingly insecure about the vulnerabilities of its shipping lanes. A stronger naval force is needed to protect its shipping lanes and its expanding interests globally. But as the rising China turns nationalistic, its naval power also increasingly worries the maritime Southeast Asian countries, particularly those with lingering maritime disputes with China in the South China Sea.

Maritime Southeast Asian countries have traditionally enjoyed a healthy distance from the direct power of China, but this is changing with China's consolidated presence in the South China Sea. Its naval strength (inclusive of its coast guard and other quasi-civilian agencies) is now more powerful than ever, to be checked and balanced only by the Western, principally US, naval presence. It is no wonder that maritime Southeast Asia as a whole features more importantly in the Indo-Pacific strategy of the United States as the US searches for reliable friends and partners. Nonetheless, maritime Southeast Asian countries continue to walk a careful and fine balance. While they collectively welcome the US as a balancing and stabilising presence, they are equally wary of being forced into an irreversible conflict with China as US-China rivalry intensifies. As Strangio documents, even in the most pro-US and China-vigilant countries such as Singapore and the Philippines, there has never been a strong appetite to be fully aligned with the US side against China. "Not-taking-sides" has become the received wisdom and daily mantra of all Southeast Asian countries.

A notable feature of Strangio's book is the attention that is paid to the "Chinese question": the waves of Chinese migrations to Southeast Asia over centuries. In each of the country chapters Strangio discusses the historical, political, economic and cultural roles of the local ethnic Chinese communities vis-à-vis

the potentially combustible ethnic political relations in their adopted societies, and also the phenomenon of the so-called New Chinese Migrants (*Xin Yimin*) – the PRC citizens who have ventured out since the 1980s. At one level, this attention to the flow of people is admirable, as many of the works on China – Southeast Asia relations are focused on grandiose geo-strategic and economic dimensions. But on the other hand, Strangio's account of the *Xin Yimin* phenomenon is somewhat problematic and inconsistent. While in certain sections he displays the understanding of the complexity and pluralistic nature of the *Xin Yimin*, in others he makes sweeping statements about the *Xin Yimin* and tends to portray them as somewhat monolithic and backed by the state. The common usage of *putonghua* (Mandarin Chinese) by the *Xin Yimin*, for example, supposedly makes them manifestations of the "PRC imperium"(p. 49). Strangio also writes that "it remains hard to disentangle the outward flow of the Chinese people from the long-term goals of the Chinese state" (p. 49). These sweeping statements are not helpful in understanding the *Xin Yimin* and at worst they reinforce certain deeply-rooted racist views towards the Chinese in some Southeast Asian countries.

Strangio sometimes makes assertions without evidence or that prove to be incorrect. The alleged issuing of the *huayi ka* (p. 29), a special green card for foreign citizens of Chinese origin, was never implemented. In fact, it was never seriously considered by the Chinese government. Strangio writes that Professor Jin Yinan, a hawkish academic at China's National Defense University, is an "influential security advisor" (p. 193). Jin may be popular, but there is no evidence that he is influential. In discussing the construction of Malacca Gateway and an industrial park in Malaysia, Strangio seemingly suggests these projects involved debts to China (p. 203). In fact, these projects were not financed by loans from China, hence there was no debt. Xiamen University Malaysia is said to be "funded and built by the Chinese government" (p. 213), yet no evidence for this is provided here. The Chinese government actually played only a minimal role in the construction of this university.

One gets the impression from this book that China is a lonely superpower in a region that is perhaps much more consequential to its rise than any other region of the world. Strangio's assessment of China's efforts to win the "hearts and minds" of Southeast Asia is that it has been a failure:

> for all its attempts at "soft power" […] China's communist leadership faced an uphill battle in convincing the region of its peaceful intentions and selling its vision of co-prosperity. From fears of Chinese debt and maritime bullying to the negative externalities of largescale Chinese infrastructure projects, China's actions continued to undermine its promises. Conjoined to these worries was a simmering disquiet about new flows of Chinese immigration and the CCP's relationship with the region's Overseas Chinese, issues that pressed on an exposed nerve of sovereignty. (p. 274)

Over the past decades China has managed to develop a tremendous number of interactions and dealings with the leaders, businesses and peoples in Southeast Asia, but these interactions are more often than not of a transactional nature.

Ngeow Chow Bing

Pak Sum Low (ed.), *Sustainable Development: Asia-Pacific Perspectives*. Cambridge: Cambridge University Press, 2022. 449 pages, £120.00. ISBN 978-0-5218-9717-4 (hb)

This is a whale of a book in two senses: it is big, and it has had a long gestation. First, the gestation: the seeds were sown in March 2005 during the Eminent Scientists Symposium on "Global Change and Sustainable Development" held in Seoul. It was agreed at the Symposium that the papers presented would be published, but it has taken 17 years to get to that point. I am all in favour of slow scholarship, but that is tardy even by academic standards, a fact that the editor acknowledges in a profuse apology. Of the original papers, 17 have been updated and are present in this volume; there are also 15 new chapters. These contributions fall into two equal sections, the first on theories and practices of sustainable development (16 chapters), and the second on the challenges and opportunities of/for sustainable development (another 16 chapters). Now to the size: there are 70 authors, 32 chapters and a text that runs to almost 450 pages.

