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From Shanghai to Huangbaiyu: Eco-Cities as an Alternative Modernity

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Dr. Liang Luo

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PART I:

Environmental Consciousness in China, Past and Present

For the first time in centuries, the Chinese nation is poised to restore its position as a major world power. Journalists and academics reiterate familiar statistics on the rise of China, including the concurrent rise in greenhouse gas emissions. The novel impacts of rapid industrialization and capitalist development in China are uneven over space and social class, but those processes guarantee considerable environmental damage. As such, new discourses of "sustainable development" congeal with official state narratives of progress, and the literature on efforts toward Chinese environmental sustainability expands in kind.

In 1992 the American political scientist Francis Fukuyama published *The End of History and the Last Man* to widespread praise in the popular press. Fukuyama's central thesis, developed with the fall of the Soviet Union and the end of the Cold War, was that liberal capitalism had "won" the ideological battle and would find acceptance, with merely minor revisions, throughout the entire world.[1] It is certainly true that liberal capitalism, defined as a system of private ownership and both markets and strategic state intervention, holds hegemony over the world economic system. Although Fukuyama's thesis later endured substantial criticism, I contend that we live in an historical period termed *capitalist modernity*.

In *Keywords* Raymond Williams notes that "in relation to institutions or industry [the modern is] normally used to indicate something unquestionably favourable or desirable."[2] In this sense modernity refers to the political, economic, and cultural institutions of a given society at a given period of time, whereas modernization is considered the 'progressive' means toward modernity. Modernization as a process is deeply intertwined with the end goal of modernity. It is an undeniable matter of fact that we live in the first truly global society in the history of human

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[1] Fukuyama, Francis. *The End of History and the Last Man*. Free Press, 1992.
[2] Williams, Raymond. *Keywords: A Vocabulary of Culture and Society*. New York: Oxford University Press, 1983. 209.

beings, and that society is essentially state capitalist in nature. Twenty years after the publication

of *The End of History* the question remains: will our modernity ever become ancient history?

It is possible that the capitalist world system is approaching "the end of history."

Although Fukuyama did not intend to say as much, if carbon emissions continue to rise along the

path of "business as usual," there may be no historians or political scientists to separate modern

from ancient. Since the 1990s China embraced certain aspects of market economies, including

financial liberalization and foreign direct investment. In effect, the Chinese Communist Party

accepted the hegemony of capitalist modernity, with real consequences for the Chinese people

and the environment. Andrew Jones summarizes the multidirectional impact of capitalist

development on the most populous country in the world:

> Developmentalism, in short, has underwritten the transformation of China from a
> socialist state to a capitalist market economy, resulted in the creation of enormous new
> prosperity and new forms of poverty, and validated the massive social and spatial
> dislocations that have accompanied them. The logic of development has also rationalized
> – even necessitated – the degradation of China's natural environment.[3]

Chinese New Left intellectuals such as Wang Hui pose a central question amid the

unprecedented threat of environmental destruction and the historical resurgence of China. Will

China's rise reconstitute the notion of development and result in an *alternative modernity*? This

"reconsideration of developmentalism" can be viewed as a possible rejection of the logic of

Western-style economic development, with its concomitant impact on the environment.[4] The

"eco-city" of Dongtan and the "eco-village" of Huangbaiyu are two potential models and case

studies in sustainable modernity.

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[3] Jones, Andrew F. *Developmental Fairy Tales: Evolutionary Thinking and Modern Chinese   Culture.*
Cambridge, Mass: Harvard University Press, 2011.
[4] *The End of the Revolution: China and the Limits of Modernity*. Verso, 2011. 1-272. Print. 95.

Dongtan, located on Chongming Island near the largest metropolis in the world, Shanghai, demonstrates the crucial position of cities. Urban areas consume the majority of the world's resources and, given widespread urbanization, incorporate over half of the world's population. The city-region will figure prominently if human societies can construct a sustainable future, or at least a less unsustainable one, and avoid the "end of history." Huangbaiyu, on the other hand, represents the antithesis to urbanization and counters city-centered consumerism with attempts at rural development. Both Dongtan and Huangbaiyu, in their very conception, aim for a degree of self-sufficiency and material efficiency essential to any rubric of sustainability.

After examining the history of China's considerable environmental and social challenges, this paper examines the multidimensional spatial configuration at Dongtan and Huangbaiyu. While the case studies evince the nature of the tension between town and countryside in advanced capitalist societies, planners paid scant attention to the issue of local participation and control. In order to be truly sustainable, projects like Dongtan and Huangbaiyu must engage in direct democracy rather than technocratic management. Finally, I examine the theoretical and logistical failures of the projects.

In sum, I focus on three enduring themes related to sustainable development in China: the deep divide between the city and the countryside, the historical legacy of Western imperialism, and the appropriate role of popular participation in technical decision-making. In the context of our case studies, all three themes provide lessons on the nature of a strong, democratic sustainability and the potential for an alternative modernity.

<u>Sources of Chinese Environmental Consciousness:</u>

Philosophical, Historical, and 'Modern'

Before examining Dongtan and Huangbaiyu, it is necessary to examine briefly the human environmental history of China and the milieu of contemporary environmental considerations. The philosophical traditions informing historical attitudes toward the environment are too diverse to describe in full. However, Confucianism provides a particularly potent encapsulation of general trends. "Nature possessed a godlike ability to wreak havoc or bring bounty as punishment or reward for humans' behavior…Earth had the critical role of providing for man's benefit."[5] The imperial ideology of the Mandate of Heaven reinforced the link between nature and humans, if the two could ever be separated. Beginning with the Zhou Dynasty, this philosophical formulation postulated a legitimizing link between heaven (*tian*) and the ruler (*tianzi*, or Son of Heaven), with natural disaster and other weather events evincing a ruler's position within the cosmos. This concept served as the underpinning for both entrenched rule and sudden shifts in kings or even dynasty.

The mythical stories still repeated by Chinese citizens also reflect an oppositional attitude toward non-human nature. As may be expected from mythical archetypes, heaven and earth are separated as a foundational act. Afterward, the purported founder of Chinese civilization, the semi-divine Emperor Yu, repeatedly contended with the rising waters of especially the Yangtze River. "The tales involving mythic conflicts are generally straightforward- gods battle against nature or one another, something in nature is damaged, chaos results, and then order is restored."[6] Often order itself was altered in the course of myth. In an ancient story adopted and

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[5] Economy, Elizabeth. *The River Runs Black: The Environmental Challenge to China's Future*,   2nd ed. Ithaca, New York: Cornell University Press, 2005. 1-363. 32.

[6] Chetham, Deirdre*. Before the Deluge: The Vanishing World of the Yangtze's Three Gorges*. New York City: Palgrave Macmillan, 2002. 1-296. 35.

manipulated by Mao, Yu Gong employs supernatural aid to move mountains, thus proving human dominance and power.[7]

While there are many examples of myths predicated on a conflict between humans and nature, elements of the Chinese philosophical tradition also avoids any inseparable duality between the two. "The Confucian worldview is *anthropocosmic*: humans exist in relational resonance with, and indeed must maintain a delicate balance with, the natural forces of the universe."[8] Indeed, the Mandate of Heaven and other Chinese mythological standards can be interpreted as privileging humans, but non-human nature deserves considerable respect and possesses power. Confucian and Daoist approaches to nature, in contrast with ancient myths, frequently advocate understanding of humans as existing within nature. Furthermore, these two traditions tend to stress concordance based on both human needs and the intrinsic, rather than purely instrumental, worth of non-human nature. This is not to say that every dynastic ruler envisioned non-human nature as an intrinsic good. Rather, we can trace the reflexive identity of people in China through their philosophical traditions and historical relations with the surrounding environment.

Much of the historical literature identifies the inauguration of the modern period in China with the First Opium War of 1839-1842, in which the Qing Dynasty suffered ignominious defeat at the behest of British gunboats. As such, many Western academics implicitly suggest millennia of a singular Chinese civilization with limited variation: Confucian, Legalist, Daoist, or perhaps ethnic rule as part of a conquest dynasty. In part, this tendency results from the practice of famed

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[7] Economy, *The River Runs Black: The Environmental Challenge to China's Future,* 42.

[8] Tilt, Bryan. The *Struggle for Sustainability in Rural China: Environmental Values and Civil Society*. New York City: Columbia University Press, 2010. 1-165. 86.

American historian of China John King Fairbank. Fairbank's studies introduced the "contact hypothesis" into the study of China, documenting Euro-American stimulus and Chinese response since the first major British intervention.[9] The orthodox method clearly fails to account for the diversity and dynastic change within Chinese civilization, and presents China as merely a passive object of domination by Western powers. However, for our purposes there is compelling justification for advancing through centuries of important history, namely an absence of relevant historical data. The present study, by locating the modern with the arrival of foreign imperialists, aims to focus attention on the importation of another, concomitant force: industrialization.

The interrelated ideologies of imperialism and Western-style industrialization combined to catalyze change within the Qing Dynasty, while also accelerating its downfall. With the Opium Wars, which finally ended in 1860, the Western imperialist powers overwhelmed the Qing with superior military technology and merciless force in order to impose the unequal treaty system, described in Part II. Taken in combination with the equally embarrassing result in the Sino-Japanese War of 1894-1895, the survival of the dynasty depended on a fundamental reconsideration of geopolitics. The so-called "self-strengthening movement" was primarily a movement among Chinese intellectuals, who questioned the appropriate course of action for the state given the threat of European and North American rivals. In basic terms, the self-strengthening movement sought to selectively adapt Western development models, especially concepts like "science and technology" in order to improve the Chinese polity.

The above context provides essential background to the adoption of capitalist ideology and industrialization in China, although I will not fully recapitulate the diverse streams of

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[9] Fairbank, John King, and Merle Goldman. *China: A New History*. Cambridge, Massachusetts: Belknap Press of Harvard University Press, 2006. 203-205.

thought comprising self-strengthening here. The stability of the dynasty now threatened, state bureaucrats and other intellectuals systematically studied the conceptions of political change within the Western philosophical context. Still, some "conservatives feared that mines, railroads, and telegraph lines would upset the harmony between man and nature (*fengshui*) and create all sorts of problems…an ongoing process of self-sustaining industrial growth was never achieved."[10] According to Fairbank, those who did sympathize with self-strengthening cleaved in two directions. Some emphasized the technological and military superiority of the Western powers, most evident in weapons and boats, and urged rapid development of competing technologies. In contrast, a radical minority insisted that the Qing must import Western ideology in addition to technology. The intellectual ferment of self-strengthening contained within it a tacit acknowledgment of the immense vulnerability of the Qing vis a vis the Western powers. While state intellectuals influenced dynastic policy for centuries, in the late 19th century the Qing reached a crisis point as intellectuals insisted on fundamental rather than piecemeal reform.

