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Practices of Ecological Citizenship:
Global Dreams for a Chinese Village

by

Shannon Kathleen May

A dissertation submitted in partial satisfaction of the

Requirements for the degree of

Doctor of Philosophy

in

Anthropology

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Liu Xin, Chair
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Abstract

Practices of Ecological Citizenship:

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University of California, Berkeley

Professor Liu Xin, Chair

In a small rural village in the mountains of Northeastern China, a transnational assemblage is building an internationally lauded eco-city. Examining the global dreams for a green “sustainable community” in Huangbaiyu Village opens up a window on to the science of global warming and the ecological rationality to which it gives rise. Taking the site of Huangbaiyu not as a bounded physical location, but a nodal point through which multiple logics, values, and persons converge, I ask: What type of self and society do the structures of the eco-city shape through its spaces of inhabitation and systems of survival?

The construction of an eco-city is itself more than a built environment; it is a physical manifestation of a system of values and a record of power. In the name of a shared community of fate, new assemblages of authority and practices of governance are emerging. As scientific models ground political discourse, the name through which authority to act upon a population is invoked is no longer only the state, but also the planet, in which *every* person has a vested interest and for which *every* person is responsible. Under these terms, everyday practices of living become subject to judgment, transformation and discipline by persons never met in the name of protecting the planet.

In China, the uncertainties of global climate change align with national anxieties over the “three rural problems”: agriculture, farmers, and the countryside. In the name of sustainable development, the villagers of Huangbaiyu are again becoming the object of alien ends. This time it is market consolidation, not Communist collectivization that is re-ordering value in the countryside. In the name of protecting a “planet in peril,” the villagers of Huangbaiyu would be dispossessed of their access to the natural resources of their valleys. In the name of improving their quality of life, they would be forced into either wage labor or abject poverty.

What is at stake in Huangbaiyu is not only of consequence to the persons who have inhabited its spaces, but to all those who are encountering the ethical claims operationalized by ecological citizenship, or are thinking of making such claims on others. Unless attention is focused on what – and who – a new hierarchy of ecological value *devalues*, an ecological age may prove to be little different from the present industrial age.

To 这

*for challenging me to consider
that happiness
might be at least as important
as thought*

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A dissertation in anthropology is difficult because while it is a research and writing project, it is also a very personal process of self-discovery and maturity. The anthropologist *lives* her material, and that living means that it is an emotional, complicated, and long process through which many personal and professional debts are acquired.

Every day I worked with my data, I was reminded of the courage of the people who spoke with me and let me live their lives with them: the courage to tell me personal thoughts, the courage to speak about their aspirations to design a new city, the courage to openly discuss government plans, the courage to reflect on corporate missions, and the courage to reflect on work that did not go as planned. It is not an easy thing to allow someone in to your life and work as an observer and questioner, and yet dozens of people did.

Funding for the research of this dissertation came from the National Science Foundation, UC Berkeley Dean's Office, and Intel Corporation. This dissertation would not have been possible if Intel Corporation's People and Practices Research Group had not offered me a research internship, and informed the China-US Center for Sustainable Development (the Center) that I would be conducting my dissertation research under their auspices, and requested my full inclusion in the organization. As a member of the Center's Board of Councilors, Intel was in a position to make such a request and have it honored. I do not think that such extensive and open access to all the elements of the Center's work would have been possible without Intel's support. John Sherry, Tony Salvador, Richard Beckwith, Scott Mainwaring, and Ken Anderson were particularly supportive and helpful.

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Unlike many anthropologists working in China I never had my research or living directly curtailed by government or party officials. It is still not allowed for a foreigner to live in a village in China, and it took the active engagement and the opening of "back doors" by many government officials for my visas to be granted. The welcome that I received from the municipal government is a testament to their support of and hopes for the Huangbaiyu project. Professor and Benxi Assistant Mayor Dai Limin was a close colleague during my stay in Huangbaiyu, someone with whom I could speak about anything. He is a respected forestry ecology scholar, and a thoughtful policy advisor and management official for his city's government. Sishanling's Party Secretary Zhang Shuyuan was a close confidante who never bit his tongue, and made me feel at home.

I must give a special thanks to William McDonough who, despite his fame and renown, made himself available for my questions in person and over the phone, in Huangbaiyu, Beijing, and Maui. He is a man with a kind heart, guided by a strong vision. Dai Xiaolong also generously opened

up his home to me when I first arrived in Huangbaiyu, and included me in every aspect of his daily life.

If the perspectives from which I could observe, participate and raise questions about Huangbaiyu only came from the people working with the design firms, government offices, corporations, and institutions working to redefine it as a “sustainable community,” this would be a very different dissertation. While this dissertation is not explicitly about life in a rural Chinese village, having lived in Huangbaiyu for sixteen months is the foundation for everything that follows. I was unfathomably lucky to be “adopted” into six different extended families within Huangbaiyu’s hamlets. There are not enough words for the thanks that I owe to the dozens of people who opened their homes, their woks, and their hearts and minds to me. I am sad that my “godfather” has died without my being able to share this with him, but I look forward to being able to return to my second home often, and continue to share our lives with each other. I owe the most thanks to Shao Fuxiang and his extended family, who opened up their home to Jay and me, and let us burn as much firewood as we wanted. At various intervals both Dai Dandan and Seth Patch offered friendship, helped me keep humor about it all, and borrow a shower.

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The research and writing of this dissertation has spanned six years, three continents, a wedding, a new project, and a baby. While it often seems that everything has changed, one thing has been consistent, my partner in everything: Jay.

One

Introduction: Green Dreams and Schemes

Nestled deep in between two ridges at the end of the Changbai mountain range in Eastern Liaoning Province, a string of hamlets hug the mountain slopes in a narrow string of valleys known as Huangbaiyu. These mountains long served as a dearly sought after barrier from the outside world, as the families who chose to originally settle here were refugees from famine at the end of the Qing dynasty, or from the invasion of the Japanese in the early 20th century. Thick-forested mountain ravines guarded against both the pangs of hunger and chaos of war. The steep ravines and serpentine valleys protected its residents from being discovered in the once forbidden lands of the Qing Dynasty's sacred forest, safeguarded them from enslavement in the Japanese iron and coal mines of newly conquered Manchuria, and insulated them from one of the great battles of China's civil war just kilometers away. Once the People's Republic of China was founded in 1949, waves of development programs would sweep the countryside, each bringing a new discipline as to how people were to live, and re-ordering their daily lives.

When the once feared Japanese iron mine on the other side of the mountains become part of the foundation of China's planned industrial revolution, Huangbaiyu became a transit point between the open-pit iron mine in Nanfen District and the steel plants in Benxi City. In the 1950s and 1960s, the residents of Huangbaiyu's valleys felt that as they descended into mines and dug up rock that they were literally taking part in Mao Zedong's plan to remove the mountains that stood in China's path to industrial modernity.¹ But other than as witnesses and participants in China's ability to literally move mountains to smelt a modern nation, the residents saw little of the world beyond their own role in China's production of steel. Telephone lines only reached into the ravines in 2001, and the images of television only came with the cable lines connected in 2004. Until 2000, the majority of homes were still built of mud and straw, with earthen floors and paper windows.

Suddenly, it would seem that change was to come quickly, and radically. By 2008, the entirety of Huangbaiyu's twelve hamlets were to be demolished and rebuilt as the prototype of a "sustainable community," a joint China-US project often referred to as the "China-US sustainable development demonstration village."

China-US Sustainable Development Dumplings

Despite the presence of the construction zone that had taken over fifty five mu of farmland

¹ Mao made a speech to the 7th Party Congress in July 1945 known as the "Yugong Yishan" speech. Mao Zedong, "Yugong Yishan," in *The Selected Works of Mao Tse-tung*, Vol. 3 (Peking, Foreign Language Press, 1965), 272. In his rendition of the ancient Liezi parable of "The Foolish Old Man who Moved the Mountain," Mao calls upon every person in the nation to tear apart the mountains of feudalism and imperialism blocking China's path toward modernization and development. Later, this speech became part of the "Lao Sanpian" or "Three Folktales" that were taught and memorized across the country during the Cultural Revolution. See Chapter Three, "Opening Ceremonies," p.41 for a description of how this parable was lived by residents of Huangbaiyu during the Cultural Revolution.

where maize had been previously harvested, the pattern and activities of daily life continues much as it has for a generation on a waning autumn day in October 2005. The hand-numbing work of pulling corn cobs from stalks and stripping the husks from the ear of the corn is at last done for the day, and an impromptu group of friends crisscrosses the concrete floor of Yi Wen's house, relieving sore muscles with the massage of verbal jabs as they prepare the little crescent moon-shaped dumplings stuffed with Chinese chives and a little egg that will soon fill their bellies.

That I walked through Yi Wen's door—invited by the small sign announcing that the front room of his home was also a makeshift restaurant for local passersby—is testament that the world the first residents of Huangbaiyu had come here to avoid, had found them. Indeed, a hungry woman from beyond the mountains (and a very big ocean as well) standing at Yi Wen's doorstep was just the latest sign that his village was now visible on a global map. This particular global map was drawn from a perspective grounded in the anxieties of the future effects of global climate change.

Chinese government officials, international organization managers, Fortune 500 business representatives, and journalists have come to Huangbaiyu to dream about a “green” future, and to save their own way of life and homes in worlds far away from here through the construction of a new, master-planned “sustainable community” in this valley. Presumably, the new eco-houses in a new eco-town will replace unsustainable houses and hamlets in which the valley's residents currently live, and improve their quality of life.

Yi Wen's restaurant stands just across the road from the formal entrance to this new prototype. I had come here to wait for Dai Xiaolong, the head of the village government and local developer of the project to arrive. I had been waiting all day. Despite his role as elected Director of the Village Committee as well as the project's developer, he did not live in Huangbaiyu. So I was waiting for him to drive in his new black Toyota Prado into the village where everyone else walked. I was not allowed to idly sit and stare out the window for long before my hands were tasked with helping Yi Wen and his friends prepare their early dinner.

That afternoon I got more than a lesson in how to make dumplings. I received my first lesson in how the people whose lives were to be improved by residing in the model village perceived the new development across the street, and the international partnership that was behind it. As I joined the process of tucking and pressing the circles of dough around dollops of Chinese chives, the local second grade teacher announced that these were now “China-US Harmonious Dumplings!” Despite the public pronouncement of harmony, all was not well with my dumplings, I was told. I was neither tucking nor pressing properly. The cook, who served as the village's Communist Party Secretary for twelve years, teased that when the dumplings were boiled, everyone would know which ones I had made—“The American ones will fall apart!” I received several hands-on lessons, but my tucking and pressing that day never met the local standards.

Ignoring my deficiencies, every time a new person entered the one-room restaurant, the production of “China-US Harmonious Dumplings” was announced to great hurrah. After another critical review of my process, it was decided that while my dumplings might hold together in the boiling water, they probably would not taste good. Another woman chided the group, saying, “Even if they are not good, they must be eaten! They are Chinese-American Harmonious Dumplings after all!” Having heard the last interchange, another resident who had just stepped in declared: “They are not just Harmonious Dumplings, they are Sustainable Development Dumplings, and China-US Sustainable Development Dumplings always succeed! We shall eat them all!”

There was anxiety amongst these farmers that night that the houses across the road may just have to be “eaten,” despite the fact that all of them doubted whether such houses could improve their lives. The gleam of the promises made to them by the local government and developer that they would have new lives in magical houses where they would no longer need to labor to feed fires to survive the winter had tarnished when they saw the first phase of the model sustainable

development village built. Given the cracks already rending through the cement walls even before the first freeze, none held out hope that the houses would last ten years, let alone the fifty that they expected the houses they had each built themselves to last. Nor did they know that the Chinese technical advisors to the project were already publishing that such straw bale houses would last 100 years, without any supporting background data, and before even a single one of the straw bale houses in Huangbaiyu was constructed.²

Yet, it was the tiny walled yards of the “sustainable community’s” identical houses that worried them the most. They were farmers, after all, and all but Yi Wen made the majority of their money from the land, be that from selling kernels of maize, cashmere of goats, schools of fish, or pupa of silkworms. Each of these businesses required either more space than the yards allow, or closer proximity to the mountain slopes or streams than permitted by the master plan.

They also knew that under certain conditions they may be given little option but to reluctantly “eat” those houses, just as they had to “eat bitterness” during the various political campaigns that had frequently come to their countryside since 1947 and reorganized families and land in the name of improving their lives. And now, not only would the houses severely affect their ability to earn a living, they were also expected to purchase the new houses at cost, after trading in their old houses, yards, corrals, and kitchen gardens.

No one knew how families’ current holdings would be evaluated, since there was no market in real estate in Huangbaiyu, or elsewhere in rural China. No one had ever purchased a house; they had only ever built houses on land allocated to their families by the Village Committee. When I mentioned that the developer, and their elected leader Dai Xiaolong, had stated in a meeting with higher-level government officials that their houses were worth RMB 15,000-20,000, the old, former Communist Party Secretary laughed. He told me that he had just spent his life’s savings, and his son’s savings, and borrowed money from five other families to build a new house. It cost him RMB 50,000, and it was just how he liked it. “Even if it were free, I don’t know if I’d move. The Communist Party moved us once before—but now we walk a new road.³ How is that house better for me? ”

I told the Old Secretary that the house and the town it was part of was being built as a prototype of how China’s countryside could be urbanized without increasing its energy consumption, and without the population migrating to the cities. I told him that China’s government and US corporations were worried about how development of China’s countryside would exacerbate the harmful effects of global climate change. Everyone in Yi Wen’s room just stared at me. “Climate change? Oh. We hear about that on TV. Those houses, the land, how is that about the weather?”

² Wang Jing, Zhang Xu, and Yan Naiying. “严寒地区节能型村镇能源规划” [Energy Plan for Energy Conservation Village in Cold Areas], 技术交流 (February 2005): 54-57.

³ “Walking a new road” is an idiomatic way of stating that China is no longer following Mao’s communist plans, but following the path opened up by Deng Xiaoping’s economic reforms. The Old Secretary’s implication is that after Reform and Opening, the Communist Party could no longer force him to move; it would be up to him to decide for himself.



Figure 1.1. Huangbaiyu's central valley seen from the eastern mountains. Framed by the bend in road, the China-US Sustainable Development Demonstration Village stands in the center of the frame. Dry Riverbed spreads southward just across the road to the left, and Western Mountain Riverside is slightly to the northeast separated from the "sustainable community" by a small field. Dai Xiaolong's office complex is visible with its bright red, peaked roof on a partial fourth storey. Yi Wen's house is in the cluster of residences just across the road from Dai's office, at the base of the mountain.

Green Dreams

Market capitalism has won the ideological fight over communism as the means to achieve the good life after 1989 that fueled the Cold War, but it has also generated its own internal crisis on which to feed new growth. The fear being fed is still of mutually assured destruction, but now the power to control what will be mutually assured is no longer thought to reside solely in the hands of a few national leaders with access to a nuclear arsenal, but in the minutia of daily life of every person on the planet—how we heat our houses, how we cook, where we dump our waste, how we move.

The means of potential future destruction is no longer nuclear warheads streaming from a launch pad to a target, but molecules of carbon emanating everywhere, affecting everyone. The source of electricity for a light bulb, the method by which dinner is cooked, how a room is heated, what materials are used to construct shelters, and how people move between them all become sources of concern. When every human settlement is a source of peril, populations as large as the 800 million people who live in rural China become a menace. What if they too want to live the American dream? Living on the peripheries of the industrial-consumption revolution, this population is not consuming its fair share, but if it did, it is feared the destruction to the earth would be catastrophic. Yet, enabling those people left behind by the first industrial revolution to consume more without increasing carbon emissions would also generate a hefty profit for those persons and companies who were able to entice all of those "peasants" to become customers, particularly if they could get the government to dictate development regulations using branded products. To reconcile this apparent crisis of capital, American architect and widely adored sustainable design guru William

McDonough has called for the *next* industrial revolution: continued market expansion, product development, and capital growth, but without ecological destruction.

It was this vision of rural China as both potential menace and miracle that inspired a complex multinational assemblage of people, governments, institutions, and corporations to come together to build a “sustainable community” across from Yi Wen’s house for the people of Huangbaiyu. In China’s impoverished countryside, a new model for ecological living, an eco-town, would be built. Quality of life—indoor sanitation, centralized fuel for heating and cooking from biogas, a dense community with public parks—would increase quality of life but without increasing energy consumption and carbon emissions; it would prove that development could continue unabated while not contributing to the threat of global warming.

As announced by the China-US Center for Sustainable Development, this prototype was to be built in four phases of construction, spanning three years. In the program based on William McDonough + Partner’s Master Plan for the new “sustainable community,” Phase One included two model homes; 40 residential homes, including an integrated potable and grey water community system; and a biomass gasification facility with energy distribution to each home for purposes of heating and cooking. A remodel of the village elementary school was also included in the plans for Phase One, so that it would no longer be necessary to burn coal in each classroom. Phase Two, slated for construction in 2006, would see an additional 100 homes built, followed by the 150 homes of Phase Three. The construction of the model “sustainable community” would be brought to a close with the last 110 houses of Phase Four in 2008. As a visiting Chinese district-level party secretary noted during construction of Phase One in 2005, the completion of the project to create a “China-US Sustainable Development Demonstration Village” in Huangbaiyu was well-timed to coincide with Beijing’s “Green Olympics,” scheduled to being in August, 2008.

At 8:18am on April 28th, 2005, ground was broken for the construction of the first model house, with Phase One scheduled to be complete by July 2005. In the summer of 2004, the fifty five mu, or just over 9 acres, of land that now comprise the construction site of Phase One were head-high with row-after-row of hand-planted corn. By the middle of July, the previous year’s stalks of corn had given way to pillars of fly-ash blocks, and the claws and shovels of earthmovers worked to prepare the ground for rows of houses. In 2005, the harvest of this farmland was to be that of shelter, rather than grain.



Figure 1.2. Construction of Phase One of the China-US Sustainable Development Demonstration Village. Existing villagers’ residences can be seen in the background, at the foot of the mountain.

Despite high hopes, and the involvement of Chinese national and local officials, US corporate advisors, university urban planners, as well as the renowned architect William McDonough and his firm, July came and went, and the first phase of the “sustainable community” was not finished and no one had moved in. The next deadline of September passed too. When construction still was not complete by mid-October, freezing temperatures forced all work to cease until mid-April 2006, when the thaw would come and there was no longer fear of heavy snow. Another summer deadline passed. In September 2006, two families whose homes had burned down the previous May in an electrical fire were coerced into moving into two of the houses constructed as part of Phase One, even though none of the communal infrastructure that was originally highlighted as the means through which this sustainable development project would improve rural residents lives while preventing increased carbon emissions had been built. There was no running water, no in-door sanitation, and no gas for heating or cooking. The houses provided neither improvement in quality of life, nor contributed to protection of environmental resources.

Four years after groundbreaking, the developers abandoned the new Huangbaiyu. In person, it is derelict. But if you only know of it through the various documentaries made lauding it when it was still stalled in construction, you might think that this real estate project actually did provide the solution to a perilous conflict between increasing energy consumption and global climate change. Even in 2011, it is still being heralded in academic journals as an eco-city, as if it exists as such, instead of being abandoned, its promised eco-technologies never built.⁴



Figure 1.3. Derelict houses in the “sustainable community,” Huangbaiyu. Throughout the winter snowdrifts build up along the empty paths and empty houses.

⁴ Hans Opschoor, “Local sustainable development and carbon neutrality in cities in developing and emerging countries,” *International Journal of Sustainable Development & World Ecology* 18, no. 3 (2011), 190-200.

How did the ambitions of so many passionate and intelligent people come to naught? The lessons of Huangbaiyu are disturbing, as they point to the limits of the promise of global justice through the rise of ecological citizenship. A citizenship premised on a global community of fate may lead to even greater disenfranchisement and inequity for the already disadvantaged if interventions in the name of future generations and the planet supersede familial claims to provide for their families in this generation. Of course, the planners of the “sustainable community” in Huangbaiyu did not realize that their prototype for a new developmental path for China, and the developing world, would lead to a situation that would not only alter how its residents got the energy with which to heat their homes and cook their food, but would also radically reorganize their relationship to the land, to labor, and family structure. And the two areas of greatest concern to residents of Huangbaiyu, like in many other areas in rural China, and the rural world in general, would not be acted on: improving the quality of education delivered to children, and increasing opportunities to earn a cash income.

This dissertation traces how climate change anxieties are shifting development priorities, and in so doing, masking social, political and ethical questions under the guise of scientifically-mandated necessity. In taking the planning and construction of a “sustainable community” as my focus, I also investigate how the different histories from which individuals in urban and rural China, and the United States influence how “development,” “sustainable development,” “community,” and “ecology” are understood, and engaged in both language and practice. Huangbaiyu is a harbinger of a new spatial discipline, and of a new developmental regime: sustainable development in the age of global climate change.

Eco-cities in China’s Socialist *New* Countryside: rural development logic in the 21st century

With reports that 240 million people will move from China’s countryside to its cities by 2025,⁵ the prospect that China will urbanize according to existing patterns of urban living, energy consumption, and waste production has environmental activists nearly paralyzed with fear. But where there is crisis, there is opportunity. Architects, urban planners, and corporations with products in the building industry are eager to design and build a new utopia for a new age—an eco-city. While there have been architects and community designers pushing the importance of building ecologically for more than three decades,⁶ it is only in the first decade of the 21st century that building eco-cities, and in particular, building eco-cities in China, has caught the fascination of the international media. This is in large part due to a strange appeal that an authoritarian China holds for both liberal environmentalists and multinational corporations. In the face of the risk of ecological collapse, an authoritarian government that could push through radical changes in the practices of daily life according to an ecological agenda could make far more rapid and drastic changes come to life than a deliberative democracy.⁷

Liberal opinion columnist Thomas Friedman summarized this position succinctly in the *New York Times* in 2009: “One-party autocracy certainly has its drawbacks. But when it is led by a reasonably enlightened group of people, as China is today, it can also have great advantages. That one party can just impose the politically difficult but critically important policies needed to move a

⁵ McKinsey Global Institute, *Preparing for China’s Urban Billion* (March 2009), http://www.mckinsey.com/mgi/publications/china_urban_summary_of_findings.asp.

⁶ See the work of Paulo Solieri, and his *arcology*, and that of Richard Register, who coined the term eco-city in 1979. Paolo Solieri, *Arcology: The City in the Image of Man* (Cambridge, MA: MIT Press, 1974); Richard Register, *Ecocities: Rebuilding Cities in Balance with Nature* (Gabriola Island, British Columbia: New Society Publishers, 2006).

⁷ See Elizabeth Economy, *The River Runs Black*, 2nd ed. (Ithaca: Cornell University Press, 2010). See p. 233 for specific note in relation to eco-cities.

society forward in the 21st century.”⁸ Friedman has lauded the project to build a “sustainable community” in Huangbaiyu and the replication of this prototype across China as a solution to the global energy crisis in his 2006 documentary, *Addicted to Oil*.⁹

For corporations looking to expand into and dominate new markets, working with an autocracy that has a history of taking a model and then pushing its replication across hundreds of thousands of locations and millions of people is an ideal scenario—if your corporation can be the one whose product is used as the basis for making new building standards. After calling the project to “adopt design principles for industry and living...that are found in nature” as the basis for redesigning Huangbaiyu and other new towns as “most ambitious multi-national effort to help re-direct China onto a new development path,” respected China environmental scholar and policy lobbyist Elizabeth Economy goes on to identify why many corporations were eager to join the assemblage of institutions, government offices, and individuals who were leading the work to remake China in an ecological image: “While clearly motivated in part by the mission of the centre, these companies also have products to sell and perceive an economic pay-off over the long term. BASF, for example, has developed a highly energy efficient roofing and insulation material, Styropor,¹⁰ that can be used and reused several times. Its hope is that as China sets rural construction standards, its material will become a housing standard.”¹¹

Ironically, now that Communism is no longer seen as an ideological threat to capitalist market expansion across the globe, environmentalists and corporations in the US are happy to see “green” markets created by government edict, particularly when that benefits US economic interests. While there has long been a conservative tendency within liberal thought that seeks to push radical social reforms by government fiat rather than by democracy, the push to create experimental models of “green living” as an insurance against the risk of rapid and catastrophic global climate change makes the juggernaut of green development and governance hard to resist. Ulrich Beck, while also arguing for the importance of recognizing the threats to society by ecological devastation, also cautions against allowing an “ecocracy” to replace democracy. Legitimized by science, and claiming a global purview, an ecocracy is even more intense than a technocracy, due to its nature as a global form, and since those who enforce it do so “with a robust good conscience.”¹² Given technocracies history of catastrophic mistakes, there is much to fear from ecocracy.

Dry Riverbed, the hamlet adjacent to Huangbaiyu’s model “sustainable community,” was also once a model village, of sorts. Before the Communist Revolution, none of these residents, their parents, or grandparents lived in this broad central valley. They had lived in a much narrower ravine that breaks off from the valley, and climbs westward into the mountains. But the new spatial discipline of that day, enforced by the Communist Party of the 1950s, brought them out of the ravine and into the valley to communally farm sorghum and maize to feed the workers of China’s cities. Dry Riverbed was created by government fiat, when the new People’s Republic of China

⁸ Thomas Friedman, “One-Party Democracy,” *New York Times*, September 9, 2009, <http://www.nytimes.com/2009/09/09/opinion/09friedman.html>.

⁹ Thomas Friedman, *Addicted to Oil*, Discovery Times, June 2006.

¹⁰ Counter to Economy’s claims, Styropor® cannot be repeatedly reused as an insulating material. BASF states Styropor’s® primary reuse method is to break up the boards into the individual expanded styrene particles of which it is formed and mix it into soil as a filler, which when produced by BASF from scraps is branded Styromull®. It is suggested that this be added to soil as a composting additive, or drainage and filler material since “it will not rot.” In other words, it never decomposes. See BASF Canada, “Styropor® Expanded Polystyrene (EPS): for construction applications,” (Canada, n.d.), <http://www2.basf.us/basf-canada/productsheets/styropor.pdf>.

¹¹ Elizabeth Economy, “Environmental Governance: the Emerging Economic Dimension,” *Environmental Politics*, 15, no. 2 (2006): 182. 171-189

¹² Beck, *World at Risk*, 83.

enforced state-ownership of land and communal production. It was a necessary (ideological) corollary that the people must also live in close contact to make their work more efficient for communal production of everything from crops, to pigs, to dinner. As Dee Mack Williams found in his investigations into economic development in rural China, it “occurs by destroying prior landscapes and refashioning them into an order that is more efficient for particular (market-oriented) purposes.”¹³ In the case of Dry Riverbed, settlement patterns and land use were re-organized for the benefit of China’s industrial program, and through the communal production system, economic value was be stripped from the rural areas and invested in the building of China’s cities and the care of its urban population.

The commune system was used as a means of applying “price scissors” to the rural population, or a means to speed industrialization by extracting rural surplus value and investing it into capital-intensive industries. This practice of lowering the price paid for agricultural goods while increasing the cost of manufactured agricultural inputs to foster capital accumulation has been debated since Malthus and Ricardo, but put to the greatest effect by communist China. In the 30 years prior to Reform, Chinese economists estimate that RMB 612-800 million was taken from the value of rural production, and invested in urban industrial centers.¹⁴ From this rural surplus, cities were built, factories staffed, and the iron rice bowls of industrial workers filled. The household registration system ensured that the rural population could not follow the wealth generated from their labor to the cities. Science would prove false and technological governance flawed, however, and some thirty million people in rural China would starve to death.¹⁵ It was the awareness of the extent to which China had used the countryside to feed the cities, starving them both literally and figuratively at key points of China’s modernization, that led Wen Jiabao to declare during the National People’s Congress in March 2006 that it was now time to reverse China’s previous developmental trend by now “letting the cities feed the villages.”

Implicit in Wen’s phrasing is the necessity of villages remaining as a distinct geo-political means of governing the majority of China’s population. In China, when one speaks of a village, it is not just a geo-physical location that is being spoken of, or relative size of a settlement. A village connotes a means of governance. A person who lives in a village—in common parlance—is a “farmer,” regardless of how he or she may actually live and earn a livelihood. This is due to the use of the *hukou* (or household registration) system that assigns each person a specific locality in which they may legally work, and in practice also assigns “non-farmers” (or workers, or urban residents) legal labor protections and access to state services that are denied to “farmers.” This system of household registration has been China’s primary tool for controlling population movement.¹⁶ In effect, China has been able to divorce labor flows from urban growth as labor could be drawn into the cities as needed for production, but those persons were not allowed to legally reside in those cities. This is why China’s internal migrant labor population is called the “floating population”: they are not allowed to settle where they work,¹⁷ and so must remain in a status of perpetual limbo,

¹³ Dee Mack Williams. *Beyond Great Walls: Environment, Identity, and Development on the Chinese Grasslands of Inner Mongolia*. Stanford, CA: Stanford UP, 2002, 11.

¹⁴ Lin, Justin Yifu, Fang Cai and Zhou Li, *The China Miracle: Development Strategy and Economic Reform* (Hong Kong: China University Press, 1996), 148.

¹⁵ Jasper Becker, *Hungry Ghosts: Mao’s Secret Famine* (New York: Henry Holt and Co., 1996).

¹⁶ See Dorothy Solinger, *Contesting Citizenship in Urban China: Peasant Migrants, the State, and the Logic of the Market* (Berkeley: University of California Press, 1999); Li Zhang, *Strangers in the City: Reconfigurations of Space, Power and Social Networks within China’s Floating Population* (Stanford: Stanford University Press, 2001); Shahid Yusuf and Tony Saich, *China Urbanizes: Consequences, Strategies, and Policies* (Washington, D.C.: The World Bank, 2008).

¹⁷ There have been experimental reforms to the *hukou* system taken up in specific municipalities and provinces, particularly in areas where the current system has failed to draw enough migrant labor, and so the local government has

disconnected from formal structures of social and legal inclusion, unless they return to the residence stated on their household registration documents, assigned at birth. As the growing disparity between the income of “non-farmers” and “farmers” grows, and their close proximity to each other makes this inequity visible, migrant labor permanently in limbo within the city is seen as a source of political foment. At the same time, recognition of the increasing relative poverty of rural residents—“farmers” who have remained in the countryside—has increased anxiety of rural social unrest as well.

This national anxiety over the potential effects of economic and legal inequality is deepening at the same time as fears of how rapidly increasing energy consumption of China’s massive population will both worsen the effects of global climate change and quicken its onset are rising. China’s urban residents use 350-400 percent more energy than rural residents.¹⁸ What if hundreds of millions of Chinese “farmers” suddenly more than doubled their energy consumption—energy generated from coal-fired plants?

This new global consciousness provides China with both a dilemma, and an opportunity. Under the new aegis of sustainable development in the age of global climate change, the quality of life of China’s rural residents must be improved within rural China, but without increasing China’s carbon emissions. This dissertation investigates how in the narrow mountain valleys of eastern Liaoning province global uncertainty associated with climate change and national anxiety associated with economic inequity and urbanization have brought together an assemblage of multi-national actors to build a solution: an eco-city in the Chinese countryside.

The story of the project to build a “sustainable community” in Huangbaiyu is a complicated story. The plans to build what is commonly just referred to as “Huangbaiyu” in the popular press emerged from the convergence of a many elements: recognition of the increasing relative poverty of rural China and its “farmers” in the face of China’s economic growth within China; international fears of the effect of urbanization and rising energy consumption on global climate change; a growing awareness of environmental degradation within China, and an internal push for sustainable development; an increasing desire of American businesses to benefit from the nexus of sustainable development and urbanization in China by selling their products as critical instruments in ecological construction; an increasing transformation of state development initiatives in China into real estate developments, as investment becomes a private rather than state-sponsored activity; the synergy arising from China’s leadership’s desire to be a global leader in the 21st century, a century posited as an ecological age in contrast to the previous industrial one; and international architects and urban planners seeing China as the place to make their mark and their fortune through the construction of this era’s utopia, the eco-city.

The first aim of this dissertation is to elucidate what is new about this “new way of thinking” that binds together economy, equity, and ecology,¹⁹ and how this emerging rationality is making new configurations of power and governance possible. Engaging with the terms and debates in recent political theory, I call this form of governance ecological citizenship. The second aim is to answer how is it that this “sustainable community” stands empty when it was purpose-built to prevent rural-to-urban migration by improving rural residents lives in the countryside, and to do so through ecologically-mindful principles. The answers to this question will emerge by asking why it made

experimented in expanding rights to city residence and services, and even granting local household registration status to migrant workers. Shenzhen is a classic case.

¹⁸ Lin Baoqiang, “Low-carbon Urbanization Way Forward for China,” *China Daily*, November 30, 2009, http://news.xinhuanet.com/english/2009-11/30/content_12562923.htm.

¹⁹ William McDonough and Michael Braungart, *Cradle to Cradle: Remaking the Way we Make Things* (New York: Northpoint Press, 2002).

sense for an international consortium of public and private interests to build this village, but it never made sense for anyone to choose to live there.

Through a critical engagement with ecological citizenship and the world it seeks to bring into being, this dissertation contributes to and advances several analytical concerns within anthropology, and the adjacent disciplines of political theory, architecture, urban planning, and sinology: citizenship and governance, cosmopolitanism and community; the entailments of the modernity; metaphysics of the market, and the performance of philanthropy; the work of assemblages and the limits of knowledge, as both subject and methodology; and of course, contemporary China.

Approach, Fieldwork, Writing

In this dissertation, Huangbaiyu marks a field of inquiry rather than a field of geographic space. The physical location of my inquiry cannot be represented by a dot or dots on maps of the Earth, but only through a cartography of the assemblage of various elements—be those persons, words, images, objects, or environments—that have a relationship to the project to articulate an emergent ethics of everyday life, of “the good life,” for and in the geographic space called Huangbaiyu. This assemblage, to follow on the work of Paul Rabinow and Aihwa Ong, is what is problematized.²⁰ In anthropology the question to be pursued is no longer how does “culture” ensure stability, but what are the affinities that bring diverse elements into alignment that enable an event or program to occur, or that discourse to become dominant? How did a “starchitect”, ecology, an alcohol brewery, officials from China’s national ministries, global climate change, Fortune 500 corporation representatives, a Master Plan, and economy all align in a small valley in rural China to “celebrate a new way of thinking”? What differences will this new way of thinking make? To whom? Echoing Rabinow’s phrasing,²¹ what difference does “today”—a day such as May 21, 2005 in Huangbaiyu—mark as to yesterday?

During the Opening Ceremonies on May 21, 2005 for the China-US Sustainable Development Model Village, Bill posed the question, “Why have we all come to Huangbaiyu?” He then answered it declaratively: “To celebrate a new way of thinking: clean water, energy and air; economy, equity and ecology. And happiness. We hope whatever we do will make you happy.” My work is to accept his declaration, and the extended context in which it was made, as my problem: to understand the relationship between the general ideas he was invoking, with the promises and practices of sustainable development, with the assembling of the China-US Center for Sustainable Development, with the discourse of global climate change, with the marketization of China, with the daily lives of the valleys residents.

To use the methodological language of Foucault, I have taken the problematization made by an assemblage of people, and made their work of problematizing, and the reification of diverse solutions into a singular plan, my problematization. Through this problem-oriented approach, I ask again, “Why have we all come to Huangbaiyu?,” and through observing these other actors from a temporality and angle of repose different than their own, suggest additional responses.

This is made possible due to the difference between an anthropological sensibility and a developmental sensibility. The purpose of the former is thought, the latter action. By offering an

²⁰ Paul Rabinow, *Anthropos Today: Reflections on Modern Equipment* (Princeton: Princeton University Press, 2003), Paul Rabinow, “Midst Anthropology’s Problems” in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, eds. Aihwa Ong and Stephen J. Collier (Malden, MA: Blackwell, 2005), 40-54; Stephen J. Collier and Aihwa Ong, “Global Assemblages, Anthropological Problems,” in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, eds. Aihwa Ong and Stephen J. Collier (Malden, MA: Blackwell, 2005), 3-21.

²¹ Paul Rabinow, *Marking Time: On the Anthropology of the Contemporary* (Princeton: Princeton University Press, 2008).

object of deliberation, anthropology makes available a “technology of the self,” so to speak. Its practice and its product is thought, for better or worse: “This elaboration of a given situation into a question, this transformation of a set of difficulties and troubles into problems to which diverse solutions are proposed as responses is the point of problematization, the specific work of thought.”²² The developmental sensibility produces a different product: a technology to be used on others. Both anthropology and development, as practices, seek to act as technologies of transformation; but one offers a suggestion, a provocation, a text, while the other offers a tool, a program, a town.