The book is dedicated to a doyen of sustainable development and environmental diplomacy: Dr Mostafa Kamal Tolba. Dr Tolba, in fact, chaired the 2005 Symposium and passed away in March 2016. There is a foreword from Dr Tolba which he wrote for an earlier manuscript that never saw the light of day, but which the editor feels "remains valid". Tolba writes that "the book is a solid piece of work that should constitute a basic reference source in the library of any person concerned with the issues of sustainable development" (page xxxiv). That about sums it up – people will turn to the volume when they are scouting out a starting point for a myriad of sustainable development debates and issues: poverty, land degradation, food security, green development, Confucianism and the environment, biomass energy, DRR, climate change and international law, biodiversity, land use change, the "haze"…. The entries for each are shortish (around 12 pages) and written in an approachable manner, reflecting the fact that the book's readership will be broad. In fact, that is exactly how I used the book recently in writing a chapter on "present and future environments of Southeast Asia" for another edited volume: as a basic source.

While *Sustainable Development: Asia-Pacific Perspectives* is a valuable reference book, it is not a textbook. The selection of topics is sometimes quite esoteric, such as a contribution on a "placemaking framework for the social sustainability of master-planned communities" in Australia. But others truly are wide-ranging, such as "causes of land-use change and bio-diversity loss in Monsoon Asia". There is also no introductory chapter by the editor to set out the aims and contextualise the book; the first chapter is by Amartya Sen on Asian identities.

Moreover, the book does, I think, show its age, even though it was published in 2022. Only one chapter mentions the Anthropocene, and then just in passing. The 2011 Tōhoku earthquake and tsunami in Japan are mentioned in a footnote as if the events were yesterday. There is nothing much on planetary health and planetary boundaries, key areas of current debate. These are things that I might have expected to be covered more fully in a book like this, and I suspect that they are absent mainly because they have entered mainstream debate comparatively recently.

Those gaps aside, there is much to recommend this book. A significant plus is that the majority of the authors of this book on sustainable development in the Asia-Pacific are either based at institutions and agencies in the Asia-Pacific and/or are from the Asia-Pacific themselves. I also think that while there may be "gaps", the editor has done a fine job – in what must have been a demanding task – in enticing this array of experts to contribute to such an ambitious project.

Jonathan Rigg

Chris Chaplin, *Salafism and the State: Islamic Activism and National Identity in Contemporary Indonesia*. (NIAS Monograph 155). Copenhagen: NIAS Press, 2021. 240 pages, 7 illustrations, 1 map, £22.50. ISBN 978-8-7769-4305-9 (pb)

Dozens of books on Salafism have filled the scholarly literature on political Islam since the 9/11 terrorist attack that shocked the entire international community and impacted security worldwide. This tragic event incited the global war on terror and its consequent massive responses. Researchers around the world responded to the situation by paying greater attention to Islamic radicalism and terrorism, including to the doctrine known as Salafism, considered directly related to the attack. They sought to better understand Salafism by tracing its historical origins, genealogy, ideology, actors, network, mobilisation and the resulting political dynamics at the national and global levels. Their focus was not only the Middle East, but also other parts of the world, including Southeast Asia. Particular attention was given to Indonesia, as since the early

2000s this most populous Muslim country in the world has seen the emergence of various radical Islamic groups that have actively called for the implementation of Sharia, demanded the return of the caliphate and perpetrated jihad in several conflict areas.

In 2006 I myself published a monograph on Laskar Jihad, a paramilitary militant organisation that mobilised thousands of young Salafis to carry out jihad in the Indonesian province of Maluku (*Laskar Jihad: Islam, Militancy and the Quest for Identity in Post-New Order Indonesia*, SEAP Cornell University, 2006). In this book I explained the historical trajectory of Salafism; its contemporary development as strikingly seen in the appearance of young men wearing long, flowing robes, turbans and long beards, as well as women wearing a form of enveloping black veil; and its transformation from an apolitical, or quietist, movement into a jihadist organisation. Since the publication of that book various scholarly works on Salafism in Indonesia have come out. Among the works are Din Wahid's dissertation on the network of Salafi madrasas throughout Indonesia (*Nurturing the Salafi Manhaj: A Study of Salafi Pesantrens in Contemporary Indonesia*, Utrecht University, 2014); Jajang Jahroni's dissertation on the Salafi political economy of knowledge (*The Political Economy of Knowledge: Salafism in Post-Soeharto Urban Indonesia*, Boston University, 2015); Krismono's book on the rise and fall of Salafism in rural Java (*Ekonomi-Politik Salafisme di Pedesaan Jawa*, Pascasarjana UIN Sunan Kalijaga Press, 2016); Bunyan Wahib's article on how Salafis became puritanised and Arabised ("Being Pious among Indonesian Salafists", *Al-Jami'ah: Journal of Islamic Studies* 55(1), 2017, pp. 1–26); Sunarwoto's articles on Salafi's radio stations for Islamic proselytising, Madkhaliyya faction in Indonesia and online Salafi rivalries;[1] Chris Chaplin's articles on Salafis' connection with Saudi Arabia, their propagation amongst Yogyakarta's students and graduates and active engagement with citizenship and nationalism;[2] and my own articles on the dynamics of Salafism in the face of changing political landscapes in Indonesia.[3]