The West is not a monolithic category, of course, and Chinese intellectuals certainly "responded" to the "stimulus" of changes in European political economy and philosophy. During the 19th century Western scientific culture itself experienced radical revision with the development of evolutionary theory by Charles Darwin, Alfred Russel Wallace, and other leading luminaries. As Andrew Jones rightly notes, "the world-historical dimension of the colonial diffusion of evolutionary theory in the later nineteenth and earlier twentieth centuries has been neglected."[11] Chinese intellectuals disseminated evolutionary thinking much like the rest of the colonized world, through emerging print technology in the treaty port cities that

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[10] Fairbank and Goldman, *China: A New History*, 219.
[11] Jones, *Developmental Fairy Tales*, 28.

hosted imperial settlements. That fact alone should suggest strong linkage between an emerging anti-colonial identity and reflexive awareness as human beings encompassed by nature or the environment.

The work of the prodigious translator Yan Fu establishes this ideological connection more concretely. China's defeat in the Sino-Japanese War in the waning years of the 19th century motivated Yan, who studied at the Naval Academy in Great Britain, to devote himself to the more radical wing of the self-strengthening movement. Yan produced the first translations into Mandarin of some of the foremost British intellectual figures, notably the liberal economists Adam Smith and John Stuart Mill, as well as T.H. Huxley and Herbert Spencer, who helped popularize Darwin's evolutionary theory. The Chinese translator's selection of Spencer is particularly interesting. More than any other figure, Spencer articulated what is now known as Social Darwinism, the selective application of evolutionary theory and natural selection to human affairs. Like Spencer, Yan explicitly adapted the former's "survival of the fittest" to the political sphere. In this formulation, China's subordination to imperial nations in the West was nothing more than a law of nature. Indeed, in *On Evolution* Yan develops Social Darwinist determinism even further, comparing colonization and even genocide to struggle in the world of plants and non-human animals.[12]

Most importantly for our purposes, Yan's interpretation of Social Darwinism informed his conception of possible futures. Spencer's identification of the law of progress is revealing: "change from the small to the large, from the simple to the complex, from the elementary to the

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[12] Jones, *Developmental Fairy Tales*, 19.

advanced."[13] Yan and his contemporaries conceived of progress, like development, as inherently

desirable and almost inexorable. In the Western context the process of industrialization leads to

industrialism, just as the related process of modernization leads inevitably to capitalist

modernity. The Enlightenment notion of progressive self-development eventually led the notion

of "civilization," which, according to Raymond Williams, initially referred to a process rather

than a status.[14] Lastly, British neoclassical economists constructed an image of an ideal

economy, abstract and placed firmly in the future. Jones insists, on the other hand, that Chinese

intellectuals like Yan conceptualized development as the need to manage the effects of a

destructive modernity. Even as Yan "naturalized" the crimes of colonialism, most Chinese

intellectuals understood modernity as "China's humiliating and unequal participation in the

globalized historical time of the modern interstate system."[15] Early on, then, anti-imperial

consciousness produced a conflicted desire for an alternative to global capitalist modernity.

The importation and adaptation of evolutionary thought was clearly linked to the

development of a Chinese nationalism, as modeled in Benedict Anderson's paradigmatic piece

Imagined Communities.[16] If Darwinism and Chinese nationalism formed a causal relationship,

then both could be regarded rightly as endogenous to human-ecological interaction. The

intellectual history of the early modern period depended on increasing interaction and

interference with non-human nature. The endless search for natural resources animated the

imperialist projects of the industrial powers, which then stimulated the strong modernist ethic of

many Chinese nationalists. All of these ideological currents converge in the historical personage

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[13] Jones, *Developmental Fairy Tales*, 16.
[14] Williams, *Keywords*, 57-58.
[15] Jones, *Developmental Fairy Tales*, 19.
[16] Anderson, Benedict. *Imagined Communities*. London: Verso, 2006.

of Sun Yat-Sen, the founder of the Nationalist Party, Republican China, and, it is fair to say, the "father of modern China."

The great Republican leader Sun Yat-sen, significantly, was the first to propose the construction of a hydroelectric dam along the Yangtze River in the early 1910s. Given the chaos of the republican period, which was overrun by civil strife and conflict between warlords, Sun's proposal was more of a "romantic vision" than an incipient reality. However, this vision was connected with Sun's desire for a long-term modernization program, including damming the Yellow River and exploiting fossil fuel reserves. In a speech in 1924, Sun said that "'when that time comes, we shall have enough power to supply railways, motor cars, fertilizer factories, and all kinds of manufacturing establishments.'"[17] Sun's predicated his ideological support for modernization projects on "catching up" with the Western imperial powers and resisting China's "semi-colonial" subjugation.

As an ardent nationalist, Sun identified the state as progenitor and principal architect of modernization campaigns. The Three Gorges Dam was a convenient proposal, then, given the almost unimaginable technical apparatus required for such a project. Although authors argue as to when Sun first proposed Three Gorges, his most sophisticated argument for the dam came with the publication of *The International Development of China* in 1920. The book was dominated by potential water conservancy projects, some of them described in vivid technical detail. The idea of damming the Yangtze River clearly excited Sun, and he claimed the possibility of reaping 30 million horsepower in hydroelectric energy from the Three Gorges. Yet Sun, who advanced the populist political philosophy of the Three People's Principles, also

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[17] Chetham, *Before the Deluge: The Vanishing World of the Yangtze's Three Gorges*, 117.

insisted that the dam would benefit the public in addition to industry. "'The benefit to the people will be enormous and the encouragement to commerce will indeed be great.'"[18] In summation, Sun's state-led modernization program clearly invoked the struggle between "man and nature" to promote a nascent nationalist movement and counter Western influence.

Because of the political chaos of the Republican period, Sun never successfully united the Chinese nation under one popular government. However, Mao Zedong and the Communist Party revered Sun as a foundational figure, in spite of subsequent conflict with Sun's Nationalist Party. Harvard historian Judith Shapiro has demonstrated that with the "high socialist modernization" of the Maoist period (1949-1976), nature declined in status. Mao Zedong identified human struggle as the primary mobilizing force in society, and gave primacy to class struggle. Shapiro documented how the Maoist rhetoric of class struggle translated into environmental policy. Essentially, much in the same way people were mobilized to unseat the "counterrevolutionary" classes, mass mobilizations sought to overcome nature's obstacles. Indeed, one very popular Mao-era slogan was "Man Must Conquer Nature."[19] Mao's environmental thought directly contradicted traditional approaches that emphasized harmony between nature and human beings. Importantly, though, the struggle of humans against nature was conceptualized as a historically determined process that would inevitably result in human hegemony. "Indeed, the effort to unleash popular energy in a war against nature is one of the distinctive characteristics of Maoism."[20]

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[18] Yin, Liangwu. *The long quest for greatness: China's decision to launch the Three Gorges Project*. St. Louis: Washington University, 1996. 1-635. Ph.D. Dissertation. 475.

[19] Shapiro, Judith. *Mao's War Against Nature: Politics and Environment in Revolutionary China*.   Cambridge: Cambridge University Press, 2001. 1-287. 67.

[20] Shapiro, *Mao's War Against Nature: Politics and Environment in Revolutionary China*, 49.

Perhaps the most blatant examples of this attitude were the industrial projects pursued as part of the Great Leap Forward, a period from 1958 to 1961 of tragically misguided industrialization and famine that caused an estimated 20-30 million excess deaths. Mao framed the Great Leap Forward, in part, as a movement to "catch up" with the British in terms of steel production. The Great Leap Forward's campaign mentality demanded impossible agricultural quotas and resulted in massive deforestation. Mao's rhetoric indicated disdain for the natural world as a limit to human freedom. In an essay criticizing Stalin, Mao declared that "'Man's ability to know and change Nature is unlimited.'"[21]

Mao's antagonistic attitude toward non-human nature, which contained real roots in Marxian materialism, is best demonstrated by the innumerable dams constructed during this period. Between 1949 and 1990 80,000 dams were constructed in China, while by 1980 almost 3,000 of them had collapsed, causing significant loss of life and environmental catastrophe. Again, the Three Gorges Dam exemplifies the Chinese trend toward state-led modernization and manipulation of the environment on a massive scale. While the monumental Three Gorges Dam did not break ground until the 1990s, Mao was obsessed with the project, and even composed poetry in honor of it imminent construction:

> Winds flap the sail
> tortoise and snake are silent,
> a great plan looms.
> A great bridge will fly over this moat dug by heaven
> and be a road from north to south.
> We will make a stone wall against the upper river
> to the west
> and hold back steamy clouds and rain of Wu peaks.
> Over tall chasms will be a calm lake,
> and if the goddess of these mountains is not dead,

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[21] Shapiro, *Mao's War Against Nature*, 68.

she will marvel at a world so changed. [22]

Finally, Mao's policies incited the massive population boom that precipitated the One-Child Policy. Population nearly doubled during the Maoist period in China, rising from around 500 million to nearly one billion persons. In response to a paper by influential U.S. Secretary of State Dean Acheson, Mao pilloried the "Western bourgeois economist" Thomas Malthus and claimed that "it is a very good thing that China has a big population. Even if China's population multiplies many times, she is fully capable of finding a solution; the solution is production."[23] These and other policies coalesced into a radically antipathetic attitude toward nature, with disastrous results. In many respects, though, the formative years under Mao were merely a forerunner to the massive development and destruction of contemporary modernity.

In the years following Mao Zedong's death in 1976, China's political economy shifted toward "socialism with Chinese characteristics," or state capitalism. The Reform and Opening Up period witnessed a succession of heads of state (Deng Xiaoping, Jiang Zemin, Hu Jintao, and now Xi Jinping) dedicated to privatization of the Chinese economy while simultaneously maintaining authoritarian Party structures. The early Reform period, especially, emphasized increased material wealth over and above the socialist tendency toward equality of living standards and consistent income guaranteed by the state. "The alternative to equality was said to be *xiaokang* (well-off society), a state in which individuals sought their own pecuniary benefit."[24] Private entrepreneurial effort, accompanied by an enormous influx of foreign direct

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[22] Yin, *The long quest for greatness: China's decision to launch the Three Gorge's Project*, 345.
[23] Economy, *The River Runs Black*, 45.
[24] Tilt, *The Struggle for Sustainability in Rural China*, 62.

investment, initiated rapid industrialization of both cities and countryside. This vision of

modernity was the subject of an intense discourse and debate within political economy. The

benefits of capitalist modernization accrued in an uneven and inegalitarian manner, while also

shifting millions from poverty and creating an urban consumption class.[25] For our purposes,

however, the impacts of the Reform period are relatively clear. The complex of industrial

infrastructure powered by fossil fuels and dependent upon a marginalized migrant population

provoked a series of environmental challenges and catastrophes.

