RESEARCH ARTICLE

China's Rise as an Advanced Technological Society and the Rise of Digital Orientalism

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Abstract

As China has risen as an advanced technological society, a new type of Orientalism—Digital Orientalism—has likewise emerged. Using historical materialism, this paper details these developments, including China's change from a civilization-state to modern nation-state and its transition from a technical state to an advanced technological society, closing the technology gap that had left it vulnerable to foreign aggression and continued forms of international dominance and hegemony. It reviews and develops theories associated with technological societies, and how these relate to technophobia generally and the rise of Sino(techno)phobia specifically. It then theorizes three distinct but overlapping trends or themes in Orientalist depictions of China over the past two centuries: 1) 'classical' Orientalism, first theorized by Edward Said; 2) 'Sinological Orientalism,' described by Daniel Vukovich; and now 3), 'Digital Orientalism,' which was first introduced by Maximilian Mayer. This paper develops analyses associated primarily with the third theme, investigating contemporary developments in the context of China as a rising power and how scholars and other nations have responded in turn. It argues that China appears to have surpassed others now as a technological society, including the US, with China's response to COVID-19 as a clear example, and with clear implications for China's national advancement and global position vis-à-vis the United States particularly.

Keywords Technological society · Orientalism · Digital orientalism · Sino(techno) phobia

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Introduction

The first part of this paper employs historical materialism to describe China's transition from a technologically backward but technically advanced civilization-state to a technologically-advanced nation-state. Historical materialism, as will be demonstrated, offers powerful instruments to theorize China's current fast technological development. Moreover, it's also a key Marxist theory of development, one that has been central to Chinese Marxism since its inception, and that has informed Chinese development since 1949, when the Communist Party of China (CPC) established the People's Republic of China (PRC).

The second part of this paper builds on the analysis of the first by introducing and developing the concept of a technological society. The three main theoretical voices referenced here are Jacques Ellul, Martin Heidegger and Michel Foucault. Each of these belong to a critical tradition, one that is common among technophobic Western thinkers who worry over the erosion of traditional or neo-traditional values, including especially the reductive "enframing" of people by technology as '*tools serving tools*,' at the expense of what they perceive as more authentic and, in some cases, liberated forms of human if not post-human existence. Ellul's phrasing perhaps best summarizes contemporary anxieties, especially as they are expressed in the West against Chinese technology in particular, where man is *the* object, a synthetic unity that, sans free will, is the physical and ideological incarnation of techniques ([12] 392). I start with these descriptions if not definitions and use them to examine China's rise as technological society, which in part was compelled by the desire to establish and maintain modern national sovereignty in a world where such technological advancement is vital, and illustrate how China's successful development now is perceived in the West as a threat, one in which a general technophobia intersects with Sinophobia, in turn producing Sino(techno)phobia and Digital Orientalism.

The third part of this paper examines the first two parts through the lens of Orientalism. Here it theorizes three relatively distinct themes or forms of Orientalism at work in Western conceptions of China. The first is the original theme introduced by Edward Said [68] as a Western imaginary of the East, one used to create a fictional account of and inferior other (i.e., the Oriental) to support a fictional account of the superior self. In my periodization, this can be used generally to describe Western attitudes towards China from at the early 1800s until, roughly, the start of the Reform and Opening Up period, which is typically dated as beginning in 1978. Then, using the concept of Sinological Orientalism developed by Daniel Vukovich [75], I describe a second theme, lasting roughly to 2017 but with lingering overlaps, in which China is still perceived by the West as inferior but increasingly on track to become Western-like, per the "end of history" thesis, to evolve as a liberal democratic society at home in a global world order long-dominated by Western countries and especially the United States, especially after the collapse of the Soviet Union. The third and now dominant theme is then described as Digital Orientalism [45, 48], in which three key features are developed: 1) in many respects Digital Orientalism presents as an inversion of Sinological Orientalism, where China is now perceived

as moving resolutely down a different path, one that will not produce a liberal demo-cratic state and will instead threaten the US-led global system; 2) but one in which, nevertheless, there are profound convergences at work, insomuch as China as an advanced technological society has much in common with Western technological societies, due to the fact that both share similar social, economic, cultural and gov-ernmental gains and losses due to the transformative power and influence of technol-ogy; and 3) what appear to be new divergences, exemplified particularly by differ-ent experiences with COVID-19 between China and the West, especially the US, through which China appears to have reached a new plateau in its development as a technological society, while others appear to be in regression.

From Civilization-State to Nation-State

It's important to reframe China's emergence as a modern nation here because doing so elucidates historical contexts that might otherwise lack proper attention. When we think of historical materialism we generally associate it with the Marxist theory that human progress is achieved through class struggle. While this idea sits well with many Marxists, it's a complicated subject among contemporary Chinese Marx-ists, some of whom are understandably uncomfortable with how class struggle was sometimes practiced in China, including official Chinese assessments critical of the Cultural Revolution [65]. More to the point, it's not an uncommonly held belief that the Reform and Opening Up policies advanced by Deng Xiaoping repudiate class struggle as a method, and hence, the irrelevance of historical materialism as a theory guiding Chinese development thenceforth. This point has been argued to the con-trary elsewhere [43], and the continued relevance of historical materialism for devel-opment affirmed by Xi Jinping in a speech given in 2013, but published in *Qiushi* in 2019 [82], and again by the CPC itself in 2021 [66].

Although classical Marxist theory promotes internationalism over nationalism, it's typically normative towards nationalism as development stage within a global economy dominated by capitalism. Further, Marxism valorizes the capitalist mode of production in part as a period that contributes substantially to human progress in two intersecting ways: 1) it draws the masses together and 'socializes' them, trans-forming how they think and relate to each other; 2) and it accelerates the develop-ment of technology and technological society. On this last point, Marxism views technological advancement as an essential aspect of human nature, as necessary for resolving problems facing human progress—including building socialism as a more advanced stage of human development [2]. In critique, Ellul stipulated 'man, in the Marxist sense is only a natural secretion of technical progress' ([12] 390).

What is most distinctive about Chinese Marxism is Mao's alliance of peasants and workers, contrary to classical and Soviet Marxism, which viewed peasants as a backward class incapable of serving in the vanguard of development. This was a critical first step for rapidly engaging the Chinese masses in the political project of nation-building, and likewise *a critical first step in China's transformation into a technological society.*

The transformation as a modern nation as growing technological society was accelerated in turn. For example, the PRC found itself at war on the Korean Peninsula almost immediately. By 1953, it had initiated the first five–year plan with Soviet support, but due to a number of reasons, including a sometimes difficult relationship since the Party's founding in 1921, had begun to distrust Moscow by 1956, and worry that national development was not proceeding quickly enough to consolidate national sovereignty, let alone keep pace with new foreign technological advances that could pose new threats to China. This led to increasingly desperate policymaking associated the Great Leap Forward (GLF) and the Cultural Revolution (CR).

While the rapid collectivization of agriculture is rightly blamed as the key mistake during the GLF, it did contribute to Chinese modernity in at least three ways. First, with relatively modest reforms starting in the early 1960s, this system did begin to improve food security and surpluses for national development until it was increasingly dismantled in the 1980s through new reforms which were made possible in part by the gains achieved by collectivization [34]. However, some argue for a much more positive assessment, including Joshua Eisenman, examining previously inaccessible data indicating China's "commune modernized agriculture, increased productivity and spurred an agricultural green revolution that laid the foundation for China's future rapid growth" [11]. Second, collectivization in China, as it had been in the USSR, was in part an attempt to industrialize agriculture to make it more efficient and productive, but also a form of Marxian–nationalist social engineering that aimed to proletarianize Chinese peasants, shifting them from a narrow provincialism towards seeing themselves as key stakeholders in a modern national consciousness and development—which included the goal of making them more responsive to central planning and direction [63]. Third, the Great Leap also included the first nationwide campaign to liberate Chinese women, extended down to the countryside: although results were mixed, some point to that period as a major milestone for improving women's social and economic positions [71]. From a historical materialist perspective, it's difficult to deny these achievements and their profound relevance for China's development as a technological society despite the near universal condemnation of the GLF that prevails to the contrary in the literature.