This book by Chris Chaplin has now arrived to enrich the existing literature. It offers a comprehensive ethnography of Salafism in Indonesia, or more

1 "Salafi Dakwah Radio: A Contest for Religious Authority", *Archipel* 91, 2016, pp. 203–230; "Negotiating Salafī Islam and the State Negotiating Salafī Islam and the State: The Madkhaliyya in Indonesia", *Die Welt des Islams* 60(2/3), 2020, pp. 205–234; "Online Salafi Rivalries in Indonesia: Between Sectarianism and 'Good' Citizenship", *Religion, State and Society* 49(2), 2021, pp. 157–173.

2 "Imagining the Land of the Two Holy Mosques: The Social and Doctrinal Importance of Saudi Arabia in Indonesian Salafi Discourse", *The Austrian Journal of South-East Asian Studies* 7(2), 2014, pp. 217–236; "Salafi Activism and the Promotion of a Modern Muslim Identity: Evolving Mediums of Da'wa amongst Yogyakartan University Students", *South East Asia Journal* 26(1), 2018, pp. 3–20; "Salafi Islamic Piety as Civic Activism: Wahdah Islamiyah and Differentiated Citizenship in Indonesia. *Citizenship Studies* 22(2), pp. 208–223.

3 "Salafism in Indonesia: Transnational Islam, Violent Activism, and Cultural Resistance", in: Robert Hefner (ed.), *Routledge Handbook of Contemporary Indonesia*, London: Routledge, 2018, pp. 246–256; "Salafism, Education, and Youth: Saudi Arabia's Campaign for Wahhabism in Indonesia", in: Peter Mandaville (ed.), *Wahhabism and the World: Understanding Saudi Arabia's Global Influence on Islam*, Oxford: Oxford University Press, 2022, pp. 135–157.

precisely its dynamics after 9/11. The author begins by explaining the emergence of Salafism, its global roots and the context of its proliferation in New Order Indonesia. The book continues with the narrative of the schism within Salafism, especially between Ja'far Umar Thalib and Abu Nida, two important figures among the Indonesian Salafis. Focusing on Abu Nida's branch of Salafism, which has been relatively consistent on *da'wa* (Islamic proselytising) and education, the author analyses the movement's actors, enclaves and forums that played a significant role in the expansion of its network, as well as the actors' ability to project their religious values in relation to changing political circumstances. The next two chapters discuss the Salafis' engagement in producing a range of goods and services (books, magazines, social media) linked with the modern idea of popular culture and economic entrepreneurship. The book also analyses the Salafis' success in increasing the resonance of their messages. It closes with the main finding that Salafism is not a global phenomenon, but rather a translocal, rhizomatic movement reliant on Indonesian understandings of authority, identity, action and faith. The emphasis by the author on the translocality and rhizomatic nature of Salafism, as seen in the case of Salafism in Indonesia, is a significant contribution of the book. Using the perspective of social movement theory, the author describes the Salafis not as irrational individuals, but rather as rational, creative agents who engage with the notions of modern subjectivity, class, developmentalism, gender and citizenship.

This book challenges the grand narratives that portray Salafism as a Saudi-sponsored transnational Islamic movement whose characters are conservative, rigid, anti-system, radical and violent. The movement's actors are rather depicted as creative individuals engaged not only in instilling a set of religious conservative norms in followers, but also in negotiating the Salafi religious understanding with local, changing contexts. The Salafis are believed to support Indonesian values and citizenship, while foregrounding a particular religious understanding. In this book we see the Salafis' ideological fluidity and their ability to adapt to changing political contexts in the country. They moved to the centre to take up democratic discourses and practices, although it is not yet clear whether this shift was stimulated by pragmatical considerations, especially in response to the global war on terror that resonated deeply in Indonesia, especially after the Bali bombing in October 2002.