Fieldwork

My field is perhaps best understood as an exploration question “Why have we all come to Huangbaiyu?” and pursuing its entailments. How did a global discourse of planetary peril come into alignment with China’s national agenda in order to make a China-US sustainable development model village a possible thought—and actualized project? How did the interests of architects, corporations, individuals, government officials, a private businessman, local government, and the residents in Huangbaiyu’s mountain valleys all align? What answers to questions of what is of value and the nature of the good life were already being lived in the valleys of Huangbaiyu, and why is there a need to build a “sustainable community” in its stead? What will this new thinking and its new town sustain? What is the self-image of the age and of its “good life” as framed by the physical structures of houses and yards, plumbing and roadways? How do an assemblage of interests actually build an eco-town? How does this iteration of development syncretize with the last one, and the one before that, and before that? What does this problem-space tell us about emerging regimes of development and governance more generally?

But even these questions only began to emerge after I was in the midst of fieldwork, and had begun to pay attention to what was happening around me in detail. I did not have the advantage that George Marcus implies that all “ethnographers” have: that is, “enter[ing] the conventional scene of fieldwork today belatedly and derivatively—and thus much better informed about how fieldwork is to be situated, at least initially, and what it can ultimately deliver.”²³ It was not the case that journalists had already reported on the developmental plan for Huangbaiyu. The outcome remained unknown. In fact, in the first months of my work, it was a possibility that I would move into the first phase of Huangbaiyu’s China-US Sustainable Development Model Village along with forty families from Western Mountain Riverside—the first hamlet slated for demolition. The only questions I knew that I was supposed to answer when I arrived were the ones that Intel, through funding my dissertation research, hoped to learn from: What happens when a *community* instead of an individual adopts new technology en masse? What are the user dynamics vis-à-vis the technology? What social side effects does the technology have within the community? It was not the technology itself that Intel was interested in, but in its reception. The technologies in question were running water and indoor sanitation, as well as centrally provided gas for heating and cooking. No house in the existing hamlets of Huangbaiyu had them. But, Phase One was never finished; Western Mountain Riverside was not torn down and its residents relocated; no new technology was adopted by an individual or by a community. So very quickly, the only directed questions I came with were no longer relevant. The questions that structure this dissertation were the ones that come *after* data was collected; they emerged because their answers helped make sense of it all.

²² Michel Foucault, as translated and quoted in Rabinow, *Anthropos Today*, 47.

²³ Paul Rabinow and George Marcus with James Faubion and Tobias Reese, *Designs for an Anthropology of the Contemporary* (Durham, NC: Duke University Press, 2008), 83.

I will be explicit and detailed about how I collected my data, as I usually find that most anthropologists are not. What exactly is it that an anthropologist engaged in an inquiry such as this does everyday? The simple reply that x months were spent in y place, or w, y, z places, does not answer much.

To use the bureaucratic language of the Committee for the Protection of Human Subjects, I had five distinct primary subject groups: residents of the administrative village of Huangbaiyu, Chinese government officials, university researchers, the CUCSD as an organization (including both the China and US Secretariats, as well as its corporate affiliates acting on the Board of Councilors), and Intel Corporation (a member of the Board of Councilors as well as a source of this dissertation's funding).

I conducted what could be called polyvalent fieldwork. Michel de Certeau has written of the recognition of the polyvalence of space as a methodology, where various persons inhabit space through the narratives they tell about it. A place may have a longitude and latitude, but space is mediated through personal engagements, and its knowledge is always partial.²⁴ I conducted extensive and repeated formal interviews and engaged in innumerable situated conversations with dozens of "subjects" from the latter four categories in person, by telephone, and by email; this required travel and engagements in Beijing, Shanghai, Shenyang, and Benxi, China; and Portland, Maui, and Washington DC, USA. I observed and participated in the annual China-US Center for Sustainable Development (CUCSD) Joint-Working Sessions of the China and US Secretariats in Beijing and Huangbaiyu in 2005 and 2006, as well as dozens of formal meetings, private conversations, transportation motorcades, lunch and dinner banquets held in Huangbaiyu and Benxi for the visits of the CUCSD and its affiliates. I accompanied visiting "on-the-spot" investigation tours from other Chinese municipal governments and Peoples' Consultative Conferences. I attended meetings in Beijing between the CUCSD, potential enterprise investors and the National Reform and Development Commission and the Ministry of Agriculture. I had extended conversations and email correspondence with various institutional and corporate representatives to the CUCSD.

In Huangbaiyu, my partner Jay Kimmelman and I gave guidance and performed preliminary due diligence on various potential enterprises that either Dai Xiaolong or investors affiliated with the CUCSD proposed. Dai took me to various meetings with regional businesses and government offices in Liaoning Province and Beijing as a physical embodiment of the "American" engagement in the construction of the sustainable development model, and the science, technology, and capital that implied. (Despite the balance implied by the hyphen connecting the China-US partners, I was the only American who was readily physically available to Dai or the municipal government for their use.) I regularly conferred with Dai's accountants and later his sustainable development construction manager, for as long as they worked for him.

I acted as a colleague for Dai's formal translator. At various lunches and dinners, and infrequent meetings, I served as a translator for Dai, William McDonough, and anyone else I was seated near or across from who was not bilingual and when there was not formal translation.

I hosted a CUCSD program manager to facilitate an experimental pilot to grow sorghum, making introductions, serving as translator, and engaging him in the everyday living of the valley's residents. When the CUCSD sent a program manager to be located in the village a year after groundbreaking, I spoke with him often, attended meetings with him frequently, and occasionally shared meals. I also participated in an early investigation as part of a larger Intel research team during my first days in Huangbaiyu, and hosted a delegation of two researchers a year later.

²⁴ Michel de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 1984).

I was interviewed by various journalists who came to Huangbaiyu to report on what had been announced as key to a “bright and green” future for the planet,²⁵ and spoke with many others by telephone. These engagements gave me privileged access to how the narrative of Huangbaiyu was being articulated, how various actors told their stories, and what information was not told in the final stories that were published or released on television. I acted as an auxiliary translator and primary interlocutor for journalists as they left the Dai Xiaolong’s office complex and construction site and ventured into the areas of the valleys in which families resided.

In order to better understand the architectural and urban planning process, and to see McDonough at work in a situation other than Huangbaiyu, I joined in on a weeklong charrette being held in Maui as part of a community redevelopment plan, in the spirit of new urbanism. I had observed him extensively at CUCSD functions, conversed with him frequently, telephoned and email, but here I observed the intensity of a design practice and interviewed him at greater length.

While for the most part my engagements with the latter four categories of “informants” (better, colleagues if somehow that word still included the distance that of course remained due to the differences in our purposes) were in limited settings, meaning that my engagement with them and inquiry was focused on the problem-space of Huangbaiyu and did not include anything more than peripheral observation or participation in other aspects of their professional or private lives, my engagement with the residents of Huangbaiyu’s valleys, Dai Xiaolong and a handful of municipal, district, and township government officials was more classically immersive.

I stayed in Huangbaiyu for a few days in May 2005, a few weeks in July, and then moved there in September. My partner Jay came with me. While I traveled as necessary to other places where the problem-space of Huangbaiyu was invoked or worked upon, from late September 2005 through to the end of October 2006, the hamlet of Dry Riverbed in the valleys of Huangbaiyu was my home. I returned for Chinese New Year in 2007, and spent a little more than a month there that February and March. I returned again in August 2009, and stayed another two weeks.

I taught English in the village primary school two days a week to the 3rd, 5th and 6th grade classes. There was no 4th grade class. The year of the goat is not auspicious, and so parents planned their children’s births around it. Because of this social role, everyone in the valleys knew me as “Teacher May.” I had not originally wanted to teach at the school, partially because I was concerned about how I would manage my research schedule, and partially because I was frustrated that I was offered up as the English teacher by the Managing Director of the US Secretariat of the CUCSD without my knowledge or permission. Later, I would learn that Dai Xiaolong had taken credit for my arrival in Huangbaiyu as an English teacher, and used it as carrot with which to try to entice residents to be more supportive of moving into the “sustainable community.” Serving as a teacher provided me with a respected social role within the village that in the end was beneficial to me.

When I returned to live in Huangbaiyu in September, it had been suggested in conversations with the CUCSD staff in Portland that I would live in one of the newly finished model houses in the model development. Phase One was supposed to have been completed by then, and the first forty families moved in. The development was not completed, however; nor had there been an establishment of policy as to how the land transfers would be dealt with or for procedures for the relocation. In July, the director of the municipal government’s Benxi Huangbaiyu Sustainable Development Coordinating Committee had told me that Production Team Four (a.k.a. Western Mountain Riverside) would be the first to move into the development, so that the existing hamlet could be torn down to make way for the northern expansion of the “sustainable community.” Production Team Four is where I first introduced myself, and where I would eventually find my

²⁵ Alex Steffen, “Huangbaiyu, Tangye New Town, Guantang Changye” in *Worldchanging: A User’s Guide for the 21st Century*, ed. Alex Steffen (New York: Abrams, 2006), 275-276.

干妈(godmother) and 干爹(godfather), who were the parents of the village accountant. I lived in a room in Dai Xiaolong's 3.5 storey office-complex-cum-dormitory during my stay in July, along with Dai's translator, and Dai's wife and daughter.

In September, I moved in to the western "head" or section of a house in Production Team Six (a.k.a. Dry Riverbed). If a family has an extra "head" in their house it will be the western head, and it is either because their children are young and any sons remain unmarried, or because their have been unexpected circumstances that disrupt the plans a family made for the future. This "head" was available in the Shao Fuxiang's house for both reasons. His wife had died on July 9th after a 6 month battle with a mysterious illness seemingly related to her stomach or intestines that cost their life savings as well as put them in debt to many of their kin. His two sons were apprenticing in auto mechanic shops in Benxi, and just starting to earn a little money to contribute toward the expense of their future marriage and wedding. Shao Fuxiang became my 哥哥 (elder brother), and his extended family became my own. Ruvemda (a self-chosen English name) and Jia Gang, along with his extended family, in the hamlet of Nobleman's Ravine (part of what was Production Team Nine), as well as Wang Guilin and Old Fu's maternal and paternal families in Mouth Ravine (Production Team 5) and Underneath the Willows (Production Team 8) also acted as extensions of my family network in Huangbaiyu. My personal ties were weaker, and therefore time spent less in Deep Ravine and Zhao Family Riverside (both part of Production Teams 1 and 2) and to Stone Mouth (Production Team 7), although I walked through them regularly, visited often, and each was proportionally included in a 10 percent household survey I conducted.

I collected formal life histories from ten villagers so that I could take a disciplined approach to constructing the various paths that led persons to these ravines, how the hamlets had developed and their relationship with the "outside" world. These were augmented by hundreds of less formal conversations held while working the land, feeding fish, combing goats, sitting on the *kang*, sharing meals and drinking. Northeastern China is famous in the rest of China for a few things. In housing, for paper windows and the *kang*;²⁶ in custom, for the comedic skits of *er'ren zhuān* and the traditional dance of the *yan'ge*; in food, for dumplings and eating vegetables raw; in gender, for women that smoke and drink; and in hospitality, for drinking. Drinking is not primarily for guests, however. It is for everyday living. To drink is to pause from labor, and to mark a time for rest and for conversation; for relaxation and for exuberance; for nostalgia and for planning. If you are not offered a drink, you are not included. If you are not drinking, you cannot sit at the table. I was told often by both local government officials, local businessmen, and residents that it was only after drinking, that people spoke the truth, for which there is a local idiom: 酒后吐话真言. When you are allowed to pour your own glass and drink at will rather than by goaded toasts, you are a friend.

While grasping the "imponderabilia of actual life," as Bronislaw Malinowski wrote,²⁷ was the point of such informal engagements, engaging in the work and the struggle of the extraordinary moments of life laid bare anxieties and dreams, contradictions and confusions in a way that is otherwise absent or milder in the every day. During my residence in Huangbaiyu I officiated at one wedding and acted as part of the groom's party in another, I testified in courtroom divorce proceedings and acted as the legal advocate for a family whose father had been killed on the village's road by lorry. I traveled with a handful of other villagers to Dandong and the Yalu River at the border with North Korea so that we could make the proper oblations for an ethnic Korean man who died of cerebral hemorrhaging. Death by cerebral hemorrhage was oddly common.

²⁶ See Chapter Seven, "An Experience of Universal Progress," 164-165 for an introduction to the technology and symbolic importance of the *kang*.

²⁷ Bronislaw Malinowski, *Argonauts of the Western Pacific: An Account of Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea* (London: Routledge, 2003), 16.

After living in Dry Riverbed for ten months, I wrote and conducted an extensive and tedious ten percent household socio-economic survey of Huangbaiyu. Anthropologists usually oppose structured surveys, citing methodological grounds. If structured surveys were to be accepted, it would seem to undermine the premise of the discipline, for the general methodological groundings of anthropology could be written as a refusal of the social survey itself. First, by preconfiguring the questions, surveys limit the possibility of what can be answered. This is not only a technical critique of the language used or the answer form (multiple-choice, limited space, etc), but also an argument about the framing of research itself. The topic and questions of such a survey, it is thought, tell more about the framing and priorities of the researcher than of the researched, providing a skewed view of social reality. Moreover, the premise that the respondent is telling “the truth” under such conditions is mocked: Why would someone provide accurate or complete personal information to a stranger? If they do respond, it is thought that the person was coerced, either directly or indirectly. I acknowledge these weaknesses of the household survey, but it has strengths that other methodologies lack. It ensures that the anthropologist is not only familiar with what may be the non-representative experiences and living of only the families with which she is close (physically and emotionally). Randomization of subjects does have its productive purposes. It creates a context in which the asking of specific, detailed questions is considered normal. By asking the same questions of each household, it allows for direct comparison that is not otherwise possible through less formal methods.

I would not have conducted such a survey upon my arrival in Huangbaiyu, however, or expect that it could be finished in a matter of days. This is why I waited ten months, both so that I was no longer a stranger and my purpose of living in the area was well known and so that I would know what questions to ask in which ways. This was a complete social and economic survey consisting of 648 questions followed by a kinship mapping exercise. There were decision trees within the questions so not every household was asked each question, depending primarily on sources of income. Conducting the survey took three to five hours depending on the household. All responses were free answers. I did not curtail responses but did always hold to the order of the questions and pursue a direct answer. I used satellite images of the entire network of valleys in Huangbaiyu to identify houses; I corroborated my count by walking through each hamlet to ensure counted houses were not barns or other built structures, and to verify in rare cases where large (rectilinearly long) houses visibly built over time in stages and without a courtyard wall were separate households, or rather two “heads” of one house. I eliminated from the count any empty and abandoned houses, so as to only be counting actual households. I stratified the survey according to the Communist era Production Team designations for two reasons. First, production team designations closely follow the existence of the hamlets, which in all cases are at least partially still marked by patrilineal descent. Second, the production teams/hamlets are geographically dispersed. The varied access to transportation, soil quality, watershed pathways, land slope, altitude and weather all effect each locations economic conditions differentially. Within each stratification, ten percent of the houses were randomly selected using a Monte Carlo analysis for inclusion in the survey. Houses were used as proxies for households, making their relationship part of the inquiry of the survey. Empirically, there was no consistent emic designation of household as being synonymous with persons living in a single house, or by with whom one shared pooled income. Survey data was used to corroborate conversational and observational data, and was integral to the specific income, labor, consumption, expenditure, population, mobility, and technology access data used throughout the dissertation.

There was also a great amount of investigation into “archives” that built upon the perspective and information gained through my anthropography. I read William McDonough’s published books and articles, and searched for the text and video of his speeches over the past ten

years. I read articles published about him in both trade and popular magazines. I researched Chinese land policies and the history of concern over food security. I investigated building codes and practice in China, as well as the technologies deployed in “green building.” I looked at other eco-town and eco-cities emerging at the same time, and in the past for background comparison. I started to pay attention to the emerging language of “peril” and catastrophe used in the discourse of global climate change, and how this language marked a shift in the conception of ethical obligations.

Some anthropologists might read this methodology and immediately classify it as a “multi-sited ethnography”²⁸ or “global ethnography.”²⁹ That would elide a subtle but important difference between my approach to my inquiry and such other methods for other projects. Since “multi-sited” or “global” work has become a signal of good work, these terms are both invoked and granted easily without always thinking through their appropriateness. I would like to offer a distinction between multi-sited anthropology and a *multi-layered* anthropology. Neither is better or worse than the other; I am not offering a normative argument but an empirical one. They are different, and different methodologies construct different ways of knowing. Of course they are not discrete and either one may encompass elements of the other, but it matters which one is the dominant or guiding practice.

The multi-sited methodology implicitly includes comparisons and contradictions that are elucidated through the movement between geographic space. This methodology provides a broad, and expansive view of the problem-space of inquiry. A multi-layered anthropology preserves a geographic centering and is oriented toward depth within the problem of inquiry. It was in wrestling with the connotations of “multi-sited” fieldwork and the conditions of my own project that a multi-layered framing emerged. As my fieldwork was just beginning, but had already taken me to Portland, Beijing and Huangbaiyu in the span of a month, I had the opportunity to speak with my advisor, Liu Xin, about how to think about my work, as well as the pressure to introduce it to other doctoral students at Beijing and Qinghua Universities.³⁰ While I had already been multi-sited, so to speak, each of those places as geographic sites was itself irrelevant to my inquiry, as it was also irrelevant to the engagements of my informants.³¹ The problem-space for us all was “What is (or should be) the good life in Huangbaiyu?” But even in the first month of my inquiry, the varied answers to what the good life is, what Huangbaiyu is, and why this question even mattered were already becoming apparent. This awareness was not coming from different sites, per se, but from different implications of the same site. Everyone’s focus was on Huangbaiyu, but what was at stake was not the same for everyone. How would I give a conceptual frame to the research I was undertaking when well-known exemplars did not fit?

I think that conversing in a language other than the one in which “multi-sited” was first conceived contributed to the possibility of thinking a proximate but divergent concept. Liu Xin offered an elegant solution in the form of a traditional Chinese four-character phrase: 一田几层. This translates as one field, many layers, or multi-layered fieldwork. While 层 denotes a storey of a building, such as 1st storey, 2nd storey, it is also used as a term of measurement for conceptual

²⁸ George Marcus, “Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography,” in *Annual Review of Anthropology* 24 (1995): 95-117.

²⁹ Michael Buroway, Joseph A. Blum, Sheba George et al, *Global Ethnography: Forces, Connections, and Imaginations in a Postmodern World* (Berkeley: University of California Press, 2000).

³⁰ Liu Xin had been to Huangbaiyu in February 2005 as part of Intel’s research team contributing to a series of CUCSD meetings. He was also in Huangbaiyu the day I arrived. We traveled back to Beijing together, where he invited me to discussions with his colleagues at Qinghua and Beijing Universities.

³¹ I do not like this term, but I have not yet found or thought of one that I think more appropriate. Marcus’ “counterpart” unintentionally covers up the distinct and different stakes of the anthropologist and whomever she contacts and converses with in her inquiry.

“places,” and the stories they tell and layers they reveal.³² To use 层 is to index it as one part of a larger entity: storey as levels, story as layers. There is one dominant field site, but recognition that both within and about that site there are multiple stories. A 层 also implies a ground: a physical place upon which other things are built and upon which they put pressure. It begs an answer as to how the work of visionaries, experts, and “technicians of general ideas” come in contact with a specific world, and the effects that contact has.

Whatever the answer(s) to the question of “What is the good life?” that would emerge from the problem-space of Huangbaiyu, they were not going to remain discursive. Experts and elites were making decisions to reorder the lives of 1500 rural Chinese people as a model for some 800 million more. The answer to the good life would be *lived*, and to include that part of the story I had to make a commitment to living in Huangbaiyu as well. If I did not deeply engage living in Huangbaiyu, then my methodology would implicitly accept the planners’ normative rationality as to what was wrong about life there before “sustainable development,” and what would make it right. The focus would be on thought leaders and the “technicians of general ideas,” leaving those about whom they spoke and for whom they said they acted out of the conversation (again). My inquiry would be limited to how the assemblage of the CUCSD and its local partners formed, the elements that created a master plan for a new way of life to save the planet, and whether the plan was implemented according to plan. It would implicitly assume that the plan would do what it intended—build a “sustainable community” that would improve the lives of its residents while lowering carbon emissions. Rather than take that as a fact of knowledge, I wanted to make it available for investigation.

This required a commitment to Huangbaiyu both as a problem-space and as a living place—and including it as part of the assemblage rather than just as the assemblage’s object. This meant being open to what, and how, and who would remake Huangbaiyu. Not limiting my lens to a government policy, or a new commodity or financial incentive, or the weight of history, or transnational engagements, or science makes my work (and the readers’) more difficult. But I did not want to reify one thing as causal. This dissertation is an attempt to grasp all those varied elements of different temporalities and origins, and show the difference they made in “today,” and what this may mean for tomorrow.

What’s in a name?

There is a practice in anthropology that undermines its truth-function, and continues to foreclose the “challenge of collaboration,” and thus the production of knowledge. In the methodology section of most anthropology monographs is an unexplained announcement that the names of the subjects have been changed to protect their anonymity. As a discipline, it is argued that it is necessary to use pseudonyms for our subjects to ensure that no harm comes to them due to our publications about them. Conveniently, the use of such pseudonyms means that our subjects cannot challenge our illustrations of them. Perhaps then the continued, unreflexive use of pseudonyms as a standard anthropological practice is how anthropologists have tried to hold on to a last shroud of authority.³³ But when a subject is named as himself, he has the power to become a vocal collaborator, instead of remaining a silent object.

To produce knowledge about someone without it being possible for that person to reflect on it and respond to it—because no individuals are named and so in fact each person could be

³² For example, 层 is used in the phrasing 第一层..., 第二层,... (In the first place..., In the second place,...). See also 他们的规划还有一层意思 (Their plan has further implications).

³³ While there will certainly be cases where the anonymity of the subject will be important to protect their life or livelihood, I argue that this is the exception, not the rule. The use of anonymity should be seen as suspect, unless thoroughly justified due to the specific conditions at hand.

anyone—is analytically and ethically timorous. But, as Immanuel Kant wrote, and both George Marcus and Paul Rabinow agree in regards to anthropology as a discipline, “It is so easy to be immature.”³⁴ Even in the midst of his own deep and critical reflection on the discipline, Marcus struggles with Kantian intellectual “cowardice.” He fears that “There will be a strong inclination to read us not in terms of what we say about the accuracy of *our subjects*’ anticipations but in terms of the accuracy, or acuity, or persuasiveness of *our* anticipations.”³⁵ Is not what is good for the goose, good for the gander? Marcus’ fear is the fear of having one’s own misjudgment acknowledged by the world. But if anthropologists succumb to that fear by keeping anthropological reflection within the academy, the emergence of knowledge is foreclosed within a very small circle. Knowledge will continue to unfold only in as much as the people about whom an anthropologist writes can hold her accountable for what she has written. That is not possible if we still hold to the disciplinary practice of always changing the names of individuals and names of locations, thus creating a false abstraction from specific persons and places. I have come to accept Luhmann’s argument for an “ecology of ignorance.”³⁶ I know that despite all the work I have done to overcome the simplicity of a single subject position through multilayered fieldwork, there is still ignorance in the shadows of the knowledge offered here—and that greater “enlightenment” will only be possible by allowing those who are part of this story to read it, recognize themselves when possible, and contribute another layer to the story that is Huangbaiyu.

I have chosen to use the real names of the people whose thoughts and words, plans and actions are described here to the greatest extent that the regulations of the Committee for the Protection of Human Subjects (CPHS) will presently allow me. Almost everyone involved in the project to remake Huangbaiyu qualifies as either a public figure or a government official, or consented to the use of his or her names. Regardless of the outcome of the plan for Huangbaiyu, there is a courage demonstrated by all who put their own ideas into practice—who dared to create, despite the shadows of knowledge that would fail them. I owe them courage in return: the courage to allow them to see themselves in this work, and to engage with it as part of a larger conversation about the foundations of knowledge, the hazards of development, the claims of ecology, and the nature of community. In some ways my hand was forced, which has likely made me more aware of the powerful comfort offered by the ability to make one’s subjects anonymous. The amount of journalistic coverage of Huangbaiyu by others as well as myself in the past six years, as well as press releases by the China-US Center for Sustainable Development and speeches by William McDonough, would make creating pseudonyms for Huangbaiyu and for most of the people involved in the project to make it into a sustainable development model for an ecological era farcical. It would also impose a false distance between this work and the people for whom it is intended.

The primary audience of this dissertation is three-fold. On the one hand, I want to offer planners, designers, government officials, corporate managers and people who would seek to develop the world another perspective on their work through the case study of Huangbaiyu. Secondly, this dissertation is for Sinologists with the intention of demonstrating how events, people, and places within China speak to issues of concern outside of China. Working within China does not mean only writing about China, as if it is a singular place from which broader insight about the

³⁴ Immanuel Kant, “An Answer to the Question: What is Enlightenment?” (1748), in *Perpetual Peace and Other Essays on Politics, History and Morals*, trans. by Ted Humphreys (Indianapolis, IN: Hackett, 1992), 41; See Rabinow and Marcus et al, *Designs for an Anthropology*.

³⁵ Marcus in Rabinow and Marcus et al, *Designs for an Anthropology*, 69; emphasis original.

³⁶ Niklas Luhmann, *Observations on Modernity* (Stanford: Stanford University Press, 1998).

world cannot be drawn. What occurs within China's political borders is no longer under the single purview of the Chinese state: non-Chinese institutions, agencies, businesses and people may all have direct effect on how a given people or place within China are governed. This dissertation may not at first glance seem as if it is about China, but it certainly is. Third, it is written for anthropologists as a demonstration of an attempt at a multi-layered ethnography that seeks to be held accountable for the knowledge it produces.

The dissertation is in four parts. In the second chapter of Part I, Locating Ecological Citizenship, I first provide an introduction to the concept of citizenship and how theories of citizenship shape how people are governed, and how the claims of ecological citizenship differ from previous concepts. In Chapter Three, I then introduce the basic premise of the project to "redefine" Huangbaiyu through the public event that officially launched the project, its "Opening Ceremonies."

Part II, Discourse, Interests, Designs, and Development, is comprised of four chapters. The first, Chapter Four, highlights the new perspective and ways of knowing the world that global climate change presumes, and the ways that it shifts how value is calculated, both economically and ethically. In Chapter Five, I work to elucidate the varied and often conflicting interests at play behind the seemingly unified front of China-US Center for Sustainable Development, and how the peculiarities of historical moments shape how institutions are structured and financed, which in turn limits what it is possible for them to think of doing and not doing. In Chapter Six, I trace how the designs for houses and communities shape far more than walls, as the way homes and neighborhoods organize space structure not only rooms and yards, but what types of household economy or family organization are possible. In Chapter Seven, I follow another instrument of development, the road that winds its way through the hamlets of Huangbaiyu to both give an extended geographic history of the place, and to relate how the residents of these places have encountered various iterations of programs intended to bring development and progress to them over the past several decades. This is a history that was unknown to the various individuals, government officials, and business interests that championed the latest development/sustainable development program—the "sustainable community"—in their midst, and which they were not interested in knowing. For this reason I have intentionally placed this chapter after the material concerning the design and implementation of the project itself.

Chapter Eight is the conclusion to the dissertation, in which I synthesize and summarize the relationship between promises of development and concept of community; the politics that has both enabled and obscured by science; the immanence of the status quo within ecology; the philosophy of the good life given structure by houses and roads; the role of philanthropic models in the expansion of markets; practices of governing rural China, and rural families' perspectives and reactions to the development that seems to always be seeking to make them otherwise than they are.

Part I

Locating Ecological Citizenship

Two

Ecological Citizenship

When citizenship is invoked, a system comprised of three simultaneous relations is brought to light. At once place, thing, and person are brought into a single economy. The axes of territory, resource, and population are crossed with each other, their point of mutual intersection revealing the moral claims upon which techniques of governance are based. As citizenship is at once a status and a strategy acted out on human beings, it should be recognized as what it is: a “political technology of the body,” “diffuse . . . made up of bits and pieces; it implements a disparate set of tools or methods. In spite of the coherence of its results, it is generally no more than a multiform instrumentation.”³⁷ An anthropology of citizenship and governance thus puts this technology into question by asking: What is the relationship between the discourses of justice and moral social order and political practice, between the ways in which we articulate the ethical spaces in words and our experience of place on our bodies? In this chapter, I will be tracing the history of the analytic of citizenship, taking the writing of citizenship itself as part of the diffuse technology through which we seek to understand and to influence the human condition.

To interrogate citizenship is to question how we conceive of ourselves as human beings, and the how we envision the structures of our moral community. It has, I argue, become our contemporary signifier of the series of questions with which Immanuel Kant probed the limits of metaphysics two centuries ago: What can I know? What ought I to do? What can I hope?³⁸ Through the discourse of citizenship and its enactment through governance, we make the moral communities to which we belong. While this discourse speaks in universals—rights, duties, justice, fairness, equality—it is practiced on a particular person here and now. We speak of a globe, but we see a horizon. In this chapter I provide a short history of the changes in how citizenship is conceived as a just and necessary means of categorizing and governing—the philosophical frame within which the politics of resource distribution is negotiated—as the means of laying bare the moral and political implications of emerging ecological citizenship in the 21st century.

From Modernity to the Ancients: Citizenship in the *Polis*

In his landmark essay “The Ideal of Citizenship since Classical Times,” J.G.A. Pocock identifies the origins of the model of citizenship in the historical practices of the Greek city-state. Pocock’s insight is to highlight the double-edge of the “classical” signifier: it both claims authority

³⁷ Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Vintage, 1977), 26.

³⁸ Immanuel Kant, *Immanuel Kant's Critique of Pure Reason* (New York: St. Martin's Press, 1965), 308.

for an ideal “in durable and canonical form,” and marks that the ideal is no longer lived.³⁹ Implicitly, the time of the classic is not our time—it is a text that was written in another socio-historical period or a remembrance (and reinterpretation) of a period of time that has long since passed.⁴⁰ It is important to remember that the story of citizenship is not one passed down from Greece to Europe, but one told in Europe about its inheritance from Greece. A classic is a utopia located in the past, the glory of which must be regained. Consequently, histories of citizenship that claim an intellectual continuity between two epochs should be understood not primarily as accounts of facts but as conservative narratives of legitimate political authority. As Karl Mannheim has pointed out, ideals defended on the basis of continuity may be revolutionary just as often as they are regressive, but they are always ideological.⁴¹ As such, when scholars with as distinct and disparate claims as Hans-Georg Gadamer and Giorgio Agamben invoke Aristotle and a return to the Greeks’ answer as to how to live the good life,⁴² we should listen to this return to the Ancients as a narrative of legitimacy, or a game of truth, rather than as a statement of fact.

In the “classic” narrative of citizenship, the citizen is most often described as a member of the Athenian *polis* or alternatively as part of the Roman *res publica*. Aristotle’s *Politics*, the text to which most “classic” accounts of citizenship return, is itself, as Pocock points out, an idealized discussion of “classic” citizenship. The key to Aristotle’s analysis is that the human being is a purposive being; he is fulfilling the best in his nature—even the very quality that makes him human—when he then is directed toward a purpose and executing that purpose. This capacity for purposive action is exemplified by rulership. For Aristotle, all rulership is not equal, however. Man’s capacity for purposive action is fulfilled to the extent that there is resistance to his rule; that is to say, to the extent that he is ruling other purposive beings. Consequently, “it is better to rule animals than things, slaves than animals, women than slaves, one’s fellow citizens than the women, slaves, animals, and things contained in one’s household.”⁴³ Embedded within this myth of ideal citizenship is an ideal exclusion of women, slaves and things. This logic of exclusion is transferable, however, to any being who is considered to be less human (purposive, intelligent) than those who rule. In the wake of active violent eradication of populations through genocide as well as the more passive structural violence which marks certain populations as resources (things contained in one’s household) in the 20th century, the state of exception of the *oikos* from the *polis* will haunt many later theorists of citizenship and justice.

Aristotle’s conception of politics requires a radical differentiation of the private and public, *oikos* and *polis*. Only the patriarch of a household, or *oikos*, could partake in the action politics. Key to this delineation is that the realm of politics in the Aristotelian system is a realm of no personal needs. Politics is not where your body matters, only your mind. Physical needs are to be met in the *oikos*: food, water, shelter are material things that have no consideration in the Aristotelian good life. The political realm, radically different from how it is commonly understood by most persons today and how it is invoked by claims of ecological citizenship, is a space not for contestation over resources, but rather a space of emancipation from all material concerns, an exit from the state of one’s body. Those who have material concerns, either because they are still considered things (slaves) or managers of things (women), cannot enter the *polis*, for in the Aristotelian world, their

³⁹ J.G.A. Pocock, “The Ideal of Citizenship since Classical Times,” in *The Citizenship Debates*, ed. Gershon Shafir. (Minneapolis, University of Minnesota Press, 1988), 31.

⁴⁰ Joseph R. Levenson, *Confucian China and its Modern Fate: A Trilogy* (Berkeley: University of California Press, 1968).

⁴¹ Karl Mannheim, *Ideology and Utopia: An Introduction to the Sociology of Knowledge* (New York: Harcourt Brace, 1936).

⁴² Hans-George Gadamer, *Reason in the Age of Science* (Cambridge, MA: MIT Press, 1982); Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life* (Stanford: Stanford University Press, 1998).

⁴³ Pocock, “The Ideal of Citizenship,” 33.

judgment is clouded by want. By declaring the nature of the human is to live a political life—*kata phusin zoon politicon*—Aristotle has set the stakes of citizenship very high.

If citizenship is to be expanded to include more than male property holders, it must be decided whether those to be newly included must first be emancipated from the world of things and the needs of the body in order to maintain a realm in which justice and the good life are still conceivable, or whether it is this very distinction between private and public, material and thought, nature and culture that is false. If we decide that this distinction is false, so must be Aristotle's claim that the nature of human beings is political. Pocock warns that this path requires that we "produce an alternative definition of humanity or face the consequences of having none."⁴⁴ That this is still the concept of the political and the human which undergirds most of Western thought on citizenship, emancipation, justice and the good life is clear in both Karl Marx's call for emancipation of the Jew from material and identity politics as requisite for the emancipation of humanity,⁴⁵ as well as John Rawls' argument that justice as fairness requires a veil of ignorance over specific knowledge of one's body (gender, race, disability, etc.) and physical needs (hunger, thirst, cold, etc.).⁴⁶

It should also be emphasized that in the Aristotelian view, the citizen-human is not a rights bearing individual, but a man duty bound to engage in the rule of himself and others. The citizen does not enter the political to call upon others to make a person claim. For Aristotle, the end of politics is the process of politics itself; it is not a means to an end. If politics were a means to an end, that would make politics instrumental, and collapse it back into the world of things of the *oikos*. As an exit from the *oikos*, it is an exit from instrumentation. In the Aristotelian view, citizenship is not a means to freedom, but freedom itself. Amongst one's equals, one gives the law to oneself. To be free is to treat the others with which one engages as human beings as an end only. This concern over the distinction between ends and means and the possibility of freedom and moral action is echoed in the philosophical and political works of Immanuel Kant and Jürgen Habermas.⁴⁷

Although often invoked in the same breath or book,⁴⁸ the Roman conception of citizen is radically different from the Greek. It is not a definition of the human, but a legal status. Roman law did not divorce the person from things; rather it saw the ordering principle of society as one of regulation of persons *and their* things. Under Roman jurisprudence "the person was defined and represented through his actions upon things; in the course of time, the term property came to mean, first, the defining characteristic of a human or other being; second the relation which a person had with a thing; and third the thing defined as the possession of some person."⁴⁹ The practice of jurisprudence over things rather than emancipation from things signifies the human in the Roman case. A citizen is therefore a person who may invoke the law to protect his property, be that his person or his goods. The good life is now seen as the proper management of a life of goods. With jurisprudence as the ordering mechanism of the social, the person becomes a human-citizen precisely because of his ownership of property. His claim to protection of that property is due to his inclusion in a commonwealth comprised of his property. Again, a citizen-human emerges, but

⁴⁴ Ibid., 35.

⁴⁵ Karl Marx, "On the Jewish Question," in *The Marx-Engels Reader*, ed. R. C. Tucker (New York: W.W. Norton & Co., 1978), 26-52.

⁴⁶ John Rawls, *A Theory of Justice* (Cambridge, MA: Belknap Press, 1971).