However one assesses the Great Leap—whether a complete and unredeemable failure, or having achieved modest but vital gains at very high costs, or arguably as a type of bitter medicine necessitated by the need to accelerate development—the policies were insufficient for closing critical gaps that were still expanding between China and its competitors, including the United States and the Soviet Union. This was already understood viscerally in Beijing in the early 1960s. The United States was pursuing its communist suppression agenda in Southeast Asia in the 1950s, contrary to Chinese support for Vietnamese Communists, and leading efforts to destabilize China internally, most notably in Tibet. Furthermore, while China's growing rift with the USSR dated to 1956 and had escalated with Soviet criticisms of the GLF, it was fully apparent by 1959, with Moscow supporting the Dalai Lama and drawing closer to India. Altogether, China was encircled with conflict, the threat of conflict or tenuous ceasefires on and within its borders. Indeed, deteriorating China–Indian relations led to a border war in 1962, while the Sino–Soviet split saw a border war in 1969, and precipitated the Sino–Vietnamese War in 1979. Meanwhile, ever present

(and still present) were the unresolved conflicts in Korean and Taiwan, and the relatively small but still significant British presence in Hong Kong. These are the historical contexts that must be kept in mind as China approached the Cultural Revolution in 1966, and why, in the middle of how that period is typically dated, Beijing started opening to the US.

The key point is that the crisis of Chinese modernity qua the crisis of sovereignty—from the Opium Wars to the first decades of the PRC—was deeply connected with the profound technology gap between China and more developed countries, who exploited their advantage at China's expense. In addition to the growing conflicts and lack of reliable allies, as noted above, there is a simple index that illustrates how the technology gap was still worsening in many respects in the 1960s. In 1965, as a reflection on the exponential advance of technology in the early years of what is now recognized as the Information Age, "Moore's law," published by Gordon Moore, one of the founders of Fairchild Semiconductor and Intel, provided a rough quantification of how fast those advances were occurring in cutting edge industries.

While there is no evidence that Beijing considered Moore's paper specifically, it would be unlikely that they did not feel those pressures directly as they struggled against the rapid advances fielded by the American and Soviet militaries. In short, they knew their largely-Industrial Age development schemes, regardless of how necessary and accelerated, couldn't keep pace with Information Age developments. This meant the original crisis of Chinese modernity—including reestablishing and sustaining Chinese sovereignty (upon which Party legitimacy was substantially based)—still faced grave and growing existential risks.

It's in these contexts that one should historicize what followed. In 1963, Mao launched the Socialist Education Movement, with emphases on the Four Clean–ups, which attempted heavy–handed rectifications in politics, the economy, organization and ideology, and required many Chinese students to supplement their studies by being sent down to learn from farmers and factory workers. These developments were assessed as being insufficient and were reinvigorated with the CR that followed in 1966 [39], and which would see the Four Olds campaign—against "old ideas, old culture, old habits, old customs"—advanced especially by the Red Guards, and which culminated in a major expansion of sending down youth.

There are three points to note here. First, this was not China's first cultural revolution. Mao had described the May Fourth period in similar terms, and his numerous texts on cultural development from the Yanan period onward described Chinese culture as being in a perpetually revolutionary state.

Second, the dialectic of "learning from and teaching the masses," or "learn before you teach," linked conceptually with Mao's "mass line" ("from the masses, to the masses"), formulated in 1943, was by the Cultural Revolution period already a core value among Party's leaders, and indeed, considered a defining feature of Mao Zedong Thought and Chinese Marxism. Its deeper inspiration was drawn from the Mao's investigations of a peasant revolt in Hunan in 1926, the tactic of rural base building followed by the Long March, and then culminating in the Yanan period—experiences that introduced many the Party's urban and internationally–oriented cadres to China's masses and the conditions they faced. While

many historians have criticized the movement as debasing students and intellectuals, studies indicate that many of those who were sent down were employed locally as teachers, and that this produced major improvements in rural education, most notably girls' education and female literacy [9]. In retrospect these developments contributed substantially to China's emergence as a technological society. It should be noted that the Mao–era practices of sending down urban youth ended after his death, but the tradition has continued within the Party itself, although on a more voluntary basis, with various incentives attached, with the objectives of bringing advances to more remote or less developed areas. And in 2013, Xi Jinping, who was himself sent down during the Cultural Revolution and who has recalled it as a positive, transformative experience, initiated a new "mass line" campaign in 2013 to 'reconnect the Party with the people,' to combat "formalism, bureaucracy, hedonism and extravagance" in the Party, and which dovetailed with a then–emerging, but much larger anti–corruption campaign.

Third, whatever its original inspiration or justification, the CR helped clear the table domestically for the politically risky but strategically vital decision to reach out to the US, and by extension, set the table for the reform and opening up period that followed after Mao. There is no evidence to suggest this was Mao's original intent, quite the opposite possibly, but in retrospect the CR can be viewed as disciplining both the left and right wings of the Party, including those who believed China should reconcile with the USSR. These included Liu Shaoqi and Deng Xiaoping [87], and by some accounts, Lin Biao was the final obstacle removed that made opening to the US possible [67]. Although Lin's fall preceded the Cultural Revolution, it was intrinsically linked to those events, even if it did not anticipate them. But even the leftwing Red Guards couldn't imagine Mao taking such a path, and they were also were rendered politically impotent by being sent down. This coincides with worsening relations with Russia, China's break with Vietnam in 1968–9, 'the marshals study' commissioned by Mao to recommend which country to open up to—the US they responded (likely as instructed)—and then discreet overtures to the US, as early as late–1969 ultimately leading to the Kissinger and Nixon visits [83]. These developments also helped contribute substantially to China's emergence as a technological society.

Kissinger's assertion that the US protected China from a potential Soviet nuclear attack in 1969, if credible, underscores the extreme danger China faced. Politically, this danger was not simply from Moscow, but also the specter that China might be dependent on the US for its security—which Mao explicitly rejected [32], criticizing Zhou Enlai for leaning too far in the direction of the US [85]. Mao then developed his "three worlds theory," which posited the first world as consisting of the US and the USSR, a second world of countries aligned with these powers, and a third world that sought a strategic path that did not submit to such an alignment.

Mao had Deng introduce this theory during a speech at the UN in 1975. While that speech is not included in Deng's *Selected Works*, he does reference the three world theory four times elsewhere in those volumes as a cornerstone of Chinese strategic think contra hegemony, and links it explicitly with his promotion of the "four modernizations" [10].

The four modernizations (to modernize agriculture, industry, national defense, and science and technology) was proposed by Zhou Enlai as early as 1963, and reiterated at the 4th National People's Congress in 1975. Deng likewise emphasized the four modernizations, firstly in a speech to the 3rd Plenum of the 11th Central Committee in 1978. This is to say that closing the technology gap was foremost in the minds of Chinese leaders before, during and after the Cultural Revolution, and a primary objective of reform and opening up.

It's possible that Deng's war against Vietnam in 1979 was in part motivated to test the limits of Soviet technological superiority, but likewise to demonstrate the limits of China's military capabilities in a manner that would reinforce Chinese military support for his otherwise controversial reforms [36]. Previously, China's military had been able to mass itself and stop the Americans in Korea and the French in Vietnam [8], but as American involvement in Vietnam escalated throughout the 1960s, it became clear to both Hanoi and Beijing that China lacked the ability to counter the new US technologies being introduced there. This pushed Vietnam into an alliance with Moscow, which could provide more advanced support [57, 64], and this in turn irreparably damaged Sino–Vietnamese relations and complicated China's security posture vis–à–vis the USSR.

Although it's difficult to assess the extent to which the three worlds theory has continued to guide Chinese strategic thinking, its core values seem strikingly consistent with the Chinese developments that followed. This point has been underscored by growing number of scholars who discuss this theory as providing the core logic of China's diplomacy and modernization path, drawing a direct line from it to Xi's Belt–Road Initiative and "win–win" objectives, and claims that China has not only solved the problem of rising on its own terms contra hegemony, it's ready to help others to do the same to promote a multipolar, multilateral world system [59, 74].

In sum, the CR can be assessed in retrospect as a movement that exhausted "class struggle" as a tactic of internal nation–building. In this sense, it completed the first stage of China's national revolution, which can also be understood as largely completing in a sociological sense the final phase of China's emergence as a modern–nation state (however baseline); and was superseded by a new approach to class struggle, externally, or internationally, per the three worlds theory [40].

It's unnecessary here to discuss the Jiang Zemin and Hu Jintao generations of leadership with the same attention to detail. While both oversaw significant advancements and contributions to Chinese modernity, many Chinese scholars view their era as one that is not particularly distinctive from Deng's. In the case of Xi, however, there has been an increasing tendency to view China as being in a 'new era,' not only in terms of China's rise, including its dramatic narrowing of the technology gap, but also a new era where international struggles are sharpening. This view is recognizable in changing international perspectives on China's rise, but it's also clearly articulated in the most recent CPC *Resolution on History* [66]. This corresponds with China moving towards being a norm maker vs. norm taker, of seeking stronger market positions if not dominance for its products and especially advanced technologies, and making efforts to reinforce its sovereignty and position vis-à-vis the competitive nation-state system, which has by no means relaxed but only

intensified through time. Of course, these advances by China have contributed to Sino(techno)phobia and Digital Orientalism.