Despite the strengths of the book, one might note the author's lack of sensitivity about Saudi Arabia's role in sponsoring Salafism. Before 9/11 the Saudis were quite central in driving Salafism all over the world. Anything that happened in Saudi usually resonated strongly in informing the dynamics of Salafism in particular local contexts. The Salafis had relied heavily on Saudi money in organising their activism, building madrasas and publishing Salafi materials, before they realised the need to become self-sufficient and to adjust to local context after 9/11. To understand the transformation of Salafism, the changing

global and local contexts after 9/11 probably need more attention. The significant role of ideology justified by the Salafi doctrines is something irrefutable in Salafism. Ideology stands side-by-side with structure and identity politics in determining the Salafis' behaviour and lifestyle. The Salafis always try to base their actions on certain doctrines and ideology. The author's insufficient attention to the Salafi doctrines provides only minimal explanation of the vulnerability of its actors to fragmentation and conflict even amongst the quietists themselves, for instance, between the so-called Sururi and non-Sururi, Yemeni and non-Yemeni, and Madkhali and non-Madkhali.

Noorhaidi Hasan

Jafar Suryomenggolo, *Fearless Speech in Indonesian Women's Writing: Working-Class Feminism from the Global South*. Lanham, MD: Lexington Books, 2021. 250 pages, $105.00. ISBN 978-1-7936-5053-5 (hb)

This book discusses the little-known writings of working women from Indonesia. It presents a critical reading of the challenges that underprivileged women have been facing under the shadow of the darker side of globalisation. The analysis centres on legal documents, personal accounts, essays, and short stories, and is discussed from a feminist perspective, which, Suryomenggolo convincingly argues, "enables readers to see, and better understand, issues that have been ignored in mainstream male-dominated views of life and work" (p. 7). The book thus makes an original contribution to the study of female labour in developing countries.

In a meticulously detailed study, Suryomenggolo presents an intimate portrayal of working-class women from Indonesia. Through personal narration, the book details the experiences emerging from individual stories of women workers and connects them in an attempt to help the reader understand the struggles of female labourers beyond the much-publicised "economic miracle" of Indonesia's industrial policy, first implemented in the late 1970s. By presenting individual experiences, Suryomenggolo sheds light on how working-class women reflect on the exploitation of labour as well as gender discrimination over the course of a period during which capitalism has been transforming into its most aggressive form. The result is a book that narrates the stories of female menial labourers who successfully air their grievances despite social, political and cultural limitations. It presents their experiences along with their aspirations, as well as daily challenges in their personal lives. The book is structured in three parts of two chapters each, with each chapter featuring excerpts from the working women's writings.

The first part, titled "Defying Authoritarian Rule", delves into the New Order regime's exploitative labour policy and the heavy-handed way in which the regime suppressed worker's unions, usually with the intervention of the military. Chapter 1 discusses a *pledoi* or *pembelaan* – a document used for legal defence purposes in criminal courts – written in 1987 by Ida Irianti, a union leader of a Jakarta-based beverage company depicted in this chapter as "the finest example of a female labour activist" (p. 48). In a similar vein, Chapter 2 features a (formerly personal) 25-page essay about injustices experienced at a Taiwanese shoe company in Surabaya as well as the intervention by the military to silence the workers, written in 1993 by Meppy Doryati Emping. In the face of the New Order regime's stifling state surveillance, both Irianti's *pembelaan* and Emping's essay were not only courageous, but also, to borrow Suryomenggolo's term, "distinctly political" (p. 48). These two cases are little-known compared to the "Marsinah case", a cause célèbre in 1993 about a brutally murdered female worker and trade unionist, and their inclusion in this book helps the reader realise that exploitation of women's labour was rampant under the New Order regime (1966–1998).

The second part, "Negotiating Neoliberalism", features writings by women workers who struggled for social justice after the end of the New Order regime in 1998 amid the challenges that are still posed by the new global power structure known as neoliberalism. Chapter 3 highlights the fact that many Indonesian women workers face sexual harassment, but that the majority are reluctant to report it, mainly because of the politics of *malu* (shame, shyness or restraint) and the fear of losing their jobs. This chapter discusses how several women workers recorded their personal stories of sexual harassment and found support from the Federation of Workers across Factories (*Federasi Buruh Lintas Pabrik*). Chapter 4 discusses an essay written by a single mother struggling for maternity protection. Both chapters in this section illustrate the struggle of women workers to ensure a safer workplace in the post-authoritarian period.

In the final part, titled "Liberating Self", Suryomenggolo focuses on Indonesian migrant workers in Hong Kong. Chapter 5 features published personal accounts written by Rini Widyawati and Astina Triutami, while Chapter 6 discusses fictional texts written by various migrant workers, focusing on two pioneering anthologies of short stories titled *Penari Naga Kecil* (*Little Dragon Dancer*, 2006) and *Geliat Sang Kung Yan* (*Writhing of the Kung Yan*, 2007). Echoing the gist of Chapter 1, the personal accounts in Chapter 5 serve as "political notes of one's life story" (p. 153) – this time coming from women migrant workers living abroad. The fictional accounts in Chapter 6 prove to be as important as the non-fictional ones, as literature can become a space for self-expression in the search for freedom, notably before the arrival of social media.