⁴⁷ Kant, *Critique of Pure Reason*; Immanuel Kant, *Fundamental Principles of the Metaphysic of Morals* (Buffalo, NY: Prometheus Books, 1987); Jürgen Habermas, *Moral Consciousness and Communicative Action* (Cambridge, MA: MIT Press, 1991); Jürgen Habermas, *Postmetaphysical Thinking* (Cambridge, MA: MIT Press, 1992); Jürgen Habermas, *The Future of Human Nature* (Cambridge, UK: Polity, 2003).

⁴⁸ Agamben, *Homo Sacer*; Giorgio Agamben and Daniel Heller-Roazen, *Potentialities: Collected Essays in Philosophy* (Stanford: Stanford University Press, 1999); Giorgio Agamben, *State of Exception* (Chicago: University of Chicago Press, 2005).

⁴⁹ Pocock, "The Ideal of Citizenship," 36.

this time not in his emancipation from material things into a group of abstract equals, but in his claim to protection of his individual, contingent difference. It is within this logic that the human as bearer of individual rights comes to the fore of a politics greatly altered from the activity in Aristotle's *polis*. This juridical concept of the rights-claiming, property-owning body plays a central role in social contract arguments⁵⁰ and the subsequent justifications of utilitarianism.⁵¹

The foundation of individual rights on the claim to protection of property within a common community of citizens will come to haunt the post-World War II emergence of human rights. It is with this awareness that Hannah Arendt recognizes the problem that the refugee poses for human rights.⁵² If it is rights that mark our status as human beings, and rights are based upon property claims vis-à-vis a state, how can a property-less, state-less person be human? Again, there may be a state of exception at the heart of citizenship that dehumanizes any who fall outside of its logic of inclusion. As such the logic of "human" rights—recognized solely due to one's physical being—may be incommensurable with the juridical conception of citizenship that undergirds individual rights. To claim the benefits that the invocation of "human rights" seeks, a new logic of inclusion, participation, and protection—a new concept of the political and human being—would be necessary.

From Sovereign State to the State of Civil Society: Contracting Citizenship

In the tumultuous times of revolution that mark the transition from the sovereignty of kings to the rights of man, the legitimacy of rule was in great debate. Much of Europe was undergoing a revolutionary transition from the rule of the *State*, where political rule was theanthropic, to the rule of a *state*, one possible condition of existence ordered by the men who live it. Thomas Hobbes' logic of the *Leviathan* (1651),⁵³ and its sovereign-as-God, was being displaced by the scientific revolution begun by Copernicus, continued in his own day by Boyle.⁵⁴ The question at hand between Hobbes and Boyle was: is the State an incarnation of the force of God on earth, or is the state a contract of free men? Hobbes sided with the former, denying that there could be any space outside of the rule of the sovereign. Hobbes was, however, proven wrong, as decided by their philosophical peers and the public, by Boyle's experiments demonstrating the existence of a vacuum. Scientifically, a vacuum is a space without air; politically it is a space outside of the omnipotence of the sovereign in which the individual could make a claim for himself. While Hobbes' treatise is still read as a possible form of the social contract, within a generation The Glorious Revolution of 1688 would demonstrate that it was not a contract accepted by the people.

It is in the aftermath of the Copernican revolutions in both science and the state that John Locke's social contract should be understood. Returning from his exile in France for his work to block James II from ascending to the throne after the Glorious Revolution, Locke published his *Two Treatises on Government* in 1690.⁵⁵ In these documents, Locke directly challenges Hobbes' theanthropic concept of sovereignty with a social contract that is based upon an implicit agreement

⁵⁰ Jean-Jacques Rousseau, *The Social Contract* (New York: Penguin, 1968); Jean-Jacques Rousseau, "Discourse on the Origin and Foundations of Inequality Among Men, or Second Discourse," in *Rousseau: The Discourses and other Early Political Writings*, ed. Victor Gourevitch (Cambridge, UK: Cambridge UP, 2000) 111-231; John Locke, *Two Treatises of Government and A letter Concerning Toleration* (New Haven: Yale University Press, 2003).

⁵¹ John Stuart Mill and Jonathan Bentham, *Utilitarianism and Other Essays* (New York, Penguin Classics, 1987).

⁵² Hannah Arendt, *The Origins of Totalitarianism* (New York: Harcourt, 1973).

⁵³ Thomas Hobbes, *Leviathan: Authoritative Text, Backgrounds, Interpretations* (New York: W.W. Norton & Co, 1997).

⁵⁴ Steven Shapin and Simon Schaffer, *Leviathan and the Air-pump: Hobbes, Boyle, and the Experimental Life* (Princeton: Princeton University Press, 1985).

⁵⁵ Locke, *Two Treatises*.

between persons to form a society for the protection of the natural rights of its citizens, namely property of person and thing. The right to revolution falls under the penumbra of the right to property: when the state does not protect one's right to property, then the individual's contractual obligation has been severed by the negligence of the sovereign-state. Governing legitimacy is determined by the state's protection of individual rights claims, not the ordination of the sovereign as God-on-earth. This logic would lay the groundwork for both the *Declaration of Independence* of the American Revolution, as well as the *Declaration of the Rights of Man and Citizen* upon which the French Revolution staked its ground.

In the *Declaration of the Rights of Man and Citizen* the syncretization of the Greek and Roman concepts of the political and of the citizen that has formed the cornerstone of modern politics is laid bare. "The aim of all political association is the preservation of the natural and imprescriptable rights of man. These rights are liberty, property, security, and resistance to oppression."⁵⁶ Politics is no longer an end in itself, but a means to the protection of rights; at the same time these rights are not seen as juridical claims but integral to the nature of man himself. The juridical state based on property—what is now called "civil society"—is placed at the heart of the political state based on the rule of equals—what is now simply called "the state." In this logic, the state—the realm of abstract, universal citizenship and justice—exists to foster civil society—the realm of particular persons and rights. The relationship of the *polis* and the *oikos* has been reversed: civil society is the space of emancipation from politics where the individual claims goods for himself. The public is entered only so as to protect the private; the state exists to protect the family, not provide an escape from it.

There are two main reactions to this juridical-political logic of modernity, often found stepping in a dialectical dance with each other. The first is exemplified by Marx in his response "On the Jewish Question" (1978), the second by Michael Walzer in "The Civil Society Argument" (1998).⁵⁷ Marx questions how the Jew can be emancipated by being granted the rights of civil society, when human emancipation will only occur when a revolution *against* civil society occurs. Marx follows the *Declaration of the Rights of Man and Citizen* in holding that the modern state in which he lives is comprised of a double existence: that of citizen and that of man. However, this modern state is not, according to Marx, the perfected political state:

The perfected political state is, by its nature, the species-life of man as *opposed* to his material life. All the presuppositions of this egoistic life continue to exist in *civil society outside* the political sphere, as qualities of civil society. Where the political state has attained its full development, man leads, not only in thought, in consciousness, but in *reality*, in *life*, a double existence—celestial and terrestrial. He lives in the *political community*, where he regards himself as a *communal being*, and in *civil society* where he acts simply as a *private individual*, treats other men as means, degrades himself to the role of a mere means, and becomes the plaything of alien powers. ... Man, in his *most intimate* reality, in civil society, is a profane being. Here where he appears both to himself and to others as a real individual he is an *illusory* phenomenon. In the state, on the contrary, where he is regarded as a species-being, man is the imaginary member of an imaginary sovereignty, divested of his real, individual life, and infused with an unreal universality.⁵⁸

⁵⁶ *Declaration of the Rights of Man and Citizen* (Paris, France, 1789).

⁵⁷ Michael Walzer, "The Civil Society Argument" in *The Citizenship Debates*, ed. Gershon Shafir (Minneapolis, University of Minnesota Press, 1998), 291-308.

⁵⁸ Marx, "On the Jewish Question," 34, original emphasis.

In the spirit of Feuerbach, Marx finds the essence of human nature not just in consciousness or, to use Aristotelian terms, in the practical rationality that sustains the *polis*, but in a specific kind of consciousness—that of the species-being. For Marx, the nature of being human is not the consciousness of oneself, but the consciousness of humanity as a shared being across time and place. Consequently, to live only for himself, man is not fulfilling his human nature. As a material being, man has not emancipated himself from his self-imposed chains to become *human*. The spirit of civil society, this sphere of egoism and differentiation, of war of one against all, is antithetical to species-being. As such “human emancipation will only be complete when the real, individual man has absorbed into himself the abstract citizen; when as an individual man, in his everyday life, in his work, and in his relationships, he has become a species-being; and when . . . he no longer separates this social power from himself as a political power.”⁵⁹

In contrast to those who would follow Marx, Michael Walzer reverses the relationship between state and civil society. In his account, which is critical of both Hobbesian statism and the claim that civil society is the Achilles’ heel of totalitarian states, he argues that while the state frames civil society, it also occupies a space within it. He cautions, “no state can survive for long if it is wholly alienated from civil society.” In contradistinction to Marx’s and Locke’s location of civil society in the juridical protections of property, Walzer traces civil society’s origins to protections of religious freedom. While the theoretical and practical emergence of private property and religious freedom are inextricably intertwined, Walzer’s focus on the religious over the economic origins leads him to define civil society not as a space of egoism but of “uncoerced human associations and also the set of relational networks—formed for the sake of family, faith, interest, and ideology—that fill this space.”⁶⁰ Walzer tells us that this is the space in which the good life will be found, not in the democratic state and its uncertain and impersonal civic virtue; in economic activity and the rise of the totalitarian Socialist state or the dictatorship of the proletariat; in the marketplace and its world of autonomous arms dealers and solidarity based on brands not communities; or in the nation with its tendencies to heroic, bloody, and arbitrary fervor.

Like his predecessors who were concerned with enabling the good life, Walzer has also sought to discover the conditions and institutions appropriate to the good life. Unlike many of his predecessors, he holds that there are many good lives, and that this answer is present within the logic of civil society itself. For Walzer the good of civil society is precisely that it is a personal, private space; civil society is a plurality not a singularity, as there are many possible good lives to live, not a good life to lead. “Civil society is a project of projects” where the goal is to understand that there is no meaning in “free and equal” if this is practiced as free and same.⁶¹

Enlightenment, the Subject and the State: Reasoning Citizenship

Enlightenment—both the historical time and the re-orientation of philosophy as critique—can be seen launching as new ethical project of citizenship based on the establishment of civil society, and the rational discourse and the persuasion of reason held to flourish there. For those citizenship theorists who inherit the discourse of the enlightenment, it is not rights but reason that undergirds citizenship and the good society. In *The Structural Transformation of the Public Sphere*, Jürgen Habermas seeks to identify the historical conditions that turned the public sphere from a space in

⁵⁹ Ibid., 46.

⁶⁰ Walzer, “The Civil Society Argument,” 291-292.

⁶¹ Ibid., 308.

which the power of the sovereign was represented *before* the people into a space in which authority was generated and monitored *by* the people through critical discourse. The emergence of the public sphere in the 18th century—in which Immanuel Kant’s “An Answer to the Question: What is Enlightenment?” is emblematic⁶²—is more than a historical-sociological occurrence for Habermas. Like Kant, for whom the critical importance of the French Revolution was not the form of state it generated but the fervor and fortitude of human spirit bringing into existence a new phenomenal world previously only imagined, Habermas’ public sphere is an idealized moment of intersubjective communication which brings into the world a new relationship between persons, and thereby a new means of just government.

Habermas’ discourse ethics does require differentiation—which Marx sees as anathema to human emancipation—but it does not rely upon static, *a priori* categories of differentiation. In Habermas’ thought differentiation is not complicit with domination. Differentiation is to be understood as the process of individuation through socialization. While he admits to the existence of both physical and structural violence in the world in which we live, Habermas holds that the process of socialization is one of reciprocal recognition that enables subjective identification and difference amongst peers. Despite this difference, reason and reasonable government can be agreed and acted upon.

In his historical analysis of the emergence of the public sphere, Habermas identifies that through the transposition of “public authority” from the representative nobleman to the productive bourgeois, authority started to shift from being asymmetrical and vertical to being symmetrical and horizontal. The previously closed forum in which binding judgments were made “was now casting itself loose as a forum in which the private people, come together to form a public, readied themselves to compel public authority to legitimate itself before public opinion. The *publicum* developed into the public, the *subjectum* into the [reasoning] subject, the receiver of regulations from above into the ruling authorities adversary.”⁶³ Habermas’ choice of the self-reflexive tense, “casting itself,” is integral to his argument, and harkens back to Kant’s metaphor of “self-imposed immaturity” that must be overcome through one’s own will. This reconfiguration of personal and governmental relationships was not done by a guardian on the behalf of the weak or vulnerable, but by persons acting on behalf of themselves. Historically, such reflective self-empowerment was insubordinate of authority. Consequently, the early societies and salons in which private persons first used their rational faculties to communicate with each other as equal beings emerged behind closed doors. This irony of the early private “public” sphere was due to reason’s nature as “a threat to any and all relations of domination.”⁶⁴ Still, this volitional entry of private persons into a space of engagement with others who had also so entered—where there is no host but only participants—allows reason emerge from the shadow of hierarchical authority, turning “conversation into criticism and *bon mots* into arguments.”⁶⁵ In the turn from conversation to criticism, judgment and governance emerge from private parlors into public squares. Communication has been transformed from parlor pastime to persuasive action. Citizenship is thereby reflective of and determined by one’s participation in the process of self-governance, not one’s juridical status.

Habermas does not trace his account of participatory self-governance to the classical model of the *polis*, but rather to a historically specific development of property, leisure, and the printed

⁶² Immanuel Kant, “An Answer to the Question: What is Enlightenment? (1784),” in *Perpetual Peace and Other Essays on Politics, History, and Morals*, ed. Ted Humphrey (Indianapolis, IN: Hackett Publishing Co, 1992), 41-48.

⁶³ Jürgen Habermas, *The Structural Transformation of the Public Sphere: an Inquiry into a Category of Bourgeois Society*, (Cambridge, MA: MIT Press, 1991), 26.

⁶⁴ *Ibid.*, 35.

⁶⁵ *Ibid.*, 30.

word. Habermas details the awakening of the knowing subject to herself as the object of her own knowledge—or to use more terms more closely related to government, the awakening of the subject of sovereignty to the self of democracy—through mediation of the printed word. While many interlocutors herald Habermas’ connection of the public sphere with democratic governance as the critical influence of *The Structural Transformation of the Public Sphere*, it is the connection he draws between a person’s sense of self—or subjectivity—and the government that such a person is willing to bare that is radically different from many other theorists of governance or subjectivity. A subjectivity that takes oneself as the embodiment of thought realizes herself as the “living process” of enlightenment brought about by philosophy, literature, music, and art; the person who understands herself as the object of what others write and she reads, and to whom she writes and about which she argues, is no longer subject to authority, but a participant in authority. Through his historical analysis of 18th century salons and table societies, Habermas demonstrates that neither subjectivity nor governance can be divorced from the dual roles of audience and producer, listener and speaker.⁶⁶ For Habermas, the advent of the diary and letter as means of relating to oneself through one’s reception by an imagined or real other marked a critical change in the “terrain of subjectivity.”⁶⁷ Here Habermas makes a critical turn away from Kant’s self-conscious subject, prefiguring the linguistic turn that will ground his future philosophical work: the process of enlightenment is no longer one of a transcendental self-conscious who comes to knowledge in the solitude of her soul, but a linguistic trans-conscious who comes to knowledge through the kaleidoscope of words and images reflected back at her through the real and imagined community of persons to whom she addresses herself and is in turn addressed by.

Before such an interiority of self to be cultivated through externalization in the world could emerge, however, a notion of inviolability of the person had to be articulated. It is in this way that Habermas understands the logical subordination of life, liberty and estate under the right to property in John Locke’s formula for just government. Not until persons take private property to be the dual means to both enter into rational *public* debate and to withdraw into *private* life, does the new embodiment of *homme* as *citoyen* emerge. In this way Habermas connects the Reformation and Civil War in England to the laissez faire market and the subsequent rise of the bourgeois constitutional state grounded upon the inviolable and unalienable rights of the person against all others. It would be easy to take the historical-sociological emergence of inviolability through the syncretization of Protestant Christianity and market capitalism in 19th century Great Britain as the necessary frame for Habermasian communicative action within a public sphere. A critique of Habermas’ project criticizes him as taking history for reason, and thereby legitimizing the exclusion of non-male, non-white persons from inclusion within the *Demos* of democracy. Habermas and scholars who follow his analytic, like Seyla Benhabib, argue that they are seeing reason in history: progress toward the fulfillment of the universal ideal in the particular experience.⁶⁸

While at the moment of its emergence the ownership of property by a citizen was conflated with the capacity to reason as a (hu)man, the false ding of the “basic rights of man,”—first hoarded by a minority of men to the exclusion of many—would over time ring true as democratic citizenship was extended beyond its narrow origins to include previously enslaved and excluded bodies. While

⁶⁶ The importance of reading in the advent of The Enlightenment has been well documented. For a specific and influential case, see John Zammito’s analysis of the effect of reading novels in general and of reading Jean-Jacques Rousseau’s *Emile* in particular on the development of Immanuel Kant’s philosophy and politics. John Zammito, *Kant, Herder, and the Birth of Anthropology* (Chicago: University of Chicago Press, 2002).

⁶⁷ Habermas, *The Structural Transformation of the Public Sphere*, 51.

⁶⁸ Seyla Benhabib, *Transformations of Citizenship: Dilemmas of the Nation State in the Era of Globalization: Two Lectures* (Spinoza Lectures) (Assen, The Netherlands: Van Gorcum Uitgeverij, 2001); Seyla Benhabib, *The Rights of Others: Aliens, Residents, and Citizens* (Cambridge, UK: Cambridge University Press, 2004).

Habermas' logic of the dynamic of democratic expansion is not congruent with rights theorists, such as T.H. Marshall who ground the dynamic unfolding of individual rights in the expansion of the capitalist market,⁶⁹ on this point there is noticeable similarity between the two positions. Habermas portrays the ever-greater inclusion of persons previously categorized as things in the democratic process as peaceful and natural. Bryan Turner, while agreeing with Habermas that the universal creed of the enlightenment enabled persons who were not being treated as human to demand equal humanity, argues that this process was neither natural nor peaceful, but often violent and always contingent.⁷⁰

Yet it is still in this way that Habermas sees the Enlightenment as an *unfinished* project, one whose music must continue to be played through. It is not the original instrumentalization to which his ear is attuned, but rather the ever-increasing participation of those who refuse to be satisfied to allow others to remain their guardians, and instead demand that they speak, and act, for themselves. Jim Holston has called such paradigm shifting activities "insurgent citizenship."⁷¹ The contradicting tension between universal claims and particular experience is conceived as productive of a friction that does not allow the existing contradiction to statically remain, once people become cognizant of it as a contradiction. In this way, Habermas argues that the bourgeois public sphere is impregnated with an intrinsic process of dialectical growth through which each subsequent stage, enfolded within the previous, emerges to negate the last.

From Cosmopolitanism to Cosmopolitics: Ideals and Practices of Citizenship

Following upon Kant's political turn from the *Fundamentals for a Metaphysics of Morals* to an "Idea for a Universal History with a Cosmopolitan Intent,"⁷² many scholars, in differing ways, have taken up cosmopolitanism as a possible solution to a world in which justice and the good are often still used as a means to discriminate and divide humankind.⁷³ As such, calls for cosmopolitanism can be heard as a cry to take up Kant's political project of enlightenment on a global scale. As globalization and transnationalism become terms through which to understand the space-time compression of "postmodernity,"⁷⁴ cosmopolitanism, or the "postnational constellation," crystallizes the sentiment that the "future of democracy" is no longer determined only by actions internal to a state, but also by the engagement between nations and states, often according to the universal legitimizing language of human rights.⁷⁵

In a self-reflexively global world, many anthropologists looked for the emergence of a "public culture" which would serve as a means of unifying a disparate world. It was in this hopeful spirit that Arjun Appadurai and Carol Breckenridge, a year before the collapsed walls of 1989 would

⁶⁹ T.H. Marshall, "Citizenship and Social Class," *The Citizenship Debates*, ed. Gershon Shafir (Minneapolis, MN: University of Minnesota Press, 1998), 93-111.

⁷⁰ Bryan Turner, "Outline of a Theory of Citizenship," in *Dimensions of Radical Democracy: Pluralism, Citizenship, Community*, ed. Chantal Mouffe (New York: Verso, 1992), 33-62.

⁷¹ James Holston, *Insurgent Citizenship* (Princeton: Princeton University Press, 2008).

⁷² Immanuel Kant, "Idea for a Universal History with a Cosmopolitan Intent (1784)," in *Perpetual Peace and Other Essays on Politics, History, and Morals*, ed. Ted Humphrey (Indianapolis, IN: Hackett Publishing Co, 1992), 29-40.

⁷³ Jürgen Habermas and Peter Dews, *Autonomy and Solidarity: Interviews with Jürgen Habermas* (New York: Verso, 1992); Pheng Cheah and Bruce Robbins, eds. *Cosmopolitics: Thinking and Feeling Beyond The Nation* (Minneapolis, MN: University of Minnesota Press, 1998); Benhabib, *Transformations of Citizenship*; Jürgen Habermas and Max Pensky, *The Postnational Constellation: Political Essays* (Cambridge, MA: MIT Press, 2001); Benhabib, *The Rights of Others*.

⁷⁴ David Harvey, *The Conditions of Postmodernity* (Oxford: Blackwell, 1989).

⁷⁵ Habermas and Pensky, *The Postnational Constellation*.

usher in a “hot peace” in the place Cold War,⁷⁶ launched *Public Culture*. Why did Appadurai and Breckenridge see public culture as the right lens through which to frame contemporary inquiry? In their opening editorial remarks, Appadurai and Breckenridge lauded the increased contacts and conversations that were beginning to form a global society: “The world of the late twentieth century is increasingly a cosmopolitan world. More people are widely traveled, are catholic in their tastes, are more inclusive in the range of cuisines they consume, are attentive to global media-covered events and are influenced by universal trends in fashion.”⁷⁷ In these introductory words, Appadurai and Breckenridge conflate movement with motive, taking for granted that travel and contact will make persons “catholic in their tastes.” An even greater assumption—one that is foundational in much of the early calls for cosmopolitanism—is that a “cosmopolitan world” made small by the time-space compression of fast travel and immediate media will become a world of cosmopolitan political practice.

Michael Hardt and Antonio Negri take a less optimistic view of the global society that is being generated by global capital than Habermas, Benhabib, and other supporters of an enlarged public sphere. While they note that the “Empire” of the late 20th and early 21st centuries can no longer act with the same blatant commercial mandates invoked by the Portuguese and Spanish Empires of the 15th-18th centuries or British and French Empires of the 19th-20th centuries, the purported mandate of today’s Empire—human rights—is also a logic of exploitation.⁷⁸ Colonial sovereignty has become capitalist sovereignty: the dark other and dark continents that once must be tamed and saved are now people and places to be freed and marketized. In the logic of capitalist sovereignty “national and supranational organisms [are] united under a single logic of rule.”⁷⁹ As gemini of the same seed, capitalism and rights, the sovereignty of capitalism brings the discourse of rights to the foreground of the global public sphere. Following the logic of Marx, Hardt and Negri take the promise of human rights to be not the realization of universal political emancipation, but rather the homogenization of the world under a single logic of exploitation. For Hardt and Negri, the greatest risk to freedom of global society-as-Empire is its power of special homogenization and temporal totalization: “The distinct colors of the imperial map of the world have merged and blended in the imperial global rainbow;” “Empire presents its rule not as a transitory moment in the movement of history, but as a regime with no temporal boundaries and in this sense outside of history or at the end of history.”⁸⁰ In their view, cosmopolitanism is little more than a euphemism for the capitalist juggernaut to which human freedom is sacrificed.

Dipesh Chakrabarty counsels his contemporaries—on both sides of the empire/cosmopolitanism debate not to mistake the travel of either persons or rationalities as the vanguard of either a totalitarian or inclusive universalism. In *Provincializing Europe* and related works on the logic of capital, Chakrabarty contests the foundational assumption that dissemination and engagement of a given rationality—such as capital—proves its existence as a universal.⁸¹ Rather, abstract labor and capital are integrally tied by a specific historical relationship to its necessary antecedents, money and commodity. By highlighting that Marx accounted for other historical

⁷⁶ Gayatri Chakravorty Spivak, “Cultural Talks in the Hot Peace: Revisiting the ‘Global Village,’” in *Cosmopolitics: Thinking and Feeling Beyond the Nation*, eds. Pheng Cheah and Bruce Robbins (Minneapolis, MN: Minnesota University Press, 1998), 329-348.

⁷⁷ Arjun Appadurai and Carol A. Breckenridge, “Why Public Culture?” *Public Culture* 1, no.1 (1988): 5.

⁷⁸ Michael Hardt and Antonio Negri, *Empire* (Cambridge, MA: Harvard University Press, 2000).

⁷⁹ *Ibid.*, xii.

⁸⁰ *Ibid.*, xiii, xv.

⁸¹ Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton: Princeton University Press, 2000); Dipesh Chakrabarty, “Universalism and Belonging in the Logic of Capital,” in *Cosmopolitanism*, eds. Carol A. Breckenridge, Sheldon Pollock, Homi K. Bhaba and Dipesh Chakrabarty (Durham, NC: Duke University Press, 2002).

relations to money and commodity that would not have generated the rationality of capital, Chakrabarty argues that while capital is “planetary (or global) in its historical aspiration and universal in its constitution,” it is itself a particular product of a particular time and place.⁸² “World capitalism” may represent not a universal value, but “a forced globalization of a particular fragment of European History in which the Protestant ethic became a value. A victory for the Protestant ethic, however global, would surely be no victory for any universal.”⁸³

Writing from a postcolonial perspective, Pheng Cheah is particularly attuned to hear the ways in which cosmopolitan claims for a universal, inclusive freedom can serve as a cloak for the eradication of the particularity of practices in a given nation in favor of a singular world. In Cheah’s view, the contemporary cry for emancipation from the limits of the nation-state—as colonialism wanes and global corporations wax—should be heard as a silencing the voices of communities by the noise of capital.⁸⁴ Cheah points out that when Kant laid out his “Idea for a Universal History with a Cosmopolitan Intent,” the target of his critique was not modern nationalism, but the rigid and anarchic structure of the dynastic state.⁸⁵ The key to Kant’s “universal history,” in Cheah’s argument, is its cosmopolitan *intent*. Is the intent of the political practice emancipatory or not? Cosmopolitanism then becomes an indeterminate signifier: only the context in which it is brought into practice will reveal whether it is being used as an emancipatory or totalitarian tool.

Cheah thereby asks that we no longer speak of a universal moral end of cosmopolitanism, but of the practice of *cosmopolitics*: “we ought to turn our critical focus to the mutating global field of political economic and cultural forces in which nationalism and cosmopolitanism are invoked as practical discourses.”⁸⁶ Cheah argues that in order to counteract the leveling forces of capital in the global South, nationalist movements in post-colonial areas may be a necessary step toward more equitable regulation of the global economy. In these cases, nationalism would be acting with a cosmopolitan intent, giving voice and hand to those who have been silenced and denied. Paul Rabinow has also called attention to the particularizing force of cosmopolitanism, especially on the underprivileged for whom the movement of others often re-inscribes their own limitations. Accordingly, Rabinow asks that cosmopolitanism be understood as “an ethos of macro-interdependencies, with an acute consciousness (often forced upon people) of the inescapabilities and particularities of places, characters, historical trajectories, and fates.”⁸⁷

Ecological Citizenship: Material Grounds for Metaphysical Claims

In the first years of the 21st century, the horizon of human concern has turned from the ambivalences of cosmopolitical globalization to the risk of planetary carbonization. In this episteme of global warming,⁸⁸ the effects of humanity’s industrial revolution no longer inspire calls for an

⁸² Chakrabarty, “Universalism,” 83.

⁸³ Ibid., 105.

⁸⁴ Pheng Cheah, “Introduction Part II: The Cosmopolitical—Today,” in *Cosmopolitics: Thinking and Feeling Beyond the Nation*, eds. Pheng Cheah and Bruce Robbins (Minneapolis, MN: Minnesota University Press, 1998), 20-41; Pheng Cheah, *Spectral Nationality: Passages of Freedom from Kant to Postcolonial Literatures of Liberation* (New York: Columbia University Press, 2003).

⁸⁵ Cheah, “Introduction.”

⁸⁶ Ibid., 31.

⁸⁷ Paul Rabinow, “Representations are Social Facts,” in *Writing Culture: the Poetics and Politics of Ethnography*, eds. James Clifford and George Marcus (Berkeley: University of California Press, 1986), 258.

⁸⁸ Through the phrase “episteme of global warming,” I seek to invoke the immersion in contemporary thought works to make it difficult to conceive of this historical moment’s relativity and contingency. As Foucault puts it in his description of archaeological method: “What I am attempting to bring to light is the epistemological field, the episteme in which knowledge, envisaged apart from all criteria having reference to its rational value or to its objective forms, grounds its

awakened class-consciousness in those individuals forsaken by capital,⁸⁹ but rather demand a global consciousness of a species-shared community of fate. The biological existence of human beings is now posed as an ethical quandary: with the material knowledge that the wastes of our inhabitation are altering the function of the earth's energy pathways in ways that will cause unpredictable but perhaps devastating change and may lead to massive species die-off, will we alter our climate changing means of producing and consuming energy? Or, will our lack of societal self-awareness lead us to another dark age, where a changed world has made our previous knowledge irrelevant and soon forgotten?⁹⁰ Will our civilizations erode away with loss of dirt to water, wind and toxins⁹¹ or end in a more violent ecological collapse?⁹² These questions animate the ecological age in which biopolitical governmentality is now so pervasive that it is caricatured in popular culture.⁹³

As biopolitical claims merge with a cosmopolitical perspective grounded in fears of a planetary ecological crisis, a cosmopolitics based on the species-being has emerged. German social theorist Ulrich Beck has called this "cosmopolitan material politics," due to the ways in which reflexive awareness of global climate change has given rise to an ecological grounding of the cosmopolitical project to create a global moral community.⁹⁴ In this strain, Kant's "mental" arguments are given "material" basis in the ecology of the Earth.⁹⁵

New in this conception of citizenship is that it eliminates the distinction between "citizen" and "foreigner." By taking the planet as the grounds for the moral community to which all human beings are obligated, and within which politics will negotiate resource distribution, ecological citizenship fundamentally reconfigures the structure of citizenship claims and obligations from a vertical hierarchy through which individuals' are mediated by the state, to a horizontal plane through which individuals' relationship with each other is mediated only by the physical earth on which they live. The state is no longer the exclusive arbiter of citizenship; it must now contend with representations of the planet and its ecosystem as it works to manage its population.

In contrast to Aristotle's, and more recently Hannah Arendt's, articulation of the *polis* (the space for deliberations of justice) as necessarily distinct from the *oikos* (the household, or place for the necessities of existence), ecological citizenship seeks not only to reunite the *oikos* and the *polis*, but also to take the *oikos* as the origin and end of political decisions as to what is "the good life." Through ecology, the concept of the *oikos* is expanded from a single household led by a patriarch to the household of the Earth, or as it has often been called since Buckminster Fuller, "spaceship Earth," inhabited by myriad species. The etymological linkage between the two terms *oikos* and

positivity and thereby manifests a history which is not that of its growing perfection, but rather that of its conditions of possibility." We know that we are still within an episteme, because we do not laugh at "the stark impossibility of thinking that." See Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Vintage, 1994), xxii.

⁸⁹ Karl Marx and Friedrich Engels, "Manifesto of the Communist Party," in *The Marx-Engels Reader*, ed. R. C. Tucker (New York: W.W. Norton & Co., 1978), 469-500.

⁹⁰ Jane Jacobs, *Dark Age Ahead* (New York: Random House, 2004).

⁹¹ David Montgomery, *Dirt: The Erosion of Civilizations* (Berkeley: University of California Press, 2007).

⁹² Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Penguin, 2005).

⁹³ See discussion of John Stewart's satirizing of CNN's "Planet in Peril" series in Chapter Four, "Global Uncertainty, National Anxiety."

⁹⁴ Ulrich Beck's work on risk society, world risk society, second modernity, and cosmopolitan politics is grounded in how awareness of global climate change is altering the physical world, how we represent it, and negotiate over it. See *Risk Society* (London: Sage, 1992); *Ecological Politics in an Age of Risk* (Cambridge: Polity Press, 1995); *Ecological Enlightenment: Essays on the Politics of the Risk Society* (New Jersey: Humanities Press International, 1995); *World Risk Society* (Cambridge, UK: Polity Press, 1999); *The Cosmopolitan Vision* (Malden, MA: Polity Press, 2006); *World at Risk* (Malden, MA: Polity Press, 2009).

⁹⁵ Andrew Dobson, "Ecological Citizenship and Global Justice: Two Paths Converging?" in *Future as Fairness: Ecological Justice and Global Citizenship*, eds. Anne K. Haugstad and J.D. Wulforth (Amsterdam: Rodopi, 2004), 10.

ecology is clear, and was made explicit when Haeckel introduced the new term into the field of biology in 1866: “Ecology should be understood as the theory of the household of nature; better still, the interrelations of the life-forms with one another and with the environment.”⁹⁶ Citizenship then becomes ordered not around *rights to* a private, personal household, but *obligations between* persons to preserve the existence of the household of the Earth.

While Immanuel Kant wondered if it would be the distance of the “oceans [that would] make a community of nations impossible,”⁹⁷ it is those very oceans that are now being invoked as the source of a new type of nearness. With rising sea levels taken as the way to measure the effects of global climate change, the oceans have become the source of harm that will effect human settlements across the globe. In this era of anxiety about global climate change, theorists and activists are calling for a re-conception of nearness from one of physical proximity to one of connectedness. The concepts of distance and nearness, strangers and kin, have long grounded arguments about the obligations of moral agents. John Leslie Mackie⁹⁸ and G.J. Warnock⁹⁹ have argued that failure to help strangers is defensible given obligations to kin, although needless harm should not be caused to others. Andrew Linklater interprets these arguments in relation to Aristotle’s definition of the pity that motivates to action: it is an emotion that responds to the pain of an other, but because it is a pain that “one might expect oneself, or one of one’s own, to suffer;” it is a pain that is “near.”¹⁰⁰ Given that “the cumulative effect over many decades of individual or group actions, each apparently trivial in itself” is now understood as causing grave harm to the current ecology of the planet, Linklater concludes that now “[t]he question, ‘who is near?’ is answered by thinking imaginatively about whether one’s actions have harmful effects on those who live further along the line of global networks of interdependence.”¹⁰¹

But how can disparate but still connected experiences be transformed into an “imagined community”?¹⁰² How will it be personified in a way that one could see one’s own fortune as near to everyone else’s?¹⁰³ Michael Walzer held out little hope for a “global state” in 1967 due to the impossibility that such a political community could ever be imagined:

In a sense, the union of men can only be symbolized; it has no palpable shape or substance. The state is invisible; it must be personified before it can be seen, symbolized before it can be loved, imagined before it can be conceived. An image like the body politic, then, is not simply a decorative metaphor, applied by a writer who has already grasped the nature of political association and now wishes felicitously to convey his understanding. Rather, the image is prior to understanding or, at any rate, to theoretic understanding, as it is to articulation, and necessary to both.¹⁰⁴

⁹⁶ Quoted in Gaylil Talshir, *The Political Ideology of Green Parties: From the Politics of Nature to Redefining the Nature of Politics* (New York: Palgrave Macmillan, 2002), 34.

⁹⁷ Immanuel Kant, *The Metaphysical Principles of Virtue* (New York: Bobbs-Merrill, 1965).

⁹⁸ John Leslie Mackie, *Ethics: Inventing Right and Wrong* (New York: Penguin, 1977).

⁹⁹ Geoffrey James (G.J.) Warnock, *The Object of Morality* (London: Methuen & Co., 1971).

¹⁰⁰ Andrew Linklater, “Cosmopolitanism,” in *Political Theory and the Ecological Challenge*, eds. Andrew Dobson and Robyn Eckersley (Cambridge, UK: Cambridge University Press, 2006), 121.

¹⁰¹ *Ibid.*, 119, 120, 121.

¹⁰² Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (New York: Verso, 1983).

¹⁰³ Luc Boltanski, *Distant Suffering: Morality, Media and Politics* (Cambridge, UK: Cambridge University Press, 1999).