Rather, it's sufficient to note Xi's claim that China has reached a new stage of its modernity project as well as confidence in its path (expressed as the "four confidences"—confidence in "our chosen path, our guiding theories, our political system, and our culture." This is symbolized in part by achieving the milestone of a "moderately prosperous society" in 2021, long considered a key plateau of development directly related to the four modernizations push. This achievement in turn provided the opening for articulating a more detailed road map for the next major objective, becoming a 'prosperous, strong, democratic, civilized, harmonious and beautiful modern socialist country' by 2050, including midpoint objectives in 2035. But perhaps nothing has demonstrated this "new era" more to most Chinese than China's extraordinary efforts directed at controlling COVID-19 within its borders while most other nations floundered disastrously.

From Technical to Technological Society

While we generally understand the crisis of Chinese modernity as its difficult transition to nationhood, the root of this crisis was a technology gap between China and aggressive foreign nations. Others have touched on this as well in a broader global context, pointing to the suddenly widening power gap in the nineteenth century due to technological advances in leading Western countries [7]. In short, it was not enough to become a nation, China also had to actualize as a technological society. To be sure, advancing as a nation was a critical first step, and doubly so. First, it provided a foundation for establishing sovereignty and interacting in the global system; and second, "liberation" as described by the CPC, included freedom from the shackles of feudalism, but also an entry into a new type of individual and national consciousness, itself a necessary first step to becoming a technological society. But here we must distinguish between a technical and a technological society in theoretical and practical terms.

Pre–modern China was already an advanced technical society, symbolized popularly by the four great inventions (paper, compass, printing press, and gunpowder), but underscored more exhaustively by Joseph Needham's series on the history of Chinese science and technology, for which there are a multitude of achievements and artifacts. But highly developed Chinese techniques were not limited to science, they pervaded nearly every aspect of life, including government—a manifestation of China's innovation of a professional bureaucracy and state exam system.

Chinese technique is found in Chinese calligraphy and art. In general terms we can point to the technical mastery required to write Chinese characters. Peter Golas provides an interesting example: when the Jesuits came to China in the Ming years they brought with them their best propaganda, religious paintings. Although European artists were more advanced in technical illustrations, spatial perspectives and realism in the fine arts, Chinese artists and scholars were unimpressed. Instead, they raised three objections: 1) Why was reproducing reality an artistic expression? Is it not the purpose of art to reveal those truths that might be obscured to us when we

look at the real world? 2) Is it not the case the realism depicted in European pictures, e.g., Jesus ascending to heaven, was in fact, not real? Is it not a trick, and therefore, the opposite of truth and therefore art? 3) When the Chinese looked closely at the painting and saw the mishmash of brush strokes, they saw an ugly mess. In Chinese art, as in Chinese writing, each brush stroke was considered as important as the whole [21].

In the twentieth century scholars began debating the "Needham puzzle," which asks, why did China fail to develop as Europe did during the Enlightenment and Industrial Revolution despite enjoying essential cultural and scientific advances at least a century ahead of all others? Dozens have addressed this question and provided a great number of theories aimed at solving it. Their arguments variously emphasize cultural, institutional, geographical, and economic differences, as well as many other possible explanations, including the destabilizing impacts of the Mini Ice Age, as Zhu Kezhen's groundbreaking research first explored almost a century ago [14]. Others point to inflation as China lost control of monetary policy given the flood of Mexican silver of decreasing quality, and the general inadequacy of late Ming governance. In fact, many of these views are compelling, especially when they are combined with each other, insomuch as the conditions they describe are deeply intersectional; but all of them fail to differentiate between a technical versus technological society.

In the 14th and 15th centuries China likely was the most advanced technical society in the world. However, a 'technological society' is more than an accumulation of techniques; rather, it puts technology in the existentially defining position. Ellul introduced this concept in 1954 [12], and that same year as Heidegger's essay "The Question Concerning Technology" appeared, addressing similar concerns. Both authors decried what they saw as the modern inversion of a longstanding hierarchy—instead of tools serving people, people became tools or tool–like, serving a tool–like society that sought to become ever more tool–like, or as Heidegger termed it, 'enframed' [27]. Ellul and Heidegger were both horrified by these developments, and the latter even drew inspiration from Japanese Zen Buddhism through the unacknowledged influence of Kakuzo Okakura, who had described those traditional values and their ontological contrast with the values driving the rapid onslaught of modernity in *fin de siècle* Japan [28, 37, 46, 56]. Somewhat tautologically, Japanese traditionalists and critics of modernity would later embrace Heidegger in turn [6].

The key point here is not to debate the pros and cons of these changes but to note that since Liberation (1949) and especially 1978, China has rapidly developed as an advanced technological society. This development is vital for independence and security but also a key source of global technological culture. This transformation is not confirmed solely by China's advances in technologies, for example, e.g., quantum computing, artificial intelligence, green energy and space exploration, or social media. Rather, in tandem with China's advanced social and political organization, we can note the widespread presence of the modern *cogito*–consciousness, all of which reflect industrial ratiocination, industrial production, industrial education and so on, and all of which are consistent with technological society [41, 51].

Western theorists have long debated the utopian and dystopian aspects associated with becoming a technological society. In the East, in many instances, modernity

emerged at speed when possible to counter Western tech-supported imperialism [81]; but in the West, the development of technological society was always resisted by and in negotiations with traditional values and practices. Even in modern Western philosophy, the critical tradition has regarded technological advances as being mostly negative. Ellul's critique and Heidegger's nightmare have already been mentioned, but these were inspired by Friedrich Nietzsche, and before him, Søren Kierkegaard, who saw in 'modern man' an abomination of being [3, 18, 79]. In the post-war period, these concerns were expressed by the Frankfurt School, but also in Michel Foucault's works, which equated modernity with totalizing systems of control, with an unrestrained biopolitics and governmentality manifesting in modern schools, hospitals, prisons and so on, all of which were driven by the psychological and physical discipline imposed by the modern market economy [55]. Like Nietzsche, Foucault romanticized certain aspects of Platonic and Stoic philosophy, while Kierkegaard and Ellul did something similar with Christianity—with Ellul going so far as to describe mankind in modern technological society as the "new demons," as "mature insects that have nothing left to do but reproduce themselves and die" ([13] vii). In short, these theorists have had a profound influence on Western society, and all the more so because their critiques reflected the deep existential fears associated with Western modernity: these have included an Orientalist pride in the West for creating modernity, and the unease that this creation inescapably has always been a double-movement of the becoming and unbecoming of the West itself.

In China, however, a different critical tradition was established as a solution to the even bigger existential crisis of foreign domination. On the one hand, the proliferation of Marxism and especially Marxism-Leninism substantially normalized technological development as a historically necessary step for human progress, one that viewed technology and consciousness as advancing and converging as and through the state itself. On the other hand, this was not deeply at odds with Chinese tradition, particularly the Confucian tradition, one in which technique in the form of ritual (*li*) was to be perfected by the individual, whether the emperor, the gentleman, the father, as exemplars of the ritual that constituted an advanced state of being (e.g., see [50]). Thus, while some Chinese traditions certainly resisted development, China's rapid advancement as a technological society finds accordance with its traditional and modern philosophical perspectives on human progress, and not just the existential necessity of closing the technology gap to establish and sustain sovereignty.

It's in this context that we can view broad popular support for Chinese development as a technological society in China itself in terms of high rates of new technology adoption [39], popular support for scientific solutions to problems, and mass positive engagement in public policies that aim for social advances consistent with both individual and national transformations that are forward-reaching, tech-based and tech-oriented [70]—exemplified most recently by broad popular support for China's "dynamic zero-covid policies" (*dongtai qingling*).

While the West worries over the pervasiveness of technology and the relatively unrestrained power and influence of big technology firms, while it worries over the erosion of traditional values, privacy, and so on, while such resistances have been most recently on display with broad pushbacks over attempts to formulate effective

responses to the COVID-19 pandemic, we see the opposite in China. Broad popular support has greeted, effectively demanded and made possible dynamic zero-covid policies, along with the rapid development and deployment of zero-covid technologies [29]. This does not mean that Chinese people have liked the costs associated with the policies [78], but they have preferred the benefits over the absence of effective controls [35]. And before this, surveys indicate approximately 80% of respondents have supported the development and implementation of China's "social credit system" (*shehui xinyong tixi*), although the system is still incomplete and some doubt it will achieve its stated objectives, or do so with reasonable risks to personal privacy [33].