Suryomenggolo concludes that, considering these women's fearless writings, there is "a burgeoning working-class feminism in the Global South" (p. 209).

A notable strength of the book is that it shows how individual events and non-academic narratives, written by underprivileged working-class women without a university education, can be studied and considered academically. The book was published at the right moment and remains highly relevant, given how current and yet underappreciated the issue is.

Silvia Mayasari-Hoffert

Gurharpal Singh / Georgio Shani, *Sikh Nationalism: From a Dominant Minority to an Ethno-religious Diaspora*. (New Approaches to Asian History). Cambridge: Cambridge University Press, 2021. 264 pages, 5 maps, £22.99. ISBN 978-1-3165-0188-7 (e-book)

Gurharpal Singh and Georgio Shani's book is a timely contribution to the study of Sikh nationalism for two reasons. First, the year-long farmers' protests in India that culminated in 2021 with the repeal of three contentious farm laws brought an intense spotlight to bear on Sikhs and Sikh nationalism. Second, debates triggered by census methodologies in the UK and elsewhere have drawn attention to Sikhs as an ethnic category, and prompted renegotiations of definitions of what constitutes an ethnicity.

The authors set out their intention at the outset – to challenge existing tropes of nationalism, and to reconceptualise Sikh nationalism away and apart from the dominant Marxist framework that sees nations as imagined communities, brought into existence after the fact of creation of nation-states, especially in the erstwhile colonies. To this end, the authors present Anthony D. Smith's model of nationalism as a more appropriate fit to the Sikh case than the classic formulations of Benedict Anderson and Paul R. Brass.

Smith's critique of nationalism is based on the ethnosymbolic approach, which views nationalism as the result of primordial communities evolving to adapt to modern political structures. Smith used the term *ethnie* as the preferred nomenclature for a set of features that bounded such primordial communities together in their collective movement through history. The *ethnie* includes a shared origin myth, common culture, language and claims to a defined, bounded territory. Drawing on Smith, the authors assert that the Sikh *ethnie* is anchored to the Khalsa – the brotherhood of baptised Sikhs – and to a territorial boundedness with the geographical limits of Punjab.

The book provides a comprehensive overview of the history of Sikh nationalism, from its birth to developments as late as 2018, covering a period of roughly 550 years. Throughout each chapter of this broad sweep of history, the authors succeed in striking a balance between summing up existing debates and

providing fresh perspectives, leaving the reader with a sense of being enlightened. For instance, the chapter on the partition of India and the Sikhs succeeds in extracting the Sikh narrative from the complex web of negotiations that accompanied the partition. Such an exclusive focus allows for a better understanding of the Sikh situation, enabling the study to distinguish itself from other scholarly works on the partition, in which Sikhs are relegated to footnotes in the larger negotiations between Hindus, Muslims and the colonial state.

Similarly, the authors provide illuminating insights into the period of Sikh militancy, challenging several commonplace, propagandist narratives. The authors propose that it was the army that in fact neutralised the prominent militants, while the Punjab Police merely took credit to provide a veneer of legitimacy to the Indian state's violent response to the Sikh insurgency. It is to this period of Sikh militancy that the authors also trace the roots of Punjab's present financial crisis, it being a consequence of the security state that Punjab had developed into, as the exigencies of anti-terrorism operations became the main consumer of the state's revenue.

Finally, the authors justifiably devote significant space to the role of the diaspora in shaping Sikh nationalism, while at the same time signalling precaution in "overemphasising" this role (p. 190). The authors conclude by proposing a shift in thinking about Sikhs from being a minority community to comprising a worldwide diasporic nation.

Perhaps the only weakness that this otherwise monumental study betrays is the chinks in Anthony D. Smith's theory of nationalism itself, upon which the authors build their argument. The first of these is that while Smith expresses discomfort at the idea of the nation as a mere "imagined community", the concept of the *ethnie* that he proposes as the alternative can be shown to be equally a constructed entity that is "imagined" into existence within the timeframe of modernity. This is perhaps even more palpable in the Sikh case, where the process of the evolution of the Sikh community is proximate enough in historical time to the present moment to allow for a much more lucid viewing of the unfolding of its historical narrative of creation and evolution than that of other, older communities.