<u>Capitalist Modernity:</u>

<u>Effects and Rhetorical Mitigation</u>

Estimates vary, but the cost of environmental damage and resource exploitation to the

Chinese economy is roughly 8-12% of annual GDP, effectively offsetting the average rate of

growth in contemporary China.[26] Additionally, according to estimates by a UNICEF official,

China will undergo "a 25 percent loss of arable land, a 40 percent increase in water needs, a 230-

290 percent increase in wastewater, a 40 percent increase in particulate emissions, and a 150%

increase in sulfur dioxide emissions by 2020."[27] While these statistics may be difficult to

conceptualize, the effects of industrialization are already apparent in the dire public health

situation. The vast majority of Chinese citizens are threatened with severe deficiencies in air and

water. Linkages between particulate matter from factories and human health lead to an annual

death toll of around 300,000 people from air pollution.[28] According to the World Health

Organization, seven of the world's ten most polluted cities are located in China. A 2007 World

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[25] Harvey, David. *A Brief History of Neoliberalism.* Oxford University Press, 2005.
[26] Economy, *The River Runs Black*, 91.
[27] Economy, *The River Runs Black*, 93.
[28] Tilt, *The Struggle for Sustainability in Rural China*, 71.

Bank report estimated the economic damage of air and water pollution at $100 billion annually. Almost all of China's 50,000 kilometers of rivers are too polluted to use for drinking water or irrigation, and 80% of them no longer support fish.[29] China's officials speak of combating the "three emissions (*san fei*): air pollution, water pollution, and solid waste."[30] Different authors identify variable causes for the lack of state mitigation, but the literature is unified in its finding of a relatively anemic official response.

The previously considered case of the Three Gorges Dam, however, reflects a high level of state involvement. Neither Sun nor Mao succeeded in their goal to construct the hydroelectric dam, which was always conceived of as part of a wider modernization campaign. Deng Xiaoping, who initiated Reform and Opening Up in the years following Mao's death, attached his influence to the project early on. Once Deng decided in favor of the project, there was little possibility of a reversal in policy. "'I approve of the dam design. Be determined once decided! Don't vacillate.'"[31]

In 1989 the nuclear scientist and journalist Dai Qing published *Yangtze! Yangtze!*, which included a series of interviews with relevant actors. In part because of that book, Dai is now considered the most public dissident and intellectual against the Three Gorges Dam. In her interview with Li Rui, the retired engineer decried the 175 meter dam that would require 1.3 million to relocate, reminded readers of possible reconstruction costs due to sedimentation, and proposed several smaller dams and dikes instead. "Of course, dikes are not as grand as dams are

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[29] Day, Kristen A., ed. *China's Environment and the Challenge of Sustainable Development*.   Armonk, New York: M.E. Sharp, 2005. 1-270. 6-7.
[30] Tilt, *The Struggle for Sustainability in Rural China*, 112.
[31] Yin, *The long quest for greatness: China's decision to launch the Three Gorges Project*, 400.

and, hence, do not constitute a glorious testimonial to the builders."[32] In a similar fashion, Dai Qing lamented the grandiosity of China's leaders and called upon so-called "red specialists" to reconsider their faith in technology.[33]

Dai hardly constitutes a challenge to the Communist Party from the "New Left." Instead, much of her rhetoric relates to the strength of the state, which she argues would be undermined by the Three Gorges Project. The nuclear scientist views the project as a relic from the days of Mao-era collectivism, and decries in particular the relocation of hundreds of thousands of residents from the river valley. She put it succinctly: "The project is encouraging corrupt economic practices in enterprises and in the government and will lead to an enormous waste of resources, all while destroying the environment and violating the rights of the people."[34] The Chinese state official responsible for resettlement, in a fascinating rhetorical device, employed the term "developmental resettlement" in his book on the subject. Clearly, the party hoped to preserve the modernist associations of the Three Gorges, despite the clear dark side to the "development." Ultimately, however, Hu Jintao oversaw the completion of the Three Gorges Dam, inaugurating a new age of megadams and other large industrial infrastructural projects.

China faces its most serious challenge in global climate change, a phenomenon that threatens the sustainability of capitalist development, in addition to human existence on the planet. Two material facts attract particular attention. China will surpass U.S. GDP by 2020, and in 2005 earned the dubious honor of top emitter of greenhouse gases that contribute to global climate change. The Three Gorges Project was designed, in part, to reduce the carbon intensity of

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[32] Yin, *The long quest for greatness: China's decision to launch the Three Gorges Project*, 427.

[33] Dai, Qing. *Yangtze! Yangtze!* Earthscan Canada, 1994. http://journal.probeinternational.org/three-gorges-probe/yangtze-yangtze/ (accessed March 3, 2013).

[34] Qing, Dai. *The River Dragon Has Come! The Three Gorges and the Fate of China's Yangtze River and Its People*. 1998. 16.

China's economy. Moreover, neither of these data is per capita, and the projected peak population of 1.6 billion in 2040 necessitates considerable study.[35]

Many Western politicians blame Chinese intransigence for the absence of an international political agreement on mitigation and adaptation, yet ignore the historical responsibility of already industrialized Western countries for climate change. China itself has rightly argued that the attempt to mitigate climate change should rest on "common but differentiated responsibilities." Instead of engaging in an historically ignorant and quasi-imperialist condemnation of China, Western academics should heed the norms of environmental justice and assist China in "leapfrogging" past fossil fuels that traditionally powered industrial capitalist development. Given the above existential crises, China is a nation grasping toward an alternative notion of modernity, although it is unclear what specific destination will be reached.

One surface indication of China's attitude toward modernity is the state's rhetorical response to the aforementioned crises of human-environmental interaction. While state intervention into pollution and climate change has thus far been weak, state discourse deals directly with myriad environmental challenges. In 1992 China joined the UN Conference on the Environment and Development, and signed its own version of the Agenda 21 action plan. The 27 principles outlined in the so-called Rio Declaration essentially inscribe the right of future generations to live comfortably, a conceptualization of sustainability articulated in the Brundtland Report of 1987. In doing so, the state recognized the interrelationship between the environment and development. Deng Nan, a state official and the daughter of Reform-era leader

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[35] Day, ed., *China's Environment and the Challenge of Sustainable Development*, 5-10.

Deng Xiaoping, noted that "if environmental problems are ignored in the process of development, economic development will be severely hampered.'"[36]

Through these actions China appeared to indicate support for the concept of sustainable development, which calls for the incorporation of environmental concerns into growth plans, as a safeguard for future generations. As such, the 17th National Party Congress included the quite similar concept of "scientific development" in its platform in October 2007.[37] This dramatic rhetorical shift results from President Hu Jintao's notion of the "harmonious society," and is an attempt to mitigate rising social division and protest, much of which results from environmental degradation. Moreover, some state officials within the environmental ministry even supported a reduction in growth rates in order to protect the environment.[38] All of these factors combined reveal a sense of discursive change within the highest echelons of the Chinese Communist Party. Whether these rhetorical adjustments will translate into substantive practical policy measures is yet to be seen, but there are some available on-going case studies.

<u>Shanghai-Dongtan:</u>

<u>Regional, National, International</u>

As with many projects billed as "environmentally sustainable," the eco-city of Dongtan operates on multiple scalar levels. In order to understand fully the range of political and logistical implications of the city, it is necessary to consider the spatial dimensions involved. On the local level, Dongtan sits on the eastern flank of Chongming, an alluvial island along the Yangtze River

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[36] Economy, *The River Runs Black*, 197.

[37] "Sustainability in China." *Guardian* 23 01 2009, n. pag. Web. 2 May. 2012.
    <http://www.guardian.co.uk/environment/2009/jan/23/network-china-s
    ustainability-development>.

[38] Economy, *The River Runs Black*, 196.

Delta to the northeast of Shanghai.[i] The island, which falls beneath the same county

administration as Shanghai, more than doubled in size since 1950 as a result of deforestation and

soil erosion along the banks of the Yangtze.

Over 700,000 people live on Chongming, which consists mainly of agricultural land and

pristine wetlands. Currently the few permanent residents of Dongtan cultivate an estimated

10,000 acres of farmland, but the terrain is dominated by marshy wetlands. The Dongtan

Wetland displays some of the richest biodiversity on the planet, and remains one of China's

largest bird reserves. In fact, nearly 100 separate species of bird pass through Dongtan as part of

their annual migration patterns. National and international wildlife conservationists deem several

of these species rare and endangered, including the black-faced spoonbills, with only a few

thousand mature birds surviving.[39]

The Shanghai Industrial Investment Corporation (SIIC) acts as the main regional actor in

the Dongtan project. In 1998 the Communist Party Chief of Shanghai and member of the

Politburo, Chen Liangyu, steered the island of Chongming into the possession of SIIC. A

municipal state-owned enterprise (SOE), SIIC is a property company with offices in Hong Kong

and projects on the global stage.[40] The Shanghai municipal government also planned to

construct the Hu Chong-Su tunnel bridge from Shanghai to Dongtan, thus decreasing travel time

from the city core to around one hour.[41] Shanghai likely directed SIIC to acquire Dongtan to

undertake orthodox land development and city expansion. Throughout the 1990s Shanghai

experienced a massive influx of new urban residents, which caused housing shortages and a

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[39] Arup. *Shanghai Dongtan: An Eco-City*. N.p.: Sanlianc, 2006. Print. 132, 97, 107.
[40] "Visions of Ecopolis." *Economist* [London, England] 21 09 2006, n. pag. Web. 2 May. 2012.
        <http://www.economist.com/node/7904126>.
[41] Hald, May. "Sustainable Urban Development and the Chinese Eco-City: Concepts, Strategies,   Policies, and
Assessments." Fridtjof Nansen Institute, 2009. 48.

severe pollution problem.[42] Chen Liangyu, the Party Chief, was the original driving force behind the operation, suggesting that some element of local participation is required for plans to even begin.

Given that the area of Chongming Island under review is relatively uninhabited and composed of pristine wetlands, the Chinese government in Beijing reportedly required a focus on sustainability. According to Peter Head, an employee of the Arup engineering firm, "'Shanghai wanted to develop Chongming Island. The Beijing government was concerned about this as it presented a threat to the wetland and ecology of the island.'"[43] If true, this detail adds an important national component into the discussion surrounding stakeholders in Dongtan. Recent rhetorical and substantive shifts by China's so-called "Fourth Generation" of state leaders and bureaucrats may indeed uphold the veracity of the central government's ecological intentions. As aforementioned, then-President Hu Jintao produced the new terms "harmonious society" and "scientific development" with keen interest in addressing environmental threats. In any case the Dongtan project stands as an example of an urban sustainability project with national support.