To be fair, not all innovations are popular. For example, although it's still early days in the development and roll-out of China's new digital yuan (*shuzi renminbi*), anecdotal reports suggest less than enthusiastic receptions among the general public. Nevertheless, tech-oriented innovations are popularly understood as essential for improved governance, including anti-corruption efforts, poverty alleviation, and market management, and they are reinforced with popular regulations designed to limit the power of tech firms and harmful social effects associated with technology, like unhealthy screen times among school age children. Furthermore, big tech advances, like 5G, are celebrated, and names like Huawei are embraced as a matter of national pride, with domestic sales soaring in response to international rejections of the same. The key point here is that China's actualization as a technological society that advances with technology is broadly popular, that it's even valorized by Chinese theorists as consistent with the rise of an "intelligent civilization" (*zhineng wenming*), one in which both governance and daily life are substantially supported by big data, artificial intelligence and other forms of digitalization [20, 84], and consistent with Marxist theories of social progress [76].

This isn't to say that there are no pushbacks, no traditional values opposing, or again, that we don't see periodic attempts to regulate and dismantle some technologies and tech firms. This has happened quite publicly with new laws policies directed at digital monopolies and anti-trust practices undercutting fair competition and governance, as well as other developments considered harmful to social and individual well-being. This was observed in enforcements against Alibaba in 2021, with implications for other firms (in 2022, new policies were announced to ease some big tech restrictions to help bolster an economy battered by lockdowns, but this does not signal a significant reversal of capacity or direction). Broadly, these regulations coincided with new laws related to digital finance and cryptocurrencies, but also video gaming, including limiting inappropriate content and imposing strict limits on children's playing times (2021). Those policies were paired that same year with strict limits directed at *buke*—after-school study programs—which along with video games were assessed as having reached a tipping point of negative health effects and declining standardized test scores. In fact, these were new attempts at earlier policies with similar goals, e.g., efforts to limit teachers from assigning students unregulated, "off-the-books" homework through social media (initiated in 2018, and reinforced in 2021).

Overall, these policies were responses to pressures building over many years in different sectors. It bears noting that in the case of policies affecting children,

there had long been efforts, often quixotic, to reign in China's intensely industrial model of education [15, 86]; but these were more fully addressed at the height of China's response to the pandemic. There is no evidence to suggest these policies were advanced because of the pandemic, i.e., when it was clear that online schooling in lockdown locations along with pandemic related social restrictions had made children even more vulnerable to digital exploitation and alienation, although such fears were acknowledged by some (see, for example, Wang et al. [77], Teng et al. [73], and Jiang, Tong, and Chen [31]). And they stand in stark contrast with excessive gaming and increased digital-associated alienation affecting American children in the same period and others around the world [17, 58], and for which there were little to no public policy responses.

But from a holistic perspective, these actions were not contrary to China's emergence as a technological society but consistent with efforts to manage the well-being of that society as a whole, one in which *governmentality is not understood as a conflict between the externality of a state and party* vs. *the internality of a more authentic or liberated individual existence, but as the convergence of both as the same, and broadly consistent with shared thinking, goals and objectives*. Ideally, this is what a technological society would do, or else risk being less of a society and less capable technologically. So while we can point to Heidegger and Foucault and others as being horrified by such developments or less dramatically, the semi-luddite tendencies sometimes observed in European societies today, in fact, China's emergence as a technological society is not horrific to most Chinese—quite the opposite. This development connected, however, to the emergence in the West of a new Sinophobia and Sino(techno)phobia.

From Orientalism to Sinological Orientalism to Digital Orientalism

There has long been a complicated coexistence between Western fears of China and Western senses of cultural and technological superiority. As D.E. Mungello notes, when Europeans traveled to China to visit the Ming court in the sixteenth century, the technical and cultural advances observed by these visitors were so unsettling that it led some to classify the Chinese as being racially "white." It was only later, when the Qing Dynasty was in decline and Europe was on the rise that Orientalism 'colored' Chinese both yellow and scientifically inferior [52, 53]. Others also have argued that initial Western tech development in the early modern period were in part inspired by Chinese accomplishments and fears of the same [24].

Nevertheless, at the precise moment that China was at her most vulnerable, in the late-to-early nineteenth century, this is when we see rise of the "yellow peril" discourse, broadly aimed at the East but attaching to China in particular, without outcomes like the Chinese Exclusion Acts in the United States and the growing popularity of "super villains" like Fu Manchu [19, 47, 72], that would evolve into the Red Scares during the Cold War, exemplified in popular media like *The Manchurian Candidate* (1962) and many others. This is to say that at various points in time there have been profound Western apprehensions about Chinese intelligence and capacity, and these have correlated with efforts to dominate China as a perceived cultural,

ideological and often racial inferior. This pattern seems to be repeating itself today. As China has emerged as a technological society, the general Western fear of technology or technophobia has developed as a distinct Sino(techno)phobia, along with fears the CPC is using Chinese technology in a bid for global domination. We have even some popular conspiracies from leading American officials promoting the idea that COVID-19 was engineered in a laboratory as part of a larger plot to help China ascend over its competitors, the US most especially.

As noted above, there are three themes that broadly correspond with three periodizations of Orientalism that can be used to described how the West in various ways has perceived China. But to be clear, as Vukovich reminds (per private communication), these three themes are all based on the same underlying logic and motivations. Similarly, I am reminded of an apt comment made by Fredric Jameson of 'heads in the clouds of capitalism of the 21st century, but our feet grounded in the same logic and basic practices of capitalist of the 19th century' ([30] 72).

The first theme, what we can call the classical Orientalism described by Said, dominated until the end of the Mao era and the Beginning of Reform and Opening Up ([75] 23). This theme and period saw China as being culturally, socially and politically backward, justifying colonialism and other forms of aggression. The second period, which I describe using Vukovich's work, is Sinological Orientalism, where China is seen as increasingly adhering whether it likes it or not to universal values and standards established by the West *a la* "the end of history" (Ibid. 1, *passim*). In this context we see Western scholars and policymakers contesting Chinese exceptionalism, still asserting a type of Western paternalism and superiority, and concluding that China's party-state system will eventually collapse (i.e., the "collapse thesis") or reform itself into a liberal democracy within a liberal capitalist world order.

Sinological Orientalism was dominant more or less until mounting American disappointments crossed paths with China's exceptional rise. This can be dated with contrasts over a twenty year period, with extraordinary examples occurring in three periods:

> 2001: China joins the World Trade Organization; the US suffers 9/11 an initiates the Global War on Terror).
> 2008: China has a triumphant propaganda achievement hosting the Beijing Olympics; American economic governance failures spark the Global Financial Crisis.
> 2021: China claims victory over extreme poverty and establishes a *xiaokang*/"moderately prosperous society," and effectively contains COVID-19; the US suffers high morbidity and mortality, experiences high inflation and a host of social ills, including intense polarization and what some describe as a coup attempt instigated by then-President Donald Trump against Congress with the Capitol Attack on January 6, and along the way, executes a disastrous retreat from Afghanistan).

While Trump had repeatedly invoked China in negative ways during his campaign for the presidency in 2016, to the point of using dog whistle tactics, a number of factors pushed him to a more extreme position after he took office. First,

CIA-associated intelligence failures and the increasingly discredited collapse thesis was replaced by the Pentagon-supported "threat thesis," which in turn was likely reinforced by the high number of generals Trump appointed to key positions in his Administration.

By 2017, Xi's anti-corruption campaign had restored a measure of public trust and disciplined the Party and state, and likewise produced a number of reforms that could be characterized as significant improvements to governance. This was capped with the 19th Party Congress, when term limits on Xi's leadership position were suspended, completing his consolidation of power. China had also launched a number of national "made in China" development campaigns, while Chinese firms like Huawei were gaining global market share in areas previously dominated by Western firms, or at least those considered the US considered less dangerous to its hegemony (e.g., Japanese, South Korean, Taiwanese, etc.). These developments intersected with growing American concerns with the role of technology generally, with mounting distrust of major firms like Facebook, Google, Apple and others, and even greater distrust for Chinese firms like Huawei, Tencent, TikTok and so on.