This leads to a second, intimately related limitation of Smith's framework – that of the compartmentalisation of historical time into the modern and pre-modern. Smith conceived of *ethnie* as a "pre-modern" entity, and while definitions of what constitutes the modern are vague, the Khalsa, born in the eighteenth century, would by most definitions be regarded as modern rather than pre-modern. The various practices and codes of the Khalsa, called the *Rehit*, scattered among numerous historical documents called the *Rehitnamas* that were often at considerable variance with each other, evolved through the eighteenth and the nineteenth centuries towards a gradual convergence, finally being codified into a single *Rehit Maryada* or code of conduct for the Khalsa

only in the twentieth century. To take the Khalsa as the core of the Sikh *ethnie*, rather than the older Sikh tradition dating back to the birth of the religion in the fifteenth century, would involve a significant reworking of Smith's conception of the *ethnie* as a bridge between a pre-modern ethnic core and the modern nation. Without such a reworking and adaptation, the *ethnie*, far from being primordial, can be shown to be a modern construction teleologically invested with significance, or what Ozkirimli and Sofos in their critique of Smith's theory term "retrospective ethnicization" (*Tormented by History: Nationalism in Greece and Turkey*, Oxford: Oxford University Press, 2018).

Another nominal issue with the application of the concept of the *ethnie* to the Sikh case relates to language and territory. The authors mistakenly, or perhaps inadvertently, attribute to Gurmukhi the status of a language, when in fact it is a script. Much of the Sikh scripture, and the majority of the Sikh canon, is written in the Braj-Awadhi dialect of what is known today as Hindi, using the Gurmukhi script. The Punjabi language as it is understood today appears conspicuously absent from Sikh religious and historical literature until the twentieth century, as do references to Punjab, its territory and its spatio-cultural geography.

Given the vast scope of the book, it is but natural that deviating into such tangents would be unfeasible – a limitation the authors acknowledge at the outset as the natural consequence of the convoluted and contested nature of Sikh and Punjabi history. Within the scope that the book sets out for itself, it emerges as an excellent resource, and would no doubt be indispensable to researchers, scholars and lay readers seeking to gain a deeper understanding of Sikh nationalism, from its inception to the second decade of the twenty-first century.

Kamalpreet Singh Gill

Anna-Maria Walter, *Intimate Connections: Love and Marriage in Pakistan's High Mountains*. New Brunswick et al.: Rutgers University Press, 2022. 244 pages, 19 images, 5 tables, $34.95. ISBN 978-1-9788-2048-7 (pb)

All over the world, love and relationships are two central themes of songs, poems, fairy tales, films and literary works. Love and affection are intrinsic to social interactions and human relationships and this is why every human being can relate to them in one form or another. Yet few people can put into words how love and affection are manifested in interactions and relationships. In her monograph *Intimate Connections: Love and Marriage in Pakistan's High Mountains*, Anna-Maria Walter provides glimpses of how love and intimacy evolve in heterosexual (pre-)marital relationships in Gilgit district. Gilgit city is the urban centre

in the sparsely populated territory Gilgit-Baltistan (GB), located in the Himalayan region in Pakistan's north, at the border with China and India. Through ethnographic fieldwork, Walter elucidates local manifestations and practices of intimacy and love. She shows how technological change, migration and rising levels of formal education have affected (pre-)marital relationships and how marriages are arranged. The book is structured well and the line of argumentation is clear and well-articulated. The book is of interest to those interested in the micro-transformation of social change, emotions and affects, and family structures and gender relations. Those interested in the impact of technology and migration on social relations might draw useful insights from the book as well.

Through her inquiry Walter provides a locally grounded account of love, intimacy and marriage. She seeks to add nuance to prevalent conceptions of "the oppressed Muslim woman" (p. 26) and of arranged marriages as forced and devoid of love. First, she shows that women take part in the negotiation of intimacy and marriages as co-producers. Second, she shows that love and affection have various manifestations. This becomes evident from the fact that in Urdu and Shina, the languages spoken by Walter's interlocutors, there are many synonyms for the English term love (*pyar*, *ishq*, *mohabbat*, *khush*, *pasand*), each with its own connotation.

Following Sarah Ahmed (2014) and Francois Laplantine (2015), Walter adopts "the cultural politics of the sensible" (p. 10) as her approach to understanding how human beings, through continuous interactions, co-produce meaning. Emotions are embodied knowledge that enable human beings to relate to the world, hence they are not confined to a separate sphere. Moreover, like Anthony Giddens's structuration theory, Walter's argument is premised on the assumption that human activities and experiences are enabled and constrained by structures; at the same time, humans have agency and can modulate their behaviour to change structures. As she rightly points out, it is not easy to practice this approach, because it is difficult for individuals to articulate emotions and their experiences are contextually grounded.

Walter had to pay attention to repertoires of being and emotions that she was not familiar with and attuned to. As she explains with reference to Bourdieu, to understand transformations of habitus, she had to get a "feel for the game" (Pierre Bourdieu, *The Logic of Practice*. Cambridge: Polity Press, 1990, p. 66). To do so, Walter adopted "emphatic fieldwork" (p. 23) as a methodology to pay attention to emotions, accepting them for what they are, rather than inquiring into their facticity. Moreover, she approaches marriage and love via intimacy, which is more tangible. Each chapter of the book focuses on different relationship dynamics and permutations of love and intimacy. She demonstrates that central factors that have affected all these relationships are the availability and use of mobile phones, the spread of formal education, migration and increasing levels of geographical mobility, as well as wider access to the

media. Her study is important because the inquiry into everyday life shows that practices connected to love and intimacy are subject to (micro)change. Her observations thereby complicate existing discussions that invoke the impression of codes of honour and modesty that, as traditions, are set in stone.