Finally, Dongtan received critical international support, including, crucially, the participation of British "design, engineering, and consultancy" firm Arup. SIIC named the American Monitor Group, a global consulting firm, and the British Sustainable Development Capital LLP, an investment banking firm, as early allies in the process. They also indicated support from several transnational construction and research companies, including McKinsey & Company[44]. Prominent British politicians praised the international partnership between Western

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[42] Arup, *Shanghai Dongtan: An Eco-City*, 76.
[43] Hald, "Sustainable Urban Development and the Chinese Eco-City," 49.
[44] Hald, "Sustainable Urban Development and the Chinese Eco-City," 52.

companies and the Chinese government as a new model in urban development. In former Mayor

of London Ken Livingston pronounced the idea "breathtaking in scale and ambition,"[45] while

former Prime Minister Tony Blair joined former Chinese President Hu Jintao in a ceremony

celebrating signed contracts for Dongtan and future projects concerned with sustainable

development. In 2008 former Prime Minister Gordon Brown also lauded the efforts of Arup and

SIIC, and advocated similar projects in the United Kingdom.

In 2006 SIIC and Arup published a promotional book entitled *Shanghai-Dongtan: An

Eco-City* outlining the contours of the plan to build the Dongtan eco-city.[46] While it credits

Chinese editors for compiling the material, much of it background information on Chongming

Island and Shanghai-Dongtan, the over-200 page book also details Arup's "green master plan" to

develop the eco-city. Moreover, the opening segment of the book features Western luminaries in

the field of sustainable urbanism and the inspiring rhetoric of several Arup employees. The

publication of *Shanghai-Dongtan* serves as a neat encapsulation of the intentions of the regional,

national, and especially international actors involved.

Arup's context and goals, in particular, shine through the various English-language

essays of *Shanghai-Dongtan*. Arup selected Sir Peter Hall, an influential urban historian and

polymath with deep concern for sustainable cities, to set the agenda for the publication. Sir Hall

is also closely associated with emerging interest in urban regionalism, a focus that animated

Deng Xiaoping's decision to create special economic zones (SEZs) in southern China. Here the

well-reputed historian adopts a rather large frame of analysis. He specifically references

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[45] "Visions of Ecopolis." *Economist* [London, England] 21 09 2006, n. pag. Web. 2 May. 2012.
        <http://www.economist.com/node/7904126>.

[46] Henceforth I will refer to Shanghai-Dongtan, for interrelated reasons: a) the geographic proximity and plans to integrate the two sites and b) the planners themselves used this term.

Curitaba, Brazil and Bogotá, Colombia as role models in sustainable development, limited only in that they constitute already-existing cities. That fact does not necessarily reflect poorly on the Latin American states' record, Hall reminds us, given his trenchant critique of what he termed "the importation of universal sprawl from Los Angeles."[47] Simply put, Sir Hall advises the multinational planners to create a city "totally penetrated by green space inside" with a high density population supported by varied forms of mass transit, including buses and light rail. The short essay reflects upon the historical precedents for the sustainable integration of urban and rural regions, mainly in Europe, and advances a few core principles of urban efficiency without addressing the local circumstances within Shanghai-Dongtan. Ultimately, Sir Peter Hall seems to warn SIIC and Arup that a project of Shanghai-Dongtan's considerable scale requires the systematic extraction of lessons before "design for real" can begin.[48]

The internationally recognized sustainability expert Herbert Giradet, by way of contrast, clearly articulates what he takes to be the purpose of the eco-city project: to "demonstrate that it is possible to create a form of urban development that is environmentally sustainable while also offering a solid economic basis for its inhabitants."[49] Girardet's comments closely align with the concept of the "Triple Bottom Line" of people, planet, and profits. The primary force behind the Huangbaiyu eco-village, William McDonough, accorded with the "Triple Bottom Line" definition of sustainability, as reviewed below. Girardet also referenced Ebenezer Howard's Garden Cities design that was partially implemented in late 19th century Britain as a response to the environmental damage and social alienation inherent to rapid urbanization.

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[47] Bookchin, Murray. *The Limits of the City*. New York: Harper and Row, 1974. 73.
[48] Arup, *Shanghai Dongtan: An Eco-City*, 11-13.
[49] Arup, *Shanghai Dongtan: An Eco-City*, 18.

Lastly, *Shanghai-Dongtan* included an essay by Gary Lawrence, a sustainability pioneer who developed Seattle's ambitious municipal plan and is the director of the US Smart Growth Leadership Council. Lawrence expresses the optimism of "smart growth" policies to mitigate environmental catastrophe, from the urban-regional to the international scale. According to Lawrence, "SIIC and Arup see sustainability as a framework for problem definition, analysis and decision-making that can serve self-interest and the public's interests together."[50] Under this rubric, public-private partnerships reflect the complementary nature of sustainable development. The logical outcome of the "Triple Bottom Line" and "smart growth" philosophies is a recalibrated societal equilibrium that addresses ecology while preserving the profit motive.

Finally, Terry Hill, the Chairman of Arup, offers a brief foreword to the British company's master plan. Hill's introductory remarks outpace even Girardet in their ambition: "Dongtan will define the future of sustainable urban development for the world and provide a blueprint for the planning of further sustainable communities in China and beyond."[51] At first the confident use of future tense (i.e. "Dongtan will…") suggests an unsubtle hyperbole in Hill's declaration. On the other hand, the full array of international interests involved in the Shanghai-Dongtan project speaks to the immense importance of ecologically-orientated urban design. Urban planners, policy makers, and the public are united in that they lack a coherent example of a city designed entirely for sustainability, even one allowing for a modest profit. Shanghai-Dongtan would serve as an exemplar to the world of global ecological civilization, with the city-region selected as the fundamental unit of sustainability.

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[50] Arup, *Shanghai Dongtan: An Eco-City*, 23.
[51] Arup, *Shanghai Dongtan: An Eco-City*, 55.

As mentioned above, the city holds predominant importance as the site of any remotely

sustainable society. The uniform optimism and praise for the project in *Shanghai-Dongtan*, the

Arup-SIIC promotional book, captures the sense of the singular importance of the project.

Respected figures like Peter Hall and Herbert Girardet likely agreed to promote Shanghai-

Dongtan because of the enormous promise of urban regionalism in China. While Howard's

Garden Cities never systematically challenged British industrialism, the planners of Shanghai-

Dongtan explicitly rejected the city's parasitism over the surrounding region for food resources

and waste deposits. Moreover, the selection of the Shanghai-Dongtan city region encapsulates

the best elements of urban regionalism, and retains the added advantage of political pragmatism.

Kent Portney, another sustainability scholar, writes persuasively:

> in terms of sustainability, ecosystems or species habitats are the appropriate levels at
> which the environment should be viewed, but in practice there is little correspondence
> between the geographic area of an ecosystem and the boundaries of governmental
> jurisdictions…If the focus on cities as sustainable units represents a concession to
> political realities, is it, in fact, possible to develop the political will to address issues of
> sustainability in cities, even if it cannot be done at the state or national level? To the
> degree this is achievable, cities undoubtedly constitute important governmental
> jurisdictions.[52]

Later in this essay I will consider Shanghai-Dongtan's unfulfilled potential as a

"development project" that recognized the fundamental tension between the urban and rural

within capitalist economic frameworks. Indeed, the editors of Arup's promotional materials

seemed quite conscious of their project's novelty and rejection of "business as usual." They note

that "up until now, there is neither a mature theory of eco-cities to follow, nor any existing

examples in the real world to draw upon" and that "without a clearly defined method of

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[52] Portney, Kent E. *Taking Sustainable Cities Seriously: Economic Development, the Environment,   and Quality of Life in American Cities*. Cambridge: The MIT Press, 2013. 1-380. 15-16.

sustainable economic and urban development, the utopia of environmental idealism can only follow from splendor to oblivion."[53]

<u>The "Master Green Plan" in Theory and in Practice</u>

The splendor of environmental utopianism is on full display in the pages that follow. Arup's plan was to transform eastern Chongming Island into a model of urban sustainability, while preserving the other two-thirds of the island for open wetlands and agriculture. Within the new eco-city, Arup planners imagined three smaller towns would arise organically. The Marina Village, with its ferry and open waterfront, should emphasize study and play; Lake Village, another center for international tourism, should focus on play and lifestyle; lastly, Pond Village should contain residential units and include elements of lifestyle and work. The aesthetic quality throughout the three imagined villages arose out of constant contact with "nature and wildlife," a sense of "surprise" and "place," and landscape designed to facilitate appreciation of four discrete seasons.[54]

However bucolic, Arup's master plan presented a very detailed schematic of the contours of the eco-city: in energy production, public transit, waste removal, and the residents themselves. First, *Shanghai-Dongtan* called for a high density city to support the viability of public transit, the ease of pedestrian transport, and the general aim of energy efficiency. The city's total density would be 100 persons per hectare, while the net residential density would be 220 persons per hectare. Interestingly, these figures are dwarfed in comparison with the residential densities of immense cities like Hong Kong and Shanghai proper. Still, the editors noted that there are no

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[53] Arup, *Shanghai Dongtan: An Eco-City*, 126.
[54] Arup, *Shanghai Dongtan: An Eco-City*, 158, 152.

clear environmental benefits, and certain psychological setbacks, of urban concentrations above 120 persons per hectare. Finally, homes and other buildings would be designed to more efficiently consume energy inputs, ultimately reducing energy use by 70%. Many buildings would be covered with vegetation or "green roofs."[55]

Second, public transit would provide the vast majority of transportation. Arup planners envisioned hydrogen fuel-cell buses as the future of mass transit, in conjunction with the Hu Chong-Su train from Shanghai to Chongming. By this combination of light rail and buses, the alienating impacts of contemporary cities would be drastically reduced. Indeed, residents would only need to walk seven minutes maximum (from any single part of the city) to reach a public transport route. The master plan allotted significant space to pedestrians and cyclists, as the "low carbon future" spread to the level of lifestyles of community members. *Shanghai-Dongtan* framed these transportation networks as possessing an added benefit – friendlier and more physically fit residents.