¹⁰⁴ Michael Walzer, “On the Role of Symbolism in Political Thought,” in *Political Science Quarterly* 82, no. 2 (June 1967), 194. 191-204

If the emergence of the public sphere, the origins of deliberative democracy, and the new-found strength of nation-states have the book, the pamphlet, the newspaper and the novel to thank for making it possible for people who have never and will never meet to see themselves as one community, with one fate, what could possibly serve as an image for a political community so complex that it includes everyone? What would enable a man in the United States to feel that he is in the same community with a boy in India, or a girl in France to feel that she is part of the same extended family as a grandmother in Somalia? If human beings have a persistent indifference to the suffering of those who are seen as being distant,¹⁰⁵ what would suddenly make everyone seem close?

Five years after Walzer could not imagine what might come to symbolize a global community, an image emerged that *sui generis* created a new outline for a moral community and begin breaking down what would come to be seen as the imagined borders of states. Just before Christmas, 1972, NASA released the first photograph to ever show an entire hemisphere of the Earth from the vantage point of space. For the first time, Earth was seen as a blue and green island, alone in the vast abyss of dark space. In one place there was life, and in the colors of that life, no state boundaries were visible. With this new image, a new politics could be conceived.

Many of the world's most prominent activists for ecological citizenship, even if they do not explicitly use that term to describe the moral and political grounds of their call to action, trace their ecological "awakening" to seeing the "blue marble" image of the Earth against the black abyss of space, including Al Gore, as well as William McDonough and Michael Braungart.¹⁰⁶ It is against the backdrop of the image of the Earth that ecological politics and the claims of its citizenship is "staged," and a "second" modernity is given a mirror to reflect back on itself.¹⁰⁷

Like Anthony Giddens and Ulrich Beck, political theorists such as Andrew Linklater, Andrew Dobson, Marcel Wissenburg, and Winston Davis all mark the difference of the contemporary era, what Beck calls "second-order" modernity, with "a standing summons [to persons] to ponder their 'complex' (or 'reflexive') as well as their 'simple' responsibilities."¹⁰⁸ It is a modernity where what was trivial has become catastrophic: use of cooking fuel, setting the thermostat, getting to work. Simple actions once not thought about twice are now sources of complex ethical claims. These ethical obligations are not only to those persons newly recognized as "near" in terms of space, but also those who remain distant as in terms of time. Ecological citizenship's explicit obligation to future generations is a radical break from the present-ist orientations of both the classic liberal, republican, and cosmopolitical models of citizenship.¹⁰⁹ Just as ecological citizenship takes the Westphalian citizenship-sovereignty models—where territory and absolutism were twined—as a historical moment rather than an instantiation of justice, it also takes the recognition that present actions may impair future human survival as requiring a new conception of justice that is not only oriented to species living across the globe now, but also those that will live in the future. Dobson and other ecological political theorists identify "their [moral obligation's]

¹⁰⁵ Boltanski, *Distant Suffering*.

¹⁰⁶ Albert Gore, *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do about It* (London: Bloomsbury, 2006); McDonough and Braungart, *Cradle to Cradle*.

¹⁰⁷ Beck, *World at Risk*.

¹⁰⁸ Linklater, "Cosmopolitanism," 120; referencing Winston Davis, *Taking Responsibility: Comparative Perspectives*. (Charlottesville, VA: University of Virginia Press, 2001), 6. See also Andrew Dobson, *Citizenship and the Environment* (Oxford: Oxford University Press, 2003); Andrew Dobson, "Ecological Citizenship and Global Justice: Two Paths Converging?" in *Future as Fairness: Ecological Justice and Global Citizenship*, eds. Anne K. Haugstad and J.D. Wulffhorst (Amsterdam: Rodopi, 2004), 1-16; Marcel Wissenburg

¹⁰⁹ This is why some advocates of ecological citizenship call it post-cosmopolitical, while others adhere to the term cosmopolitical, seeing the inclusion of future generations as fulfilling cosmopolitanism's founding premises.

source [a]s relations of actual harm and these give rise to obligations founded in justice;”¹¹⁰ the preconditions for the existence of a future community demand a new ethical orientation to present politics.¹¹¹

It is in fact this future-orientation that legitimizes interventions in the present, as summarized by the Brundtland Commission’s 1987 report, *Our Common Future*. Development would have to be sustainable going forward, they wrote, lest the generation of today is to preclude generations of tomorrow. “Sustainable development,” they concluded, “is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Over the past twenty years, “sustainable” development, in its shallow sense, has come to be the performative modifier of all development: if development is sustainable it is *a priori* good, regardless of what or who is being sustained. Sustainable development, in its deep sense, however, is the “discursive focus” of ecological citizenship debates.¹¹² It serves as the ethical ideal toward which ecological citizenship seeks to transform human relationships and organization into a global community. Historical circumstances have already expanded the bounds of community from the city, to the state, and to the region (e.g. the European Union) to meet the reality of the subsistence and security needs of the population. Scientific evidence points to the necessary expansion to the Earth.

Ulrich Beck posits that the philosophical grounding for superseding the state and its borders to create a separate, global community to which persons may both make claims for protection, and are obligated to protect, can be found in even the most pro-authoritarian’s writings. Thomas Hobbes, Beck notes, allows a single cause for legitimate civil resistance to the sovereign, or the right to supersede the sovereign. If the state’s policies (or lack thereof) create life-threatening conditions, the state has abrogated its duty to its subject, and the subject is free to form other allegiances. Beck succinctly summarizes Hobbes’ argument in contemporary terms: “ecological crisis involves a *systematic violation of basic rights*.”¹¹³ Preservation of civilization, even of the human species, supersedes state sovereignty. When “we are in a race between tipping points in nature and our political systems,” writes Earth Policy Institute President Lester Brown, we must act “with wartime speed” to save civilization.¹¹⁴

Given that no action of a single state can effectively mitigate or ameliorate the effects of global climate change, the threat of ecological destruction means that “all fields of action—the economy and science, private life and the family and politics—face a decisive turning point: they need a new justification, they must be renegotiated and rebalanced.”¹¹⁵ While Brown does not use the term “ecological citizenship,” and Beck uses “global technological citizenship” to delineate this new organization of a moral community and its concomitant political practice, both are engaging in practices of ecological citizenship as they exhort their readers to build a moral community that breaks with past citizenship models in how a moral community is constructed in both space and

¹¹⁰ Andrew Dobson, “Ecological Citizenship and Global Justice,” 9.

¹¹¹ See Elmar Altvater, “The Democratic Order, Economic Globalization, and Ecological Restrictions: on the Relation of Material and Formal Democracy,” in *Democracy’s Edges*, eds. Ian Shapiro and Casiano Hacker-Cordon (Cambridge, UK: Cambridge University Press, 1999) 41-62; Mark J. Smith, *Ecologism: Towards Ecological Citizenship* (Minneapolis, MN: University of Minnesota Press, 1998); Andrew Dobson and Derek Bell, *Environmental Citizenship* (Cambridge, MA: MIT Press, 2006); Andrew Dobson and Robyn Eckersley, *Political Theory and the Ecological Challenge* (Cambridge, UK: Cambridge University Press, 2006); Mark J. Smith and Piya Pangsapa, *Environment and Citizenship: Integrating Justice, Responsibility, and Civic Engagement* (London: Zed Books, 2008).

¹¹² Dobson, “Ecological Citizenship,” 4.

¹¹³ Beck, *World at Risk*, 94; original emphasis.

¹¹⁴ Lester Brown. *Plan 3.0: Mobilizing to Save the Earth* (New York: W.W. Norton & Co, 2008), xiii, 20.

¹¹⁵ Beck, *World at Risk*, 94.

time. In the first decade of the 21st century, ecological citizenship is being deployed both as a descriptive term and policy *telos* by political theorists, social activists and ecological institutions, and as an analytic concept by social scientists.

Ecological citizenship does not yet exist as an already existing formal legal relationship with enforceable rights and obligations, although there are some precedents limiting activities in one state that harm another,¹¹⁶ but as what Marcel Wissenburg, building on the work of John Rawls, calls a policy *telos*.¹¹⁷ Ecological citizenship is an ethical exhortation that seeks to cause itself to come into existence as a practice. In that aspect, tracts written establishing the ethical claims of a citizenship based on ecology share much with John Locke's *Two Treatises on Government*: both challenge contemporary dominant concepts of sovereignty in favor of a new vision of ethical obligations and protections in a new organization of human society. It remains to be seen whether the work of engaged ecological political theorists and activists will succeed in instating a practice of citizenship that is not singularly legitimized by the state, but by the Earth itself as the dominant conception of a moral community.

A clear sign that ecological citizenship is gaining as a way that persons conceive of their moral obligations to other human beings across space and time is in the ever-increasing dominance of “sustainable development” as the only way to think development, and the media saturation with coverage of new, green markets and products designed to fulfill the pull of ecological citizenship on individuals filling store shelves: Fair Trade coffee, green/eco-labeling, ISO14000 certification, the Clean Development Mechanism, Greenpeace, carbon markets, fuel-efficient stoves, food miles, etc. Each of these products, networks, or mechanisms represents the effect of a successful global assemblage of individuals, corporations, NGOs, state bureaucracies, and other entities working together to achieve the goals ecological citizenship: people choosing on their own accord, either as individuals or representing businesses, to make choices that seek to lessen the harmful effects of human consumption on the ecology of the planet not because they are required to, but because they choose to.

Ulrich Beck has called this new form of politics “subpolitics” because it signals “the decoupling of politics from government” since debates over resource consumption and distribution are no longer only within or controlled by state governments.¹¹⁸ Ecological citizenship, and what both Beck and Giddens have called the “second modernity,” do not mean that states are no longer critical governing structures, but that the state no longer stands in a singular relationship to the persons who live within its borders. Its power—if it ever was—is no longer absolute. The state may still be the strongest element in a network of influences on the individual's everyday life, but there are now many new alliances between non-governmental organizations, individual persons, businesses, media conglomerates, and governments which are shaping what is considered of worth and value, and structuring how individuals can live their daily lives. In many ways, practices of ecological citizenship legitimize new areas for state intervention into private lives that were previously not conceived of as areas of government concern. And new partners, or “stakeholders” to use the jargon of day, may actually make the state more powerful and effective in tackling the problems it sets out to solve. “[T]he cosmopolitan state, freed from scruples concerning sovereignty,” writes Beck, “uses the unrecompensed cooperation of other governments, non-

¹¹⁶ I say this because ecological citizenship entails a reconfiguration of horizontal obligations between persons regardless of the existence of state borders. There is legal precedent that states do not have the right to activities in their own territory that cause injury in other states. This includes the Trail Smelter Arbitration between the US and Canada in 1941 and the Principle 21 of the Stockholm Agreement of 1972. See Linklater, “Cosmopolitanism.”

¹¹⁷ Marcel Wissenburg, *Political Pluralism and the State: Beyond Sovereignty* (London: Routledge, 2009).

¹¹⁸ Beck, *World at Risk*, 95.

government organizations and globally operating corporations to solve ‘national’ problems.”¹¹⁹ Legitimized by the threat of ecological catastrophe, new alliances and assemblages of non-governmental organizations, corporation, individuals, and governments “are seizing their chance and are sweeping everything else (opposition, their own errors, and omissions) away in the name of ‘Save the World.’”¹²⁰

Consumptive Ethics: Structuring an Eco-Polis

In addition to the radical change in spatial and temporal alignments of ecological citizenship, it also reverses the previous dominant thought on the role of consumption in the political sphere. From Aristotle to Marx to Rawls, the material needs of life were to be put aside when making “good” political decisions; “the good life” was one that was lived in the realm free from material need, where thought and deliberation created the conditions for moral engagement. Ecological citizenship puts material consumption at the center of the consideration of moral obligations, while at the same time conceiving of the moral community as the entire species.

Consumption has been at the heart of ecological politics since the effects of individual consumption, when aggregated at national and global scales, was targeted as a critical source of ecological damage at the Earth Summit in Rio de Janeiro in 1992, and made an explicit target of behavioral change at the Rio+10 conference held in Johannesburg in 2002.¹²¹ With the core activities of private life—food, waste, shelter, and mobility—now targets for political action, it becomes impossible to separate the citizen from the consumer. In the age of global climate change, to be moral beings within a global community we are to enact our citizenship through our consumption; what we purchase is how we vote. Moral activity is enacted through market transactions. Gert Spaargaren and Arthur Mol “welcome” this integration of the market and moral claims, citing that:

Its main attractiveness lies in the fact that it breaks through the separation of nationally articulated political preferences of sustainable development and globally organised economic practices. Sustainable development criteria are no longer regarded as ‘political goals’ only, to be discussed and decided upon primarily by political bodies and mechanisms at the nation–state level. Through political or ethical consumerism global market dynamics and global ‘consumership’ are called upon to help further the ecological modernisation of consumption practices that are connected to increasingly globalised chains. ...New forms of environmental authority emerge, which are built around citizen–consumers as change agents in global environmental politics.¹²²

The elevated role of citizen-consumers also means that there is a welcomed role for corporate-producers. Indeed, the dire threats posed by global climate change are prolific sources for new markets, providing opportunity for rapid corporate expansion. In the age of global climate change and “green” markets, ecology is no longer conceived as a counter to economic growth, but rather shapes a new route to profit.

Despite the heralding of the citizen-consumer as a change agent, the quintessential space of ecological citizenship is a space where the citizen’s consumptive choices are already constrained by

¹¹⁹ Ibid., 103.

¹²⁰ Ibid., 94.

¹²¹ Maurie J. Cohen, “The Emergent Environmental Policy Discourse on Sustainable Consumption,” in *Exploring Sustainable Consumption: Environmental Policy and the Social Sciences*, eds. Maurie J. Cohen and Joseph Murphy (Elsevier: New York, 2001), 21–37; Gert Spaargaren and Arthur Mol, “Greening Global Consumption: Redefining Politics and Authority,” *Global Environmental Change* 18 (2008) 350–359.

¹²² Spaargaren and Mol, “Greening Global Consumption,” 355.

the decisions of government-corporate partnerships: the eco-city. “As we build, so shall we live,” writes Richard Register, the architect who coined the term eco-city. “The city, town, or village—this arrangement of buildings, streets, vehicles, and planned landscapes that serves as home—organizes our resources and technologies and shapes our forms of expression. It is the key to a healthy evolution of our species and will determine the fate of countless other species as well.”¹²³ While an eco-city can be seen as a severe form of environmental authority, its intent is to, like the polis of old, free human beings from the burden of material needs so that individual can be free to engage in deliberations as to what “the good life” is—now that the conditions for the life have been secured in the present, and the future by the structures and systems of the eco-city itself. The critical design issue for eco-cities is how to make them actually ecologically positive forces in their environment without so altering or constraining the daily life practices of its residents that they abandon the social practices structured by ecological utopia for the social practices that are contributing to global climate change in the first place. For while eco-cities are usually described as technical solutions to technical problems, they are in fact a political solution to a political problem: what is “the good life,” and how will it be lived? What types of family structures will walls structure? What type of social interactions and organization will be shaped by the width of streets and by the modes of transport? What types of labor will be made possible or impossible by how the eco-city is zoned, and what types of businesses are needed or prohibited given what is being used to provide the city’s energy, and process its waste? What level of income will be necessary to pay for the selected energy, waste, and water services?

There are also the underlying questions about who or what institution will bear the cost of building the eco-city, who will profit, and how citizen-consumers will be allowed to participate in the creation of their city. Will it be built as a government infrastructure investment, or as a real estate development? How will one technology or product be chosen for use over another? Who will be considered experts on how people should live, ecologically?

Conclusion

To practice ecological citizenship is to engage in “the regeneration of power, the setting of rules, the securing of legitimacy for political intervention, the generation and cultivation of consensus.”¹²⁴ In this process various, varied interests are at stake—and not all interests are equal, either in their power to set the agenda or to be heard. Authority is also distributed through disparate assemblages that come together under the auspices of a shared general goal, but who may otherwise have disparate goals. Beck has called the practices of this new era of reflexive, ecological management “a large-scale political experiment of historic dimensions.” He goes on to predict that it “will exert a great fascination, as a global drama, or also as a global comedy, and probably both.”¹²⁵

While I hold little hope for the ideal of ecological citizenship as a political practice that will remedy “the potential and actual injustice of appropriating an unjust share of such [ecological] space,”¹²⁶ as a concept it does articulate and draw attention to a complex framework that justifies interactions of accumulation and exchange that are occurring in the contemporary world. This dissertation provides a detailed analytical and empirical case study of such practices of ecological

¹²³ Richard Register, *Ecocities: Rebuilding Cities in Balance with Nature* (Gabriola Island, British Columbia: New Society Publishers, 2006), 5.

¹²⁴ Elmar Altvater, “Global Order and Nature,” in *Political Ecology: Global and Local*, eds. Roger Keil, David V.J. Bell, Peter Penz, and Leesa Fawcett (London: Routledge, 1998), 37. 19-45.

¹²⁵ Beck, *World at Risk*, 104.

¹²⁶ Dobson and Eckersley, *Political Theory*, 230.

citizenship that are already at work in the world, and are working to remake Huangbaiyu and restructure lives of the people who live there.

Three

Opening Ceremonies

The 21st of May 2005 was not like any other day in the valleys of Huangbaiyu. For the first time in some thirty years, *renao*—a spectacle of sight and sound so unusual that a large group of people crowd close together to watch something in a space open to kin and strangers alike—had come to the village. Usually, *renao* is only to be found in the cities, where the town square is a good bet to find a stage of dancing girls and loud music announcing some thing to buy. It is the combination of loud sound and unusual sights and strangers that create the freedom to act as you otherwise would not that makes for *renao*.

The last time such a pleasantly cacophonous disruption relieved the tedium of their working day, en masse, was during a few heady weeks of Mao's cultural revolution. Some of the teenagers residing in Huangbaiyu's hamlets decided that to be worthy to carry the iron ore that would forge China's future in steel, all lorry drivers should have to prove their devotion to the Chairman. Instructed by the commune leadership in Red Mountain Range, everyone had been carefully studying Mao Zedong's Old Three Stories and in particular Mao's retelling of "The Foolish Old Man who Moved Mountains."¹²⁷ It was the responsibility of the Chinese masses—of themselves—to remove the "mountains" of feudalism and imperialism blocking China's path to building a modern, industrialized nation. The Commune leadership had focused on the parable of the foolish old man who transformed the world by leading the masses to change the topography of the earth since their commune resided in between Asia's largest open-air iron ore mine and the smelters of Benxi Steel that were forging Liaoning Province into the steely-sun of China's industrial future. Many of the men of Red Mountain Range Commune worked producing iron ore from the Nanfen mine, or descending into the myriad coal mines that dot the local mountain ranges to provide the fuel for Benxi's furnaces. Residents of Huangbaiyu's hamlets were prideful that their hands were an integral part of building new China, and wanted to make sure that the lorry drivers that passed through their hamlets as they hauled ore from Nanfen to Benxi were just as committed to New China.

A blockade was set up at the junction of Mouth Ravine—then Production Team Five—and the National Road. Lorries carrying ore from Nanfen to Benxi, or returning for their next load, were stopped, and the drivers forced to sing—and sing, and sing. The teenagers kept some drivers singing hymns to Mao and New China for hours, and some for days. Residents from hamlets throughout the valleys brought chairs to sit and listen, sometimes goading the drivers, and sometimes goading the teenagers. Some residents offered water; others thought it should be denied as a test of communist mettle. It was a jolly good time, many who were there recalled to me—a time when the pulse of the nation was felt in their own veins.

No one knew quite what to expect when they left their homes more than thirty years later on a sunny May morning to walk toward the field just south of the village primary school. But they did

¹²⁷ Mao Zedong, "Yugong Yishan."

know Americans would be there, and government leaders—maybe even Deng Nan,¹²⁸ it was rumored. A message from the District government in Nanfen had come down that everyone was to wash themselves and wear their best clothing. It was not the time of the forty days that you could wash in the streams, so some women went to the public bathhouse in the township across the mountains and paid RMB 6 for hot water, and some decided that just washing the face would suffice. Full washing was only considered absolutely mandatory at birth, marriage and at death,¹²⁹ although some women enjoyed the luxury of monthly full bathing, at least in the summer months. Since it was neither summer, nor the day of birth, marriage, or funeral for anyone attending the opening ceremonies for the China-US Sustainable Demonstration Village, the order was interpreted loosely. But village residents did recognize that there was a cosmological shift at work, if not for their own bodies, then for the nation, or perhaps even the world. There were Americans coming to the village, after all.

The new order of the day was no longer that the East is red, but that the planet is green. Visions of an industrial China were being replaced by a China that would lead the world into a new “ecological age,” and a new vocabulary was emerging: sustainability, harmony, circular economy, ecology. For the past year, government and party officials had been telling the representatives of Huangbaiyu’s Village Assembly that they had been selected to usher in this new “ecological” era. He Wenfu, a patriarch in Dry Riverbed who served as Party Secretary of Huangbaiyu from 1969-1981 and is now one of the hamlet’s representatives to the Village Representative Assembly, later told me how awestruck he was when Village Committee Director Dai Xiaolong first presented the idea of Huangbaiyu becoming a model village in a new order called “sustainable development”:

Huangbaiyu will be the future of China, of the world, we were told. It sounded amazing, like a dream. We would no longer work to light fires, but could laze as the sun did our work! I am 74 years old. If the sun did the work, I might live longer. Our lives would be better, easier! It was unbelievable. But I’ve learned to believe many things. We’d been asked to lead China in hand with the Americans. I knew it was a serious task. Reform and Opening had come to us.

After twenty-three years of witnessing economic reform and international engagement bring the “moderately prosperous society”¹³⁰ that Deng Xiaoping had promised mostly come only to urban residents, He was eager for prosperity—whatever its supposed color—to come to Huangbaiyu. Modernization had only recently brought telephone connection to Huangbaiyu in 2001, and television in 2003. What would ecologicalization bring? On that Saturday in May, he and several hundred other residents of the valleys tidied their courtyards and swept the dirt in front of their homes, as directed by municipal and district officials. Someone from the visiting delegation—American, or Chinese municipal or national official—may decide to pass by or enter their homes. Tidied, washed and dressed, they set off to see for themselves what the future had in store for them.

¹²⁸ Deng Nan is the daughter of Deng Xiaoping, and the then Assistant Minister for the Ministry of Science and Technology. While the height of her official position in China’s government hierarchy would make any visit to Huangbaiyu a significant sign of national approval to municipal and district officials, it was the possibility of seeing the namesake and resemblance of the man who championed China’s Reform and Opening Policy that made the possibility of her presence so exciting for the valleys’ residents.

¹²⁹ Daily or even frequent full bathing is not a common practice in rural China. See Liu Xin, *In One’s Own Shadow: An Ethnographic Account of the Condition of Post-reform Rural China* (Berkeley: University of California Press, 2000), 11.

¹³⁰ 小康社会 (xiǎokāngshèhuì). The historical conditions and present significance of the Chinese government’s promise of achieving a “moderately prosperous society” and its relationship to Huangbaiyu is discussed in Chapter Three: Global Uncertainty, National Anxiety.

In golden, big characters on a long red banner (an auspicious combination) arching across a rainbow in the sky it was written: China Benxi Huangbaiyu Sustainable Development Demonstration Village Project Opening Ceremony.¹³¹ An enormous poster that stretched the length of the arch illustrated these words through three connected images: a small blow-up of the entire Huangbaiyu Master Plan, a large detail of a residence in the model development, and a detail of the first phase to be constructed. The Master Plan makes visible a new town of 400 houses ordered into fifty slightly curving horizontal rows. All interior streets feed like spokes into the hub of the new town: a semi-circle of commercial and government buildings that face a central great park and lake. The central image of the model residence dominates the banner. A woman is walking towards the exterior, brick gate of a house, crossing the manicured sidewalk or asphalt “moat” that encircles the house and the manicured exterior frame of grass and deciduous trees maple and oak trees. Inside the gate, there is a manicured lawn with two deciduous trees, and a house and its encircling concrete patio that occupies two-thirds of the lot. The house abuts a calm river in the back that reflects the fall color of the deciduous forest that surrounds the isolated house. No other house is visible.

In the detail of Phase One of the Benxi Huangbaiyu China-US Sustainable Development Model Village forty identical houses are spaced in seven slightly pitched rows. Each house has an identically sized yard, manicured into a green lawn, some with a single tree. Twelve cars drive the streets so wide that the houses seem to float like an archipelago amidst a sea of asphalt. What might have been at first glance assumed to be a back porch in the image of the model residence is now clearly a garage. Four pedestrian crossways venture across the pavement to an exterior world of grass and trees beyond the oasis of modernity. In this “blueprint utopia”¹³² there are no ducks or geese, cows or donkeys; there are no sheds for drying corn and no vegetable gardens; there are no woodpiles; there are no human-pulled carts; there are no abandoned ceramic toilets or metal bathtubs in the yards; there is no laundry hanging from a line; there are no people. It is a place where the land has become landscaped, surroundings within which people exist rather than land on which they live. Only the motion of cars on the road implies the existence of human activity and interaction.

It is an image of a future that erases everything in their past. For the architects and planners who drew it, and government officials who approved it, that is part of the point. The people upon whose backs contemporary China was built are now seen as a dragging weight on China’s race to modernity.¹³³ Migrants from the countryside are flooding the cities faster than they can be absorbed; to stem the tide, the quality of life in rural China must be improved. At the same time, the possibility that some 800 million Chinese “peasants” will pursue the consumptive and wasteful American Dream is the bogeyman of an era where the risks of global warming are re-ordering what and who is of value. The Master Plan for Huangbaiyu has been put forward as the solution to the conflict between China’s national development anxieties and shared global ecological uncertainties.

¹³¹ 中国本溪黄柏峪可持续发展示范村工程揭牌仪式. Chinese geographic locations are indicated in the reverse order of the American standard, listing the geo-political hierarchy from top-down rather than down-top. This is done both in all forms of writing and in postal addresses. The formal postal address for Huangbaiyu is: China, Benxi City, Nanfen District, Sishanling Autonomous Manchu Township, Huangbaiyu Village.

¹³² This phrase comes from Jim Holston, *The Modernist City: An Anthropological Critique of Brasilia* (Chicago: University of Chicago Press, 1989), 31. The similar modernist sensibilities between William McDonough and the NIAM architects for whom Brasilia was their utopia are explored in Chapter Six, “Ecological Modernism”.

¹³³ This is the language used within China. “Modernization” is an active process, and something that always seems slightly beyond one’s grasp. Cities are often now granted status as modernized, but the countryside is not. Modernization is still to arrive there, and do its work.



Figure 3.2. "China Benxi Huangbaiyu Sustainable Development Model Village Residence." Drawn by Benxi Architectural Design Institute for the China-US Center for Sustainable Development. This is the second image on the Opening Ceremonies banner.

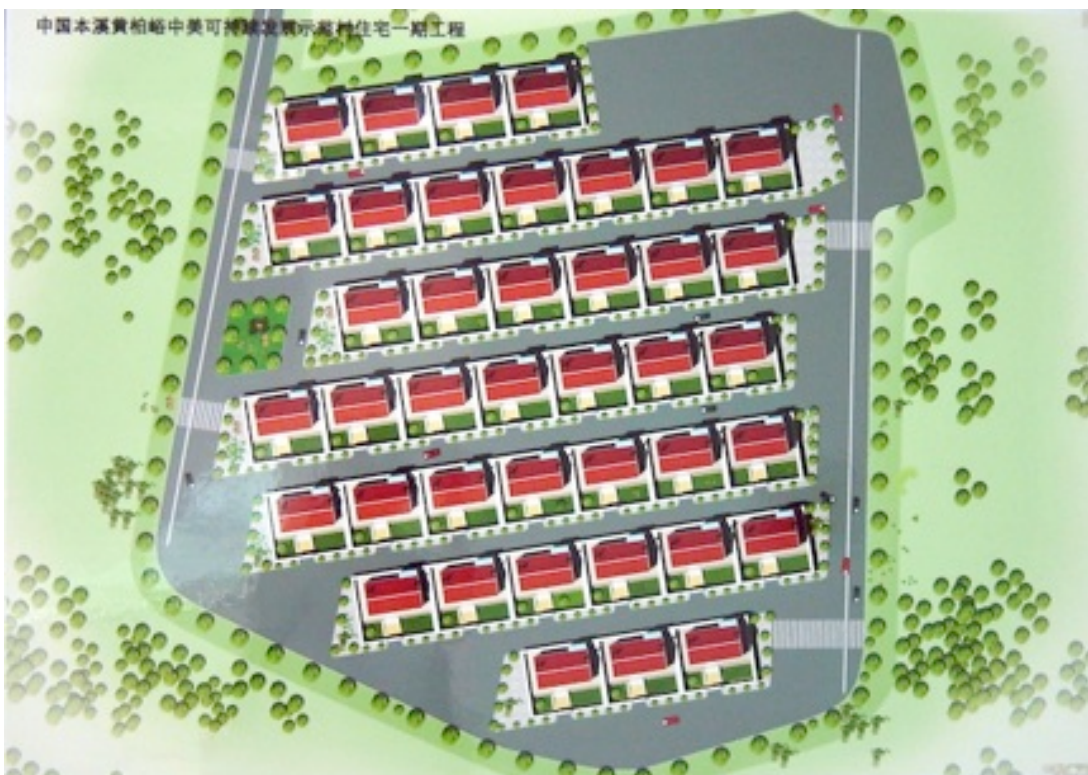


Figure 3.3. "China Benxi Huangbaiyu Sustainable Development Model Village Residences of Phase One [of the Project]." Drawn by Benxi Architectural Design Institute for the China-US Center for Sustainable Development. This is the third image on the Opening Ceremonies banner.

Through the transformation of wasteful, polluting scattered settlements into an ecologically-designed town, China's backward and impoverished countryside would not only become modern, but lead the world as a model for a new ecological era. Potential migrants would remain rural residents, enjoying an improved quality of life in the countryside, all while making energy consumption and waste visible and manageable.

It was clear to villagers who saw these images that the place they depicted was no longer a village, however, but a town—a place where its residents no longer had the means to live off the land for their livelihoods. An ecological transformation of the countryside, it appeared, would effect an economic transformation of small-holder capitalists into wage labor, agriculturalists into ecological proletarians. Initial reactions to the master plan designs were unanimous: “those are workers’ houses.” Some villagers’ viewed this prospect with excitement, others with unease.

The villagers had not been told by Dai Xiaolong, the Director of the Village Committee, or “Village Head,” as he preferred to be called, at what time in the morning they were all supposed to come out to welcome and listen to the officials and experts who were planning their future. As is often the case, those who claim power decide time: leaders arrive; commoners are present. To make sure they would not miss the *renao*, and would get to see the Americans and Chinese government leaders—both as unknown to these valleys’ residents as mythological creatures—people started arriving at the field that was now a construction site at 6:30am. It would be almost 10:30am before the caravan of black Audi sedans and police-escorted buses would pull off the National Road, and the festivities would begin.

When Township and District officials got the call that the police-escorted caravan bringing the representatives from the China-US Center for Sustainable Development had exited the expressway, they herded the villagers to the outside of the massive, inflatable double-arc rainbow that marked the entrance way across the dirt to the red-carpeted stage. A school band dressed in pressed white and red uniforms that had been brought in from somewhere else that had school bands began to welcome the dignitaries with cymbals, drums and horns.

How does it make *sense* that more than a dozen corporations’ representatives, one of America’s most renowned environmental architects, faculty from both Chinese and US universities, Chinese national government officials, NGO representatives, and an anthropologist were all arriving together in a village of some 1500 people in rural China? That municipal government officials and the CEO and employees of a distillery were waiting for them on a red carpet underneath a blow-up rainbow? That a few hundred people joyfully called “peasants” by the CUCSD’s managing director were waiting too? That journalists from municipal, provincial and national Chinese media outlets, along with Newsweek were all there to report on the event? And that we were greeted by a school band of a couple dozen children wearing immaculate white and red uniforms? The obvious reason is that we were all there for the opening ceremony for the China Benxi Huangbaiyu Sustainable Development Demonstration Village Project. But what was the problem in the existing village that needed this project for it to be solved? What were the shifts in knowledge that made the present state of this village such a “problem” that it needed be negated through the construction of a new model, and a new future? How did the interests of representatives of the Chinese government become aligned with an architect and both of those interests with varied corporations and a local Chinese government? Who were these “peasants” and what was their way of life that was now so denigrated?



Figure 3.4. Staff and affiliates of the China-US Center for Sustainable Development arrive at the China Benxi Huangbaiyu Sustainable Development Model Village Opening Ceremonies. Bill McDonough receives help with his VIP pin in the center.



Figure 3.5. Newsweek Reporter Sarah Schaffer takes notes. A school band from somewhere else that has school bands welcomes the VIPs, while residents of Huangbaiyu's hamlets look on from a distance, on the far left. The old storehouse and communal work shelter of Dry Riverbed from its years as Production Team Six is in the background.



Figure 3.6. The construction team for the model house in the model village watch the Opening Ceremonies from the roof. Several wear Vermeer hats, gifts from the heavy-machinery manufacturer that donated the system to create compressed earthen blocks.

It was a fabulous scene. Giant red lanterns rose high into the sky, trailing banners that rippled in the wind like dragons' tails dancing through the sky.

In all respects build a socialist new countryside that is
harmonious between man and nature!

With the scientific development outlook as leader, quickly
build the sustainable development demonstration village!

Warmly welcome every VIP, friends from all walks of life to
Huangbaiyu!

For the first time in their lives, residents of various hamlets of Huangbaiyu, were able to glimpse who the people are and what those people do that are called "international." For the moment, it was easy to believe what they had been told: that Huangbaiyu was at the center of the world's attention. Television cameras and people with voice recorders were walking amongst them. A couple dozen Americans had emerged out of the buses. Dozens of government leaders were present—even the Mayor of Benxi. It was the first time the City mayor had ever addressed the people who lived in Huangbaiyu Village.

In the late morning of May 21, 2005, everyone who embraced their status as Very Important Persons stood on a red carpet facing the crowd that had come to see the spectacle. I tried to become part of the crowd, which I physically—if not socially—accomplished. At the very least, by standing amongst the residents, I could see the performance from the angle at which they saw it, and hear the words of both the speakers and some of the audience.

"I've never seen anything like this! How lively!" a stout older woman said as she looked up at the first of the three giant red inflatable rainbows that arch more than 30 feet over the dirt ground below, guiding the spectators' gaze to the red carpet stage. The first speaker was introduced as Li Bo, the Mayor of Benxi City. "Look, the Mayor!" a young man in a work smock and close-cropped hair shouted. "He's the Wen Jiabo of Benxi! He's here!"

If this man had not been introduced, the villagers would not have known who he was, but with this introduction they knew that they were seeing, and being seen by, the highest ranking government official most of them would ever encounter. There was of course someone with greater power in the determination of the future of their lives who could have come—the Hu Jintao of Benxi—but the Party Secretary did not come that morning. In his absence, Mayor Li Bo's words, like those of Premier Wen Jiabao, would indicate the policy of the government, and its intentions toward the dirt on which they stood.

"Dai Xiaolong is the General Manager of Golden Grain Spring Construction Company, and has himself, as an entrepreneur, raised 3.5 million Renminbi to build this China-US sustainable development model village in Huangbaiyu, Benxi," Mayor Li announced. "Dai is also the village head, and needs your great support."

I was confused by this dual introduction. While I knew from conversations with employees of the US Secretariat of the Center that Dai was a businessman with ecological inclinations, he had always been introduced with the title of "Village Head."¹³⁴ As "Village Head," or Director of the

¹³⁴ Village Head is a technically incorrect title, although colloquially ubiquitous in Huangbaiyu, and also used by the CUCSD to address and refer to Dai. Officially, Dai's title is Village Committee Director. When I called Dai the Village Head when speaking with the Party Secretary of nearby Three Rivers Village he corrected me. "Calling him Village Head is inappropriate. Do you think we are still feudal here? He is the Village Committee Director," the Party Secretary

Village Committee, he is the most senior leader in whose selection the villagers have a say. While not technically a role within the government hierarchy—the Village Committee is officially a civic organization—the Director of the Village Committee is the elected representative of the Village. During preliminary meetings with the US Secretariat of the China-US Center for Sustainable Development in Portland, I was repeatedly told of the significance of Dai's position. Dai's selection through election was held as proof of the voluntary participation of the villagers in the project. The reasoning was transitive: the villagers chose Dai Xiaolong; Dai Xiaolong chose the project; therefore, the villagers chose the project.¹³⁵ This was of great significance to the Americans involved, for it verified that they could not be accused of taking advantage or coercing villagers to accept a project that would require the demolition of their homes and relocation to the model development. Perhaps this choice would portend even more. "We may see democracy come from all of this [the Huangbaiyu project]," the US Executive Director had told me in April. "Usually the government moves them [the people] here, moves them there. This is all voluntary. They see their own prosperity. It is their own choice, rather than the government's choice."