Trump's "Make America Great Again" (MAGA) campaign drew substantial inspiration from Ronald Reagan's rhetoric against the Soviet Union in the 1980s, and altogether, these developments saw the Trump Administration but American society more broadly agreeing that China was a threat, one that needed to be countered in various ways. A large part of this rhetoric asserted that China had gained her achievements at America's expense, with allegations of state and corporate espionage explaining China's technological capacity, but also helped along by American multinational firms that accommodated China for access to the Chinese market. All of this this helped normalize Trump's trade war against China, to the extent that it has still not been reversed by his Democratic successor Joe Biden. In fact, it likewise intersected with rhetoric accusing China of genocide and slavery in Xinjiang, alleged by many, including the State Departments of both administrations. Various efforts to block Chinese technology at home and abroad, to create chokepoints in Chinese production, to encourage boycotts were pursued. As these developments peaked in 2020 under the duress of failed American efforts to contain COVID-19, the US saw spikes in anti-Chinese sentiments and racist attacks on people of Asian descent.

With these points in mind, we can theorize that Sinological Orientalism was increasingly overwhelmed by Digital Orientalism, roughly dated from 2017, and continues to the present. Within this new theme/period there are three key features that present in somewhat contradictory but nevertheless explicable ways. First is the inversion the key ideas of Sinological Orientalism, insomuch as China is now viewed as not becoming like the US but as a growing threat, particularly as China's technological capacity and that of the CPC are viewed as advancing hand-in-hand [62]. Some, like former US Secretary of State Mike Pompeo and Vice President Mike Pence, publicly claimed that China was ideologically committed to seeking a global communist order and hinted at a new Cold War [5, 60, 61]. In short, many no longer saw China and the US on the path of political or economic convergence, but the complete opposite. This rhetoric did not change with the arrival of a new US presidential administration.

Second, however, is that despite this apparent divergence, and despite efforts in Washington and Beijing to emphasize cultural and political differences, there were in fact profound convergences underway. China like the West was being radically transformed by digital culture and technology as a whole, with similar positive and negative experiences. As many have discussed elsewhere, China's capacity to spy on competitors and compete militarily advanced, (though still shy of American abilities and practices by most estimates). Perhaps more pervasive and significant despite American alarmism about China's improved intelligence and military capabilities: as market reforms and culture became increasingly advanced and dominant from the 1990s onward, incredible generation gaps emerged in which young Chinese arguably had more in common with their Western peers than their own parents. These developments worried Beijing to no end, with deep suspicions directed against what it saw as the malign influences of foreign soft power. In fact, while the government salutes young people as the most fortunate in Chinese history, ample data from Chinese government sources suggest that Chinese youths have been in a state of increasing crises, with significant increases in youth-associated drug and alcohol abuse, crime, suicides, sexual abuse, mental illness, social discontent, spiraling divorce rates, screen-brain interfacing and so on, again, quite similar to their peers in the West [42].

Third is that many of these ills have meet new policy responses in China that arguably demonstrate not only an increased capacity for governance as an advanced technological society, they also appear to contrast with accelerating declines of the same in the West, especially the United States. This is apparent in the last couple of years, where China's dynamic zero-covid policies demonstrate a new plateau in its development as a technological society, while breakdowns and even regression seem more apparent in America. In the US, for example, there have been profound economic and social disruptions associated with COVID-19 morbidity and mortality, with deaths exceeding a million. In contrast, China was the first and by some accounts the only country to contain the virus, with deaths c. 5000 over the same time period. China was also the first to reverse contractions and return to positive economic growth in 2020, becoming the top global destination for inbound foreign direct investment that same year (*Xinhua [69]*). Furthermore, once again it proved its position as the world's leading industrial system [57], providing critical supplies to meet surging global demand (e.g., personal protection equipment, vaccine production, computer products needed as students around the world shifted to online courses, etc.) as other countries struggled to meet basic needs [4].

In the US, in addition the high morbidity and mortality rates, many if not most children lost at least year of effective schooling, with declining standardized exam results and graduation rates in states painting a bleak picture [22, 54], especially among low-income and minority students who were more vulnerable from the start (who didn't have access to computers or internet services for taking classes online, or who dropped or sold these resources to buy food, and who often lacked guardians capable of supervising their studies (see, for example, [1, 16, 49]).

These reverses have to be placed in a broader context, namely, the national policy initiatives that started with national legislation known as "No Child Left Behind" (2001) and continued with subsequent reforms that aimed to dramatically improve

STEM education to better compete with students from China and India—reforms that had thus far failed to achieve desired results and that are now encountering systemic reversals associated with the pandemic. To make matters worse, the US during the pandemic saw marked increases in sexual abuse, drug and alcohol abuse, depression, suicide, crime and hunger among children. It also saw major upticks in screen times as children were forced online, dependent on technologies sans effective data privacy protections, and susceptible to various forms of online exploitation. Meanwhile, US technology firms reaped record profits and pushed back against nascent attempts to regulate them (meanwhile, China disciplined major Chinese tech platforms, online gaming targeting children, and after school programs that were widely recognized as having pushed children to breaking points).

Meanwhile, the US saw the rise of a growing anti-science and anti-vaccine culture among Americans, further undercutting both outbreak responses and rational thinking. In some states, new laws required teaching the Biblical account of creation alongside the Big Bang Theory in public school science classes. Fake news became the norm, eroding trust in government and well-established news sources. The Federal Reserve increased the money supply by 20% to help cover the crisis, fueling major increases in inflation, and both the Trump and Biden administrations provided massive outlays of public assistance with trillions in subsidies and cash payments. The American economy faltered and the fate of the US dollar as the supranational currency diminished. As American society floundered, it turned inward against itself through polarization and increasing crime and violence, and likewise turned against countries it considered competitors who were faring better, China above all.

While the US failed to contain the outbreak, China managed to do so through effective lockdowns and subsequent controls that minimized social and economic disruption. To be sure, some areas faced significant disruptions, e.g., Shanghai, but the argument that this minimized disruptions elsewhere likely has merit. But to be clear, there has not yet been an honest appraisal of China's dynamic zero-covid policies. China likely had little choice otherwise: had it not taken this approach, we might be looking at six million or more dead in China. Given the density in Chinese cities, we likely would have seen collapsed health care systems and disrupted economic production, schools closed, children suffering, and so on. This would have created tremendous amounts of social instability among a people and system with little tolerance for chaos.

At the same time, keeping COVID-19 under control limited the possibility of new mutations. It ensured the Chinese economy could provide vital supplies for global markets. China sped the development of new technologies and organizational capacities to limit the disease and preserve social well-being and progress. These included: mobilizing, expanding, reinforcing and better linking national and local health and public health systems, down to local police bureaus and neighborhood committees (*juweihui*); establishing clear operational values and objectives; speeding development and dissemination of vaccines (86% with two doses nationally as of January 2022, according to the National Health Commission, see: [25]); requiring masking, social distancing and when necessary, lockdowns (in some cases individual buildings, city districts and whole cities); building emergency overflow hospitals in outbreak areas (*fangcang yiyuan*); requiring individual temperature scans

for entering public transportation and large public venues, including shopping malls; establishing free testing on demand with same day results; enabling individual tracking of movement for past 14 days by mobile phone number (*xingcheng ma*); and linking all of these efforts, including public guidance about outbreaks and control efforts, vaccine and test records, to smart device apps based in various digital platforms that facilitate contact tracing, and that produce codes that allow or restrict individuals from traveling or entering public buildings (*jiankang ma*), and when necessary, signaling and helping enforce self-isolation or stronger forms of quarantine (in fact, this is simply a fast moving outgrowth of the public and popular embrace of e-government in China, see [38]). Meanwhile, many Western countries wagged their fingers, arguing their principles of individual freedom were more sacred than effective containment through social controls.

These calls only intensified with lockdowns in Jilin and Shanghai in 2022, and understandably so. That said, the general perception among many Sinologists and international disease specialists was that the lockdowns were technically impossible to execute, especially in Shanghai, that the people would rise up and stop them, that it was impossible to contain and control the Omicron variant anyway, and even, that it was unnecessary to do so, despite the fact that Omicron killed more in the US than Delta, and killed scores in Hong Kong. In fact, while the initial lockdown of Shanghai was fractious, while there was inconsistency ensuring essential supplies were met reliably and fairly, while there were excesses that required adjustment and sporadic cases of local officials guilty of abuse or negligence, a city of 25 million was locked down (historically unprecedented), many of the initial missteps of the lockdown resolved, and the outbreak contained with associated deaths minimized. As much of the rest of the world is moving to a model of endemicity, despite the US predicting up to a 100 million new infections in America alone in late 2022, China is building what some describe as a 48-hour or 72-hour testing regime and building on local and national health codes that connect individual test results with locations and movements [31]. For some critics this evokes a dystopian nightmare, and others might fairly criticize it as emphasizing the sort of techno-positivism not uncommon to Marxist-Leninist systems, the sort that have variously produced both great leaps forward and backward.