The book is a deep dive into the micro-transformations that have been taking place in personal relationships and social interactions in the past decade. Many studies on social change in Pakistan pay little attention to these changes, most probably because they are profoundly personal and hence difficult to observe. Between 2011 and 2015, Walter spent 14 months in Gilgit district, which encompasses the administrative capital of the territory Gilgit-Baltistan, where she lived with various families. She also stayed in touch with the families by mobile phone. The study is grounded in participant observation in family settings, which appear to be primarily with the women of the household, and in interviews with men and women.

Walter lived with five families and shares deeply personal, and hence sensitive, information about these families (pp. 22–23). This is why she has anoymised the material by changing names and providing only broad markers of identification. A broader reflection on the (local) ethical implications of the research and other ethical dilemmas is not provided but would be of interest. A white foreigner living with a family in Gilgit is probably not a common occurrence. Hence, the question arises as to whether the families might be easily identifiable for people who live in the area.

Walter develops the following central argument throughout the book: women perform and embody *sharm*, which encompasses modesty, shame, respectability and reserve, to demonstrate their self-control as a way to maintain agency (p. 103). What she means by this is that women are generally seen by the prevailing patriarchal culture in Pakistan as weak and soft because they are emotional and overcome by the ego (*nafs*). In contrast, men are constructed as guided by rationality (*aql*) and hence in control of their senses and strong. This is one of the reasons why men need to guard and control women. By performing *sharm*, i.e. self-control, women seek to counteract these general stereotypes. Having and performing *sharm* is central for women to maintain respectability and reputation, both their own and that of their families.

Many other studies frame these practices in the context of honour (*izzat* and *ghairat*), which are generally focused on men as the "guardians" of honour. Walter's elaborations are therefore very interesting because she provides an alternative, women-centred perspective (chapter 2). Even though it is socially expected of couples to guard emotions, Walter shows in chapter 3 how affection and attachment (*mohabbat*) between spouses of arranged marriages develop within the family setting. In chapter 4, Walter examines behaviours that seem contradictory in the eyes of the outsider: while women practice reserve to maintain agency and to avoid overstepping social norms, men can engage in outbursts

of emotions because they are otherwise seen as in control of their emotions. There are many stories of men who are "possessed" by "mad" and passionate love (*ishq*) that robs them of willpower, but in contrast to women, most men can be "overcome" by these emotions without negative repercussions. By contrasting how *ishq* plays out differently for men and women, Walter puts her finger on contradictory practices that demonstrate the permeation of patriarchy throughout social structures. Walter connects her discussion primarily to Islam. Patriarchy as a structural feature hardly figures in her analysis, even though in my reading her study also exposes the inner workings of patriarchy, which is very valuable.

The second central argument of the book is that a "democratisation of marriage" (p. 19, 140ff) has taken place. Walter argues that expectations as well as practices of marriage have transformed from utilitarian and functional arrangements within the family setting to more companionate arrangements where the focus has shifted to the wellbeing of the couple and where both partners shape the relationship and enact intimacy. For one, she observes a change in the arrangement and initial stages of marriage. In earlier times, couples were not supposed to be in touch during the liminal phase between *nikkah* – the signing of the marriage contract in accordance with principles of Islam – and *shadi*, the ceremony where the bride leaves her family's home to move to her husband. This phase has been re-coded as a period of religiously sanctioned dating, which couples have claimed for themselves. Hence, what has changed is that primacy is given to the religious ceremony as the event that sanctions interactions between husband and wife, rather than the cultural practice.

Another change Walter observed is that both partners actively seek a companion rather than a contractual partner. These *pasand ki shadi*, often translated as "arranged love marriage", thus differ from "traditional" arranged marriages, which focus on the social and family setting as the primary determinant (chapter 5). Both arguments are thought-provoking and encourage the drawing of parallels to other contexts, particularly in South Asia.

While reading, I repeatedly wondered what the findings tell us on a larger scale and which section of society in Gilgit-Baltistan they apply to. The first chapter provides an overview of the area. Walter provides comparatively brief descriptions and characterisations of the families she lived with. Basic information about the socio-economic background or educational level are mentioned, but for readers the context remains rather fuzzy. While it might have been a conscious (ethical) choice to present only basic information about the families, it eludes the reader's understanding. It appears that Walter lived mostly with urban families whose members had some formal education and comparatively well-paid jobs. Since Walter refers to several authors who have worked on the urban middle class in India and Pakistan, it appears that she also considers her interlocutors to be part of this segment of society, even

though it is not explicitly mentioned. Ethnographies cannot claim to be generalisable or representative due to their detail and depth; mentioning and describing the context and limitations of a study is important to enable readers to evaluate the arguments and findings and compare the results to other case studies and ethnographies.