Transitive logic depends on the equation of the relative measure between terms, in this case, what it is to choose. Was the villagers' choice of Dai as "Village Head" the same form of choice as Dai's choice to pursue the project? By highlighting Dai's role as General Manager of a distillery, and noting that it was in this role that he had put up capital for the development, the Mayor signaled the potential for disagreement between the choice of Dai as "Village Head," and his choices to pursue the construction of a sustainable development demonstration village. In what capacity did he make decisions? With whom did everyone else think they were dealing? Did it matter?

Next, an American man was introduced as sustainable development designer 威廉·麦克唐纳 (William McDonough). He walked to the microphone and addressed the curious faces trying to decipher what they are to make of all this, and why so many Americans have come to this small place that was previously of so little significance that it was not listed on provincial maps. In this retelling of that morning, I have chosen to write McDonough's name in the Chinese characters that were used to transliterate his name into Chinese, as reading those characters in the midst of an English sentence is as foreign and confusing of an encounter as it was for the villagers to hear them that morning. With them he had no personal fame, but did bear the prestige of a VIP.

When McDonough took the microphone, he looked at the villagers warmly, and spoke with heartfelt conviction. "We see this project as a gift that you share with us, and we share with you," he said. "We see this project as a project for the children. ...Why have we all come to Huangbaiyu? To celebrate a new way of thinking: clean water, energy and air; economy, equity and ecology. And happiness. We hope whatever we do will make you happy. And we hope you will tell us if you are happy or not."

chastised me. "He calls himself Village Head. That is what he put on his calling cards. That is what everyone else says," I replied. "That shows you the problem of his thought, and of that village. They have always been backward."

¹³⁵ A generic formulation of this logic is: If a is greater than b, and b is greater than c, then a is greater than c. While in the example at hand, b represents Dai, and can be equated, b=b. The question is whether the term "greater," or in this case, choice, can be equated in each case.



Figure 3.7. William McDonough addresses the crowd in Huangbaiyu. Dai Xiaolong listens on the far left, holding papers in hand. Benxi Mayor Li Bo stands behind Bill in the white shirt. The other men are all CUCSD staff, corporate affiliates, and government officials from Benxi City and Nanfen District. The banner illustrating the Master Plan for Huangbaiyu hangs behind them. The event was filmed by several television stations, including Benxi, Liaoning, and CCTV.

For a minute or two there was no reaction from the crowd of spectators. McDonough smiled and waited. Translation was occurring in succession rather than simultaneously. The audience waited. When the translator came to her final sentence a few minutes after he had first said it, the meaning in Chinese had changed slightly but significantly in the passage between tongues: “We hope that your happiness or unhappiness will be represented [to us].”

Behind me muffled chortles gurgled from a group of three middle-aged men with their arms crossed against their chests. One pulled his cigarette out of his mouth just long enough to ask, “Who is [our] representative?”



Figure 3.8. Residents listen to McDonough. Chuckles followed after the man standing in the center of the photograph posing the question: “Who is our representative?,” as well as their surprise that I turned around upon hearing it. The model house is in the background at left and a dragon’s tail banner dances at right. The young man in the far left background with the stern look in response to the men’s chuckling is Sun Zhengguang, Dai Xiaolong’s translator.

No one on the red carpet heard his aside, as was intended, but there was a bout of laughter from his companions. The ceremony went on. It concluded with a formal signing of a Memorandum of Understanding, ostensibly between the China-US Center for Sustainable Development, the Benxi City and Nanfen District governments, and Huangbaiyu village. After all, all the talk that morning had focused on the village, its role in building a sustainable world, and on the happiness of the villagers. Months later would I see the document myself, and Dai’s signature above the role in which he signed: General Manager of the Golden Grain Spring distillery.

Indeed, who was the villagers’ representative in this Memorandum of Understanding? This only raised more questions. If this project was a development deal between corporations and governments, why had Dai been hailed as one of China’s ten greatest philanthropists in 2005 for his donation of RMB 2 million to “change the conditions of poverty”? What is, if there is, the demarcation between development as human progress and development as real estate? Between philanthropy and capitalism? As the months wore on, and the houses in Phase One of the development were built, journalists covering what Elizabeth Economy had called “perhaps the most ambitious multinational effort to help redirect China on to a new development path,”¹³⁶ were shocked when I told them that the villagers were supposed to pay for the multinational effort to rebuild Huangbaiyu as an eco-town for the benefit of China and the world. What then were

¹³⁶ Economy, “Environmental Governance,” 82.

McDonough + Partners, BP, BASF, and other corporations doing in Huangbaiyu? Corporate philanthropy—what some call corporate social responsibility—or opening a new market?

As soon as McDonough's speech was over, residents began to slowly head off to the various paths that led toward their homes. They needed to change before returning to the regular activities of the day. The various Chinese national officials, China-US Center for Sustainable Development managers and their corporate affiliates, as well as the municipal and district officials from Benxi and Nanfen set out on a tour of the first model house of the model development. McDonough pointed out the notable features of the sustainable model house, explaining them through a translator to Mayor Li. Dai beamed as dozens of VIPs toured and remarked on the house, and its certain leadership role in charting China's future. All eyes turned to the expanded-polystyrene (EPS) roofing system that had been donated by BASF, the 1-kilowatt photovoltaic electricity system donated by BP, the compressed earth blocks formed by machines donated by Vermeer, and straw bales. In this vision, where the East is green, electricity comes from the sun, bricks are made without firing coal, and thermal insulation is improved through the use of polystyrene and straw. And many of the building materials are manufactured elsewhere, and are purchased at a high cost.



Figure 3.9. Benxi Mayor Li Bo examines the “sustainable” and “ecological” materials used to construct the first model house in the sustainable development model village. The compressed earth blocks and straw bales are clearly visible. The Mayor is looking upward to the BASF Styropor® expanded polystyrene roofing panels. The plywood underside is visible. Structural problems with the masonry and block cohesion are visible.

As I walked through the model house, I thought of the welcome McDonough gave to the Chinese and American Board of Councilors at the start of the meetings the previous day in Beijing. “There are two things that are critical to our work going forward, our relationships and our results,” he announced. “Our relationships need to be deep and long-lasting, and our results need to be quick and real and taken to very large scale across the country.” He concluded that while “we will work with velocity and scale...we will enjoy ourselves thoroughly in our mutual work.” The Center’s project manager for Huangbaiyu had already told me that Huangbaiyu was intended as a model for China’s other 600,000-some villages, and that the Center would be working with the Ministry of Construction to write the first building codes for all rural construction based on the Huangbaiyu project. The ambition is staggering, and all the more likely to be realized in a country where governance is a technocratic rather than democratic endeavor.

Indeed, as fears of a planet in peril from global warming rise, some pundits in the West are outspoken about their admiring China’s authoritarian government, building upon a strain of political theorists and policy advisors who have sought to empower eco-authoritarian regimes.¹³⁷ Eco-city proponent, designer and Finnish Politician Eero Paloheimo put the appeal of an authoritarian China—guided by ecological principles—succinctly: “Major, radical decisions may be easier to take when you believe they are correct and need not suffer from irrelevant criticism.”¹³⁸ Where there are no votes, and therefore no divergent constituencies to please, experts—it is thought—can make informed choices and implement them. In an authoritarian China, it is argued that it is only a matter of inculcating the authority of science—and then ecological devastation can be avoided. In effect, the absence of democracy and its slow and individualistic decision-making process would make it possible for China to make the kind of globally-minded decisions of which the US and Europe seem incapable. If only the leaders can be convinced. It is also a place where models have a long history of propelling people—and so now with economic reform, why not also products—on a meteoric rise. If Huangbaiyu becomes the model of village transformation in the ecological era, building on Communism’s Dazhai and Reform’s Xiangang and Daquzhuang, Dai could follow the path of Chen Yonggui and leap from the lowest governing position in the land to the echelons of the Politburo, McDonough could claim to have masterminded the construction of 600,000 “sustainable communities” and saved the planet, and Intel could have technology used and purchased by some 200 million households in China.

Conclusion

A critical contribution of this dissertation is that it offers a productive rather than a defeatist answer to the perennial question of “Why do development projects so often fail?” On the one hand, development projects never fail in that they always have effect. But why is it that development projects so often fail according to their own terms of success? The answer is not technical, but epistemological. Standing outside of the history and the present of Huangbaiyu, seeing it from above and from afar rather than from within and amidst, from the experiences of “us” rather than the experiences of “them,” the designer, planners and developers—Chinese and American alike—take their own priorities and anxieties, aesthetics and desires and project them onto the

¹³⁷ Friedman, “One-Party Democracy;” William Ophuls and A. Stephen Boyan, Jr., *Ecology and the Politics of Scarcity Revisited* (New York: W.H Freeman, 1992); Paul Kennedy, *Preparing for the Twenty-first Century* (New York: Harper Collins, 1994).

¹³⁸ Eero Paloheimo, “Eco-city—what and why?” (Lecture in Tianjin, China, April 17, 2007), <http://www.eeropaloheimo.fi/EcoCity.htm>

people in Huangbaiyu.¹³⁹ Logically then, their project works to solve their own problems—conceived as global problems—not the problems of the people who live in Huangbaiyu. Yet, it is still possible for those actors to deceive themselves that their project is a sustainable development project that will enable Huangbaiyu “to redefine itself economically, socially, and environmentally.”¹⁴⁰ A development project may also technically fail to solve the problems it set out to solve, as this one did, but that is not why the development project itself failed. It failed because it was never deliberated with or made accountable to the people who were its (mythological) beneficiaries—and yet, the China-US Center for Sustainable Development repeatedly announced with genuine belief that this was a participatory project to bring prosperity to Huangbaiyu. The heart of the failure, then, is the success of a “societal strategy of societal self-deception.”¹⁴¹ A contribution of this dissertation is to reflect on that complex and varied work that enables us, in good faith, to know not what we do.

¹³⁹ There is a similarity here to Edward Said’s arguments in *Orientalism* (New York: Vintage Books, 2003).

¹⁴⁰ William McDonough + Partners and McDonough Braungart Design Chemistry, “Huangbaiyu: Creating a Cradle-to-Cradle Village” (October 4, 2004).

¹⁴¹ Ingolfur Blühdorn, “Post-Ecologism and the Politics of Simulation” (ECPR Joint Sessions of Workshops, Workshop 10: The End of Environmentalism? March 22-27, 2002), 18.

Part II

Discourses, Institutions, Designs, and Development

Four

Global Uncertainty, National Anxiety

On September 1, 2006, Zhao Qinghao and Yi Shiqin became the first residents of the Huangbaiyu China–US Sustainable Development Model Village. Four years earlier, a shared vision was formed between a consortium of Chinese national government leaders and US corporate representatives to “leapfrog past limitations and accelerate sustainable development” by building China’s first sustainable community.¹⁴² Where maize was once grown, in 2006 forty-two houses – ten percent of the total planned model development – became the first harvest of the sustainable design expert William McDonough’s plans for Huangbaiyu, a “sustainable rural village that the government hopes will serve as a prototype for improving the lives of 800 million rural Chinese.”¹⁴³ Environmentalists and journalists across the globe have heralded the Huangbaiyu eco-city¹⁴⁴ project as critical in the fight to stem global climate change.¹⁴⁵ Leading Chinese environmental commentator Elizabeth Economy has called the project “perhaps the most ambitious multinational effort to help redirect China on to a new development path.”¹⁴⁶

Yet, why does China need a new development path? Whose fears and ambitions led to a new city being built on maize fields? This chapter is in part an investigation of the hybridization of international and national motivations to conjure a new world, to paraphrase Aihwa Ong,¹⁴⁷ and how those disparate concerns came to work on soil and souls in a series of valleys in eastern Liaoning Province. I appreciate Ong’s revision of the oft-used suffix “-making” (as in world-making, city-making, self-making) to “-conjuring.” Making implies a direct relationship, a process through which intention and action are closely coupled. To conjure a world, on the other hand, highlights that all may not be as it seems, and that perspective and focus, and perhaps misdirection – the keys to sleight-of-hand magic tricks – are at play in any attempt to create new worlds, new places, and new persons.

¹⁴² “Mission Statement,” China–US Center for Sustainable Development, content created 2002, accessed as of May 18, 2005, <http://www.chinauscenter.org/purpose/mission.asp/>

¹⁴³ “The HBR List: Breakthrough Ideas for 2006,” *Harvard Business Review*, February 2006 Reprint R0602B, 6.

¹⁴⁴ Throughout this chapter, I refer to the Huangbaiyu master plan as an eco-city project, instead of an eco-village project. While government designation will continue to list Huangbaiyu as a village and its residents will remain farmers by household registration status, the work of the project is more than a master plan to mitigating climate change; it is a master plan for urbanization. As such, the correct conceptual marker is an eco-city.

¹⁴⁵ Dejan Sudjic, “Making Cities Work: China,” BBC NEWS, June 21, 2006; Thomas Friedman, “Addicted to Oil,” *Discovery Times*, 2006; “The HBR List: Breakthrough Ideas for 2006,” *Harvard Business Review*, February 2006 Reprint R0602B, 6; Public Broadcasting System (PBS), “Deeper Shades of Green,” in *e²: economies of being environmentally conscious*, narr. Brad Pitt, Season 1, episode 5, 2006; Alex Steffen, ed., *Worldchanging: A User’s Guide for the 21st Century* (New York: Abrams, 2006).

¹⁴⁶ Elizabeth Economy, “Environmental governance: the emerging economic dimension,” *Environmental Politics* 15 (2) (2006): 182.

¹⁴⁷ Aihwa Ong, “Worlding Cities, or the Art of Being Global,” in *Worlding Cities: Asian Experiments and the Art of Being Global* (New York: Wiley Blackwell, 2011), 1-26.

This chapter is also about how claims to a universal knowledge of the good life are constituted – often with the handmaiden of science – and how easy, how logical, it can seem to take one’s own life as an unalterable good, and others’ lives as desperately in need of improvement – to be more like one’s own. With science telling us that life as we know it may be threatened by global climate change, the twenty-first century will witness unprecedented changes in governance and subjectivity as persons become enmeshed in networks of power far beyond the scope of local, regional, or national geography.

But as the case of Huangbaiyu demonstrates, the dreams and plans from abroad – in this case from both the United States and China, because the dominant perspectives of urbanite, national leaders are geographically and ideologically foreign in Liaoning’s valleys – do not ever encounter a blank slate, however much the drawing of development plans on blank pages may trick some into believing otherwise. Even as a singular, universal solution is sought, it is constituted through the amalgamation of the historically and subjectively situated fears and ambitions that animate the American leadership in the China–US Center for Sustainable Development and, similarly, the particular fears and ambitions of the various leaders on the Chinese side, themselves also particular to their own situatedness. Those desires and dreams then encounter the places and persons they seek to manipulate in the process of conjuring another world. Thus, my concerns are not only with the context and design of this internationally lauded exemplar of the supposedly necessary ecological urbanization of rural China, and the rural world in general, but also with the Huangbaiyu model as a physical manifestation of the desired relationship between persons, and between humanity and nature, that is emerging as an idealized form of governance in the twenty-first century – and the lives and livelihoods that this ideal disavows. Attention to Huangbaiyu gives us a glimpse of how urbanization in China, Asia, and beyond in the twenty-first century may be ecologically justified, and how this juggernaut may make new subjects of rural residents through a process that would impoverish them even as it is celebrated by their own regional and national leaders, and international experts. At heart, this chapter seeks to show the non-sense of that which is taken as common sense in our time.

Paying attention to the attempt to conjure a model eco-city in Huangbaiyu as an exemplar for a sustainable twenty-first century also shifts our perspective on urban theory. From the valleys of Huangbaiyu, we can analyze the urban in-formation: seeing how the urban is defined, by whom, for what purpose, and to what effect. What is easily taken for granted when we study existing cities is foregrounded in this case where the city is itself the intervention.

Touring the Exhibit, Living at Home: Life in the Huangbaiyu Model Village

Five days after Zhao and Yi moved into the new development, a caravan of black Audi sedans drove past the thirty-five ton rock announcing the entrance to Huangbaiyu Model Village (Figure 4.1). As they entered the development, they passed a brass plaque naming it as a regional nominee to China’s 100 Model Villages Project, and then parked in a line on the dirt boulevard leading to Zhao and Yi’s new house. Provincial Party officials, scientists, and journalists on an official study tour emerged from their cars, and were taken on a tour of the site – a place its local developer, Dai Xiaolong, advertises as the “World’s First Village.”¹⁴⁸ In Huangbaiyu, global climate

¹⁴⁸ The splash page for Dai Xiaolong’s original Huangbaiyu web site features this phrase and the image of Huangbaiyu in relationship to the globe: <http://www.benxi-window.com/web/hby/>. The Chinese text (世界第一村 – 黄柏峪) is here poorly translated as “The world is the first village—ONE—HUANGBAIYU.”

and energy problems would be solved through “cradle-to-cradle” principles,¹⁴⁹ “sustainable development,” and “ecological” concepts manifested in the designs of the master plan being built there.

Zhao is flabbergasted each time government officials and visiting dignitaries arrive to inspect his house, and more than a bit confused by why they are all there. Zhao is afflicted with polio, and his wife Yi Shiqin, has physical and mental disabilities that have led her neighbors to call her “the idiot” her entire life. Consequently, Zhao and Yi are not used to positive attention from others, let alone people whose great political and social worth is displayed in their cars, clothes, and cameras, as well as their unabashed practice of walking into Zhao’s home uninvited, without notice, and without acknowledging him. He silently smiles as he limps out of the way of official after official, who never converse with him during their tour of his home in the model village, and who leave his wife to mop up their muddy footprints. He has tried to understand what in his house is so important – for he knew it was not himself, since no one spoke to or acknowledged him – by listening to the words used over and over by all the strangers who have come to see how he lives. But there are so many words with which he was unfamiliar, Zhao told me.



Figure 4.1. Entrance to the model sustainable development project in Huangbaiyu. The 35-ton stone rock was placed at the entrance by Dai Xiaolong.

“Ecology,” or 生态 (*shengtai*), is a term that has suddenly entered the language spoken around Zhao, but the meaning of the term remains elusive to him. Like the strong majority of women and most men I interviewed living in the valleys of Huangbaiyu’s existing, “non-model” hamlets, Zhao and Yi stumbled at the term. When Dai and other visitors spoke of “ecology” while walking through their house, Zhao and Yi wondered why anyone was interested in their – or anyone else’s – feelings about family planning policies. Trying to divine the meaning of this new term, Zhao had considered the common usages of the term’s component characters: 生 (*sheng*), to give birth, to live; and 态 (*tai*), form, demeanor, or attitude. He had also thought about the only other time of

¹⁴⁹ The phrase “cradle-to-cradle” throughout this chapter references the philosophy and practice as delineated by William McDonough and Michael Braungart in their 2002 book, *Cradle to Cradle: remaking the way we make things*.

which he knew when government leaders showed concern about the daily activities of a family's life inside their own house: when the family planning officials came on inspections. The visitors' talk of the use of a "cradle-to-cradle principle"¹⁵⁰ put forth by American William McDonough as the basis for the design of the model project just reinforced Zhao and Yi's thoughts that whenever Dai or other visitors hailed the coming of an "ecological age," that some new foreign-technology based, family planning policy was being implemented, and somehow these houses were part of it. Standing with his post-menopausal wife, this often caused Zhao to chortle.

Zhao does not laugh, however, when I tell him that this house and the master plan of which it is a part are designed as a model for how to improve the lives of 800 million other rural Chinese.¹⁵¹ A month after they moved into their new model house in the Huangbaiyu Model Village – a month after the first set of government officials had taken their photographs and left – I asked Zhao what he thought of sustainable development. Although he had heard "sustainable development" lauded by their national leaders on the nightly national news, what exactly that might have to do with the house he had just been moved into was beyond his imagination. He thought that sustainable development would *obviously* mean that at long last some development would come *his* way, that would sustain *his* life – providing him with a steady, reliable income to spend. "Sustainable development is *my* development," he said. "Then we'll be sustained instead of barely subsisting. That is what we [farmers] are waiting for."

This house in this "sustainable development model village"¹⁵² had, on the contrary, brought greater insecurity into his future. In the "sustainable dream town" lauded as key to a global "future that is both bright and green,"¹⁵³ there was no room for his goatherd, or place to cure his maize. He was also now isolated from both his kin and neighbors with whom he had long-term reciprocal relationships in Zhao Family Village, the hamlet of Huangbaiyu in which he had been born and lived his entire life. Hearing that international experts and news media have heralded this model of development as one of the keys to stemming global climate change, he stared at me, dumbfounded. Zhao considered my statement while studiously rolling tobacco in his hands. "The business of leaders and commoners is different." This was not the first time I had heard human activity categorized in such a binomial way by people in these mountains. Personal and collective memory had cultivated an understanding of the world as comprised of those who have plans for their own lives, and those who have plans for others' lives.

In the pages that follow, I try to understand the "business" of leaders and commoners that is at stake in the model village being built in Huangbaiyu. Some of Zhao's confusion could be ascribed to the limits of his horizon. The towering mountains that frame the gullies in which he has farmed and shepherded over the fifty-eight years of his life do not allow him to claim the global perspective that gave rise to the house in the model village in which he now lives. While the designers – architectural, governmental, and corporate – of the model village have never experienced Zhao's perspective, they take the ease of their mobility between geographies, languages, and scales as evidence that they have the wisdom to lead Zhao toward a better life. Unfortunately, mobility may undermine understanding, as the assumptions of one context no longer abide in another. The shared intentions of a partnership may also be undermined by disparate motivations and historical contexts.

¹⁵⁰ In the translation of "cradle-to-cradle principle" in project planning meetings and in the title of McDonough and Braungart's book, "cradle" is translated directly as "摇篮" (*yaolan*).

¹⁵¹ *Harvard Business Review*, 2006.

¹⁵² I have placed the commonly used name of the Huangbaiyu project, the "sustainable development model village," in quotation marks not only to set off this phrase as a name, but also, following James Ferguson's practice (1990), to problematize its component terms: sustainable development, model, and village.

¹⁵³ Steffen, "Huangbaiyu," 276.

Through the lens of rural urbanization in China, I trace how the science of global warming is giving rise to a new calculus of value, one that is based on energy consumption and that pits the urbanization of the rural, less consumptive world, and in particular populous rural China, against the survival of life as now experienced in the already urbanized, consumption-based world. According to the International Panel on Climate Change, rapidly increasing energy consumption and its emissions of tons of carbon-dioxide equivalents over the next 100 years pose a dire threat to the current balance of the Earth's ecosystem.¹⁵⁴ Yet, without increased consumption for the majority of China's population, both Chinese government officials and foreign analysts fear that economic inequality may lead to political instability. At the same time, the continued paving of China's farms to accommodate urban sprawl threatens food security. Eco-cities hold forth the promise of cutting the tie between urbanization, energy, and land consumption, enabling those who have heretofore been left behind by the Industrial Revolution to enjoy an increased quality of life without pushing the planet beyond an ecological tipping point. Yet, the promise of eco-cities from a global perspective, and even its success on such terms, can be perilous on another scale: on the scale of the lives and livelihoods of the families who bear the burden of living in these new, heralded spaces. Worlds and the lives they shape are not conjured out of thin air, but must be built upon the inheritance of what has already existed.

The Present Problem of a Future Uncertainty: Consumption

In a time when global warming has made already urbanized and developed regions wary of the spread of highly energy-consumptive lifestyles, China has become the location of the most widely lauded experimentation in ecological urbanization. As climate change models turn what were once envisioned as the industrial utopias of the twentieth century – the factories of mass production and convenience that would eliminate scarcity for all – into the polluting origins of planetary peril, eco-cities have become the new technology through which scarcity may be resolved for the betterment of the civilization.

While visions of eco-cities are being dreamed as extensions of urban metropolises, it is in their incarnation in the countryside that the lens of the eco-city is at its greatest focus. When eco-cities are built in the countryside as tools of ecological rural urbanization, it is not only a new hierarchy of value that comes into operation; there is also a new population upon which it operates. Proposed projects in Dongtan and Qingdao¹⁵⁵ seek to break technological and organizational ground to reduce current urban carbon footprints. But as expansions of existing metropolises in China, the residents of these newly urbanized areas will not be newly urbanized persons but, rather, are already well-off residents shifting residence. In a place that is in the process of being urbanized, what is urban cannot be taken for granted, but is rather physically established as criteria for living a good life. The city itself becomes the tool of intervention, and in this case posited as the salvation of not only the residents of these rural valleys, but for all of rural China; indeed, for all of rurality. Eco-cities built in China's countryside bring new bodies into a system of urban governance as an ingenious solution to rapid urbanization itself, and a balm to soothe the wounds of the people that industrial and capitalist revolutions have left behind.

¹⁵⁴ International Panel on Climate Change. *Climate Change 2007: Synthesis Report Summary for Policymakers* (2007), http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf.

¹⁵⁵ The Dongtan project is financed by the Shanghai Industrial Investment Corporation, the Hong Kong-based investment arm of the Shanghai Municipal government, with design and engineering led by London-based, Arup. As of August 2010, it is indefinitely delayed. See Shannon May, "Dongtan, China," in *Green Cities: An A-Z Guide* (Sage Publications, 2010). The plans for "eco-blocks" in Qingdao are designed by Harrison Fraker and his team at UC Berkeley, with funding from the Moore Foundation; it is also engineered by Arup.

When Deng Nan, then Vice-Minister of Science and Technology, and William McDonough met in 2002 as co-chairs of the China–US Center for Sustainable Development (CUCSD) to discuss how to bring American sustainable development expertise and technology to China, the conversation led to a radical hypothesis: Could building an eco-city – a sustainable community – in a Chinese village prove to be the model for urbanizing the rural population *in* the countryside while also reducing carbon-emitting energy use? Could the countryside be urbanized, and the benefits of urban life be brought to farmers? If so, China would lead the world in solving one of the most pressing political crises for every nation in the twenty-first century: defying historical precedent by inverting the relationship between increasing quality of life and fossil fuel usage.

The juggernaut of energy and urbanization

The import of Huangbaiyu was clear to leaders in both the United States and China. While China's leadership is faced with the political need to provide the majority of its residents with the fruits of capital development – the goods, services, and opportunities that citizens of OECD countries have taken for granted for three to five generations – they must do so at a time when a carbon-fearing world is focusing on how China's growth may push the Earth beyond sustainable limits.

Without inverting the historical relationship between urbanization and energy use, both China's and the planet's future are considered bleak. In 2030, China is projected to have a population of 1.6 billion, 60 percent of which will be urban.¹⁵⁶ In the next twenty years, the potential transformation of the lives of 433 million newly urbanized people will radically alter China's physical geography and political topography. The per capita energy consumption of China's urban residents is 350–400 percent more than that of their rural counterparts.¹⁵⁷ If this new wave of urbanization follows in the wake of previous movements – and rural residents emulate the lifestyle of their urban counterparts as they enter the middle class – it is predicted that the concomitant chaotic rise of buildings and consumption may lead global climate change to regularly flood the streets from Calcutta to Shanghai, and Miami to New York, by 2050.¹⁵⁸

Although it is the United States that carries the largest “natural debt” to the rest of the world for its cumulative carbon emissions since the start of the Industrial Revolution,¹⁵⁹ it is the rise of China and its rapid urbanization and increased per capita consumption that is portrayed as the greatest threat pushing humanity toward “mutually assured destruction.”¹⁶⁰ In January 2008,

¹⁵⁶ Qun Zhou and Lin Yanhua, “China's urbanization encounters ‘urban disease,’” *China News Service*. Accessed December 3, 2007, <http://www.chinanews.cn/news/2005/2005-11-18/14441.html>.

¹⁵⁷ Lin Baoqiang, “Low-carbon Urbanization Way Forward for China,” *China Daily*, November 30, 2009, http://news.xinhuanet.com/english/2009-11/30/content_12562923.htm.

¹⁵⁸ “NASA Looks At Sea Level Rise, Hurricane Risks To New York City,” *ScienceDaily*, October 28, 2006, accessed December 17, 2007, <http://www.sciencedaily.com/releases/2006/10/061025180408.htm>; R.J. Nicholls, P.P. Wong, V.R. Burkett, J.O. Codignotto, J.E. Hay, R.F. McLean, S. Ragoonaden and C.D. Woodroffe, “Coastal systems and low-lying areas. Climate Change 2007: Impacts, Adaptation and Vulnerability,” *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L., 2007a.

¹⁵⁹ Kirk Smith, “Allocating responsibility for global warming: the Natural Debt index,” *Ambio* 20 (2), 1991, 96–96.

¹⁶⁰ McDonough frequently uses the phrase “mutually assured destruction” to describe the “end-game” of industrial designs: catastrophic environmental pollution. The more people who consume industrially design products, the faster we destroy our species and the planet. I first heard him use this phrase during the May 19, 2005 Joint Board Meeting of the CUCSD held in Beijing, China, when he postulated that there was now a new “cold war” being fought, with molecules embedded in consumer products instead of the threat of nuclear warheads. He also used this phrase in a similar context during his speech at TED in February 2005; see William McDonough, “William McDonough on cradle to cradle design” (lecture, TED, February 2005), 17:15, http://www.ted.com/talks/lang/eng/william_mcdonough_on_cradle_to_cradle_design.html.

American readers of *Mother Jones* confronted the New Year with a bristling question posed cartouche-like over the head of a Chinese boy with a Cheshire grin, standing at the foreground of obedient followers lining an interior courtyard of the Forbidden City: “The Last Empire: Can the world survive China’s rush to emulate the American way of life?”

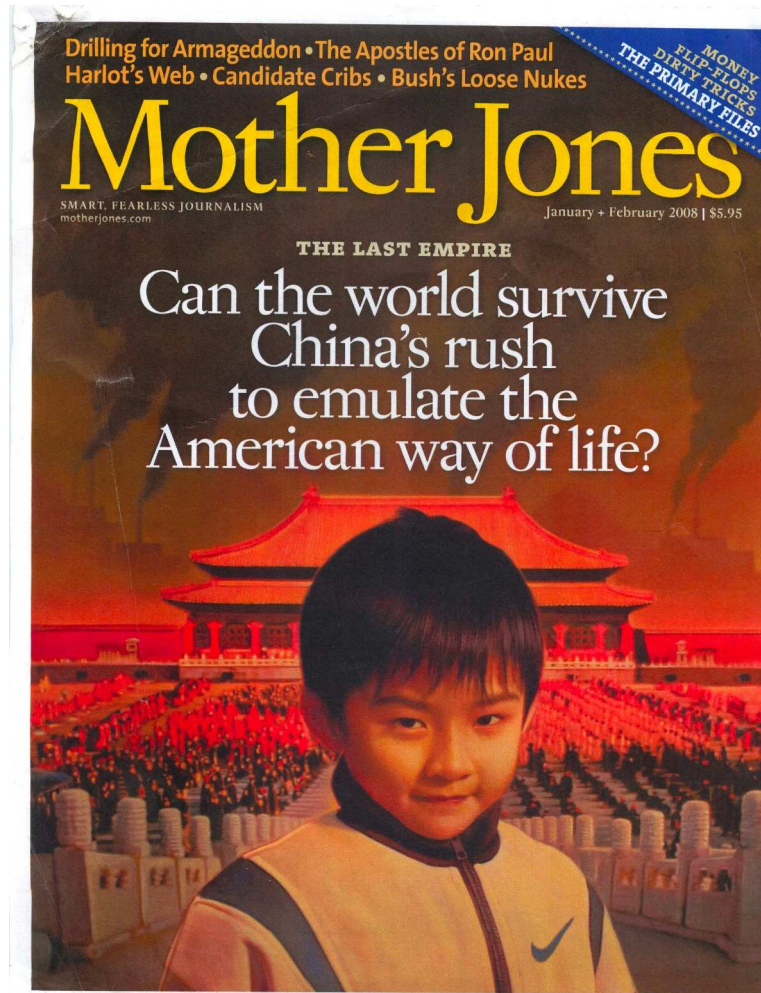


Figure 4.2. The perceived threat of China’s newly consumptive population. From *Mother Jones*, January 2008.

By continuing its current developmental model, China is portrayed as risking catastrophe at home, and causing it abroad. By forging a new developmental model – one that, according to President Hu Jintao, eschews economic growth at any cost in order to pursue “sustainable development with a scientific outlook” – China is looking (again) to leapfrog Western industrialized nations and become the worldwide leader of an emergent ecological age.¹⁶¹ While there are many means of environmental protection, the eco-city is seen as the grail that will usher in a new developmental paradigm for human civilization.

Rather than addressing environmental degradation in a piecemeal fashion, identifying a source of pollution and seeking to scrub it or stop it, eco-cities are the embodiment of a way of

¹⁶¹ It is important not to forget that the ideological and technical competition between China and the countries in the West is not new, but is now just in another stage. China turned to communism not as a retreat from the world, but as its methodology of leapfrogging the West’s capitalist methods in order to provide a better life for its people.

envisioning the world in which there is no pollution. In the words that made Bill McDonough famous, it is a place where “waste equals food.” In an eco-city, human habitat is designed with the recognition that the city, as the Earth, is a closed system. From this perspective, it is not only humans that have life cycles, but all things, from finished processed products, such as computers, to component elements, such as copper and carbon dioxide. When a thing ends its life cycle in a place in which it is treated as waste, it is polluting a closed system that will eventually become too full of detritus to support life. In this vision, by not recognizing the false premise of “waste” in a closed system, the economy of the Industrial Revolution and the cities it bore have replicated this cradle-to-grave mentality at the planetary scale. To shift to what McDonough and Michael Braungart have termed a “cradle-to-cradle” system, it is not enough to “fine-tun[e] the existing destructive framework.”¹⁶² In an eloquent reformulation of the 1987 Brundtland Commission definition of sustainable development, McDonough poses the present assignment to design civilization anew as the solution to the question, “How do we love the children of all species, for all time?”¹⁶³

Before McDonough came to ask this question, he had come to see his world from a new perspective.

Global perspective on a planet in peril

While the American environmental movement began from a bird’s eye view,¹⁶⁴ from which localized industrial processes and products were first seen to disrupt the harmonies of bodies both human and animal, it took the image AS17-148-22727, captured by NASA’s Apollo 17 astronauts 28,000 miles above the surface of the Earth on December 7, 1972, to envision a single community of fate, no longer determined by kinship or citizenship. On Sunday, December 24, 1972, worldwide, men and women awoke to an early Christmas present delivered to their doors courtesy of NASA: the first image of the Earth without shadow and without horizon.¹⁶⁵ For the first time, the Earth was made visible to all in its fullness, and its finitude. On a handheld camera, the Apollo crew captured what would become the most widely distributed and recognized image in human history.¹⁶⁶

In that moment, and in the countless moments in which this image caught the imagination of persons across decades and continents, the omnipotent, omnipresent, and omniscient perspective humans had long imagined as the singular purview of the Divine became visible to the merely mortal. It was seeing this view that Al Gore,¹⁶⁷ McDonough,¹⁶⁸ and numerous other prominent environmental activists have stated as changing their understanding of their lives, their environment, and their mission on Earth.¹⁶⁹ From the perspective of space, humanity is deterritorialized – there are no national boundary lines. Humanity is not, itself, even visible. From the viewpoint in which an

¹⁶² McDonough, *Cradle to Cradle*, 90.

¹⁶³ McDonough uses this sentence with little variation in the majority of both his texts and speeches from 2002 to 2010. For representative examples, see McDonough, *Cradle to Cradle*, 186 and William McDonough (speech, China-US Center for Sustainable Development Joint-Board Meeting, Beijing, China, May 20, 2005), 4:00.

¹⁶⁴ Rachel Carson, *Silent Spring* (New York: Fawcett Crest, 1962).

¹⁶⁵ NASA released AS17-148-22727 for publication and it was widely distributed in presses worldwide on December 24, 1972. For an example, see “The Earth” [Image], *New York Times*, December 24, 1972, Sunday Edition, page 1.

¹⁶⁶ Mike Gentry (Media Resource Center, NASA), Interview with Alexandra de Blas, “World Environment Day: Spaceship Earth,” *Earthbeat*, Australian Broadcasting Corporation Radio National, May 6, 1999, transcript Accessed December 12, 2007, <http://www.abc.net.au/rn/science/earth/stories/s28387.htm>.