Time will tell whether China's pandemic control policies served the nation well, but however they are assessed, we shouldn't be distracted from the key point: China did this because it believed it must, because a critical mass of its people expected the government to control and fight the disease, and most importantly that same mass helped make it happen. In short, dynamic zero-covid, including the lockdowns, happened in China because they could, because China as a technological society could, whereas most Western countries lacked the ability or the will to do so at all. Thus, when we look others hoping for silver bullets from what many perceive as an insufficiently regulated and untrusted pharmaceutical industry, when we see a breakdown in trust in government and even public health agencies like the US Centers for Disease Control that were once considered the gold standard the world over, what we also see are untrusted techniques trying to compensate for the pronounced inadequacy of the US to function effectively or competitively as a technological society. And while the US by some accounts still holds an edge over China in terms

of intellectual property and technology stocks, it seems increasingly apparent that China has surpassed the US as a technological society, and likewise, shortened the time when it will exceed the US on other fronts as well.

It should be noted that among a raft of proposed solutions, US policymakers have advanced the idea of national industrial policy that resorts not to free market principles but aims to compete with China using tactics more familiar to a planned economy. These efforts have not yet matured and there is good reason to suspect they never will, even if supporting legislation is signed into law. Additionally, we should note that in 2008 and again with the pandemic, the US has resorted to extraordinary market interventions with both monetary and fiscal policies, far outstripping the more narrow and disciplined scope of China's regime of macro-controls, which the US excoriates despite their relative efficacy. It's difficult to categorize these points as either convergences or divergences, as they contain elements of both. But it shouldn't surprise us if Digital Orientalism evolves as the US learning from and copying China as it seeks solutions to its multitude of deeply entrenched problems, but rationalizing this politically as an existential need to compete with China.

Conclusions

The role of theory here is to provide the connective tissue of ideas and concepts to help us perceive the bigger picture and the various intersections within, changing and moving through time, but anchored with examples in a material reality that is familiar to us. The role of theory however is not explain everything perfectly. Nevertheless, my purpose has been to illustrate the role that advancing China as a technological society has played during its modern development, how this has in turned been received by others. What we find is that each period has been deeply entwined with competitive nationalisms and often, various forms of cultural, political and even racial discrimination.

I have not discussed whether Sino(techno)phobia is in some way justified. This is the defining concern among those who assert that Chinese technology is dangerous, even without the taint of Digital Orientalism. To be sure, Chinese technology can now compete, and perhaps "win" in a decade or so; but it did not start the world down the path of competitive nationalism, imperialism or hegemony, nor did it innovate the first technological society. China can still argue that its advances have been to secure sovereignty and national wellbeing and not hegemony, arguments that are less credible elsewhere.

This is why in part I find arguments advanced by some against Huawei, for example, to be disingenuous. Given what we know of actual American practices—including unregulated tech giants with self-serving agendas (including selling access to malign and anti-American interests), as well as US governmental spying through US-tech based networks, even on allies, and the fact that after 9/11 that the US government could access private and academic networks held by American firms and universities with little to no judicial oversight—the blacklisting of Chinese firms because they "might" engage in similar tactics at some point, and to characterize this as defending liberal values against communism, is complete nonsense.

Indeed, as others have pointed out, there are constructive ways for Huawei to comply with the cybersecurity laws wherever they do business [26], and unlike many American firms, there's no evidence that they haven't done so. This is why Mayer and I described the continuing US-led campaign against Huawei as exemplifying Sino(techno)phobia and Digital Orientalism [45].

I have not discussed whether there is Chinese fear of Western technology, and how this relates to Sino(techno)phobia. To be sure, the Chinese are wary of any technology that compromises sovereignty and security. While the West and particularly the US have increasingly flirted with the fantasy of technological autarky, of decoupling from Chinese technology, the same can be said about China seeking autonomy and independence. But it should be noted that in the US, it's common to cry loudly of potential threats, while in China, it's generally taboo to do so unless those threats can be countered effectively. That said, we should acknowledge the increasing trend of technology securitization and strong fusions between civilian and military technology in both countries and the mutual fear this creates.

Much is made about China's intention of demonstrating the superiority of its system relative to Western forms of liberalism, with such rhetoric peaking again with what some in the West view as Chinese triumphalism associated with its successful efforts to contain the outbreak (e.g., [80]). But this overstates the role of ideology in policymaking and pits Marxism spuriously as the central antagonist in this confrontation [44]. Marxism did normalize technological development and the emergence of China's technological society as a material means for reestablishing sovereignty and security. But perhaps today's competition is really located in the extent to which China as a technological society acknowledges itself for what it is and then seeks a position of human advancement that transcends or evolves to a higher stage of existence and well-being—as China claims per it ambitions to establish itself as a 'fully modern socialist nation.' Conversely, the West, and more specifically the US, seem stuck in time or even regressing, unable to accept or manage changes constructively, unable to normalize the growing intersections and counterbalances that must exist within and between governance, technology, social progress and individual actualization. Too often, instead of looking inward and finding the true source of its problems, and further, how these problems are not dissimilar from others elsewhere, the US has externalized them with Sino(techno)phobia and Digital Orientalism.

Perhaps the difference between the two countries is the extent to which they acknowledge and react to their own totalitarian-oriented surveillance states. In general terms, Shoshana Zuboff gets to this question in part in her book, *The Age of Surveillance Capitalism* [88], where she asks whether we will be 'the masters of information and machines or its slaves.' We should be cautious when applying this thinking to China. Too often Westerners equate the CPC as the inhuman monster wielding inhuman technology. What if the opposite is true: what is the CPC is the human face that aims to be the master of machines and information, and to do so as much as possible for the greater good within a social and political system they believe they were compelled to create in the first place in order to survive the onslaught of technologically advanced imperial nations? What if this human face (or Facebook) does not exist at all in the West, or only limitedly, incapable of actually confronting or regulating various technological masters that have become

systemically entrenched and the *pharmakon* of contemporary life—both the poison and the cure for so many Western ills?

However, it's possible that China's general tendency towards techno-positivism risks revisiting dystopian social experimentation and misadventures, as the lockdowns suggest to some. Here I concede sympathies to a different viewpoint in Marxism, attributed to especially to Antonio Gramsci and Walter Benjamin, opposing positivism and determinism; but I also realize that it's the nature of the Chinese political system to respond to crises by asserting control as opposed to surrendering the same. In fact, in the broader context of public health, which has always been based on police power, asserting control is considered universally preferable. Further, it's not uncommon for a state to privilege saving lives if it has the capacity to do so despite significant economic, social and political costs. It's generally better to be blamed for losses incurred despite strong efforts to minimize them, than to do less and likewise suffer.

The concern that China aims to take over the world, and so on, seems little more than a hyperbolic speaking point belabored endlessly as the new Red Scare rhetoric, girding decoupling. In fact, despite mounting empirical evidence that China is a major contributor to global justice [23], a more dangerous concern at present is that China might choose to decouple itself. It's not farfetched to suggest that we may have reached an inflection point, one in which China increasingly views the world outside its borders as ungovernable. This would not be the first time this has happened. And to a certain extent this has already happened with the pandemic—neither the first nor last of global pandemics—with some experts predicting more to come due to climate change.

Nevertheless, China is determined to proceed towards a new threshold of development as a technological society, with or without everyone else. Many derailments might occur along the way, from new crises like the pandemic or global warming, which many experts fear will wreak global havoc by 2050. Other than these, are there any convincing efforts currently underway that might forestall China's advance in lieu of encouraging it? We might be witnessing less a clash of civilizations than one outcompeting the other despite that other setting the initial terms of the game.

Declarations

References

1. Auxier, Brooke, and Monica Anderson. 2020. As schools close due to the coronavirus, some US students face a d digital 'homework gap. *Pew Research Center*. https://www.pewresearch.org/fact-tank/2020/03/16/as-schools-close-due-to-the-coronavirus-some-u-s-students-face-a-digital-homework-gap/. Accessed 10 June 2022.
2. Axelos, Kostas. 1976. *Alienation, praxis and Technē in the thought of Karl Marx, Trans. Ronald Bruzina*. Austin: University of Texas Press.