The challenge of energy production likely looms larger than regulation of residents' caloric intake, given the requirement of a carbon-neutral eco-city. Other promotional materials listed diverse energy sources including a rice husk biomass power plant, a wind farm, biogas from solid waste and sewage, and solar power. All of the energy generated by wind turbines would be directed to the "energy supply centre" in the New Energy Park. The New Energy Park would serve several functions. As a public park in the center of the eco-city, residents and tourists would flock to its large water park and outdoor playground. Again, the image is equally cosmopolitan as it is pastoral[ii]:

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[55] Hald, "Sustainable Urban Development and the Chinese Eco-City," 50.

> From the international leisure centre, people can take boat journeys along the
> canals which are fringed with aromatic plants where bird sing [sic] all the way to
> New Energy Park…The water park and outdoor playground feature a large funfair
> with many attractions such as a labyrinth, picnic sites, hot air balloons, kite-
> flying, horse riding, boating, water skiing, speed-boat racing, sailing, canoeing,
> water theatre and much more.[56]

Additionally, the New Energy Park would retain a didactic quality. An energy exhibition center

would educate visitors on the proliferation of renewable energy technology, and the dialectic

between energy and humanity.

As a final design principle for the eco-city, all waste would remain within the bounds of

the city. Herbert Giradet elucidated the reasoning for a highly intensive regime of waste

management. "To become sustainable, cities have to mimic nature's circular metabollism, using

and re-using resources efficiently and eliminating waste discharges not compatible with natural

systems."[57] Ninety percent of all waste was to be recovered for use in the biogas plant and

composting. William McDonough's philosophy of design, again, incorporates strong rhetoric in

support of mimicking natural metabolisms. McDonough's formula that "waste = food" will be

considered in the section on Huangbaiyu.

These and other visions led *The Economist* to describe Shanghai-Dongtan as an

"ecotopia." Because of SIIC-Arup cooperation, Shanghai-Dongtan is more appropriately

considered "a "green" master plan…another showcase urban sustainability project…a new

opportunity for unparalleled ecological achievement or monumental failure."[58] In fact, Arup's

"green master plan" may have been too specific. By this I mean to say, quite emphatically, that

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[56] Arup, *Shanghai Dongtan: An Eco-City*, 186.
[57] Arup, *Shanghai Dongtan: An Eco-City*, 18.
[58] Yanarella, Ernest J. and Richard S. Levine. *The City as Fulcrum of Global Sustainability*. New   York City: Anthem Press, 2011. 1-285. 221.

the top-down micromanagement of Shanghai-Dongtan allowed for nearly no public involvement.

A structural and scalar analysis of the planned eco-city should not exclude the residents of

Chongming Island and Shanghai proper. Indeed, Giradet explained the preeminence of local

knowledge while arguing that truly sustainable development depends on cultural change:

> The greatest energy of cities should flow inwards, to create masterpieces of human creativity, not outward, to draw in ever more products from ever more distant places. The future of cities crucially depends on utilising the rich knowledge of their people, and that includes environmental knowledge. Cities ultimately reflect their inhabitants. If we decide to create sustainable cities, we need to create a cultural context for this to happen. In the end, only a profound change of attitudes, a spiritual and ethical change, can bring the deeper transformations required.[59]

SIIC and its partner Arup could hardly have overlooked the above citation from Giradet,

since it appeared in their own publication as marketing material compiled to draw support for the

project. Yet there is no evidence that any of the villagers were consulted or involved in design.

Local participation is not only important because of the invaluable knowledge of long-term

residents of the land, but also because of the human right to a political voice in one's personal

destiny. If interested in sustainability, human societies must radically redefine their political and

economic as well as cultural infrastructure. Cultural and ethical change will only be meaningful

if the population can act on their preferences. As Amartya Sen stated in *Development as*

Freedom, "freedoms are not only the primary ends of development, they are also among its

principle means."[60] Here Sen encapsulates the elementary principles of democracy and self-

determination. Without meaningful public participation (if not complete control), well-

[59] Arup, *Shanghai Dongtan: An Eco-City*, 21.
[60] Sen, Amartya. *Development as Freedom*. London, England: Oxford University Press, 1999. 10.

intentioned sustainable development projects like Shanghai-Dongtan will fail to create models of what society desperately requires. That is, a future without irreversible environmental catastrophe.

The lack of local participation was compounded by intrigue within the systematically corrupt Chinese government. In 2006 Chen Liangyu, the driving force behind the project in Shanghai, confronted charges of misappropriating pension funds and was swiftly sacked by the central government.[61] Without Shanghai's central figure, confusion ensued as to which actor would provide the majority of capital to actually construct Shanghai-Dongtan. At one point SIIC accused Arup of being more interested in its own "economic sustainability," meaning short-term profit, than environmental sustainability.[62] Additionally, the sheer complexity of actors involved may have led to some unknown conflict that prevented further collaboration.

As of 2013, Shanghai-Dongtan has not been built. The "master plan" aimed at 25,000 residents of the city by 2010, in time for the World Expo, a population of 80,000 by 2020, and substantial size of 500,000 by 2050. Yet the proposed eco-city lies fallow, and the mostly unspoken consensus is that it might never be built. The complexity of interests and interactions evinces the transnational nature of environmental protection and attempts toward sustainability, but it also reflects an unfortunate democratic deficit in sustainable development. With local participation lacking, and the absence of any significant regional support, the project fell through. The tension between national and international forces and the lack of local participation

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[61] "The harder they fall." *Economist* [London, England] 28 09 2006, n. pag. Web. 2 May. 2012.
        <http://www.economist.com/node/7968324>.
[62] Hald, "Sustainable Urban Development and the Chinese Eco-City," 52.

stand out as particularly irrevocable obstacles for Shanghai-Dongtan.[63] Ultimately the divergent priorities of Arup, SIIC (and Shanghai), and local residents likely doomed this technocratic yet idealistic project.

Shanghai-Dongtan deserves further study because of its sensible recognition that city-regions are the primary site of sustainability. If the city had actually been constructed, it could have served as an unprecedented model for governments and citizens interested in sustainable cities worldwide, and especially in China and Europe, given the United Kingdom's early interest. If it pursues regionally integrated sustainability efforts, China may be able to contend with the enormous environmental challenges detailed above. Without local participation guiding the process, however, it remains doubtful that urban sustainability can provide a coherent alternative to the imperatives of state capitalism in China and the world.

<div align="center">Huangbaiyu:</div>

<div align="center">Successful Conception, Failure by Design</div>

Huangbaiyu contrasts with Shanghai-Dongtan in at least two fundamental respects: it is an eco-village, and, to some extent, it was actually built. Huangbaiyu was an already existing village located half an hour from Benxi City in Liaoning Province in northern China.[iii] In 2005 the China-U.S. Center for Sustainable Development (CUSCSD) inaugurated Huangbaiyu as a "Sustainable Development Demonstration Village."[64] CUSCSD is essentially an NGO with offices located in both China and the U.S. The organization's stated goal is to "promote

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[63] Sigrist, Peter. "Dongtan Eco-City: A Model of Urban Sustainability?" *Urban Reinventors Online Journal*. March 2009. 8-9.

[64] May, Shannon. "A Sino-U.S. Sustainability Sham." *Far Eastern Economic Review*. (2007): n.   page. Web. 2 May. 2012. <http://www.feer.com/articles1/2007/0704/free/p057.html>.

sustainable development principles through a unique network of public-private partnerships."[65]

Interestingly, Deng Nan, one of the daughters of Deng Xiaoping, the former leader of Reform era China, is co-chairperson of the China secretariat. Meanwhile, William McDonough, an architect and prominent advocate of sustainable development, co-chairs the U.S. side of the organization. A group of international firms, including the architectural firm McDonough + Partners, selected the village to create a paragon of sustainable development.

McDonough and others envisioned a village with a population of around 1500 people, with nearly all of the waste produced by this community recycled back into the system through a biogasifaction plant. All of the houses within the village were to be built using hay and pressed-earth, and feature solar panels on their roofs. The houses themselves were planned more closely together and with wide streets in order to facilitate community interaction.[66] The CUSCSD chose Huangbaiyu in part because of the presence of Dai Xiaolong, the village community director and a local entrepreneur.

Of the 400 houses planned, only 42 houses have been completed in Huangbaiyu, and their final form does not conform precisely to the original plan. Only three of the houses were built using hay and pressed-earth; instead, developers used hay and compressed coal dust, hardly sustainable. Additionally, only one of the houses features a solar panel, with the rest dependent on biogas. Finally, and for no apparent reason, garages were constructed in each of the houses, even though none of the villagers could expect to purchase a car.[67] The final price of the houses was double what any villager could be expected to afford, and did not meet any of the self-

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[65] May, Shannon. Huangbaiyu The Project: The facts." Web. http://www.shannonmay.com/Huangbaiyu_Facts.html
[66] Yanarella and Levine, *The City as Fulcrum of Global Sustainability*, 213.
[67] May, Shannon. "A Sino-U.S. Sustainability Sham." *Far Eastern Economic Review*. (2007).

imposed sustainability requirements of McDonough's firm.[68] Shannon May, who as a graduate

student studied and lived in Huangbaiyu for over a year, described the price of the houses as

increasing to $10,000-12,500 each (approximately twelve times the local median income), and

reported that no water, electricity, or energy systems were installed in the homes that were

actually built. The promised $25,000 biogasifaction plant was never built, and today most of the

houses lie empty on land that the villagers previously farmed.[69] Even if the plant had been built,

it may have conflicted with the lifestyle of the villagers. Agricultural waste in the village is

typically used to maintain cashmere goats, but would have been diverted to provide surplus

energy for the biogas plant.

<u>Huangbaiyu:</u>

<u>Tentative Conclusions</u>

Several divergent interpretations immediately arise out of the example of Huangbaiyu.

First, Shannon May notes that the CUSCSD is almost entirely funded by Fortune 500 companies,

many of which simply used the Center's contacts with the Chinese government to their benefit.

May suggests that this fact reveals a certain disingenuousness on the part of the Center, but the

contradiction may be internal to the ideology of sustainable development. McDonough often

asserts that commerce, rather than regulation, is the best strategy in combating climate change

and ensuring environmental sustainability. His book *Cradle to Cradle: Remaking the Way We

Do Things* asserts the possibility of resolving the tension between nature and industry.

McDonough seeks to resolve the so-called "technical and biological antagonism" through

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[68] Yanarella and Levine, *The City as Fulcrum of Global Sustainability*, 213-215.
[69] May, Shannon. "A Sino-U.S. Sustainability Sham." *Far Eastern Economic Review*. (2007). 58-60.

development that accounts for all stages of the human lifecycle.[70] Indeed, if the waste recycling model of Huangbaiyu was built, it could have served as a model for other communities intrigued by sustainable waste practices.