¹⁶⁷ Al Gore, *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It* (New York: Rodale Books, 2006)

¹⁶⁸ McDonough (speech, CUCSD Joint-Board Meeting, 2005)

¹⁶⁹ See Cosgrove (2003) for a history of the globe and globality as an imaginative and poetic object.

entire hemisphere of the Earth can be seen in one moment, there is no sign of humanity. It is “the life of the planet” that is witnessed.¹⁷⁰

This image of the earth, in the terms of Francesco Casetti, comes from an “impossible objective view,” a configuration of the camera that draws attention to the technical self-construction of the image by disallowing that any human being could possess the perspective of the given shot.¹⁷¹ Even the Apollo astronauts did not see the planet in the fullness of its existence as “the blue marble.” The three astronauts aboard Apollo 17 spoke in terms of a “bubble of light,” in that moment they saw not a sphere in its entirety, but a single illuminated hemisphere. The magical sighting of even half of the earth by human eyes has not been repeated since 1972. To see the whole earth at once is impossible even for a satellite. It was not until 2002 that NASA released images through which the whole “marble” could be seen: a series of images stitched together to form a detailed composite image of the earth. The images of 18 earth-observing satellites were then used to form the images that comprise *Blue Marble: The Next Generation*, released in 2005, which now forms the basis of Google Earth’s imagery.

While these preserved moments of light from another time and place continue to enlighten us with knowledge previously unknown, they also blind us to the obliteration of human experience and difference that this perspective requires. Human beings are replaced by synecdochal representation with the Earth, and the planet. It is, after all, the “*planet in peril*” that has become a scientific and popular catchphrase of the early years of the twenty-first century. In the moment that the Earth comes to symbolize human existence, the lives of *specific persons* become invisible, and their moral worth is subsumed by a purported whole – the species, and the planet.

Hans-Georg Gadamer has cautioned against the mirage of utopist visions generated from the objectifying distance of modern science.¹⁷² Yet, in an age in which current patterns of human habitation are seen as threatening the continued viability of life on the planet as we now live it, there are ever growing calls for such a new “mythic commitment.”¹⁷³ Thomas Berry’s landmark work became the first in the canon calling for an earth-centered consciousness, one that takes planetary well-being as the measure of ethical human activity. In his analysis, just as ideologies of technological progress and the domination of nature proceeded the fulfillment of the industrial revolution, so too must a new consciousness of the earth as Mother to a host of species whose fates are interconnected arise before we can pass into “the ecological age.”

Twenty years after Berry published his *Dream of The Earth*, an ideology of ecological health has entranced international leaders and much of the public. Distilling the data collected by more than 2,000 scientists from 154 countries in each of three rounds of the Intergovernmental Panel on Climate Change (IPCC) Assessment Reports, Al Gore toured the world, first in person, by book, then in film, announcing *An Inconvenient Truth*: there is a global climate crisis, and our species is endangered. In 2005, the United Nations Environmental Program (UNEP) published *One Planet, Many People* to demonstrate over-exploitation of the environment through scientific measurement. Borrowing the title and approach of the 2006 UNEP atlas *Planet in Peril*, CNN aired its own much hyped mini-series on anthropogenic devastation of the Earth and its species. Bold type on a black screen sets the scene for tales of global eco-devastation to be told in the program’s next four hours: “In the last 100 years, the world’s population grew from 1.6 billion to 6.1 billion, a 400 percent

¹⁷⁰ “Blue Marble: Next Generation,” NASA/Earth’s Observatory, original content 2005, Accessed December 22, 2007, <http://earthobservatory.nasa.gov/Newsroom/BlueMarble/BlueMarble.html>.

¹⁷¹ Francesco Casetti, *Inside the Gaze: the fiction film and its spectator* (Bloomington, Indiana: Indiana University Press, 1998).

¹⁷² Hans-Georg Gadamer, *Reason in the Age of Science*.

¹⁷³ Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988).

increase. Our planet is in peril.”¹⁷⁴ In January 2008, the rising dominance of the ideology of a precarious balance between the human species – and all that its individuals consume – and the natural systems of the Earth was attested by its parody on John Stewart’s *The Daily Show*. The skit, “Our dead planet,” begins, as did *Planet in Peril*, with the light of bold text floating on a black screen: “When will the ice caps melt? When will mankind become extinct? When will this planet in peril be periled?”¹⁷⁵

My argument here is not with the data that indicates that industrial technologies have released more carbon dioxide into the Earth’s atmosphere than its natural systems can process, contributing to observed rise in sea-level temperatures. Nor is my argument with the Fourth Assessment Report of the IPCC and its details of sea-level rise and species endangerment. My concern is with global warming as a way of knowing, and the politics to which it gives rise. Following Bruno Latour, I understand global warming as a hybrid – a complex intersection of social practices and natural processes captured by a single signifier.¹⁷⁶ The danger of these hybrids is that their basis in the materiality of the Earth elides the extent to which the complex assemblage it signifies is itself contingent, and constructed by human decisions. Contrary to popular convention, science is not the antithesis of politics, but its inadvertent collaboration, and sometimes its proof.¹⁷⁷ The carbon cycle may have definite pathways, but the paths of human engagement and reaction are infinite, until politics inscribes them.

The changed relationship between specific persons, the state, and the species due to the hybrid of global warming requires us to rethink how politics will be deployed in an ecological age. In his effort to understand the practices of governmentality that marked the threshold of modernity, Michel Foucault directed his attention to “the endeavor, begun in the eighteenth century, to rationalize the problems presented to governmental practice by the phenomena characteristic of a group of living human beings constituted as a population: health, sanitation, birthrate, longevity, race.”¹⁷⁸ Before a population could be managed, it must be measured. Foucault marked this shift in rule as moving from sovereignty to governmentality. The rule of the state is no longer predominantly marked by its power over death, but in its regulation of modes of life. At the beginning of the twenty-first century, population is again being reinscribed, this time as a species.

In the view of the Earth from 28,000 miles away that is guiding ever more political decisions, there are no political boundaries, no states. Carcinogenic benzene leaked into the Songhua River in China flows into Russia, and lung-debilitating air particles rising from smokestacks near Beijing come to rest on the peaks surrounding Lake Tahoe, California. To govern the lives of their own population, states must now govern the lives of the global population. This is the supraterritoriality that makes the present form of globalization distinct from international interactions in the past.¹⁷⁹

The dominant discourse of a “planet in peril” is representative of an orientation to space and social relations that takes the Earth as the site of human interaction, responsibility, and organization in its own right. The Earth, rather than the household, city, or state, becomes the unit of analysis. This “globality,” to follow Jan Aarte Scholte, “indicates that people may live together not

¹⁷⁴ CNN, “Planet in Peril: Two Part Anderson Cooper 360 Special Report,” October 23-24, 2007.

¹⁷⁵ The Daily Show, “One Dead Planet—Melting Cities Episode 13004,” January 10, 2008.

¹⁷⁶ Bruno Latour, *We Have Never Been Modern* (Cambridge, MA: Harvard University Press, 1993).

¹⁷⁷ For an in-depth treatment of one presentation of this argument, see Bruno Latour, *Reassembling the Social* (Oxford: Oxford University Press, 2007). Steven Shapin, Simon Shafer, Thomas Hobbes, *Leviathan and the air pump* (Princeton: Princeton University Press, 1985) provide a fascinating history of Boyle’s Law as handmaiden to the England’s Glorious Revolution of 1688.

¹⁷⁸ Foucault, *The Birth of Biopolitics*, 73.

¹⁷⁹ Jan Aarte Scholte, “What is ‘Global’ about Globalization?” in *The Global Transformations Reader*, ed. David Held and Anthony McGrew (Malden, MA: Polity Press, 2007).

only in local, provincial, national and regional realms, as well as built environments, but also in transplanetary spaces where the world is a single space.”¹⁸⁰ Buttressed by images of the “blue marble,” leaders such as Gore and McDonough invoke a global community of fate. The politics of such an ecological age often discursively erases the history of the Industrial Revolution and the unequal distribution of its fruits among states, and within domestic populations. With the viability of “spaceship Earth” in the balance, international treaties seek to prevent carbon emissions from surpassing levels set at a contemporary usage point. Measured as a global aggregate, this reinscribes global asymmetries of power and wealth. Measured as a state aggregate, this legitimizes existing patterns of exploitation and poverty. By invoking a global community of fate—to which each person has an equal responsibility—the history of unequal distribution of the industrial revolution’s fruits among states, and within domestic populations, is discursively erased. There is a rising global consciousness that authorizes the reorganization of value of both persons and places, and under the surface of its cosmopolitanism is continuing and extending us/them politics and capital relationships into places that no one thought mattered before – places like Huangbaiyu. “The battle for ‘spaceship Earth’ will be fought in China.”¹⁸¹ China’s rural problems are now the world’s problems.

Rural Problems, Urban Solutions: Subsistence to Service

Concerns over per capita consumption have a different tone when asked within China. Deng Xiaoping’s famous policy for development, “Let some people get rich first,” is fomenting mass protests by those left behind by economic growth – growth that often dispossesses them of their land. There were 87,000 such mass protests in 2005, an increase of 50 percent since 2003.¹⁸² It is estimated that from 1995 to 2010, 55 million farmers will have lost their land, and means of livelihood, due to urbanization.¹⁸³

There was a subordinate clause to Deng’s famous slogan that while rarely said, has not been forgotten by those waiting for its words to become reality: “Let some get rich first but the nation should finally move to equal prosperity.”¹⁸⁴ Since the time of Deng, rural residents have witnessed the income of their urban comrades outpace their own by more than 3:1¹⁸⁵ to as much as 6:1, when urban in-kind subsidies are included – the largest urban–rural income gap in the world.¹⁸⁶ The “moderately prosperous society,” or 小康社会 (*xiaokang shehui*), that Deng promised would arrive by 2000 never materialized for the approximately 60 percent of the Chinese population who remain rural.

¹⁸⁰ Jan Aarte Scholte, “What is Globalization? The Definitional Issue—Again,” (CSGR Working Paper No. 109/2, 2002), 14, <http://www2.warwick.ac.uk/fac/soc/pais/staff/brassett/teaching/scholte-globalization.pdf>.

¹⁸¹ Neil Carter and Arthur Mol, “China and the environment: Domestic and transnational dynamics of a future hegemon,” *Environmental Politics* 15(2) (2006): 330-344.

¹⁸² People’s Republic of China (PRC), the Central People’s Government, *Chinese leaders reach out to poor on holiday eve* (February 18, 2007), Accessed February 19, 2007, http://english.gov.cn/2007-02/18/content_530120.htm

¹⁸³ Ibid., 2007.

¹⁸⁴ For a recent quotation of this statement in the context of China’s development policy and outreach to the poor, see the summary of President Hu’s official trip to rural Gansu at the start of the lunar year in 2007 (see PRC 2007).

¹⁸⁵ “Narrowing the income gap in search of harmony,” *People’s Daily*, October 27, 2005, Accessed December 12, 2007, http://english.peopledaily.com.cn/200510/27/eng20051027_217265.html;

“China’s urban-rural income gap may reach the highest in history,” *People’s Daily*, December 5, 2005, Accessed December 17, 2007, http://english.peopledaily.com.cn/200512/05/eng20051205_225741.html.

¹⁸⁶ Xiaoyuan Dong, Shunfeng Song and Xiaobo Zhang, eds, *China’s Agricultural Development: Challenges and Prospects* (Aldershot, Hampshire, UK: Ashgate Publishing, 2006).



Figure 4.3. “Awaiting *Xiaokang*.” Performance art and photography by Han Bing, 2000. The artist, whose family still resides in their rural village in Hunan where they farm, stands in the abandoned field of a village that has been surrounded by Beijing’s encroaching modernity. High-rise super-blocks replace farm fields and farm houses, displacing farmers from their lands and livelihoods. A well-off society expands at their expense.

While there is a clear urban-rural divide in China, it can be difficult to parse exactly what and who is signified in the use of these two terms, not least because each signifier only carries meaning in reference to the other. Framed as antitheses, the conceptual divide is distinct. Yet this clarity, and the ease with which these labels are placed on persons belies the complex value coding at work in these designations that has changed over time. Prior to 1978, the divide was conceived as a signifier of a person’s relationship to agricultural production: persons were classed as farmers if they produced state grain, and as not-farmers if they received it. This economic distinction was made into a legal distinction through which body’s role and value to the state was reified by the *hukou*, or household registration system.¹⁸⁷ Prior to Opening and Reform, state policy ensured that occupation was congruent with geographic residence: farmers lived in the countryside; not-farmers, or workers, lived in the city. However, once commune and brigade enterprises were no longer cut off as capitalist tails, and people classed as “farmers” may be consumers rather than producers of grain, division of geography was no longer coincident with division of economic activity. The opening of legal status and residence did not follow the reform and opening up of the economy: regardless of one’s occupation, one’s status as a resident who once was, or whose mother once was a member of an agricultural commune continued to be classed as a farmer even if one worked as an iron-smelter

¹⁸⁷ For extensive discussion of the household registration system see Martin Whyte and William Paris, *Urban Life in Contemporary China* (Chicago: University of Chicago Press, 1984); Dorothy Solinger, *Contesting Citizenship in Urban China: Peasants Migrants, the State and the Logic of the Market* (Berkeley: University of California Press, 1999); Li Zhang, *Strangers in the City: Reconfigurations of Space, Power, and Social Networks Within China’s Floating Population* (Stanford: Stanford University Press, 2001).

in a nearby state or private enterprise, sold clothing in a street-stall, or drove a taxi. A person who leaves the countryside, and his agricultural past behind, to work off the land remains a “farmer” by legal status. When occupation and geography are no longer congruent, yet the hukou and governmental distinctions between “city/industry” and “village/agriculture” remain, what does it mean to be urban and rural in China today?

Infrastructure as the structure of the urban–rural divide

In their investigation of rural urbanization in the mid-1990s, Lisa Hoffman and Liu Zhongquan found that government officials thought that bridging the divide between the rural and urban required what could be called citification of the countryside. Urban residents (in contradistinction to the rural) live in apartment buildings and villas; have improved access to water, sanitation, electricity, paved roads, and telephones; and live proximate to schools and entertainment centers, as well as having the needs of daily life attended to by retail stores, barbers, beauty salons, and hospitals.¹⁸⁸ While conceived through multiple axes, this definition of urbanity’s nodal point is (still) consumption: the urbanite is not self-sufficient, but interdependent. He does not build his own house, but buys it. He does not grow his food, but buys his sustenance processed by many other hands.

Communal services – or public infrastructure – are the life-giving veins that form the city’s circulatory system, supplying the necessities of biological life so that urban labor power is freed to circulate within the capital market.¹⁸⁹ This binding yet libratory tie of the person to a distributed public is the distinction of urbanity in China: urban residents receive their sustenance through the pipes and wires managed by government, and through this system are governed.¹⁹⁰ The urban–rural divide in China should therefore no longer be thought of as a divide only between types of economic activity (farmer versus worker), as the remains of historical geographic divisions (mapped demarcation of “urban” versus “rural”), or the entailments of the household registration policy (farmer versus non-farmer, and allied benefits). To be urban is to be managed and measured through circuits of consumption. To be rural is to be responsible for the provision of one’s own biological needs: shelter, heat, water, food.

It is through this distinction that the discourse of the modern and the backward, the urban and the rural, should be understood in China. This relationship, long-concealed in the Maoist focus on production as the distinction between populations, and obscured by the shadow of the household registration system into the reform era,¹⁹¹ is made apparent by the National Bureau of Statistics’ announcement in November 2006 that any area – regardless of nomenclature as a commune or village or the economic activity of its residents – would heretofore be deemed urban if its buildings were integrated with government-provided infrastructure.

National agendas, local lives, and the rationalization of space

With the promised day of arrival of “moderate prosperity” having come and gone, and rural residents made aware of the extent to which they have been left behind by the images of modern

¹⁸⁸ Hoffman and Liu, “Rural Urbanization on the Liaodong Peninsula”.

¹⁸⁹ See Ash Amin and Nigel Thrift, *Cities: Reimagining the Urban* (New York: Wiley-Blackwell, 2002), particularly Chapter 4, “The Machinistic City,” and pp. 81–3, for a discussion of circulation through “mundane instruments of encounter” as integral to the city.

¹⁹⁰ For an analysis of the significance of communal infrastructure in the governance of pre- and post-socialist Russia, see Collier, “Post-Socialist City”.

¹⁹¹ For extensive historical information and political analysis of the household registration system in China, see Solinger, *Contesting Citizenship in Urban China*; Zhang, *Strangers in the City*.

lives lived in Shanghai and Houston broadcast nightly into their homes, achieving the millenarian “moderately prosperous society” has again been made a national priority. Hu Jintao has promised that he will bring the “moderately prosperous society” by 2020, and that to do so “the three rural problems” – the knotted triplet of the countryside, agriculture, and farmers – must be unbound. In the eleventh five-year plan from 2006 to 2010, the first strategic task for the country is to “build a socialist new countryside.” During his annual Chinese New Year’s visit to the countryside in 2007, President Hu spoke with ageing military veterans residing in Huining, Gansu, the village where three corps of the Red Army had rejoined each other near the end of the Long March. In the spirit of that revolutionary time, Hu called on all Chinese to again join “a new Long March—the building of a *xiaokang* society and socialist modernization.”¹⁹² It is now time, Premier Wen Jiabao announced during the National People’s Congress in March 2006, to reverse the developmental trend of the past fifty-some years by now “letting the cities feed the villages.”¹⁹³

While this phrase and its objectives sound both foreign and ground-breaking to some, it is both familiar and well-worn to comrades of the Party and farmers of the soil. In 1955, Mao Zedong wrote the preface to “Socialist Upsurge in China’s Countryside” where “building socialism in the countryside” was a key phrase, and one that described the work to re-organize all of China’s “peasants” into farmers’ co-operatives by 1960. Fifty years later, the “historic task” that Premier Wen Jiabao announced as the first priority of China’s leadership was again premised on re-organizing both rural residents relationships to each other, as well as their relationship with the state. And as before, re-organization of people is a reflection of re-organization of value.

What is new in this latest wave of “socialist modernization”¹⁹⁴ to build a “socialist new countryside”? In the 1950s, building a socialist countryside had meant cooperative land collectivization. For places like Huangbaiyu, being at the vanguard of building a socialist *new* countryside has meant cooperative land *consolidation*, and the reorganization of villages considered to be scattered, inefficient, and wasteful into a master planned town which rationalizes the use of space, enabling the construction of integrated infrastructure systems and a new land pattern to come into being. Both iterations of a socialist countryside share a determination to bring perceived piecemeal, inefficient uses of natural resources into a nationally rationalized master plan. While collectivization eventually led to the reorganization of the primary energy consumption of food into communal kitchens in order to eliminate domestic labor in favor of nationally oriented production, the drive for land consolidation is leading to the experimental reorganization of the energy consumption of heat and electricity into communally provided services. What is openly discussed as a project to create a model village of energy-conscious urbanization is at once also a project to create a consumption-oriented lifestyle, presumably supported by a reorganization of labor. With subsistence needs met by public infrastructure, the “surplus labor” – labor that does not contribute to nationally measurable economic growth – being wasted in the rural, agricultural population can be freed for wage labor.¹⁹⁵

Ecological urbanization of the countryside through provision of environmentally conscious public infrastructure promises to solve “the three rural problems” that have been troubling China since its foundation. Consequently, the experiment in Huangbaiyu has received extensive local, provincial, and national support – in addition to the international accolades it has received for being “ecological.” Urbanization requires the consolidation of scattered settlements. The rebuilding of

¹⁹² People’s Republic of China (PRC), the Central People’s Government. “Chinese leaders reach out to poor on holiday eve”, created February 18, 2007, Accessed February 19, 2007, http://english.gov.cn/2007-02/18/content_530120.htm.

¹⁹³ Wen Jiabao, *Report of the Government* (March 5, 2006).

¹⁹⁴ PRC, “Chinese leaders reach out to poor on holiday eve”.

¹⁹⁵ Official Benxi municipal and Nanfen district documents outlined the problem of “surplus labor” in the countryside under their jurisdiction, and the priority within the “socialist new countryside” campaign to engage these persons in “productive,” “non-subsistence labor.”

settlements allows not only for an improvement in and standardization of building structures and the introduction of communal infrastructure, but also for a rationalized consolidation of piecemeal, so-called “backward” farming methods. Public infrastructure makes possible what was heretofore impossible: the measurement and regulation of rural energy use. It also brings rural residents who were once largely self-sufficient and productive of their own needs for subsistence into complex consumptive relationships in order to receive basic services. Instead of managing their own forest plots for fuel, building their own houses, and digging their own wells and toilets, residents are recast as homebuyers with monthly utility bills. Once the rural population is urbanized, its previously unknowable and unmonetized per capita consumption can be managed, regulated, and redirected to generate the greatest value for the state, and the planet.

Building a socialist new countryside may make it possible for the Chinese to have their cake and the world to eat it too. If building out a new quality of life in the countryside is done ecologically, the nationally dangerous deprivation of the rural population can be addressed while assuring a highly consumptive, but carbon-fearing world that an increase in Chinese per capita energy consumption will not contribute to the carbonization of the globe. Moreover, China’s dependence on an export-driven economy may receive relief from the inclusion of millions of additional persons in consumption-based lifestyles.

Speaking in her role as Chinese co-chair of the China–US Center for Sustainable Development, Deng Nan, Deng Xiaoping’s daughter and then Vice Minister of the Ministry of Science and Technology (MST), announced in 2005:

We have realized that China as a populous country in the world needs to change its production and living styles if it wants to achieve harmonious co-existence between man and nature. ... we [cannot] do what we are doing now, achieve rapid economic growth by consuming huge amount of resources and energy. All these ways of doing are unsustainable. But we in China have to sustain such rapid economic growth because we need such growth to address employment issues and migration of rural population to cities. ... In another word, we need to establish a mode of development that is oriented to the circling economy.¹⁹⁶

Ecologically driven rural urbanization offers an elegant solution to this need. With a single master plan, a community is built, energy usage and carbon emissions managed, and cultivated land increased. At the same time, farmers’ income is projected to rise and regional GDP to grow, all without internal labor migration and the increase in carbon emissions that conventional urban expansion and consumption brings. In this plan hangs a leading hope for sustainable development in the twenty-first century: eco-cities in the countryside.

Making Wasteland Productive: The Reorganization and Redistribution of Value

While the re-design of Huangbaiyu is most often hailed as necessary for a green global future due to its systematic, integrated design of a community, and its shift to renewable energy sources, it is its reorganization of land use that is perhaps more significant. In the narrative accompanying the master plan completed by William McDonough + Partners, the key principles of the Huangbaiyu design are outlined. Required use of cradle-to-cradle cycles and renewable energy

¹⁹⁶ Deng Nan gave these conclusions at the close of the morning session of the second day of the annual CUCSD Joint Board meetings held in Beijing, China on May 20, 2005. She was summarizing the importance of the work that the CUCSD is carrying out in China, and how the eleventh five-year plan (2006–10) will need to reflect the concerns of sustainable development, particularly in the countryside.

sources lead the ecological requirements. Household centralization makes renewable energy distribution economical, as well as increasing the goals of “convenience and comfort.”¹⁹⁷ With the community “powered by the sun” and fuel coming from human or agricultural waste “positively affecting the community’s carbon balance,”¹⁹⁸ this eco-city will insure that growing rural consumption will not alter the global carbon calculus.

Throughout planning sessions for the Huangbaiyu project, centralization was highlighted as necessary to provide the infrastructure that would improve rural residents’ quality of life to a point more closely approximating that of urban residents. Centralization makes an integrated running water and indoor sanitation system feasible, as well as providing the necessary density of population to support a biomass gasification plant that uses agricultural or human wastes to provide cooking and heating fuel to each residence. The local municipal government’s Coordinating Committee for Huangbaiyu has regularly highlighted that a functioning biogas energy system would remove the necessity for each family to clear more than four metric tons of firewood per year from the surrounding forests.

Centralization as a prerequisite of public infrastructure has another, concomitant effect: consolidation of previously scattered plots of surrounding land. “In this new conception of the rural Chinese village,” the intention from the start was also to “optimize the use of the valuable productive land.”¹⁹⁹ In describing the project to me, the Executive Director of the American secretariat of the CUCSD summarized its goals succinctly: “We’re supporting Huangbaiyu, making a center, a vibrant economy, and an ecosystem in the countryside ... [in] connection with national policy to gain farmland.” In the midst of the early design process in 2003, a member of the Benxi municipal government, in alignment with emerging national policy from the Ministry of Land and Resources, requested that the master plan include settlement consolidation. By consolidating all residences into a central valley, the Master Plan allows for the clearing of housing structures from three presently populated valley areas and four ravines, with the goal of creating an additional 722 Chinese mu²⁰⁰ of land available for cultivation. Adding this to an estimated 700 mu of land currently categorized by project documents as “wasteland,” the total area available for cultivation would increase from 830 mu to 2,252 mu, an increase of 171 percent.²⁰¹

At the groundbreaking of this eco-city in the countryside, it was estimated that total costs for the 400-household development would be RMB 40 million²⁰² over three years of phased-construction.²⁰³ According to the subsidy rates paid by the Ministry of Land and Resources (MLR) at

¹⁹⁷ McDonough + Partners and McDonough Braungart Design Chemistry, “Huangbaiyu,” 1.

¹⁹⁸ *Ibid.*, 9.

¹⁹⁹ McDonough + Partners and McDonough Braungart Design Chemistry, “Huangbaiyu,” 1.

²⁰⁰ One Chinese mu equals approximately 1/15 of a hectare, or 666.67 square meters.

²⁰¹ While official government records hold that there are only 830 mu under cultivation, these records have not been amended since the introduction of the Household Responsibility System in 1982. Since then, an additional 3,032 mu have been claimed by families from the surrounding forests, bringing the total land under cultivation to 3,862 mu. Consequently, the model development project in Huangbaiyu only will increase land under cultivation by 37 percent. This means that the financial increase to the crop farming households from projected crop sales are 79 percent less than the project claims. See Shannon May, “How much arable land is there out there? Lessons from Huangbaiyu,” (Paper presented at Berkeley China Initiative conference, Panel VI: Sustaining development: Inhabiting urban and rural space, China’s Environment: What do we know and how do we know it? Berkeley, CA, December 8, 2007), <http://www.youtube.com/watch?v=3yIIR16fgV8>, 1:01:30-1:22:19 (accessed February 8, 2011).

²⁰² In December 2007, the USD to RMB exchange rate was 7.3:1.

²⁰³ Costs of development have risen dramatically since the original commitments made in 2003 and construction began in 2005. Both the rising cost of cement and other goods, as well as faulty construction and significant fiscal mismanagement have led to an estimated doubling of the cost of building Phase One, or 10 percent of the total development. At this rate, total costs would run to RMB 80 million, or with the unsubsidized costs accruing RMB 121,790 per house. As the present work deals with the motivations behind and intention of the Master Plan itself, the

that time, it was projected that creation of an additional 1422 mu of cultivated land would generate RMB 15.64 million for the developer, leaving an outstanding development cost of RMB 24.36 million. Per house constructed, that is a cost of RMB 60,895.²⁰⁴

Land consolidation has been a formal policy of the MLR since 1998, but has come to the fore as China's rapid urbanization is pouring concrete over vast areas of once-farmed land. In 2004, China became a net grain importer, after losing arable land at an annual average rate of 14.25 million mu from 1996-2004.²⁰⁵ By 2007, arable land available for cultivation had dwindled to 1.827 billion mu.²⁰⁶ China has announced that 1.8 billion mu is the minimum required to maintain its food security. "The interests of the state come above all else, as do those of the people," said Xu Shaoshi, the Minister of MLR. "The 1.8 billion mu of arable land red line is the high voltage line which nobody can touch."²⁰⁷ Wang Shiyuan, the Vice Minister of MLR, has announced that China seeks to generate an additional 25 million mu of farmland through land consolidation programs by 2020, with RMB 20 billion spent on such programs in 2006 alone.²⁰⁸ If China continues to lose farmland at the 1996-2004 rates, it will fall below the "red line" before 2010. If urbanization of land use does not slow, even this plan will only buy China an additional two years before a potentially disastrous shock.

In this context, the Huangbaiyu project has been announced as a potential example of how China's 600,000 villages should be reorganized and urbanized to make a "wasted" population productive, and generate additional land for the state, and thereby also income for farmers. With an additional 1,422 mu to be distributed across 400 households, each family could receive future earnings on an additional 3.55 mu. With land consolidation achieved through eco-city construction, rural consumption can increase all while keeping those same farmers from adding to the nation's carbon emissions.

Carbonized price scissors: extracting value

It is a foundational principle that eco-cities strive to be "self-contained, [and] self-sustaining"²⁰⁹ so that building humanity's shelter—and largest agglomerate creation—is no longer "the greatest destructive . . . human activity."²¹⁰ By pioneering zero-carbon-emissions cities, China seeks to return to its place at the vanguard of human civilization, leading the "journey towards [an] ecological age" and "explor[ing] global eco-civilization."²¹¹

original calculations are used. The complications of construction due to transnational assumptions and misaligned incentives are dealt with fully in the author's dissertation.

²⁰⁴ Calculation of per household cost of RMB 60,895 assumes a 100 percent pass-through of the MLR subsidy, and thereby a non-profit participation of the developer. This is not the case, and as such profit taken by the developer will proportionately increase the cost per household.

²⁰⁵ News Guangdong, "Loss of arable land threatens China's grain production safety," (March 18, 2006) Accessed December 10, 2007, from, <http://www.newsgd.com/specials/NPCC&CPPCCpercent202006/NPCCPPCCSessionsNews/200603080056.htm>

²⁰⁶ Ben Blanchard, "China draws line in the sand to defend arable land," Reuters (July 12, 2007), Accessed December 10, 2007, from <http://www.reuters.com/article/environmentNews/idUSPEK27287720070712>

²⁰⁷ Blanchard, "China draws line."

²⁰⁸ Xinhua, "China to spend \$US2.6b on land consolidation this year" *China Daily* (June 21, 2007), Accessed December 17, 2007, from, http://chinadaily.com.cn/bizchina/2007-06/21/content_899230.htm

²⁰⁹ Peter Hall, "Planning a sustainable new city: Learning from global experience" in *Shanghai Dongtan: An Eco-city* (Shanghai: SIIC/Arup, 2005), 11 (6-13).

²¹⁰ Register, *Eco-cities*, 1.

²¹¹ Cai Laixing, "Develop Dongtan eco-city and explore global eco-civilization" in *Shanghai Dongtan: An Eco-city* (Shanghai: SIIC/Arup, 2005), 52 (50-53).

In building the socialist new countryside, there is another component of self-sufficiency required of the Huangbaiyu model: financial self-sufficiency. While Britain's pre- and post-World War II garden city building was government financed, critical to the conception of the Huangbaiyu experiment is that the market will pay to raise the rural population out of poverty, and build the eco-city they will live in. One of the four criteria used to select the Huangbaiyu demonstration site was that a local entrepreneur be willing to finance the development. Foundational to the China-US Center for Sustainable Development's vision for the new developmental model in Huangbaiyu was that sustainable development would pay for itself—it should be like real estate development where creation of a product has the intention of making profit, rather than as an investment in a public good.

In the translations between Chinese and American counterparts, the sound of self-reliance is affected by its echoing against both the socialist “spirit of Dazhai” and capital's imaginary invisible hand. The ideology of self-reliance has been at the foundation of China's revolutionary identity and imagined community since the Civil War. Mao Zedong first announced in Yan'an that self-reliance was the key to keeping the communist forces strong despite their isolation in pockets across the country, and to resisting imperialism's colonial desires during the difficult days of 1945. In the early 1960s, in the wake of Soviet withdrawal of support and after three years of policy-induced famine, Mao again called for self-reliance from China's foundation: the farmers in the countryside. In the village that would become heralded as the model for the era, Dazhai, the village leader captured the meaning of self-reliance in his “three nos”: no state relief grain, no state relief funds, and no state relief materials. Despite receiving no support from the state,²¹² this model collective at the vanguard of the socialist countryside and China's socialist modernization would not allow self-reliance to lower yields. There would be no decrease in public reserves, no decrease in grain contribution to the state, and no decrease in the income of the collective members—or at least so it was announced.

Throughout planning meetings for and management tours of the Huangbaiyu model, self-reliance was repeatedly identified as the linchpin of the project. “There are 600,000 villages in China. We cannot pay for them all to rise-up. They must be responsible for themselves!” announced Wang Weizhong, the Director General of Finance at the Ministry of Science and Technology, while touring Huangbaiyu. Later, while standing amidst the first newly constructed houses, he said, “The farmers are doing this for themselves, pulling themselves up. To be modern, you must be self-reliant (自力更生).” In other words, to be “modern,” you must be fully responsible for the cost of one's own development; yet the determination of the path of development is not one's own choice.

This double meaning of self-sufficiency changes the calculus of sustainable development and the promise of eco-cities in the countryside. Through ecological urbanization, it is hoped that the knotted three rural problems may be cut loose from China's neck without transferring the noose to the world. The means of doing that, though, has been the business of leaders, to return to the words of Zhao Qinghao, rather than commoners. The focus of the solution was adjusted at the national and global scales rather than at the scale of the life of the farmers who are supposedly the first beneficiaries of its sustainable development.

Zhao Qinghao and the rest of the families of the valleys that were to be emptied to create the new, consolidated, model way of living for China's rural poor were expected to pay for the privilege of moving into the model houses. While the national and Liaoning provincial governments were willing to pay the developer subsidies for increases in cultivable land, they were not willing to invest in the construction of the master-planned community that they were encouraging. In fact, McDonough and the CUCSD had never intended for sustainable development in Huangbaiyu to be

²¹² While the earliest work in Dazhai was done without government subsidy or support, once Mao heralded it as an example for all of China to follow, its work was bolstered by the People's Liberation Army.

financed either by the Chinese government or by American philanthropy. “Neither is scalable, we will only do what can be done at scale,” McDonough announced at the 2005 CUCSD Joint Board Meeting. To pull themselves up from what national and provincial officials have deemed “backward” and into “modernity,” each family must also engage in a self-funded market transaction. As Xie Baoxing, member of the municipal Coordinating Committee, said to me, “We cross the river by feeling the stones. Modernization requires that farmers feel the stones of the market.”

Without government investment in construction, a burden of RMB 60,895 is left on each family. The median household in Huangbaiyu must work 8 years to earn that sum, and at the national household savings rate of 16 percent,²¹³ would have had to *already* saved for almost 41 years at *current income levels* to pay the price of not contributing to an increase in China’s carbon emissions.²¹⁴ The cost of the model houses and the unlikelihood of families having been able to save such a sum over the previous 25 years when it was even possible to earn cash income (albeit not at current income levels and a steady savings rate!) was not a priority concern for the leaders, whose concerns were tied to a global perspective of a planet that faces an unknown future state of peril. Nor did they consider the possibility that if a family had managed to save such a large nest egg, the family might desire to crack it open for something else, such as a son’s wedding or to invest in expansion of their agribusiness. From a global perspective, radical interventions in the present and future conditions of specific families seem necessary. Since such interventions are thought to benefit the ecosystem of the *planet*, it was presumed that they would *obviously* also benefit the families in the future whose lives were altered now.

The work done by the logic of this lauded, ecological “prototype” is to make the lives of specific persons subordinate to the value of the protection of the species. This logic claims a biological necessity, but it is a political argument. Determining when a species-threatening catastrophe is being *risks in the future* by current actions, and whose livelihoods must be *sacrificed now* to avert a predicted catastrophe, are political questions. In order to change the mundane today, those who would be leaders must speak threateningly about how the world will end tomorrow.²¹⁵ Unfortunately, the world that is being protected from the uncertainties of future change all too often preserves a political and economic geography of powerful hierarchies, discriminating regulations, and economic inequities – ecosystems of power whose protection is justified in the name of ecosystems of biology.

While Hu Jintao announced in his 2006 address to the National People’s Congress that China’s industrial economy must now begin to “repay its debt to the countryside,”²¹⁶ the demonstration of the building of a socialist new countryside in Huangbaiyu ends up repeating the capital effect of the socialist (old) countryside policies under Mao. Then, the commune system was used as a means of applying price scissors to the rural population, or as a means to speed industrialization by extracting rural surplus value and investing it into capital-intensive industries. This practice of lowering the price paid for agricultural goods while increasing the cost of manufactured agricultural inputs to foster capital accumulation has been debated since Malthus and Ricardo, but put to the greatest effect by communist China. In the thirty years prior to Reform, Chinese economists estimate that RMB 612-800 million was taken from the value of rural

²¹³ International Monetary Fund, “Global Imbalances: A Saving and Investment Perspective,” in *World Economic Outlook: Building Institutions*. (Washington, DC), Accessed December 10, 2007, <http://www.imf.org/external/pubs/ft/weo/2005/02/index.htm>.