3. Barnett, Christopher B. 2021. *Kierkegaard and the question concerning technology*. New York: Bloomsbury.
4. Bradsher, Keith. 2020. "China Dominates Medical Supplies, in This Outbreak and the Next," *New York Times*. https://www.nytimes.com/2020/07/05/business/china-medical-supplies.html. Accessed 10 June 2022.
5. Brunnstrom. 2019. "Pompeo Says US Must Confront China's Communist Party," *Reuters*. https://www.reuters.com/article/us-usa-china-pompeo-idUSKBN1XA05G. Accessed 10 June 2022.
6. Buchner, Hartmut. 2013. *Heidegger und Japan—Japan und Heidegger*. Nordhausen: Verlag Traugott Bautz.
7. Buzan, Barry, and George Lawson. 2015. *The global transformation: History, modernity and the making of international relations*. Cambridge: Cambridge University Press.
8. Chen, Jian. 2001. *Mao's China and the cold war*. Chapel Hill: The University of North Carolina Press.
9. Chen, Yi, Fan Ziying, Gu Xiaomin, and Zhou Li-an. 2020. Arrival of young talent: The send–down movement and rural education in China. *American Economic Review* 110 (11): 3393–3430.
10. Deng, Xiaoping. 1978. "Realize the four modernizations and never seek hegemony", in *selected works of Deng Xiaoping, Volume II.* Beijing: Foreign Language Press, 1983.
11. Eisenman, Joshua. 2018. *Red China's green revolution: Technological innovation, institutional change, and economic development under the commune*. New York: Columbia University Press.
12. Ellul, Jacques. 1969. *The technological society*. New York: Vintage.
13. Ellul, Jacques. 1975. *The New Demons, Trans. C. Edward Hopkin*. New York: Seabury Press.
14. Fan, Ka-wai. 2010. Climatic change and dynastic cycles in Chinese history: A review essay. *Climate Change* 101: 565–573.
15. Fang, Yuan, and Jiasheng Yao. 2019. Gaige Kaifang 40nian Woguo Jianfu Zhengce de Huigu yu Pingxi. *Liaoning Jiaoyu* 2: 36–38.
16. Fensterwald, John and Daniel J. Willis. 2022. Standardized Test Scores in California Fell During Year in Distance Learning, *EdSource*. https://edsource.org/2022/standardized-test-scores-in-california-fell-during-year-in-distance-learning/665487. Accessed 10 June 2022.
17. Fernandes, Blossom, Urmi Nanda Biswas, Roseann Tan-Mansukhani, Alma Vallejo, and Cecilia A. Essau. 2020. The impact of COVID-19 lockdown on internet use and escapism in adolescents. *Revista de Psicología Clínica con Niños y Adolescentes* 7 (3): 59–65.
18. Fletcher, David Bruce. 1982. *Social and political perspectives in the thought of Søren Kierkegaard*. Washington: University Press of America.
19. Frayling, Christopher. 2014. *The yellow peril: Dr. Fu Manchu and the Rise of Chinaphobia*. London: Thames and Hudson.
20. Gao, Qiqi, and Huan Du. 2020. Zhineng Wenming yu Quanguocheng Minzhu de Fazhan: Guojia Zhili Xiandaihua de Xinmingti. *Shehui Kexue* 5: 25–35.
21. Golas, Peter J. 2015. *Picturing Technology in China: From earliest times to the nineteenth century*. Hong Kong: HKU Press.
22. Goldstein, Dana. 2020. Research Shows Students Falling Months Behind During Virus Disruptions, *New York Times*. https://www.nytimes.com/2020/06/05/us/coronavirus-education-lost-learning.html. Accessed 10 June 2022.
23. Gu, Yanfeng, Xuan Qin, Zhongyuan Wang, Chunman Zhang, and Sujian Guo. 2021. Global justice index report 2020. *Chinese Political Science Review* 6: 322–486.
24. Hobson, John M. 2004. *The eastern origins of Western civilization*. Cambridge: Cambridge University Press.
25. Hu Danping. 2022. "*Guojia Weijianwei: Woguo Xinguan Yimiao Quancheng Jiezhong Fugailü da 86.58%,*" *Pengpai Xingwen*. https://www.thepaper.cn/newsDetail_forward_16303589. Accessed 10 June 2022.
26. Huang, Keman, Stuart Madnick, Fang Zhang, and Michael Siegel. 2022. Varieties of public-private co-governance on cybersecurity within the digital trade: Implication for Huawei's 5G. *Journal of Chinese Governance* 7: 81–110.
27. Hui, Yuk. 2016. *The question concerning Technology in China: An essay in Cosmotechnics*. Urbanomic: Falmouth.
28. Imamichi, Tomonobu. 2004. *In search of wisdom: One Philosopher's journey, translated by M.E. Foster*. (Tokyo: International House of Japan.

29. Ip, Greg. 2022. "China's 'Zero-Covid' Policy Holds Lessons for Other Nations," *The Wall Street Journal.* https://www.wsj.com/articles/chinas-zero-covid-policy-holds-lessons-for-other-nations-11645033130. Accessed 10 June 2022.
30. Jameson, Fredric. 2008. *The ideologies of theory*. London: Verso.
31. Jiang, Qiaolei, Shuting Tong, and Zonghai Chen. 2020. Qingshaonian Hulianwang Yilai yu Fengxian Yingdui. *Qingnian Tansuo* 06: 37–46. https://doi.org/10.13583/j.cnki.issn1004-3780.2020.06.004.
32. Kissinger, Henry. 2011. *On China*. New York: Penguin.
33. Kostka, Genia. 2018. "China's Social Credit System and Public Opinion: Explaining High Levels of Approval," *SSRN.* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3215138. Accessed 10 June 2022.
34. Kueh, Y.Y. 2006. Mao and agriculture in China's industrialization: Three antitheses in a 50–year perspective. *The China Quarterly* 187: 700–723.
35. Leonhardt, David and Ian Prasad Philbrick. 2022. Zero Covid in China, *New York Times.* https://www.nytimes.com/2022/02/04/briefing/zero-covid-china-olympics.html. Accessed 10 June 2022.
36. Li, Xiaobing. 2007. *A history of the modern Chinese Army*. University of Kentucky Press: Lexington.
37. Ma, Lin. 2008. *Heidegger on East–West Dialogue: Anticipating the Event*. London: Routledge.
38. Ma, Liang, and Xia Wu. 2020. Citizen engagement and co-production of e-government Services in China. *Journal of Chinese Governance* 5 (1): 68–89.
39. MacFarquhar, Roderick. 1999. *The Origins of the Cultural Revolution*, vol. 3. New York: Columbia University Press.
40. Mahoney, Josef Gregory. 2016. "Marxismus in China nach Mao," *Marx und der Globale Süden*, Ed. and Trans. Felix Wemheuer (Köln: Papy Rossa) 240–276.
41. Mahoney, Josef Gregory. 2017. Can the oriental know justice? Can the subaltern tell stories? *Neohelicon* 44: 445–468.
42. Mahoney, Josef Gregory. 2019a. A Century on from the May Fourth Protests, Chinese Youths are in a State of Crisis, *South China Morning Post.* https://www.scmp.com/comment/insight-opinion/article/3008625/century-may-fourth-protests-chinese-youths-are-state-crisis. Accessed 10 June 2022.
43. Mahoney, Josef Gregory. 2019b. Makesizhuyi dui Zhongguo de San Da Gongxian. *Dangdai Shjijie yu Shehuizhuyi* 1: 65–70.
44. Mahoney, Josef Gregory. 2022. Why Science, Not Ideology, Is Guiding China's Covid-19 Policy, *South China Morning Post.* https://www.scmp.com/comment/opinion/article/3177718/why-science-not-ideology-guiding-chinas-covid-19-policy. Accessed 10 June 2022.
45. Mahoney, Josef Gregory and Maximilian Mayer. 2020. Donald Trump's campaign against Huawei is a Symptom of Digital Orientalism, Ignoring Similarities in Chinese and Western surveillance, *South China Morning Post.* https://www.scmp.com/comment/opinion/article/3046357/trumps-campaign-against-huawei-symptom-digital-orientalism-ignoring. Accessed 10 June 2022.
46. May, Reinhard. 2005. *Heidegger's Hidden Sources: East–Asian Influences on His Work, Trans. Graham Parks*. London: Routledge.
47. Mayer, Ruth. 2013. *Serial Fu Manchu: The Chinese supervillain and the spread of yellow peril ideology*. Philadelphia: Temple University Press.
48. Mayer, Maximilian. 2019. China's authoritarian internet and digital orientalism. In *Redesigning organizations: Concepts for the connected society*, ed. Denise Felder, 177–192. Cham: Springer Nature.
49. Meckler, Laura and Hannah Natanson. 2020. 'A Lost Generation:' Surge of Research Reveals Students Sliding Backward, Most Vulnerable Worse Affected, *The Washington Post.* https://www.washingtonpost.com/education/students-falling-behind/2020/12/06/88d7157a-3665-11eb-8d38-6aea1adb3839_story.html. Accessed 10 June 2022.
50. Meng, Yue. 1999. Hybrid science versus modernity: The practice of the Jiangnan arsenal, 1864-1897. *East Asian Science, Technology, and Medicine* 16: 13–52.
51. Misa, Thomas J. 2003. The compelling tangle of modernity and technology. In *Modernity and technology*, ed. T.J. Misa, P. Brey, and A. Feenberg. Cambridge: MIT Press.
52. Mungello, D.E. 1989. *Curious land: Jesuit accommodation and the origins of sinology*. Honolulu: University of Hawaii Press.
53. Mungello, D.E. 2005. *The great encounter of China and the west, 1500–1800*. 2nd ed. Rowman and Littlefield: Lanham.