As part of the preparation for EXPO 2000 in Hannover, Germany, McDonough + Partners pieced together the "Hannover Principles," a document that explains the principles of sustainable design. The Hannover Principles begins on the basis that the "challenge for humanity is to develop human design processes which enable us to remain in the natural context."[71] McDonough proceeds to develop several practical principles in order to aid that process. "Design" is conceptualized not as a hindrance but as an essential agent in sustainable practices. This leads to McDonough's definition of sustainable design as "the conception and realization of environmentally sensitive and responsible expression as a part of the evolving matrix of nature." Within this list of principles and William McDonough's writings in general, it should be noted, there is no reference to the social obligations of sustainable design.

McDonough ideologically identifies with the "Triple Bottom Line" concept of development with the three pillars of people, planet, and profit. When McDonough visited Huangbaiyu he reportedly said to the villagers: "'we hope whatever we do will make you happy.'"[72] Even despite this apparent commitment to socially sustainable development, the example of Huangbaiyu demands an alternate interpretation. According to a PBS documentary on the village, there was only one meeting between McDonough + Partners and local residents.

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[70] "Introduction to the Principles of Cradle to Cradle Design Framework." 2002. Web.
[71] McDonough + Partners. "The Hannover Principles: Design for Sustainability." (1992). Web.
    http://www.mcdonough.com/principles.pdf
[72] Schafer, Sarah, and Anne Underwood. "Building in Green." *Newsweek International*. 26 09   2005: n. page. Web. 2 May. 2012.

This meeting included the 31 members of the village committee, whose understanding of the plan to develop Huangbaiyu the documentary describes as "incredibly naïve."[73] Shannon May claimed that there were no all-village meetings held in Huangbaiyu. In any case, as May reminds us, the design did not include any "specific standards set according to the local situation,"[74] and local participation was not a factor throughout the entire process.

<div align="center">Alternative Modernity Possible, Still</div>

In this respect, at least, the case of Huangbaiyu was quite similar with that of Shanghai-Dongtan, with issues of scale largely ignored and an attempt to "remove or marginalize issues of political participation and stakeholders' negotiations for sustainable urban design from every level of the city – from the neighborhood to the metropolis."[75] The planners of Huangbaiyu also embraced top-down planning and a consumerist growth model, all of which ultimately resulted in "unmitigated failure."[76]

Rather than focus on the undeniable failure of the two projects, it is useful to return to the concept of a hegemonic modernity. As New Left intellectual Wang Hui contends, "the upshot is that the teleology of modernization that has dominated Chinese thinking for the past century is now being challenged."[77] Most of the Chinese critique relates to neoliberal globalization as the peculiar shape of late capitalism, but this does not forbid future critical analysis of environmental and especially urban sustainability. The recognition that capitalist economic globalization

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[73] Lesle, Timothy, dir. *China: Green Dreams: A (Not So) Model Village*. PBS Frontline Fellows, Film. <http://www.pbs.org/frontlineworld/rough/2007/05/china_the_new_w.html>.

[74] May, "A Sino-U.S. Sham," 60.

[75] Yanarella and Levine, *The City as Fulcrum of Global Sustainability*, 217.

[76] Yanarella and Levine, *The City as Fulcrum of Global Sustainability*, 221.

[77] Wang, Hui. *China's New Order: Society Politics, and Economy in Transition*. Cambridge: Harvard University Press, 2003. 1-256. Print. 195.

coincides with anti-democratic political processes suggests the possibility of a revival of

democratic participation in a variety of fields and disciplines, including urban sustainability. In

order to understand this possible revival, though, it is first necessary to examine the

unsustainable nature of "modernity."

PART II:

The Rise and Fall of the "Modern"

The identification of modernity with neoliberal capitalism is something of a misnomer. Cultural historians point to the early 17th century for the first deployment of the word modern, and trace out its different connotations in the centuries since then.[78] Yet, for the most part, "the modern" signifies the liberal rationalist values first systematized during the European Enlightenment period, which roughly lasted from the mid-17th century to the first years of the 19th. The ideological interpretations of this modernity begin with Max Weber, who "defined modernity in terms of the spread of markets, formal law, democracy, bureaucracy, and technology."[79] The similarities with neoliberalism are unavoidable, although the connection between capitalism and democracy should be questioned.

Still, contemporary critics point to "the heart of global capitalism – efficiency, calculability, predictability, technological advancement and control."[80] As cultural values, the above simply cannot be denied as central to our version of modernity. Weber's general categories are themselves contested, though. Thinkers as diverse as Immanuel Kant, Wilhelm von Humboldt, William Godwin, and even occasionally Adam Smith expressed pre-capitalist and even anti-capitalist sentiments in their political polemics.[81]

Yet Weber saw the figures of Enlightenment thought as beholden to a secular faith, namely progress. As such, "the triumph of reason culminates not in the establishment of a

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[78] Calinescu, Matei. *Five Faces of Modernity: Modernism, Avant-Garde, Decadence, Kitsch, Postmodernism*. Durham, North Carolina: Duke University Press, 1987. 13, 23-25.

[79] Feenberg, Andrew. *The Technical Turn in Philosophy and Social Theory*. Berkeley and Los Angeles, California: University of California Press, 1995. 26.

[80] Hubbard, Phil; Kitchin, Rob; Bartley, Brendan and Duncan Fuller. *Thinking Geographically*. New York City: Continuum, 2002. 222.

[81] Arrighi, Giovanni. *Adam Smith in Beijing: Lineages of the Twenty-First* Century. New York: Verso, 2007. 1-418. 42-43.

Chomsky, Noam. *Class Warfare*. London: Pluto Press, 1996. 19-23, 27-31.

rational utopia imagined by the Enlightenment philosophers but in the forging of an 'iron cage' of economic compulsion and bureaucratic control.[82] The application of instrumental reason to social problems, so exemplified by the positivism of the industrial (capitalist) revolution, here takes the form of a dogmatic ideology. The harmless humanism of the majority of Enlightenment thinkers is perverted into a rejection of what originally animated them: the moral, the cultural, and the solidary instincts present in human nature. Weber's version of the Enlightenment conflicts with these tendencies, which are, of course, aspects of human life necessary to a sustainable existence on Earth.

The relevance of the contemporary debates on modernity lies in the application of instrumental reason on material reality through technology. As social critic Andrew Feenberg noted, "the social goal of science is ostensibly human liberation through progress *over nature*."[83] In this sense the question of sustainability escapes from the morass of modernity as a central problem. Although we may specify "science" as the instrumental technologies used for the benefit of a certain class, be it aristocratic or capitalist, the clear historical legacy of its progressive application is ecological destruction. As Lester Milbrath claimed, "'the most important reality in today's world is that modern industrial civilization cannot be sustained.'"[84]

Capitalist modernity is incapable of accommodating this fact. Previous crises in the structure of the world economy were skillfully subsumed by capitalist logic. The best example of this process came with the militarized economy of World War II, which, in combination with the labor and social movements, led to the development of a welfare state. In this case, though, the

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[82] Gaonkar, Dilip Parameshwar. "On Alternative Modernities." *Public Culture:* Volume 11, 1 (1999). 8.

[83] Feenberg, *The Technical Turn in Philosophy and Social Theory*, 53 (italics added).

[84] Kassiola, Joel Jay. *China's Environmental Crisis: Domestic and Global Political Impacts and Responses.* Chicago, Illinois: Palgrave Macmillan, 2010. 197.

crisis threatens the existence of capitalism (putting aside the fate of the species). Although capitalist modernity is defined by its impressive dynamism, it cannot abide constraints on its economic growth. It must grow, or die.

In the mid-19th century the British neoclassical economist William Stanley Jevons unwittingly articulated a fundamental element of industrial modernity. Britain depended enormously on coal power both to fire steam engines and to smelt iron, the other lynchpin of the industrial revolution. Jevons was tasked with measuring coal production in order to understand whether Britain's industrial (and therefore imperial) supremacy was threatened by dwindling reserves. In *The Coal Question* the author concluded, over 150 years ago, that the supply of coal was likely limited to a few decades. Jevons overlooked the rise of petroleum and other hydrocarbons, thus rendering his calculations off by about a century. Yet the political economist was one of the first to insist on the transience of finite fossil fuels. Even more significant, he stumbled upon a law of capitalist economy:

> *It is wholly a confusion of ideas…to suppose that the economical use of fuel is equivalent to a diminished consumption. The very contrary is the truth.* As a rule, new modes of economy will lead to an increase of consumption…It is the very economy of its use which leads to its extensive consumption.[85]

In other words, any increase in the efficiency of energy production will be offset by an even larger increase in demand, driven by the profit motive.

The Jevons Paradox is nothing less than a law of capitalist production – efficiency lowers costs, which causes the capitalist to further expand the scale of his or her operation. Therefore, liberal capitalist modernity's insistence on efficiency is itself a contradiction. As Marxist

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[85] Foster, John Bellamy, Brett Clark, and Richard York. *The Ecological Rift: Capitalism's War on   the Earth.* New York City: Monthly Press, 2010. 1-544. 171 (italics in original).

sociologist John Bellamy Foster observed, "carbon emissions generally increase with modernization and its concomitant "improvements" in technology and gains in efficiency…Marx explained that capitalism prevents the truly rational application of new science and technologies because they are simply used to expand the operations of capital."[86] Of course, capitalist industrialization continued well past Mr. Jevons and his contemporary Marx, with severe damage to the environment. Climate change presents a novel challenge to the species precisely because there is no way to "externalize" the ecological costs of consumption. This time, the crisis is global.

New Left intellectuals in the United States recognized this relationship between industrialization and environmental catastrophe even before the cognizance of climate change. During the radical activist culture in the 1960s critical theorist Herbert Marcuse launched a critique of technology as not merely damaging to the environment, but to human social relations as well.[87] In doing so the German philosopher resuscitated Weber's negative description of the Enlightenment as built on domination of man by man. The thrust of this historical critique of technological instrumentalism can be summarized through Winston Churchill's apt phrase "we shape our buildings and our buildings shape us." In some sense our societies become embedded within the very technologies we create, as Heidegger's notion of "giganticism" attests.