²¹⁴ The mortgage is an unheard-of financial instrument in rural China; in Huangbaiyu, many residents are regularly declined agricultural credit loans of less than RMB1000, let alone loans for tens of thousands.

²¹⁵ Mary Douglas, “Environments at Risk” in *Implicit Meanings: Selected Essays in Anthropology* (New York: Routledge, 1999).

²¹⁶ *Forbes*, “Can Rural Finance Take Root in China?” (September 6, 2007) Accessed December 10, 2007, from http://www.forbes.com/entrepreneurs/2007/09/06/china-microfinance-yunus-ent-fin-cx_kw_0906ruralchina.html

production, and invested in urban industrial centers.²¹⁷ From what was classed as rural *surplus*, cities were built, factories staffed, and the iron rice bowls of industrial workers filled, even as rural bowls went empty, and cracked. . The household registration system ensured that the rural population could not follow the wealth generated from their labor to the cities.

Twenty-five years after the communes were disaggregated into the household responsibility system, farmers are being asked to go through land consolidation and village reconstruction to help China enter the ecological age. In Huangbaiyu, residents are being asked to pay more to eat, to sleep, *to live* in order to save carbon and reduce their land footprint; the value of land and carbon saved is transferred to cities—without payment for its full value—where a higher return on investment is thought to exist. Every additional mu generated in Huangbaiyu allows Shenyang or Shanghai to expand by one mu without taking China closer to national security’s food “red line”. Every dispersed settlement re-organized and re-built into an eco-city enables China to extract the value of reduced carbon emissions in the countryside now—and in future—and to transfer these rural reductions to carbon-intensive industries. The practice of using price scissors to extract value from the countryside to fund the development of cities has returned to China, but now extract carbon and land rather than capital.

Conclusion

There is urgency in the pressure to urbanize Asia’s populations, and in particular China’s. This pressure is often described as an unquestionable reality that must be faced, and acted upon immediately, lest the planet cease to exist as we know it. The work of these doomsday predictions is to generate a climate of fear that enables a shift in what is deemed of value, and authorizes methods of social control to protect these new concerns.²¹⁸ With leaders in China fearful of the frustrations of the majority of their population who have been left behind by industrial development, and leaders in the United States fearful of how increased consumption, comfort, and convenience for those same impoverished Chinese will put their own population’s future ability to live as they do today at risk, these two projections of catastrophe have brought together transnational consortiums to imagine another future, an ecological future: eco-cities in the countryside.

While this experimental urbanization in Huangbaiyu has been lauded by both environmental researchers and the press as a critical new technological form to insure the health of the planet,²¹⁹ the case of Huangbaiyu makes clear how a new fear can generate authority to continue old patterns of power and domination. Unless attention is focused on what – and who – a new hierarchy of (carbon) value *de-values*, an ecological age may prove to be little different from the present industrial age, albeit following the values of ecology rather than simply economy. Yet the seemingly immutable laws of ecology often share the same foundational assumptions as classic economics: political-arguments-as-laws that have long protected the status quo – current practices and patterns of inequity – while purporting to be necessary for the health and wealth of both the nation, and humanity at large.²²⁰

²¹⁷ Justin Yifu Lin, Fang Cai, and Zhou Li, *The China Miracle: Development Strategy and Economic Reform* (Hong Kong: Chinese University Press, 2003), 148.

²¹⁸ Douglas, “Environments at Risk.”

²¹⁹ Sudjic, “Making Cities Work”; Economy, *Environmental Governance*; Friedman, *Addicted to Oil*; Harvard Business Review, “The HBR List”; PBS, “Deeper Shades of Green”; Steffen, “Huangbaiyu.”

²²⁰ Adam Smith, *The Wealth of Nations* (London 1778); Thomas Malthus, *An Essay on the Principle of Population* (London, 1798).

The grand hypothesis of Huangbaiyu failed in its goal to create a better life for its residents while insuring that their increased energy use would not put the “planet in peril.” This failure succeeded, however, in making an often-obscured assumption of ecological thought transparent: ecosystems presume an existing pattern and hierarchy of life, normalizing present conditions as the way things “should” be rather than simply what now “is.” Both scientific and popular discourse frame the peril of the planet as coming from the future possibility of the world’s “undeveloped” populations – the “commoners” – taking the liberties taken as the birthright of American and European populations to be equally their own. When individual lives and livelihoods are obscured through synecdochal representation by “the planet,” what is beneficial for some people at the expense of others is argued to be for the necessity of all.

In the hopes and promises of both the Chinese officials and American participants in the plan to remake Huangbaiyu into a beacon of a “future that is both bright and green,”²²¹ real-estate development was confused with economic development. Cities were understood primarily as a place with a certain type of housing and infrastructure, rather than as a place of specific economic and social relationships, which housing then supports. While eco-cities in the countryside may seem like the solution to a planet in crisis from pollution, when designed from the purported perspective of a bird they exacerbate the ethical crisis of inequity that has plagued the Earth for centuries. With leaders across the globe calling for a “new development path,”²²² and China singled out as the place from which planetary peril will arise, the myriad ways in which the model of sustainable development for Huangbaiyu would impoverish the local population for the benefit of the already powerful and wealthy should be remembered as a harbinger of things to come if “global solutions” continue to be sought for “global problems.”

²²¹ Steffen, “Huangbaiyu,” 276.

²²² Economy, “Environmental Governance,” 182.

Five

Assembling a “Sustainable Community”

The work of development acquires power through the obscurity of both its actors, and its beneficiaries. Of course, each of these *categories* may be enumerated; but who the individuals are who are making world-changing decisions, and the historical conditions that frame what is possible at the time, are most often kept obscure. The individual or individuals whose decisions are made under the auspices of an organization, often have their own names eclipsed by the name of the entity, and in that shadow accountability wanes.

Take for example the following passage, which is typical of descriptions of development projects.

In September 2002, the Joint Board of Councilors for the China-US Center for Sustainable Development prioritized development of a sustainable village based on cradle to cradle design principles as a scalable model for China’s revitalization and sustainable development of rural communities. Following a nationwide request for proposals by China’s national government, the rural area of Huangbaiyu near Benxi City in Northeast China’s Liaoning Province was selected for the first model village design.

Over the course of the past two years, the Master Plan was developed by a joint China-US design team and was refined with village leaders and community residents to reflect the traditions and lifestyles of the area. With this new design, Huangbaiyu Village has a unique opportunity to redefine itself economically, socially and environmentally.

The pattern presented is a familiar one. First, an organization prioritizes the solving of a problem, and identifies its target—both demographically and geographically. Second, a plan is developed that will solve the problem. There is nothing unusual here, unless someone wanted to be able to know who is accountable for the plan, what exactly the problem to be solved is (and why it is a problem), how that location was made available for the plan, and it is a “sustainable village based on cradle to cradle design principles” that is the answer.

There are, of course, subject-actors described in this passage, but none of the six subject-actors is a named individual. They are each anonymous and amorphous: the Joint Board of Councilors for the China-US Center for Sustainable Development, China’s national government, a joint China-US design team, village leaders, community residents, Huangbaiyu Village. None can be readily, accurately, and repetitively equated with a specific individual or specific set of individuals. At any given time or place, you cannot be sure who will respond to the hail, “Hey, Joint Board of Councilors” or “Hey, village leader.”

Can a village have the self-reflexivity to “redefine itself”? Can its decision to become a model village be one of self redefinition if that decision was made in response to already set priorities and principles that pre-existed its inclusion in the discussion—if there can even be said to be an It? Is

the decision to redefine itself, if a Village could make a decision, a self-selective one if “the rural area of Huangbaiyu was selected”? Joining the obfuscation of general nouns and anonymous and amorphous assemblages is the passive voice, which elides who selected Huangbaiyu and who in Huangbaiyu agreed to be selected in order to put all the focus on the goal: “the first model village design.” This chapter is an attempt to retrace how the China-US Center for Sustainable Development came into existence, how specific historical conditions led to institutional structures that would create an unwieldy assemblage of actors held together by a belief in marketization as the future of development, and who would come together over a shared vision of using the design of a “sustainable community” in rural China to augment their own business interests. In summary, this may sound strange, but over the course of its own unfolding in time, the plan to ameliorate global climate change through the construction of a “sustainable community” in rural China that would feature product placement for Fortune 500 companies seemed to make a lot of sense.

On April 9, 1999, US Vice President Al Gore and Chinese Premier Zhu Rongji convened the second session of the US-China Forum on Environment and Development during Premier’s Zhu’s state visit to Washington D.C. The focus of the Forum was on the protection of the “global environment” through sustainable development. The Forum seeks to accomplish this through the work of four Working Groups that engaged in bi-lateral dialogue and cooperation: Energy Policy, Environmental Policy, Science for Sustainable Development, and Commercial Cooperation.²²³ The framework for collaboration between the two governments was overseen in the US by the National Academies of Science and in China by the Ministry of Science and Technology.

Prior to the founding of the US-China Forum on the Environment and Development in March 1997 by Vice President Al Gore and then China Premier Li Peng, there was no mechanism for coordinating the various US agencies’ work with Chinese agencies on issues of the environment.²²⁴ Previously, engagement between any US and Chinese government agency was authorized under the *Scientific and Technology Cooperative Agreement* signed by President Jimmy Carter and Vice Premier Deng Xiaoping on January 31, 1979. This Agreement is among the longest-standing US-China accords, and includes over eleven US Federal agencies that participate in cooperative exchanges under its auspices. Yet, while limited engagement with China was authorized by the Agreement, engagement had to be initiated and funded at the discretion of each agency. There was no coordination of national or bi-lateral priorities, and no funding support.²²⁵²²⁶ With the inauguration of the first Forum in Beijing in March 1997, both countries announced a new commitment to coordinating bi-lateral engagement at the most senior political levels in order to counter the cause of global climate change: unconsidered use of energy and the environment.

While the US-China Form on the Environment and Development was itself a bi-lateral government organization, from the outset engaging US business leaders in the meetings, and offering them the opportunity to pitch the use of their products to China was integral to the operations of the Forum. At the conclusion of the second Forum on April 9, 1999, the White House announced “a series of agreements that will help open Chinese markets to US environmental technology, expand US investment in the Chinese energy sector, and take several steps toward

²²³ Office of the Press Secretary, *US-China Forum on Environment and Development, Co-Chaired by Vice President Al Gore and Premier Zhu Rongji, 2nd Session, April 9, 1999*. Washington, DC. Fact Sheet, 1999.

²²⁴ Pamela Baldinger and Jennifer L. Turner, “Crouching Suspicions, Hidden Potential: United States Environmental and Energy Cooperation with China,” *The China Environment Forum* (Princeton: The Woodrow Wilson Center for Scholars, 2002) <http://www.wilsoncenter.org/topics/pubs/ACF3D3.pdf>.

²²⁵ Baldinger and Turner, “Crouching Suspicions, Hidden Potential,” 41.

²²⁶ The US-China Science and Technology Agreement remains the overarching framework for bilateral engagement. Every five years, the Agreement is up for renewal, and was most recently extended in 2006.

reducing greenhouse gas emissions in China.”²²⁷ Economic growth—and the energy usage that fuels it—may have caused much of the environmental damage and greenhouse gas emissions that the Forum was seeking to counter, but it was also continued US economic growth through the sale of US technologies and products that the Forum had put forward as the practical means of environmental protection. When the forum was founded in 1997, the primary means put forward to protect the global environment was for the US and China to “strengthen their cooperation in energy and environment through an initiative to accelerate clean energy projects and the appropriate transfer of related technologies.”^{228,229}

“As we count down the time to the 21st century in days, not years, more and more of our challenges are threats all nations face together, and no nation can solve on its own,” Vice President Gore said. “Nothing illustrates this better than the environment,” the White House press release continued. “To meet the global environmental challenge, we must all act together.” The same could be said about economic growth, and reduction of the US’ then \$57 billion dollar trade deficit with China.²³⁰

While the foreground of the Forum was the environment, the background against which it was created was dominated by increasing anxiety over the US’ growing trade deficit with China, and China’s own concerns that its lack of indigenous advanced science and technology products was limiting its national development. The Forum also provided a bi-lateral mechanism for pushing the sale of specific US goods within the framework of protecting the global environment and promoting sustainable development. If the US trade deficit with China could be diminished through government facilitation of energy-conscious new technologies, then the US could solve a national political and economic problem while also standing up as a global leader of a new green revolution. Within China, the intense drive for economic development was felt in the desires of the vast majority of the population that was still living a profoundly isolated and impoverished life in 1999. In Huangbaiyu Village, for example, in 1999 there was still neither telephone nor television connections. The majority of families still lived in stone and mud houses with thatch roofs and paper windows, heated only by an internal fire. While the threat of global climate change and environmental pollution loomed large for the international community in 1999, economic development was still the core mission of the US-China Forum on Environment and Development—as is evinced by the title of the Forum itself.

If increasing trade—instead of setting regulations or standards—between China and the US within the framework of environmental protection was not the goal of the Forum, Premier Zhu

²²⁷ The White House, Office of the Vice President, *Vice President Gore and Premier Zhu Rongji Announce Environmental Agreements at US-China Policy Forum on Environment and Development*, April 9, 1999.

<http://clinton6.nara.gov/1999/04/1999-04-09-vp-and-premier-zhu-rongji-announce-environmental-agreements.html>.

²²⁸ Embassy of the People’s Republic of China in the United States of America, *China US Joint Statement*, October 1997, <http://www.china-embassy.org/eng/zmgx/zysj/jzxfm/t36249.htm>.

²²⁹ For other documentation of the focus of the Forum being the sale of US goods, see: The White House. *Engaging China to Promote and Protect American Interests*, <http://clinton5.nara.gov/WH/EOP/NSC/html/nsc-03.html>; National Research Council, Chinese Academy of Sciences, Chinese Academy of Engineering, *Cooperation in the Energy Futures of China and the United States*, National Academy Press: Washington, DC, 2000, p 20; and CBS News. China: Key Issues. Environment. http://www.cbsnews.com/2316-100_162-678777-4.html.

²³⁰ The trade deficit with China was \$57 billion, comprising 23 percent of total trade deficit. See Office of the General Counsel, Department of Commerce, *Prepared Statement of The Honorable Patrick A. Mulloy, Assistant Secretary of Commerce for Market Access and Compliance before the Subcommittee on International Economic Policy and Trade of the House Committee on International Relations*, July 22, 1999, <http://www.ogc.doc.gov/ogc/legreg/testimon/106f/mulloy0722.htm>; Trade Deficit Review Commission, *The Causes of the US Trade Deficit. Statement of Robert A. Blecker, Ph.D. Professor of Economics American University and Visiting Fellow Economic Policy Institute Before the Trade Deficit Review Commission*, Washington, DC, August 19, 1999, <http://www1.american.edu/cas/econ/faculty/blecker/statementpercent20ofpercent200899.pdf>.

Rongji's opening remarks during the Forum's Plenary session would make little sense. At the start of the Forum, Zhu positioned China as a willing buyer of American products that could speed development, while protecting the environment.

Last year, according to the US statistics, the [trade deficit] figure was 57 billion US dollars. ... What I want to emphasize here is that [sic] how to work hard to strive for trade balance through that [sic] efforts in promoting trade.

And in my view, in the area of environment and development, if the United States can export technology and equipment to China to help China in its efforts to protect its environment, then I am really afraid that the trade deficit problem will really turn the other way around. By that I mean that maybe China will be the one who has a trade deficit with the United States. But even that is the case -- I will be very happy because, you know, really environmental protection is so important for China, and we are willing to spend more on that. ...

But based on the cooperation between our two sides in this field, at present it's still incommensurate with the potentials for that cooperation. ... I want to say that China also has financial resources. We only need advanced technology from the US side. ... [we need to] protect the environment while developing the economy, and try to seek a sustainable development.²³¹

With China opened for environmental business by its Premier, the rest of the work of the Forum began.

While senior politicians led each of the working groups, the main participants in roundtable discussion were industrial leaders. The plenary meeting of the second Forum on April 9, 1999 was held in the Loy Henderson Conference Room at the Department of State co-chaired by Vice President Al Gore and Premier Zhu Rongji, but moderated by Robert Kapp, President of the US-China Business Council. Secretary of Energy Bill Richardson and Secretary of Commerce William Daley both attended the plenary session, but the main conversation was led by the CEOs and Presidents of companies such as Texaco, Chevron, and Exxon; GM and Ford; Honeywell and Camp Dresser & McKee.

It is critical to note when business leaders are invited to set the agenda of international cooperation, since the ways that CEOs and Presidents of companies will steer the government agenda will always be in their own interest. Corporate interest may well dovetail with national interest, such as in reducing the US trade deficit with China by selling more US exports to China, but the imperatives of individual companies may also skew the focus of what should be a scientifically grounded, independent review of what methods, projects, and products will be the most successful at reducing the causes of global climate change toward the deployment of the company's own product or service. In short, when the goal is protecting the global environment, corporations have an insurmountable conflict of interest: they have a fiduciary responsibility to promote their own products and services as solutions at the expense of a comprehensive review, and independent recommendation.

²³¹ Federal News Service, *Remarks by Vice President Albert Gore and Chinese Premier Zhu Rongji at US-China Forum on Environment and Development Plenary Session State Department Washington, DC, White House Briefing, April 9, 1999.*

Table 5.1. Leadership of the US-China Forum on Environment and Development during the Second Forum held on April 9, 1999 in Washington, DC.²³²

US-China Forum on Environment and Development	US Co-Chair	China Co-Chair
	Al Gore, Vice President of the US	Zhu Rongji, Premier of China
<i>Working Groups</i>		
Energy Policy	David Jhirad, Senior Adviser for International Affairs, Department of Energy	Song Mi, Director General, Department of Basic Industries, State Development Planning Commission
Environmental Policy	Carol Browner, Administrator, Office of the Environmental Protection Agency Undersecretary of State Frank Loy	Xie Zhenhua, Minister, State Environmental Protection Agency
Science for Sustainable Development	Neal Lane, Assistant to the President for Science and Technology; Director, White House Office of Science and Technology Policy	Zhu Lilan, Minister, Ministry of Science and Technology
Commercial Cooperation	Alan Bowser, Deputy Assistant Secretary for Basic Industry, Department of Commerce	Dai Yunlou, Deputy Director General, Department of America and Oceanic Affairs, Ministry of Foreign Trade and Economic Cooperation

²³² Compiled from the Office of the Press Secretary, *The White House. US-China Forum on Environment and Development Co-Chaired by Vice President Al Gore and Premier Zhu Rongji 2nd Session, April 9, 1999 Washington, DC*, April 9, 1999. <http://clinton6.nara.gov/1999/04/1999-04-08-fact-sheet-on-vice-president-and-premier-zhrongji-forum.html>.

Table 5.2. Participants in US-China Forum on Environment and Development Business Roundtable, co-chaired by US Vice President Al Gore and China Premier Zhu Rongji, April 9, 1999, Washington, DC.

US-China Forum on the Environment, Second Forum Roundtable

Moderator	Title, Company
Robert A. Kapp	President, US-China Business Council
Participant	Title, Company
<i>Energy Companies</i>	
Peter I. Bijur	Chairman and CEO, Texaco Corporation
John F. Imle, Jr.	President, Unocal Corporation
Terence H. Thorn	Senior Vice President, Environmental and International Government Affairs, Enron Corp.
Richard H. Matzke	President, Chevron Overseas Petroleum Inc.
D. Howard Pierce	President and CEO, ABB Inc
Lee R. Raymond	Chairman and CEO, Exxon Corp
Steven R. Specker	President, General Electric Nuclear Energy Company
<i>Automotive Companies</i>	
Jacques A. Nasser	President and CEO, Ford Motor Company
John F. Smith, Jr.	Chairman and CEO, General Motors Corporation
<i>Environmental Companies</i>	
Anthony J. Drexel Biddle III	CEO, Liberty-ELM Environmental, LLC
Michael R. Bonsignore	Chairman and CEO, Honeywell Inc.
Diane C. Creel	President and CEO, Earth Tech
Albert E. Gosselin, Jr.	President and Chief Engineer, Dasibi Environmental Corporation
Frederick J. Holland, P.E.	President, Camp Dresser & McKee International Inc.
Gerhard J. Neumaier	Chairman and CEO, Ecology and Environment, Inc.
Viet H. Ngo	President and CEO, Lemna International
Henry G. Schwartz, Jr.	President, Sverdrup Civil, Inc.

In the months leading up to the plenary session in April, each of the working groups had been meeting to negotiate trade deals and memoranda of understanding that would be signed at the conclusion of the Forum. The US Export-Import Bank, Department of Energy, the China Development Bank, and the State Development Planning Commission negotiated a Memorandum of Understanding establishing a \$100 Million Clean Energy Program in order to accelerate the sale and use of US technologies in the area of energy efficiency, renewable energy, and pollution

reduction. Other deals included commencing studies on the feasibility of market mechanisms to achieve sulfur dioxide emissions reductions in China, and an MOU on the joint development of a natural gas pipeline in South China by Enron Corp. and China National Petroleum Corp.

The most unusual MOU signed under the auspices of the second US-China Forum on Environment and Development was the one that created the China-US Center for Sustainable Development. It was not signed by any federal agency in the US, but rather by the State of Oregon. Succeeding in getting a bi-lateral organization to be based in Portland, OR rather than Washington, DC was a major diplomatic coup for the Oregon Economic Development Department. No state agencies had been specifically invited to the Forum, and there had not been an official bidding process to host the newly created Center. But for the previous year Oregon's Governor Kitzhaber and his Economic Development Department (EDD) had been focusing their efforts on opening up China as market for Oregon's products, with a particular focus on environmental protection. Central to Governor Kitzhaber's economic development plan for the state was the creation and marketing of "Brand Oregon." Started in 1998, this state-supported program encouraged businesses located within the state to market their products as aligned with the Oregon's reputation for natural environmental beauty, progressiveness, and high quality of life.²³³ Governor Kitzhaber and the EDD believed that by building and marketing Oregon as a leader in sustainable development within the global marketplace, they could secure a competitive advantage over other states in the scramble to increase exports. With a coastline facing the Pacific Ocean, Oregon had already been focused trade efforts on Japan, Korea and Taiwan, and operated international trade offices in each country. Securing special relationships with China would open up a whole new market to Oregonians in search of higher sales volumes. In response to rising concerns within and without China that China's rapid economic growth would lead to significant environmental and global ecological damage, Oregon sought to trade in its reputation of sustainable urban growth and "package Oregon as a center for sustainability."²³⁴

After a year of groundwork that included an official trade delegation from the State of Oregon to China, including then Governor John Kitzhaber,²³⁵ and months of lobbying of the Chinese Ambassador to the US, the Vice Presidents Office, and relevant State Department offices by the Oregon Economic Development Department,²³⁶ Oregon succeeded in getting a new bi-lateral organization focused on sustainable development to be based in Portland, Oregon. At the close of the Science for Sustainable Development working group session of the Second US-China Forum on the Environment and Development, Oregon's Director of Economic Development, Bill Scott and China's Director of Rural and Social Development, Ministry of Science and Technology signed a Memorandum of Understanding establishing the China-US Center for Sustainable Development. The event was hosted by the National Academies of Sciences, and witnessed by China's Minister of Science and Technology, Zhu Lilan, and Oregon State Senator, Mae Yih.

Oregon's lobbying efforts were aided by a high-level of anti-China sentiment in the US Congress in Spring 1999. As one of the lobbyists sent by Governor Kitzhaber's office told me, at the time there was "no political capital to sign an environmental agreement with China. If signed, the protocol must be reviewed by Congress. It couldn't have happened." In March, the Wen Ho Lee

²³³ Oregon Legislative Policy, Research, & Committee Services, *Information Resources for Oregon Businesses*, Salem, Oregon, September 18, 1998, <http://www.leg.state.or.us/comm/commsrsvs/inforeso.pdf>.

²³⁴ Michael Rose, "Oregon-China pact is all about being sustainable," *Portland Business Journal* August 1, 1999, <http://www.bizjournals.com/portland/stories/1999/08/02/story8.html>.

²³⁵ State of Oregon, *Governor Announces China Trip*, February 10, 1998, http://arcweb.sos.state.or.us/governors/Kitzhaber/web_pages/governor/press/p980210.htm.

²³⁶ Rick Schulberg, in discussion with the Author, April 2005; also, Rose, "Oregon-China pact is all about being sustainable."

case dominated the American media, and suspicion that the Chinese had stolen sensitive high technology pervaded the chambers of the Capitol. News that Chinese nationals had bought influence with the Clinton administration through illegal donations to his 1996 re-election campaign also furrowed brows. Zhu would also fail in the primary purpose for his state visit: normalizing trade relations and securing Most Favored Nation trading status—a critical step toward World Trade Organization entry. Later, a program manager for the Center would tell me that it was a combination of the unlikely prospect of getting Congress to sign off on a new agreement with China, along with the feeling that the Forum—despite its inclusion of business leaders—was too focused on dialogue without much action that landed the Center in Oregon. “The China US bi-laterals were great but they were photo opps. What needed to be formed was a mechanism for action, with business and commerce. China was not yet MFN, so not formalized, so couldn’t be federal, formal. So Kitzhaber said ‘Why not have Oregon sign for the US?’”

Bypassing Congressional approval also meant that the Center was bypassing federal funding, as well as the power of federal prestige. Based in Oregon, the Center would be limited to the human resources and funds that Oregon could bring to the table. This was, of course, why Kitzhaber’s office was excited by the prospect of the Center being based in Oregon, but lacking a federal funding source for an erstwhile bi-lateral organization would prove to adversely affect its mission in later years. The Center would become a bi-lateral organization that would not source the most appropriate products and technologies for supporting the economic growth for target areas in China, but would promote the products and technologies of the companies that funded the Center.

Governor Kitzhaber’s office celebrated the creation of the Center as a way to capitalize Oregon’s expertise in sustainable development, and increase export opportunities:

The China-US Center for Sustainable Development will facilitate exchanges between the People's Republic of China and the United States regarding sustainable development issues. Oregon is a leader in sustainable development practices, that being the integration of environmental, social and economic factors in making decisions impacting the future. China is making serious efforts to integrate environmental factors into its economic planning and has expressed a desire to learn from Oregon's expertise.

‘Oregon has capabilities in a number of areas that can benefit China's efforts, such as grass seed for erosion control, forestry expertise and products for watershed management and sustainable yields, energy conservation and management capabilities, environmental technologies, transportation and communication products, services and technologies,’ Kitzhaber said.²³⁷

While objectives established in the MOU do not limit the Center’s engagement to expertise and products based in Oregon, Oregon business leaders and staff of the OEDD held that the hosting of the Center in Portland would give Oregon companies priority in forming relationships and pitching products.²³⁸

The MOU established the newly founded China-US Center for Sustainable Development as hosted on each side by a Secretariat, which would oversee daily business, and build a Board of Councilors as key stakeholders in setting the agenda for promoting and act on sustainable development projects in China. The MOU established the China Secretariat in Administrative Center for China’s Agenda 21 (ACCA21) within the Ministry of Science and Technology.

²³⁷State of Oregon, Governor’s Office, *Governor, Chinese Ambassador Announce Sustainable Development Agreement*, April 22, 1999, http://arcweb.sos.state.or.us/governors/Kitzhaber/web_pages/governor/press/p990422.htm

²³⁸Rose, “Oregon-China pact is all about being sustainable.”

Established as a sub-agency within the Ministry of Science and Technology, ACCA21 is the office responsible for implementing the “Agenda 21” action plan for sustainable development that was signed by member countries at the conclusion of the United Nations Conference on Environment and Development in held in Rio de Janeiro, Brazil, on June 13, 1992. Although Oregon’s Economic Development Department was the signatory to the MOU establishing the Center, no State of Oregon office was listed as the US Secretariat. Rather, the Center was given to a Portland, OR-based non-profit called the International Sustainable Development Foundation.

The immediate divestiture of a key economic and diplomatic relationship would be unfathomably odd if the ties between the International Sustainable Development Foundation (ISDF) and Oregon’s Economic Development Department and Governor Kitzhaber’s office were not so close. The ISDF was founded in 1997 by Rick Schulberg, who had until the founding of the ISDF led the International Trade Division of Oregon’s Economic Development Department. The ISDF in fact began as a spin-off of the OEDD. Three years earlier, the OEDD had performed similar diplomatic coup with the Asia Pacific Economic Cooperation (APEC) Forum, setting a pattern for how the State of Oregon would handle its success at the US-China Environment and Development Forum in 1999.

It is a testament to the expansive vision and diplomacy of Governor Kitzhaber’s office and leadership that the Industry and International Trade sections of the OEDD that Oregon was the only US state, or sub-national group from any country, to actively use the APEC Forum and its Working Groups to promote its environmental service industries.²³⁹ Building upon this ad hoc promotion of “Brand Oregon” within the APEC Forum at the 1996 Organizing Conference in Portland, OR and the Environmental Ministers’ Meeting in Toronto, Canada in 1997, Oregon successfully lobbied for the creation of the APEC Sustainable Development Information and Training Network (APEC Network) with the goal of building capacity of mid-level government managers, and serving as a clearinghouse for information on ongoing technologies, products, and ongoing projects. APEC Network established a support office, a home page, originally housed within the International Division of the OEDD. This work was self-funded by the OEDD. Through 1997, the network was also hosted physically and virtually within the OEDD.²⁴⁰ Political pressure within the Oregon Legislature and declining budgets for the OEDD led to Rick Schulberg, then Director of the Industry and International divisions of the OEDD, setting up a new organization as a private facilitator of Oregon government and business interests within the framework of sustainable development. In 1998 the International Sustainable Development Foundation was recognized as a 501(c)3 non-profit, and the APEC Network was officially handed off to the ISDF. The funding for the work of the ISDF and APEC Network still came from government sources, however; both in grant money and in personnel support.

The close relationship between the ISDF and the State of Oregon is made clear by the composition of its Advisory Board. Governor Kitzhaber; Bill Scott, Director of the OEDD (and signatory of the MOU that would create the Center a year later in 1999), and just retired Senator Mark Hatfield all served on the Advisory Board from its inception.²⁴¹ Given the promise the that

²³⁹ Lyuba Zarsky and Jason Hunter, “Environmental Cooperation at APEC: the First Five Years” in *Asia Pacific Environment Network Policy Forum Online*, (Nautilus Institute for Sustainable Development: March 31, 1997). http://oldsite.nautilus.org/archives/fora/enviro/9706A_zarsky.html.

²⁴⁰ “APEC Sustainable Development Training and Information Network,” Oregon Economic Development Department, content as of January 13, 1997, <http://web.archive.org/web/19970113125219/http://www.econ.state.or.us/apec.htm>.

²⁴¹ Confirmation of the Advisory Board is available by reviewing the ISDF website from October 12, 2000. “ISDF Board”, ISDF, content as of October 12, 2000, <http://web.archive.org/web/20001012024103/http://www.isdf.org/board.html>.

ISDF's work with APEC held as a "win-win" of promoting Oregon as the leader in sustainability expertise, service and products, while also encouraging sustainable development training and applications across Asia-Pacific, it seems a reasonable choice for Bill Scott, Director of the OEDD, to hand-over the newly formed China-US Center for Sustainable Development to the ISDF, an organization whose Board on which both he and the Governor sat. However, housing the China-US Center with the ISDF would prove to complicate its ability to act as an equal partner in what was intended to be a bi-lateral China-US organization.

From the outset of the creation of the China-US Center, how the ISDF's work as the US Secretariat would be funded was an issue, as was what principles would frame the ISDF's work. Set out as a bi-lateral institution, but existing as an unusual partnership between a Chinese Ministry and a brand-new Oregon-based non-profit, building the institutional architecture of the US side of the China US Center would lead to corporations buying seats on the Board of Councilors' in order to have priority access for their companies to pitch high-level Chinese government officials and the US Co-Chair using the Center as a soap-box for his own concept of sustainable development, and concomitant architectural designs. From one angle, this can be seen as an exemplary form of the new wave of Corporate Social Responsibility. But it would also mean that the initiatives of the China-US Center would not be open to all the possibilities of what sustainable development could be. This would prove to still be a "win" for those participating on the US side, but would at times leave the Center's Chinese partners confused as to why sustainable development came in the form of discourse or imported, branded products, rather than as local materials, or even a factory.

When the US Board of Councilors of the China-US Center first met on December 8, 2000 at the White House Conference Center, various US federal agencies were still heavily involved. Initial funding for the Center came from the US Department of State, US Department of Energy, and the State of Oregon.²⁴² Of the first sixteen members of the US Board of Councilors, thirteen were either serving in offices affiliated with the White House Office of Science and Technology Policy, the State Department, environmental think tanks, the academy, or some combination therein. Only three members served only from a position of corporate affiliation, one of those being the newly appointed US Co-Chair, William McDonough.²⁴³ In addition to the members of the Board of Councilors, Oregon Senator Gordon Smith and Oregon Congressman Greg Walden sent representatives, as did the US Department of State, the Department of Energy, the Department of Commerce, the Department of Agriculture, the Environmental Protection Agency, the President's Council on Environmental Quality and the US Asia Environmental Partnership.²⁴⁴ Participation of such senior officials, serve to frame the Center's work within US national priorities, as was the intention of the work within the US-China Environment and Development Forum of which the Center was an off-shoot. At the end of 2000, twenty months into its founding, the ISDF was still trying to establish "a visible presence in the Washington, D.C. region" as well as identify "private business and public organizations seeking to engage and invest in China" and find "funding

²⁴² Each was listed as a "Past Founder" on the Center's website in 2003, at a time when "Founder" status cost \$100,000. See "Corporate Members of the Founders' Circle," ISDF, content as of November 23, 2003, <http://web.archive.org/web/20031123113529/http://chinauscenter.org/founderscircle/corporations.asp>;

"Corporations: Recognitions and Benefits," ISDF, content as of November 25, 2003, <http://web.archive.org/web/20031020042553/http://chinauscenter.org/founderscircle/benefits-corp.asp>.

²⁴³ "Board of Councilors," China-US Center for Sustainable Development, content as of October 29, 2000, <http://web.archive.org/web/200012062151/http://www.chinauscenter.org/councilors.html>

²⁴⁴ "Center News: December 2000," China-US Center for Sustainable Development, content as of April 6, 2001, <http://web.archive.org/web/20010406221315/http://chinauscenter.org/news.html>.

support.”²⁴⁵ By the time the first joint board meeting of the China-US Center for Sustainable Development was held September 16-17, 2002 in Beijing, the employees that ran the US Secretariat’s operations for the ISDF were all collecting unemployment checks from the State of Oregon—while still working to keep the Center going.

How could an organization with such promise end up being left without any funding? There is a pattern of American politicians promising much, and funding little. In many ways the financial collapse of the China-US Center for Sustainable Development follows in the wake of the overall collapse of the US-China Environment and Development Forum. When Vice President Gore opened the plenary session of the second Forum in 1999, despite the importance he placed on the urgent need to recognize and mitigate global climate change, the leading role the US and China play in its causes, the only concrete way he put forward to solve this problem was to have “gathered some of the best minds from both of our countries, and we have asked them to work together to find new ways to achieve our common goals.”²⁴⁶ The Forum was underfunded given the scope of its mission during the Clinton administration. Despite the increased coordination amongst involved federal agencies, each agency had to fund all activities taken on behalf of Forum work within other budgets, with no monies specifically allocated for US-China work. US programmatic work in China was severely limited by various Congressional laws in effect at the time, which prevented the US Agency for International Development (USAID), the US-Asia Environmental Partnership (US-AEP), the US Trade and Development Agency (TDA), and the Overseas Private Investment Corporation (OPIC) from operating in, distributing funds within, or using funds to support exports to China.²⁴⁷ In effect, only the Export-Import Bank was not proscribed from engaging with China; yet, the Ex-Im Bank funneled little capital toward encouraging environmental technology transfer or product sales in China. Despite the extensive press coverage of the \$100 million Ex-Im facility to accelerate the sale of US energy efficiency, renewable energy, and pollution reduction technologies that was announced at the second Forum in 1999, this program only amounted to 1.7 percent of the total spending of the bank in 1998.²⁴⁸ With such meager funding being secured by the Vice President for a pet initiative, it is no wonder that a one-year old non-profit based in Oregon had difficulty in securing federal or multi-lateral funding and participation of personnel.