The author mentions harassment and domestic violence as side notes in the text. Considering that the book is about (pre-)marital relations, this omission seems rather odd. While it is entirely possible that she (luckily) did not witness violence and trauma, and her study is not about this topic, the prevalence of violence and harassment in Pakistan is a well-established fact. Walter refers to very low reported domestic violence rates in GB to justify her choice (p. 82). To substantiate this claim, she cites data from a book by Anita Weiss, who took the evidence from a 2012 Pew Research Global Attitudes Project (cf. Anita Weiss, *Interpreting Islam, Modernity, and Women's Rights in Pakistan.* New York: Palgrave Macmillan, 2014). In contrast, a report by the National Institute of Population Studies shows that reported domestic violence is as prevalent in GB as in other provinces of Pakistan, based on official police statistics from 2017 and 2018.[1]

In fact, GB is often left out of statistics because of its vague constitutional status as a territory rather than a province of Pakistan. Walter appears to count only physical violence as domestic violence, disregarding emotional or financial violence. Several studies have shown that domestic violence is normalised, and therefore invisible, in Pakistan to such an extent that it makes mapping its prevalence quite difficult.[2] For me, a quote from one of Walter's interlocutors precisely evidenes this normalisation: the woman says that the husband's "neglect [of the wife] is more hurtful than rage" (p. 83). Walter explains that women prefer their husbands' emotional outbursts, even if they are negative, to indifference, which is seen as a woman's "failure to win him over". On another occasion, Walter quotes a male interlocutor who mentions that he would commit an honour killing if his sister was caught having an affair (pp. 62–63). While she mentions her bewilderment, there is no further discussion of the problematic nature of these quotes. Given that domestic violence and abuse are part of everyday life for a large number of persons in Pakistan, at least a brief reflection would have been desirable.

1 National Institute of Population Studies / ICF: Pakistan Demographic and Health Survey 2017–18, Islamabad / Rockville, 2019, https://dhsprogram.com/pubs/pdf/FR354/FR354.pdf (accessed 16 May 2022); see also Muhammad Imran / Rehana Yasmeen: Prevalence of Physical, Sexual and Emotional Violence among Married Women in Pakistan: A Detailed Analysis from Pakistan Demographic Health Survey 2017–18, *International Journal on Women Empowerment* 6, 2020, pp. 1–9; and Parveen Azam Ali / Paul B. Naylor / Elizabeth Croot / Alicia O'Cathain: Intimate Partner Violence in Pakistan: A Systematic Review. *Trauma, Violence and Abuse* 16(3), 2015, pp. 299–315.

2 See The World Bank: UNICEF Multiple Indicator Cluster Survey 2016–2017 (Gilgit-Baltistan), 2016, https://microdata.worldbank.org/index.php/catalog/4140 (accessed 16 May 2022); Sobia Haqqi / Abdul Faizi: Prevalence of Domestic Violence and Associated Depression in Married Women at a Tertiary Care Hospital in Karachi. *Procedia – Social and Behavioral Sciences* 5, 2010, pp. 1090–1097.

Walter argues that a "democratization of the interpersonal domain that sees intimate relationships characterized by negotiated, fair, and equal rights and obligations, based on trust instead of control" (p. 168) has taken place. I kept wondering to which section of Pakistan's population this finding applies, given that financial decision-making, division of domestic labour or work outside the house, domestic violence and family planning are not discussed in the study. These aspects would also be important aspects if we talk about democratisation of marriages. A characterisation of the sample would have been helpful to evaluate the reach of this finding.

Nevertheless, the book provides excellent and intimate insights into everyday practices and ambiguities of marriage, a central institution that structures social interactions in Pakistan and is therefore very insightful in understanding social changes. The sections on the role of mobile phones in establishing intimacy beteen couples were very engaging, and it would be interesting to know how the advent of smartphones and mobile internet packages has further impacted the changes. It is evident that Anna-Maria Walter has much more information on the effects of technological change on intimate relationships and it would be a pleasure to read more about this in the future.

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International Quarterly for Asian Studies

Volume 53, Autumn 2022

Design by Miriam Awe, www.miriamawe.de
Typeset by Diana Bribach, Ann Philipp
Proofread by Penelope Krumm
Cover: background vector by Twins Design Studio / stock.adobe.com
Printed by Gutenbergdruckerei Benedikt Oberkirch, Freiburg

ISSN 2566-686x (print)
ISSN 2566-6878 (online)

China beyond China, Part II

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International Quarterly for Asian Studies

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