Yet technical structures, despite their enormity, are anything but insurmountable. Marcuse's analysis, by extending the critique of technocracy to an emphasis on technology, encounters the danger of sacrificing its force as a social alternative. By logical extension, capital-t Technology assumes the position of pernicious destroyer, rather than the class relations of

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[86] Foster, Clark and York, *The Ecological Rift: Capitalism's War on Earth*, 141.
[87] Feenberg, *The Technical Turn in Philosophy and Social Theory*, 31.

capitalism. Perhaps more crucially, and as Habermas has argued, too rigid a critique of technology "confuses the selective deployment of reason under capitalist modernization with the nature and telos of reason itself."[88]

Despite the apparent conflation of control of technology with technology itself, the critical reading of normative assumptions and values within technological frameworks is not only useful, but absolutely essential. Our ecological challenges, in order to be successfully broached, must be recognized as partly technical. Yet technical modernity carries with it the regression of efficiency under climate change and the aforementioned Jevons Paradox. Ecological modernists, appropriately named, insist that industrial capitalism can accommodate global warming solely through renewable energy technology and other technological fixes. These advocates of "green capitalism" conveniently ignore the importance of scale, as well as popular involvement in technology.

"Technological change is promoted in an attempt to argue that social relations (of power and property) can remain the same…the way technology is embedded within the social system is ignored."[89] Yet modernity is at least implicitly upheld and guaranteed by the participation or acquiescence of a great mass of people. If an alternative to the destructive tendencies within modernity can be imagined, it must be built with extensive popular support and participation.

As Feenberg notes, "modernization itself…is a contingent combination of technical and cultural dimensions subject to radical variation."[90] In both Shanghai-Dongtan and Huangbaiyu, the control of sustainability projects belonged almost exclusively to government officials,

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[88] Gaonkar, "On Alternative Modernities," 10.
[89] Foster, Clark and York, *The Ecological Rift*, 43.
[90] Feenberg, *The Technical Turn in Philosophy and Social Theory*, *x*.

company representatives, and architects and urban planners. Public participation, if not control, will be contingent to any future grasping at a sustainable urban (or rural) order. This "democratization of technical change" is sometimes criticized as undermining the expertise of experts. In actuality, "public intervention may actually enhance technical rationality by bringing significant issues to the surface early in opposition to vested interests entrenched in the design process,"[91] many of which were mentioned above. The power relations within any public or private project can be significantly altered by increased public participation and local control, regardless of the location of that project.

Still, a jarring question remains after examining some elements of technical modernity in Shanghai-Dongtan and Huangbaiyu. Why China? Why did professional elites with ties to both the Chinese and Western governments dedicate so much energy to a project that ultimately failed? To answer this crucial question we must interrogate the process of modernization in China itself, and the possibility of an alternative modernity.

<u>Modernity, Alternative</u>

Historians such as Arif Dirlik rightly mention that, at least in a temporal sense, contemporary Chinese society is in itself modern. "Modernity in China, as it is globally, is a contested terrain where different experiences of the modern produce not a homogenous modernity, but a cultural politics in which the conquest of the modern is the ultimate prize."[92] In this sense the modern can be localized beyond Earth, state, and even city-region to every individual who aims to participate in or challenge existing reality. Even if industrial capitalism

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[91] Feenberg, *The Technical Turn in Philosophy and Social Theory*, 7, 12.
[92] Dirlik, Arif. "Modernity as History: Post-Revolutionary China, Globalization and the Question   of Modernity." *Social Theory*: Vol. 27, 1 (January 2002). 33.

permeated every dim and dusty corner of the globe, each individual would experience that modernity differently. Even still, modernity is a sociological concept that speaks to structure, especially class relations and the power dynamic within technological systems.

Joel Jay Kassiola proffers a useful starting point for an alternative modernity: "Furthermore, this non-Western, alternative model of sustainable development and just social order needs to address our human and planetary existential finitude unlike the way in which the ideology of unlimited economic growth is in denial and in conflict with our existential finitude."[93] Clearly, an alternative to industrial capitalism must be sustainable environmentally and socially. The value of an alternative depends upon its success as an institution, as alternative modernity. Kassiola is necessarily vague, however, if only because a coherent alternative to our contemporary crises does not yet exist. Nevertheless, the author attempts to reinvigorate Confucianism as a cultural context for an alternative to the "grow or die" mentality.

Kassiola proceeds to selectively examine certain Confucian values, such as collective morality over material self-interest, indicating that these values by themselves undermine industrialism.[94] Confucian and political philosopher Daniel A. Bell similarly attempts to reawaken certain Confucian values, although he emphasizes "humane authority" and often appears to support developmentalism.[95] If fruitful, this reinvigoration could contribute much to the discourse on sustainability, and certainly could have moderated the materialist and consumerist impulses of Shanghai-Dongtan and Huangbaiyu.

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[93] Kassiola, *China's Environmental Crisis*, 207.
[94] Kassiola, *China's Environmental Crisis*, 210-213.
[95] Bell, Daniel A. *China's New Confucianism: Politics and Everyday Life in a Changing Society*.   New York City: Princeton University Press, 2008. 1-231.

However, this approach should seek to avoid totalizing the Chinese experience from a Confucian perspective. In "Human Rights and Asian Values: A Defense of 'Western' Universalism," published in an edited volume by Bell, Jack Donnelly describes the so-called Singapore model of liberal capitalism with an authoritarian political system.[96] Western scholars too often represent East Asia (and China) as a monolithic subject possessing either Asian authoritarian or Confucian "values." As Dirlik warns, "for all the talk about Asia and Asian values over the last few years, the idea of Asia remains quite problematic, and so do the ideological and cultural sources from which Asian values are to be derived."[97] It is unclear how much cultural currency Confucianism retains as a conveyer of social values. As such, segments of the Chinese New Left rely on the Maoist tradition to emphasize elements of the deteriorating social contract, like the safety net of housing and healthcare. Confucian values may well reemerge in producing an alternative to industrial capitalism, but decidedly Western intellectuals must resist the temptation to cleave the world into a simplistic "clash of civilizations."[98]

If there ever was such a clash between West and East, it happened long ago. In fact, the history of Western imperialism in China is common knowledge. One imperial outpost was the coastal city of Shanghai, located at the mouth of the Yangtze River on the Yangtze River Delta. As a result of a series of invasions by foreign Western powers, but especially the British in the Opium Wars, Shanghai was established as a treaty port city in 1842. Treaty port cities were coastal trading centers physically occupied, in part, by foreign powers, with secured the privileges attendant an international occupation, including extraterritoriality.

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[96] Bauer, Joan R. and Daniel A. Bell. *The East Asian Challenge for Human Rights.* New York City: Cambridge University Press, 1999. 1-394.

[97] Dirlik, Arif. "Modernity as History: Post-Revolutionary China, Globalization and the Question   of Modernity." *Social Theory*: Vol. 27, 1 (January 2002). 22.

[98] Huntington, Samuel. *The Clash of Civilizations and the Remaking of World Order*. Simon &   Schuster, 1996.

Extraterritoriality was a system "under which foreigners and their activities in China remained answerable only to foreign and not to Chinese law."[99] The International Settlement in Shanghai also included Western cultural sites, such as social clubs, race courses, and Christian churches. Treaty port cities also tended to inculcate Western economic institutions like private banks. Shanghai's International Settlement served as a Western enclave, and as China's entrepôt into the outer world through trade. The cosmopolitan city of Shanghai carries with it the dark legacy of Western imperialism, whose silhouette persists still.

<u>Shanghai as the Site of the Modern:</u>

<u>Imperialism in the Past and Present</u>

"Shanghai has come to serve as the location of choice in the examination of Chinese modernity – as it is also for the [Chinese] regime, which has decided on making Shanghai into a showcase as the vanguard for the contemporary search for modernity."[100] Here, finally, stands a clear connection between the discourse of modernity and the eco-city projects in Shanghai-Dongtan and Huangbaiyu. Of course, the Shanghai municipal body SIIC spearheaded the Dongtan project, which lies on Chongming Island within commuting distance of the cosmopolitan metropolis. Planners openly framed the eco-city as a showcase for the World Expo that was held in Shanghai in 2010: "Whilst Shanghai will wish to be seen by visitors as a dynamic, high-density city striving for world-city status, it also aims to show that sustainability and access to nature are very important concerns in modern China."[101] Perhaps this statement appears relatively innocuous. As geographers have shown, however, space and place are

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[99] Fairbank and Goldman, *China: A New History*, 203.
[100] Dirlik, "Modernity as History," 29.
[101] Arup, *China: A New History*, 156.

thoroughly implicated in the modernist project of neoliberalism. The all-important role of international capital in the Shanghai-Dongtan project forcibly demonstrates "the economic power of an 'extraterritorial' elite,"[102] a fundamental feature of modern capitalism. The unknown preferences of the residents of Chongming Island are considered irrelevant.

Moreover, David Harvey elucidates another law of globalized capital – the greater the mobility and restlessness of capital, "'the greater incentive for places to be differentiated in ways attractive to capital.'"[103] Shanghai-Dongtan was, indeed, a response to genuine domestic concerns about the sustainability of industrial development. But the process of construction, even if the project somehow goes forward, remains highly problematic. Contemporary geographers describe economic globalization not as the freedom purportedly promised by modernism, but as a growing homogenization of culture. The considerable hype for Shanghai-Dongtan, as expressed in official and journalistic documents, employed the fashionable term "sustainable" so often not out of deep commitment to ecological principles, but instead to appear hypermodern and to attract foreign capital.

Harvey also observed the trend of redeveloping waterfronts in major cities, in order to attract profits through "place marketing" and tourism."[104] While the thrust of Harvey's criticism was to note the disparity between lavish waterfronts and gutted inner city cores and even central business districts, another applicable description emerges – the tendency to "embrace the ephemeral, the fashionable, and the new."[105]

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[102] Hubbard et. al, *Thinking Geographically*, 202.
[103] Hubbard et. al, *Thinking Geographically*, 210.
[104] Davidson, Mark. "Urban Geography: Waterfront Development." *March 3, 2013.*
http://wordpress.clarku.edu/mdavidson/files/2012/03/Waterfront.pdf 6.
[105] Hubbard et. al, *Thinking Geographically*, 211.

Finally, planners both Chinese and Western originally envisioned Shanghai and Dongtan as an integrated system. The promotional book prepared by ARUP spoke to Shanghai-Dongtan's financial sustainability when it mentioned the primary economic function of the eco-city, as an "international leisure centre aimed at Shanghai" and a "regional tourism sector targeted at the high-end commercial market."[106] The danger here is that the actual residents of Shanghai-Dongtan would be ignored in favor of "high-end" visitors. The same promotional material referred to the proposed eco-city as the "green lungs" of Shanghai, evoking organic imagery to describe the leisure pursuits of wealthy Shanghai residents enjoying parks and wetlands. The American landscape architect and social theorist Frederick Law Olmsted referred to his parks projects as the "lungs of the city," which also echoed Ebenezer Howard's suburban Garden Cities.[107] Yet if Shanghai-Dongtan is to be truly sustainable, how can it support waves of tourists flocking to its city limits, even if they decide to use mass transit?