54. National Bureau of Economic Research. 2022. Remote Schooling and Standardized Test Scores, *The Digest*, 1. https://www.nber.org/digest-202201/remote-schooling-and-standardized-test-scores. Accessed 10 June 2022.

55. Nilsson, Jakob, and Sven-Olov Wallenstein, eds. 2013. *Foucault, biopolitics and governmentality*. Flemingberg: Södertörn University Press.

56. Okakura, Kakuzo. 1906. *The book of tea*. London: G.P. Putnam's Sons.

57. Olsen, Mari. 2006. *Soviet-Vietnam Relations and the Role of China, 1959–1964*. London: Routledge.

58. Paschke, Kerstin, Maria Isabella Austermann, Kathrin Simon-Kutscher, and Rainer Thomasius. 2021. Adolescent Gaming and Social Media Usage Before and During the COVID-19 Pandemic. *SUCHT* 67 (1): 13–22.

59. Paul, Subrajoti. 2020. "The BRI: A metamorphosis of China's three worlds theory" *Lokmaanya*. https://www.lokmaanya.com/the–bri–a–metamorphosis–of–chinas–three–worlds–theory/. Accessed 10 June 2022.

60. Perlez, Jane. 2018. Pence's China Speech Seen as Portent of 'New Cold War,' *New York Times*. https://www.nytimes.com/2018/10/05/world/asia/pence-china-speech-cold-war.html. Accessed 10 June 2022.

61. Policy Planning Staff. 2020. *The Elements of the China Challenge*, Office of the US Secretary of State. https://www.state.gov/wp-content/uploads/2020/11/20-02832-Elements-of-China-Challenge-508.pdf. Accessed 10 June 2022.

62. Pompeo, Mike. 2020. Technology and the China Security Challenge, US Department of State. https://id.usembassy.gov/wp-content/uploads/sites/72/Remarks-by-Secretary-Pompeo-on-Technology-and-the-China-Security-Challenge.pdf. Accessed 10 June 2022.

63. Pryor, Frederic L. 2016. *The red and the green: The rise and fall of collectivized agriculture in Marxist regimes*. Princeton University Press: Princeton.

64. Quinn-Judge, Sophie. 2006. Victory on the Battlefield; Isolation in Asia: Vietnam's Cambodia Decade, 1979–1989. In *The Third Indochina War: Conflict between China, Vietnam and Cambodia, 1972–1979*, ed. Odd A. Westad and S. Quinn-Judge. London: Routledge.

65. Resolution on CPC History, 1949–1981. 1981. Beijing: Foreign Language Press.

66. Resolution on CPC History. 2021. (Beijing: Xinhua, 2021; https://english.www.gov.cn/policies/latestreleases/202111/16/content_WS6193a935c6d0df57f98e50b0.html). Accessed 10 June 2022.

67. Ross, R.S. 1989. From Lin Biao to Deng Xiaoping: Elite instability and China's U.S. policy. *The China Quarterly* 118: 265–299.

68. Said, Edward. 1979. *Orientalism*. New York: Vintage.

69. Xinhua She. 2021. "*Zhongguo Jingji zai Quanqiu Yiqing xia Lingpao Fusu*," *Zhonghua Renmin Gongheguo Zhongyang Renmin Zhengfu*. http://www.gov.cn/xinwen/2021-03/03/content_5589999.htm. Accessed 10 June 2022.

70. Shi, Jing. 2020. Mianxiang Xinfazhan Jieduan, Gongzhong dui Guojia Zhili Xiandaihua you naxie Xinqidai. *Guojia Zhili* 33: 3–8.

71. Tang, Xiaojing. 2013. *Jiaguo Luoji Zhijian: Zhongguo Shehuizhuyi Shiqi 'Dayuejin Funv' de 'Ni Nanwan*. *Journal of Chinese Women's Studies* 3: 59–68.

72. Tchen, John Kuo Wei, and Dylan Yeats. 2014. *Yellow Peril: An archive of anti-Asian fear*. London: Verso.

73. Teng, Zhaojun, Halley M. Pontes, Nie Qian, Mark D. Griffiths, and Cheng Guo. 2021. Depression and anxiety symptoms associated with internet gaming disorder before and during the COVIV-19 pandemic: A longitudinal study. *Journal of Behavioral Addictions* 10 (1): 169–180.

74. Valori, Giancarlo Elia. 2019. President Xi Jinping's diplomacy doctrine. *Modern Diplomacy* https://www.internationalworldgroup.it/en/president-xi-jinpings-diplomacy-doctrine/. Accessed 10 June 2022.

75. Vukovich, Daniel. 2012. *China and orientalism: Western knowledge production and the P.R.C*. London: Routledge.

76. Wang, Lixin. 2018. Makesi Zhuyi xin Renshilun yu Rengong Zhineng: Rengong Zhineng bushi Weixie Renlei Weming de Kejizhihuo. *Ziran Bianzhengfa Tongxun* 40 (4): 15–19.

77. Wang Yang, Liu Bingjie, Zhang Lei, and Zhang Peng. .2022. "Anxiety, Depression and Stress Are Associated with Internet Gaming Disorder During COVID-19: Fear of Missing Out as a Mediator," *Frontiers of Psychiatry*. https://www.frontiersin.org/articles/10.3389/fpsyt.2022.827519/full. Accessed 10 June 2022.

78. Watanabe, Shin. 2021. "2 Years On, China's Public Fed Up with 'Zero-Covid' Policy," *Nikkei Asia.* https://asia.nikkei.com/Spotlight/Coronavirus/2-years-on-China-s-public-fed-up-with-zero-COVID-policy. Accessed 10 June 2022.

79. Westphal, Merold. 1991. *Kierkegaard's critique of reason and society*. University Park: Pennsylvania State University Press.

80. White, Edward and Eleanor Olcott. 2022. Closed China: Why Xi Jinping is Sticking with his Zero-Covid Policy, *Financial Times.* https://www.ft.com/content/0e6914ed-3ce5-4f7f-ab91-ce7b0ad68f2c. Accessed 10 June 2022.

81. Wong, Joseph. 2004. The adaptive developmental state in East Asia. *Journal of East Asian Studies* 4 (3): 345–362.

82. Xi, Jinping. 2019. "*Guanyu Jianchi he Fazhan Zhongguo Tese Shehui Zhuyi de Jige Wenti*," *Qiushi.* http://www.qstheory.cn/dukan/qs/2019-04/01/c_1124307480.htm. Accessed 10 June 2022.

83. Xie Guoming. 2021. "*Dangdai Zhong Mei Guanxi de Youlai Yu Zhengjie*," Renmin Luntan. http://www.rmlt.com.cn/2021/0208/607649.shtml. Accessed 10 June 2022.

84. Yang, Lihua. 2021. Goujian Wenmingxing Zhineng Zhili: Zhanju Xinshidai Guoji Zhineng Zhili Zhigaodian. *Renmin Luntan•Xueshu Qianyan* 1: 63–69.

85. Yang, Kuisong, and Yafeng Xia. 2010. Vacillating between revolution and Détente: Mao's changing psyche and policy toward the United States, 1969–1976. *Diplomatic History* 34 (2): 395–423.

86. Yang, Liu, and Xu Zhang. 2019. Xinzhongguo Chengli Yilai Woguo Jianfu Zhengce de Lishi Huishuo yu Fansi. *Jiaoyu Kexue yu Yanjiu* 2: 13–21.

87. Zagoria, Donald S. 1968. The strategic debate in Peking. In *China in crisis*, ed. Tang Tsou, vol. 2, 237–268. Chicago: University of Chicago Press.

88. Zuboff, Shoshana. 2019. *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. New York: Public Affairs Books.

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