Urban planner Peter Sigrist worries that "although Arup is not intent on promoting a neoliberal agenda, the environmental sustainability discourse surrounding Shanghai-Dongtan may attract a wealthy transnational social class that would displace the island's current inhabitants" and that "Dongtan exemplifies China's moves toward market-oriented urban planning."[108] In several respects Shanghai-Dongtan did not represent the self-determination of its own residents, a fact that, in retrospect, legitimizes Sigrist's fears. Shanghai-Dongtan, as a single unit, embodies the conflicted relationship between town and countryside in contemporary China. Shanghai municipal planners disregarded Chongming's status as a pristine wetland, leading one

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Harvey, *Neoliberalism: A Brief History*, 90, 118.
[106] Arup, *Shanghai Dongtan: An Eco-City*, 132.
[107] Arup, *Shanghai Dongtan: An Eco-City*, 152-153.
[108] Sigrist, "Dongtan Eco-City: A Model of Urban Sustainability," 9.

sustainability expert to rate the project "'hardly a truly sustainable option.'"[109] The tension between town and countryside, of course, is not a novel phenomenon in China. While urban regionalism seeks to integrate the urban with the rural and reduce the carrying capacities of specific communities, for centuries the Chinese context has been predicated on the subjugation of the countryside for the benefit of the urban elite. In tracing the development of urban-rural relations during the anti-imperialist movements of the early modern period, we can better appreciate the fundamental sources of economic tension and the state's strategic emphasis on one or the other community (i.e., Shanghai-Dongtan or Huangbaiyu).

Chinese intellectuals' first significant contact with Western liberalism resulted in the New Culture Movement of the late 1910s and early 1920s, which was connected to anti-imperialist protest in the urban centers of Beijing and Shanghai. The movement's thought was marked by general disillusionment with Chinese culture and a creative interaction with Western concepts of democracy and science. Importantly, the urban-based intellectuals of the New Culture Movement regarded rural areas as bulwarks of feudalism that comprised the "degrading aspects of the Chinese tradition."[110] Soon afterward, in the late 1920s and throughout the 1930s, the attitude of urban intellectuals to the countryside radically altered. Margherita Zanasi, historian of the Republican Period in China, observes a "neo-conservative backlash" in 1930s China, as city intellectuals cut off by the worldwide economic depression looked inward to the hinterland for national rejuvenation. The instability of the warlord period, in which military figures vied violently for centralized control, also catalyzed the reconsideration of rural China.

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[109] Yanarella and Levine, *The City as Fulcrum of Global Sustainability*, 221 n.4.

[110] Zanasi, Margherita. *Saving the Nation: Economic Modernity in Republican China*. Chicago: University of Chicago Press, 2006. 1-320. 60.

The Chinese Communist Party grew out of the earlier ferment of the New Culture Movement, as it was founded in 1922. Yet the Party owes its successful reunification in large part to its willingness to address peasants' concerns of exploitation not just by foreign imperialists, but by Chinese landlords. "Marxist historians in China in the 1920s and 1930s wrote about the relationship of Shanghai (and other coastal urban areas) to the interior as a colonial relationship, similar to the relationship of global metropolitan centres to Shanghai."[111] So Chinese socialists, at least, imagined an imperial relationship between coastal cities in the hinterland, mirroring the unequal treaty system of Western colonialism.

<div align="center">Equilibrium of Town and Country:</div>

<div align="center">From Shanghai-Dongtan to Huangbaiyu</div>

One might expect the tension between village and coast to dissipate under the Communist regime, as sympathetic leaders resist the powerful instinct to extract surplus through taxes and crops. As has been widely studied, optimistic expectations were either misguided or simply naïve. Journalist Michelle Loyalka documented the suffering of China's migrant workers, 200 million of whom flock each year to major urban cities to find work.[112] Even after they are ensconced in the city, migrant workers are subject to significant discrimination in housing through the *hukou* system. In 1958 the Chinese Communist Party formulated the *hukou* policy, essentially a household registration system that functions as an internal passport, in order to regulate urbanization. Given the recent economic reforms, many peasants judged migration to

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[111] Dirlik, "Modernity as History," 32.

[112] Loyalka, Michelle Dammon. *Eating Bitterness: Stories from the Front Lines of China's Great Urban Migration.* Los Angeles: University of California Press, 2012. 16-17.

the cities as in their material self-interest. The Chinese Ministry of Housing and Urban Development estimates 300 million more rural Chinese will become urban dwellers by 2025.[113]

Under the *hukou* system, migrant workers are treated as if they were undocumented immigrants. Migrants encounter systematic discrimination in housing, medical care and education, with the constant danger of being deported home. Of course, this is just one glaring example of the social contradictions of the countryside in modern China. As reviewed earlier, rural China faces severe environmental catastrophe such as water pollution from factories and natural resource depletion.

In response to these compounded crises, the Party in 2006 renewed its commitment to poor peasants while calling for a "new socialist countryside."[114] During the Seventeenth Party Congress of that year significant state aid was promised to meet housing and welfare needs of China's peasants, with the stated aim of increasing the income of people living in rural areas. Former Prime Minister Wen Jiabao first articulated the idea of the new socialist countryside, perhaps hoping to tie his own legacy to incipient alternative modernity, but his words and Party policy borrowed heavily from the so-called New Rural Reconstruction movement.

Wen Tiejun, a prominent agriculture professor associated with the Chinese New Left, coined the name New Rural Reconstruction. In doing so he implicitly suggested a link with the first Rural Reconstruction movement of the 1920s and 1930s, which promoted agricultural cooperatives and peasant self-determination. The modern grassroots movement sought to

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[113] Qi, Chen. "The Sustainable Economic Growth, Urbanization and Environmental Protection in   China." *Forum on Public Policy:* http://forumonpublicpolicy.com/vol2012.no1/archive/chen.pdf

[114] Arrighi, *Adam Smith in Beijing*, 16.
Yanarella and Levine, *The City as Fulcrum of Global Sustainability*, 208.

alleviate what Wen termed the "three disparities" of Chinese modernity: rich vs. poor, city vs. countryside, and region vs. region.[115] Here again arises imagery of dualistic exploitation and inequality in China. Sociologist Giovanni Arrighi contends that there is a pattern of "metropolis-satellite relationships through which the metropolis appropriates economic surplus from its satellites for its own economic development."[116]

Before further examining the "metropolis-satellite relationship," a caveat must be appended to the rhetoric of the new socialist countryside. Granted that the Chinese Communist Party possesses a real interest in improving the lives of its impoverished citizens, the impetus behind the 2005 Five Year Plan was not altruism, but rather the profit motive. American John Zoellick praised the plan because "if the prosperity of rural Chinese improves even marginally, they will probably buy more American goods and the US trade deficit with China will decrease."[117] Zoellick's statement speaks primarily to American interest in rising rural incomes, as increased domestic demand could provide U.S. industrialism with an immodest revival.

The new socialist countryside programme is properly interpreted as an attempt to create a rural middle class, for two reasons. First, "public incidents" or protests have skyrocketed in the countryside since the 1980s, mostly for environmental reasons. The Chinese government (probably) rightly believes that an increase in rural welfare will limit the possibility of rebellion. Second, a rural population improved purchasing power would lead to a burgeoning domestic consumer market for the Chinese, as well, not only the Americans. At the very least, Chinese

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[115] Wen, Tiejun. "Deconstructing Modernization." *Chinese Sociology and Anthropology.* 39.4 (2007): 10-25. 16.
[116] Arrighi, *Adam Smith in Beijing*, 22.
[117] Arrighi, *Adam Smith in Beijing*, 293.

peasants with some disposable income would constitute a captive market in comparison with fickle Americans.

The Huangbaiyu eco-village demonstrates a strong similarity to this materialist form of thinking. Although McDonough + Partners did not arrange for any gainful employment for village members, all of the new, supposedly sustainable, houses were centrally located on what was once prime farmland. Moreover, the decision to include garages in the new houses for peasants with an annual income of about $1,000 is patently absurd. McDonough + Partners and Chinese state planners shared the same vision of a rising consumer class in the Chinese countryside. The plan for a new socialist countryside might have worked, but with its goal of enriching only a segment of the rural population, it was hardly socialist. Even disregarding economic ideology (if possible), the decision to transform the rural hinterland into an automobile-based society fails to meet the basic prerequisites of sustainability.

<div align="center">Conclusion: Alternative Modernity Possible, Still</div>

As is evident by this description of efforts toward sustainability in China, much work remains to adequately cope with the extensive environmental damage that already exists. The threat of future environmental catastrophe will require much more work. Contemporary projects merely beholden to national, international, and corporate interests failed to either design or implement effective sustainable strategies. Yet the necessity for sustainable cities remains strong, the explanation of why Shanghai-Dongtan and Huangbaiyu failed is important in order to open up potential political possibilities for other projects. Contemporary and future efforts will determine the shape of political space in the age of environmental contingency and adaptation, a version of modernity we are already living in.

Despite the failure of these two cities, "the pursuit of the strategy of sustainable city-regions presents itself as a cultural alternative and a political possibility for breaking through these many entwined socioeconomic and political emergencies."[118] In spatial terms, the role of national and international stakeholders (e.g. governments, transnational corporations) must be checked by the input and involvement of local populations. The cases of Shanghai-Dongtan and Huangbaiyu demonstrate an important point about development by way of negative example. Namely, sustainability strengthened by popular participation and control could constitute an alternative to the "doom loop" of perpetual growth and environmental catastrophe within the present world system. In other words, the sustainability of human societies needs democracy.

I contend, conclusively, that an alternative to industrial capitalism must be socialist, or it will be weakly subjective and then cease to exist at all. My personal views on this matter coincide with Lin Chun's careful study on *The Transformation of Chinese Socialism*. Lin explains that "rethinking development in China cannot imply renouncing development as such on either ethical or environmental grounds. The grand social need of economic development remains very real and justifiable."[119] Still, a radical reconsideration of the ethical and environmental underpinnings of economic development, itself a nebulous category, only supplements the search for a (nonstate) socialist alternative. Shanghai-Dongtan and Huangbaiyu catalyzed the reconsideration of developmentalism, but the project of an alternate modernity remains incomplete. In the near future China will be the site, if any, of ecological civilization. The most serious task, looking forward, will be getting from here to there.

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[118] Yanarella and Levine, *The City as Fulcrum of Global Sustainability*, 234.
[119] Lin, Chun. *The Transformation of Chinese Socialism*. Durham and London, North Carolina: Duke University Press, 2006. 275.

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ii

iii

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