Shortly after the formation of the Center, the foreign policy focus of the US shifted abruptly. George W. Bush took up the office of President in January 2001, and did not share the Clinton-Gore administration’s concern for environmental protection and mitigation of global climate change. Then the Osama bin Laden-led attack on the World Trade Center and US Pentagon on September 11, 2002 abruptly shifted America’s international focus from the East to the Middle East and Central Asia. Plans for the US-China Environment and Development Forum’s fourth meeting in late 2001 were dropped. The Forum was abandoned by the Bush administration, and never met again. The Executive Director for the China-US Center tried to make the best of the lack of environmental leadership from the Bush administration, half joking that “It’s better Gore did not win [in the end]. We learned to survive without the US government. After all, that politics is often a

²⁴⁵ “Welcome,” China-US Center for Sustainable Development, content as of 6 December 2000, <http://web.archive.org/web/200012062110/http://www.chinauscenter.org/>.

²⁴⁶ Federal News Service, *Remarks by Vice President Albert Gore and Chinese Premier Zhu Rongji at US-China Forum on Environment and Development Plenary Session State Department Washington, DC*, White House Briefing, April 9, 1999.

²⁴⁷ See Gregory D. Foster, “China’s Environmental Threat: Crafting a Strategic Response,” *Comparative Strategy* 19:2 (2000).

²⁴⁸ Export-Import Bank of the United States, 1998 Annual Report: Rising to Meet Today's Export Challenges. 1999.

liability. Look at air quality, emissions now. Leadership in the US is from the States, not the Nation.”²⁴⁹

While environmental leadership might come from individual States, including “Brand Oregon,” reliable funding for the US Secretariat for the China-US Center did not. By devolving the US Secretariat from the OEDD to the ISDF, budgetary support from the State of Oregon became tenuous, and affected by the liabilities of local politics. Passage of Propositions 47 (1996) and 50 (1997) severely reduced state income from property taxes. This drastically reduced the funding that Oregon’s education systems had come to depend on from property taxes, forcing the State to transfer funds from the Lottery to finance education spending, and thereby severely reducing the budget of the Oregon Economic Development Department, which was solely funded allocations from Lottery proceeds.

By the end of 2002, the APEC Network run by the ISDF had been defunded, and initial federal and state monies for the US Secretariat of the China-US Center had run out. The program manager for the US Secretariat told me, “When we held the first joint board meeting of the Center, we all were on unemployment. We just can’t get funding. So we’ve been changing the model from looking for federal and foundation funding to corporations. We have to. Breaking into the beltway is too hard. The money changes hands inside the circle, and we can’t get in. We met with the World Bank, others. The China Energy Council. It’s money that they all give to each other.”²⁵⁰ With severe restrictions on federal funding to China due to Congressional citing of human rights and labor law failures,²⁵¹ failure in attracting donor funds, and the withdrawal of State support, the leadership of the US Secretariat decided that to survive, they would need to apply their motto not just to programs, but to their own funding: “Leadership through Enterprise.”²⁵²

With the leadership and personal network of the Chairman of the Board, William McDonough, the US Secretariat started rebuilding its Board of Councilors and refunding its budget. The Founders’ Circle was announced in the China-US Center’s 2002 brochure as a means “To enable a broader network of companies, organizations and individuals to demonstrate their commitment to a sustaining future for China, the US and the world.”²⁵³ The Founders’ Circle was established with three levels of recognition and benefits for corporate members, based on annual giving: Founder, at \$100,000 per annum; Chairman’s Council at \$50,000; and Enterprise Member at \$25,000.²⁵⁴ Originally, the critical benefits of higher level sponsorship were priority access to McDonough, and “priority opportunity to propose enterprises for early action.”²⁵⁶ In 2005, the ISDF restructured and simplified the Founders’ Circle. Corporations or organizations with annual revenues of \$1 billion or above were required to give \$50,000 annually; those with revenues of less

²⁴⁹ Rick Schulberg, in discussion with the author, April 2005.

²⁵⁰ Program Manager for CUCSD, in discussion with the author, September 21, 2005, Portland, OR.

²⁵¹ Foster, “China’s Environmental Threat: Crafting a Strategic Response.”

²⁵² “2002 and Beyond,” China-US Center for Sustainable Development, content as of March 15, 2003, http://web.archive.org/web/20030315081006/http://isdf.org/Newsletter/ISDF_2002beyond_emailversion.pdf.

²⁵³ “Corporations: Recognitions and Benefits,” China-US Center for Sustainable Development, content as of October 20, 2003, <http://web.archive.org/web/20031020042553/http://www.chinauscenter.org/founderscircle/benefits-corp.asp>.

²⁵⁵ In 2005, the US Secretariat changed the funding structure of the Founders Circle. Going forward, to participate in the China-US Center for Sustainable Development, corporations or organizations with annual revenues of \$1 billion or above were required to give \$50,000 annually; those with revenues of less than \$1 billion could join for an annual contribution of \$25,000. Benefits to each were the same.

²⁵⁶ “Corporations: Recognitions and Benefits”, China-US Center for Sustainable Development, content as of October 20, 2003, <http://web.archive.org/web/20031020042553/http://www.chinauscenter.org/founderscircle/benefits-corp.asp>.

than \$1 billion could join for an annual contribution of \$25,000.²⁵⁷ Benefits to each were the same, and enumerated as follows:

Access to commercial opportunities in China through Chinese and US business, government and scientific leaders who seek trusted partners to chart a positive agenda for the future.

Insight into the latest economic, political and environmental developments in China through personal briefings by the Board Chairman and China-US Center executive staff

Opportunity to commercially engage in sustaining enterprises in China

Recognition as a responsible business leader addressing China's need to develop new solutions for a sustainable future²⁵⁸

The US Secretariat of the China-US Center for Sustainable Development had essentially become a niche pay-for-play organization. This occurred not only due to the effects of the shift from the Clinton-Gore to Bush-Cheney administrations' priorities, and September 11th. The focus on "the creation of sustaining enterprises" as the founding principle of sustainable development was core to the philosophy of McDonough, who was chosen by the ISDF to lead the US Secretariat in 2000 and who was given the responsibility of naming additional members to the Board of Councilors.

When I asked the ISDF's program manager for the China-US Center's work why they had chosen McDonough, an architect, to lead the US-side of the Center, he said, "We wanted a lead who'd bring his own individual connections. We thought of Hunter Lovins, and Paul Hawken, but liked McDonough's point that sustainability is a design issue—how we could redesign from the beginning, not just the three Rs." In the late 1990s, McDonough was on his way to becoming the icon of the sustainable development movement. In 1996, McDonough received the Presidential Award for Sustainable Development. In 1998, he and his collaborator, German materials scientist Michael Braungart, offered a radical solution to the burgeoning national conversation on environmental degradation in a widely read article published in *Atlantic Monthly*. In "The Next Industrial Revolution" McDonough and Braungart propose that it was commerce, and continued consumption of products that would solve the global environmental crisis, not government regulation. Foundational to their line of thought is that the "traditional three-R response,"²⁵⁹ and the government regulations that encourage it, is a sign of "design failure" and only a "superficial" response to the problem at hand. The radical response needed is a wholesale reworking of industrial processes: the key is to take "the filters out of the pipes and put them where they belong—in the designers' heads."²⁶⁰ By 1999, *Time* had crowned McDonough a "Hero for the Planet," celebrating that "his utopianism is grounded in a unified philosophy that—in demonstrable and practical ways—is changing the design of the world."²⁶¹ Securing McDonough's leadership of the US-side of the China-US Center appeared to be a coup for Rick Schulberg and the ISDF. It would later prove to be a coup for McDonough, as he used the Center as a means to channel high-profile design work to his own firm, and to claim that his "cradle-to-cradle" design philosophy had been adopted as official, national policy of China.

²⁵⁷ "Individuals" could also join for a contribution of \$5000 annually, although the ISDF often reported "Individual" contributions as corporate contributions, as in the case of John Miller of Wildwood/Mahonia. By the end of 2006, the Individual category was renamed "Friends of the Circular Economy."

²⁵⁸ "Founders' Circle Recognition," China-US Center for Sustainable Development, content as of October 25, 2006, <http://web.archive.org/web/20061025110723/http://www.chinauscenter.org/founderscircle/benefits-corp.asp>.

²⁵⁹ Reduce, Reuse, Recycle

²⁶⁰ Quoted in Paul Hawken, Amory Lovins, and L. Hunter Lovins, *Natural Capitalism: Creating the Next Industrial Revolution* (New York: Little, Brown, and Company, 1999), 72.

²⁶¹ McDonough's design philosophy is the focus of Chapter Six, "Ecological Modernism."

But first, the China-US Center for Sustainable Development had to act on its mission to “to accelerate sustainable development in China and the United States through a new form of cooperation among the business community, governments, universities, research institutions and non-governmental organizations—based on nature’s design principles and focused on results.”²⁶² In this case, selecting an architect and industrial designer over an entrepreneur (Hawken) or a research scientist (Lovins) would shape both the types of projects the Center would select, as well as how they would be implemented.

At the first joint meeting of the US and China Boards of Councilors, McDonough would propose a “Sustainable Design Community Enterprise” as one of the Center’s first projects.²⁶³ While significant thought would be put into the design of the community as a showcase of McDonough’s cradle-to-cradle philosophy, little thought would be given to how to pay for the construction of the community, or whether there was even a need for a new community in the location the Center chose. When it came to thinking through the details of the viability of a “sustainable community” as a commercial enterprise, this work was left to Dai Xiaolong, the rural owner of a defunct grain alcohol brewery who the China-US Center chose as the developer for a 400-household new town, even though he himself had never built a single house. The minutes from the first joint board meeting make clear that “members of each Board have the obligation to actively seek financial, technological and other support” for the Center’s projects,²⁶⁴ but, as an architect, it is standard practice to hand over drawings to a developer who believes in the value (profitability) of the project, who then hires a builder, and walk away.

Over the next several years, McDonough and the US Secretariat would privately and publicly wonder why the man they selected to build their proposed “sustainable community” desperately harassed them for investment, and why the residents of the village would not take greater ownership of their own project. As the years passed, McDonough and the US Secretariat would seem to forget—or at least pretend to—that the project originated as their own idea, coming to believe their narrative that Huangbaiyu Village was “redefining” itself rather than haven been chosen through a selection process instigated by the Center. This selective forgetting and re-narrativizing of who was responsible for what, and what the goals of building a sustainable community in rural China would be made easy by the large assemblage of people involved in the project—representing various levels of government agencies, housing associations, architects and designers, local businessmen, Fortune 500 companies—and the many years that would pass during its design and construction. The six months allotted for the design and construction of the demonstration house would become more than six years—at which point the demonstration house and the rest of Phase One of the sustainable community would be abandoned. From the outset the project was plagued by another attribute of architectural practice that in other contexts might be considered a strength, at least when seeking to make customers happy: accepting the preferences and assumptions of the client as all that matters. When building a private home for a single client, this may be true. But when you are your own client, how do you decide what to build? What is a sustainable community? How do you make those decisions when “you”—however easily referred to as the China-US Center for Sustainable Development—is in fact a mobile assemblage of various persons representing various public and private institutions with varied, often conflicting, perspectives and interests, funding sources and capital needs?

²⁶² “Mission,” China-US Center for Sustainable Development, content as of June 23, 2006, <http://web.archive.org/web/20060623002049/http://www.chinauscenter.org/purpose/mission.asp>.

²⁶³ China-US Center for Sustainable Development, Review Minutes, First Joint Board Meeting, Beijing Hotel, September 16-17, 2002, Beijing, People’s Republic of China, 2.

²⁶⁴ CUSCD, Review Minutes, 9.

All of this becomes even more fraught when it is for all intents and purposes the architect who hires the developer, across an immense divide of symbolic, social, and economic capital, and the relatively clear lines of real estate development are obscured by the profuse confusion of capital and philanthropy in what we tend to call development, or in this case sustainable development. Very quickly it can become unclear who is selling what to whom.

The China and US Board of Councilors of the China-US Center for Sustainable Development met for the first time in a conference room of the Beijing Hotel in September 2002. The project that would lead Huangbaiyu Village, Liaoning Province to be called “The World’s First Village” started out as the 13th and last proposal made as the Center’s Chinese and US partners brainstormed what projects the Center should take on. The meeting had been a long time coming, organized more than three years after the MOU that founded the Center had been signed. Seven of nine US board members were now representing corporations: McDonough + Partners/MBDC, CH2M Hill, Gazeley Properties, BP China, BASF, Intel, Lehman Brothers. Advisory members included another two: Wildwood/Mahonia, and BP Solar. In contrast, thirteen of fourteen Chinese board members were sitting high-level government officers, retired government officers, senior research scientists or a combination thereof. Seated facing McDonough was his counterpart, the China Secretariat Chair, and Co-Chair of the China-US Center for Sustainable Development, Deng Nan. Deng was then the Vice Minister of the Ministry of Science and Technology (MOST), and had led China’s efforts in developing its own national Agenda 21 and setting up ACCA21 within MOST after the 1992 Rio Summit. She also served as the Chair of the China Society for Sustainable Development. As Deng Xiaoping’s daughter, and the only one of his five children to be politically active, Deng’s opinion carried weight disproportionate to her official position. The rest of China’s Board of Councilors and additional advisors was filled by representatives from MOST along with others from the State Environmental Protection Administration; Ministry of Construction; Ministry of Land and Resources; Ministry of Agriculture; Sichuan Province; Chinese Academy of Science; Qinghua, Tongji and China Agriculture Universities; and ACCA21. Perhaps reflecting that the first two priority areas declared by the MOU creating the China-US Center were land use planning and sustainable agriculture and rural development, four of China’s participants were from the Rural and Social Development division of MOST.

By the end of the meeting, the joint board had adopted three projects for immediate action: solar energy, wind energy, and a sustainable community. The greatest excitement was for McDonough’s suggestion to build “a prototype community [that] will be designed and developed based on ‘Cradle to Cradle’ design principles for large scale implementation.”²⁶⁵ While the solar energy project would only involve BP Solar and BP China in construction of a manufacturing plant for photovoltaic cells, and the wind energy project would only involve McDonough and Gamesa, which was a client of his and paying for his services,²⁶⁶ design and development of a prototype community that includes at minimum sustainable housing and waste water treatment would allow many of the existing corporations involved in the Center to highlight their products and services. It would also serve as a showcase project with which to attract additional corporations to participate in—and fund—the Center. In the official minutes for the meeting, McDonough is given responsibility as the US-lead for the project.²⁶⁷

²⁶⁵ CUCSD, Review Minutes, 8.

²⁶⁶ McDonough mentioned Gamesa as a client during the speech he gave at the beginning of the joint board meeting. Text of the speech is available here: http://www.mcdonough.com/writings/new_design.htm

²⁶⁷ CUCSD. Review Minutes, 8.

Having waited three years in hopes of technology transfer and help in spurring sustainable development through a partnership with US government and corporate partners, the China Secretariat was quick to move on the proposal for the sustainable community. Three months later ACCA21 began the process to select a site for the China-US Center's sustainable community demonstration project. On December 15, 2002, a request for proposals went out from Beijing's MOST, and was distributed through the Ministry's Provincial, Municipal and County Science and Technology offices. From the outset, the RFP stated that the China-US Center was looking for a "model for large-scale promotion," using "cradle-to-cradle design principles." The ideal community was set as one with 100-150 households, and where there was an existing need for settlement or resettlement, or small town development projects already in place. The RFP made it clear that ACCA21 was looking for a township or village to volunteer itself as a pilot location for what was hoped would become a large-scale program. In return for volunteering as an experimental site, the village or township would receive:

- US-designed plans for a sustainable community
- US technical assistance for building the sustainable community
- Cooperative assistance from Tongji University and a local architecture company during design and construction
- Detailed design for a 100m² demonstration house constructed with straw bales and a metal framework
- US assistance in design of house and in selecting materials

ACCA21 also assured potential proposers that there would be no additional investment cost to the construction of the demonstration house over traditional local construction "so as to ensure the economic feasibility and scalability of the demonstration sustainable community."²⁶⁸

The cost structure was important since one of the major prerequisites for selection was the ability of the "Project Implementation Agency" to pay for the cost of the implementation of the sustainable community demonstration. The RFP asked for details on the funding capacity of government and/or any project partners, as well as the ability of farmer households to contribute capital investment.

A very short timeline for response was given. With the RFP distributed on December 15, all responses must be submitted by January 10, 2003. Design work for the demonstration house would be completed by February 1, with construction to be completed by May 1—in time for the initial unit demonstration of the larger sustainable community project to be completed before the already scheduled second meeting of the China-US Center in May 2003.

According to the Party Secretary for Nanfen District, Benxi City, the RFP came across his desk in the winter of 2002, and he immediately thought this would be a great project for his district. "There are not many ways for districts like that to get national attention. American attention. You have to grab them when you can." Secretary Wang contacted Vice Mayor Yao of Benxi City, of which Nanfen was a district. Vice Mayor Yao kept a holiday home in the Party Secretary's district, and oversaw agricultural and rural development as part of his portfolio. Vice Mayor Yao knew of a man who had been elected as the Director of the Village Committee of a village within Nanfen District the year before. Dai Xiaolong had been seeking to make his fortune by establishing Huangbaiyu Village as a center for cattle trading. The years 1999-2003 were heady days for the price of cattle in China, as beef prices skyrocketed as fears about mad cow disease spread across the EU

²⁶⁸ All information and quotations in this paragraph are from the single page RFP distributed by ACCA 21. Peng Sizhen (彭斯震), "Re: RFP for 'Sustainable Community Demonstration Project'" (关于选择"建设可持续社区示范项目"的函) (Beijing, China: The Administrative Center for China's Agenda 21 [ACCA 21] 中国21世纪议程管理中心, December 15, 2002).

and US, and UK beef remained banned worldwide. In 2001, Dai had plans for a cow empire, which was known to Vice Mayor Yao, who had previously approved his participation on an agricultural study tour to learn about cattle ranching in Texas. Dai had served in the army, was a party member, now acted as Director of the Huangbaiyu Village committee, and had economic ambition. In the first days of 2003, Vice Mayor Yao came to see Dai and mentioned the project with government support, American participation, and the goal of building a model demonstration village. “I told him, if you can do it, we’ll submit an application up the channels.” When I asked Vice Mayor Yao what “it” was, he said, “having the capital.”

While the RFP from ACCA 21 had required a listing of capital support from the project, and inquired about government, partner, and village residents’ funds, there had never been serious thought that government bureaus would fund the cost of the construction of the demonstration house, or the demonstration sustainable community. Despite the sustainable development missions of both the national level Ministry of Science and Technology’s Rural and Social Development division and ACCA 21, neither was authorized to provide funding for design and construction. Over the course of the sustainable community project they would only authorize research funds—funds to study the project’s feasibility, and then fit for large-scale promotion. Under the National High-Technology Research and Development Program (commonly called the 863 Program), MOST authorized RMB 8 million (\$966,580)²⁶⁹ to support twelve Tongji University faculty members at forty percent to 120 percent of a full labor year, two ACCA 21 researchers/administrators for a full year, and thirty percent and forty percent of a labor year each for two academicians currently in government office who would be partially seconded to the “Huangbaiyu Sustainable Development Demonstration Village Coordinating Committee.”²⁷⁰ But not a single RMB would be allocated for actual construction of the sustainable community, because that type of work is outside of the MOST’s mission.

While the MOST is supposed to help China “leap-frog” over steps in a presumed developmental ladder, using programs like the 863 research funds not only to catch-up to but also to surpass the contemporary state of so-called developed nations, it is only authorized by the State Council to do so by setting a national agenda for coordinating science and technology research, as well as collaborating with organizations to set up demonstrations that have the potential to lead to new policies. Particularly encouraged are measures that use science and technology to improve the livelihoods of people, thus spurring “rural and social progress.”²⁷¹ With environmental protection, energy development, and sustainable development combined as one of the four major tasks overseen by MOST during the 10th 5-year State Plan (2001-2005), and a focus of the 863 Program during that period,²⁷² encouraging and coordinating government support for a prototype “sustainable community” in China’s frigid, and economically battered Northeast fits squarely within its purview. Funding its construction does not.

The Nanfen District Party Secretary and Benxi City Vice Mayor also knew that sourcing funds from local government would be impossible. After the 1994 financing reforms within China that centralized the finances of key revenue streams to the State, and gave greater fiscal autonomy to the municipalities and provinces. These reforms had the effect of hollowing out the coffers of non-

²⁶⁹ The exchange rate in June 2004 when the grant was awarded was RMB 8.2766:1 USD.

²⁷⁰ 国家高技术研究发展计划(863计划) 课题任务合同书.“村镇水质安全保障技术研究示范” 彭震伟. 同济大学. 2004年7月至2006年6月. 中华人民共和国科学技术部. 二〇〇四年六月

²⁷¹ “Missions of the Ministry of Science and Technology,” MOST, <http://www.most.gov.cn/eng/organization/Mission/index.htm>.

²⁷² “National High-tech R&D Program (863 Program),” MOST, http://www.most.gov.cn/eng/programmes1/200610/t20061009_36225.htm.

Coastal municipalities and provinces. The Northeastern Provinces, including Liaoning, were particularly hard hit by this financial reform, which came on the back of the hemorrhaging of workers from state-owned enterprises (SOEs) that began in the 1980s. By 2001 and 2002, prefecture-level cities, such as Benxi, were in fiscal crisis. Seventy per cent of Benxi's workforce was laid-off or unemployed in 2001.²⁷³ While much of the rest of China did not experience fiscal crisis and massive SOE lay-offs until after 1997, economic restructuring had come early to the Northeast. Decollectivization led to farmers in the Northeast earning less than the national average, which in turn meant there was less capital to excise from the countryside through the use of price scissors to fund industry.²⁷⁴ When Nanfen District and Benxi City officials saw the RFP from a Ministerial office in Beijing come across their desks it offered them a glimmer of hope of a *deux et machina* to save their careers and some part of their population from despair: American investment.

In their minds, it was not possible for there to be American participation, as listed on the RFP, without there being American investment. Although the RFP only explicitly stated that a "US partner will provide design and technical assistance for building the sustainable community," it was impossible for local officials to imagine a world in which Americans participate in a project without funding it. Back in the winter of 2002, then Secretary Wang of Nanfen District was sure that if they could land this MOST/ACCA 21 project, then the problems of poor cash income and living standards in the rural districts would be solved through the construction of an American factory that would employ the "surplus" labor force about which his government was worried. From 2005-2007, every official in the Nanfen and Benxi governments directly involved with the project at one point would say to me something equivalent of what a Nanfen official said on the eve of the third visit by the US Board of Councilors to Huangbaiyu in June, 2006: "Why would they come, if they aren't going to invest?" Having already had their budgets and means of deploying services to the population hollowed out through a combination of a dramatic lessening of redistributive financial policy and the hollowing out of the local tax base as China's heavy industry faltered in the competition with international markets, Benxi officials were now hoping that selection as a site for American experimentation would bring about the development in which the local government no longer seemed able to invest.

If the MOST and ACCA 21 did not have the funds to build the "sustainable community," and US federal agencies are blocked from giving development funds for work in China, would that unique partner in the China-US Center, the corporations that pay for its budget and direct its operation from the US Board of Councilors, pay for the project that they agreed to do? Corporations also have a limited purview, however; one that is limited by their fiduciary responsibility to their shareholders, as well as by the hours in the day, department headcount, pre-existing workload, company strategy, and the need to make a profit to continue to make payroll, and expand the business. Any given corporation's involvement with the China-US Center was also framed by the means through which it became involved in the Center. Chosen for his connections and salesmanship, McDonough boasted that all the US board members were personally recruited by him, some when he took advantage of a chance meeting, others who were clients of his through one of his two firms, William McDonough + Partners or McDonough Braungart Design Chemistry (MBDC).

²⁷³ For a detailed regional political economy of the fiscal restructuring of China's after 1978, with a particular focus on the Northeast, Liaoning Province, and Benxi City, see William Hurst, *The Chinese Worker after Socialism*, Cambridge University Press: Cambridge, UK, p 16-36.

²⁷⁴ Hurst, *The Chinese Worker After Socialism*, 40-44.

One of the early corporate members of the Board of Councilors represented Intel, to whom McDonough had sold his vision of the China-US Center while sitting beside him on a flight. He was sold on McDonough's vision of cradle-to-cradle thinking, and the role commerce could play in making a better world. But how would he sell Intel on the Center? Despite his personal conviction, finding a way to get that conviction acted upon by a corporation with more than 80,000 employees across twenty-eight countries whose main clients are design and equipment manufacturers of computing systems would prove difficult, he would tell me by email:

Four years ago [in 2001], I was flying all over meeting with any VP who would give me 5 minutes and marketing staffs whose agenda I could get on. The VPs would say, "Nobel effort, this does not fit in my agenda, I have no funding for you, good luck." The marketing staffs would say, after all the laughter died down, "have you lost your mind, man? What does a PC have to do with clean air and water?" Part of my story has always been Maslow's hierarchy. If it holds, most of the rest of the world will not care about the Internet or the PC until they can easily access clean water. That's a lot of people, most of rural China and India. I could be wrong, [but] my thinking has been that Intel can help with the water by partnering with other companies like P&G, BASF, and the World Council on Water. I have it teed up but need to charter before any resulting outcome could be recognized as an Intel objective, so I dig. Intel has some good values, and I use them well to do this work. As a senior manager it is sometimes difficult as I get slammed a lot for doing it, especially when I disappear for a week in China and my boss wants to know why I am not following directions to disengage, cut all spending related to the CUCSD [China-US Center for Sustainable Development].²⁷⁵

This senior manager was able to leverage Intel's corporate belief in the necessity of creating a pipeline of both employees and customers, along with an internal reorganization within Intel that created the Emerging Markets Platform Group to get Intel involved with the Center, and focused on the opportunities that construction of a "sustainable community" in rural China could offer Intel. As a senior researcher would later say in a meeting with the lead contact for the Center inside ACCA 21, "Penicillin comes before Pentiums."

For Intel, participation in the project offered a fascinating site for basic research into community adoption of networked technologies (not computing but sanitation), as well as a location through which to advertise technologies that are dependent on Intel processors to high-level national officials who would visit the demonstration village. Intel employees and managers discussed various possibilities over the course of their active participation in the village project: WiMAX, community PC-based kiosks for administering government services and gathering information, and primary and adult education computer labs. The Intel senior manager who was originally sold on McDonough's vision argued that it was exactly this type of commercial opportunity that was what would make the projects of the Center successful, and spread a vision of sustainability in both the US and China.

The one thing that sets the CUCSD [China-US Center for Sustainable Development] agenda apart from all others like us is one of our key objectives, "make commerce our engine for growth." We came up with this as we were putting the first board together in 2001. By inviting enterprise to profit from their business models we get more interest from the private sector, then by keeping them focused through the CUCSD programs we keep them on track to support our vision [of sustainability]. If

²⁷⁵ John Potts, Intel, email. 19 September 2005. Spelling and grammar corrections were made to this email but no words were changed.

this works we should see very fast ramps following the demonstration projects such as the Village.²⁷⁶

Intel had a business interest in promoting their participation in and products placed in a prototype “sustainable community” that the Center, and in particular, McDonough kept saying would be the model for 600,000 villages across China. But their business interest could only be built upon others’: Intel’s products could go inside houses, and could service a community, but in whose business interest would it be to build the houses, and the infrastructure planned for this “sustainable community”?

Other corporations on the board faced similar constraints. Their products could be used in the construction of a house, such as Vermeer Manufacturing’s compressed earth block machine, or BASF’s expanded polystyrene roofing sheets, but first the houses, and the “sustainable community” of which they would be part had to be designed, and construction costs covered. The member of the US board whose business interest was most aligned with the project, and who had proposed it to the Center, would not himself take on the work of the design for its Master Plan until another board member, representing the Broadleaf Foundation, made a \$25,000 donation to fund it in 2003.²⁷⁷ This donation came into the Center only after Benxi’s application nominating Huangbaiyu had been selected by the China Secretariat of the Center, and Dai Xiaolong made a presentation to the Center confirming that he would finance the first 10 percent of development of their “sustainable community.” Despite his own business being the one with the most to gain from what is often called “corporate social responsibility,” through the donation of a product (a Master Plan), its use (construction of the plan), and media coverage of its use, McDonough was loathe to take on this cost burden himself. There was no RFP sent out by the Center to select a designer for the Master Plan; McDonough had effectively appropriated that role through the way he used his position as the Chair of the US Secretariat. In speaking with *Vanity Fair*, he went so far as to directly say he accepted the Chair of the US Secretariat so that he could promote his own work in China.²⁷⁸ He would remain reluctant to do work to adjust his Master Plan even as it proved flawed, or to provide the technical assistance in its implementation that the RFP promised, without direct payment—even as he promoted and took personal credit for the re-making of Huangbaiyu Village in media coverage.

In February 2006 I served as McDonough’s translator during a lunch hosted in Dai Xiaolong’s Golden Grain Spring office complex after the filming of a segment on the new Huangbaiyu as a solution to the global energy crisis and impending global climate change. It would be aired later that year as part of Thomas Friedman’s *Addicted to Oil* documentary. In between toasts to Chinese-American friendship and how McDonough’s cradle-to-cradle philosophy would revitalize the Chinese countryside, I asked him why he couldn’t spend more than three hours in the village, once a year. I told him of how desperate Dai’s construction manager was to understand how a grey water use system worked; how they didn’t know what they were doing. His plans were technically advanced, and so they were impossible for the local team to have any idea how to implement. “I get paid \$25,000 a day. They don’t have the money to pay me,” he said. In a village where the government-reported annual income per capita was \$440, the village residents certainly did not. If the houses within his own Master Plan for the “sustainable community” were to cost no more than \$3500,²⁷⁹ how could the architect be paid \$25,000 per day for his services? I wondered why

²⁷⁶ John Potts, Intel, email. 19 September 2005.

²⁷⁷ Danielle Sacks, “The Mortal Messiah,” *Fast Company* November 2008, 140-153; Rory Schmick, email.

²⁷⁸ Matt Tyrnauer, “Industrial Revolution, Take Two,” *Vanity Fair*, May 2008.

²⁷⁹ Anne Underwood and Sarah Schafer, “Building in Green,” *Newsweek International*, September 26-October 3, 2005.

McDonough would think that he should be paid \$25,000 per day for work on a project that he instigated and from which he served to financially benefit, if it were successful, or at least reported to be successful. McDonough had been using his work in Huangbaiyu to sell other clients on the pitch that he was designing the prototype that would revolutionize all of rural China; indeed, that his client was China itself, and his philosophy—cradle-to-cradle—was now government policy.

There was a value proposition for McDonough as an architect, a public speaker, author and industrial designer to take on the work of designing and advising the implementation of a “sustainable community” Master Plan. From the time his firm finished the drawing of the Master Plan, he gave interviews to worldwide media, taking responsibility for the designs he would imply the Chinese government itself had ordered from him, and would roll out to 600,000 villages, transforming the lives of 800 million Chinese rural residents.²⁸⁰ He also announced that the Chinese government had adopted his cradle-to-cradle philosophy as national policy, using the subtitle he chose for the Chinese translation that MOST paid for as his erstwhile proof. Instead of translating the subtitle directly as “Remaking the Way We Make Things” he had it changed to “Explorations of the Design of the Circular Economy.” When pushed by Gan Shijun, a leading Chinese scientist present at the 2005 China-US Center board meetings, why McDonough would have changed the subtitle, McDonough replied: “What author would not want their book subtitled with the design of the world’s largest nation’s new public policy? And I think that this is a forcing function, like so many things at the CUCSD, we are dreaming that we are the future, so we are acting that we are the future.” McDonough acts as if his ideas have become Chinese national policy and they will be. He draws a Master Plan for a Chinese Village, and it will redefine life there. Or at least, he says that it has. While speaking of the future in the present tense may work to discursively create a new world, land, materials, labor, and money is necessary to build a new world—or village—in actuality. In the end, speaking as if his cradle-to-cradle principle had already untied the juggernaut of economic development, environmental degradation and global climate change, was not enough. The designs needed to be built, so that they could be tested, preferably in a place that they could be visited and photographed.

The application of Benxi City putting forward Huangbaiyu Village, Nanfen District to be the location of the China-US Center for Sustainable Development’s “sustainable community” was one of ten responses to the RFP that went out in December 2002. Cities in six provinces put forward applications. In the end, it was not the requirements put forward by the RFP that were used for deciding which location would be selected. As the China-US Center US Secretariat Managing Director told me in Portland in April 2005, there were four criteria for site selection: first, that the village be neither a rich, nor poor village so that it could be taken as an approximation of the rural economic conditions in general; second, that it be easily accessible by transportation, as “no foreigners will come if it takes three days to get there;” three, that there be demonstration of local government support; and four, the presence of a local entrepreneur to serve as a key investor in the project. The RFP sent out by MOST had made no specific requirement about economic status and stated no preference for easy accessibility for foreigners. There were clearly unstated interests at play in the selection of Huangbaiyu.

Six months later he would give a slightly different, and more detailed set of criteria for why Huangbaiyu was chosen during a meeting at which Bayer Materials Science was pitching and being pitched on participating in the “sustainable community” demonstration project. Again, the criteria given were not the criteria established in the RFP sent out by the MOST:

²⁸⁰ William McDonough, “China as Green Lab” in *Harvard Business Review* February 2006, reprint, 7.

Because it already had the ability to get jobs (yijing you jiuye) [for the residents]. It already had a cattle farm, fishery, distillery. That was our first criteria. Second, it is neither a rich village nor a poor village. Third, it is accessible by transportation. If it took three days for a foreigner to get here, they would not come. Fourth, it has local government support. Fifth, the residents welcome the project. You need all five, if you just have even four, it will not work.

The first phase of forty-two houses was scheduled to be completed and families moved in by July, but was still under construction in October. It was during this visit that the Center started to realize that residents were not as supportive of the project as Dai had led them to believe. This may be why the managing director of the US Secretariat started highlighting the importance of resident support—he knew that they did not have it, but needed it, and so spoke as if he did, following McDonough’s method of using a “forcing function,” or speaking of the future in the present tense. Critically, though, resident support was not one of the original RFP requirements—unless the parenthetical note requesting information about residents’ ability to supply contributory funds is equated with participation. Or, as was the case with the selection of Huangbaiyu, government support was taken as synonymous with residents’ support.

From their selection of Dai in November 2003 through Fall 2005, the Center consistently referred to Dai as the “Village Head.” This is also how he referred to himself on the business cards that he distributed to US Secretariat board members and guests during their May 2005 visit. Always referring to him as the “Village Head” was a mutually beneficial misidentification. Dai was the elected Director of the Village Committee, officially a civic role and technically not a level within the government hierarchy.²⁸¹ Technically, when being addressed in his role as an elected representative, Dai should have been called Director of the Village Committee (cunzhuren), not Village Head (cunzhang). Addressing him as Village Head inferred that Dai was (also) the traditional patriarchal leader of the village, who by birthright spoke for and dictated to his clan. But Dai was not such a Village Head, neither born in one of Huangbaiyu’s hamlets, nor being one of its more respected elder residents. Nor was it even in the capacity of Director of the Village Committee that he signed the MOU with the China-US Center for Sustainable Development to implement their Master Plan for a “sustainable community.” Rather, he signed as the CEO of Golden Grain Spring Alcohol Company. He had also had to sign a contract with the Village Committee, again as CEO of Golden Grain Spring, in order to be given certain latitude to operate this project within the village, particularly to use 55 mu of village farmland through an extended lease agreement. When questioned about residents’ participation, the managing and executive directors of the US Secretariat would refer to this document “with 14 thumbprints.” This was another layer in a slight of hand, which Dai may have first performed on them, but which they repeatedly performed on others. This contract did not in any way state that all the villagers supported the project. It stated that the representatives on the Village Committee were willing to allow Dai’s project to progress “step by step,” to “review [it] each year,” and that the first priority of the village as regards sustainable development was the creation of jobs.

There were many things that led to everyone involved highlighting Dai’s role as “Village Head,” rather than as CEO of Golden Grain Spring. It was no secret to the officials within the Benxi government who put forward Huangbaiyu as the location for the project, and to Dai Xiaolong, that Americans in general have a strong preference for democratic procedures of government, and have a bias toward preferring to work with elected officials. The Americans

²⁸¹ The lowest level of offices within the government hierarchy are held by township officials, who are not elected. In the administrative hierarchy that supersedes Huangbaiyu, Sishanling Autonomous Manchu Township is the lowest government level.

rewarded the projection of this stereotype by immediately latching on to Dai as the democratically-elected “Village Head,” who thereby represents the residents of the village. In all my meetings with the US Secretariat leading up to the board’s visit to Huangbaiyu in May 2005, Dai had been so consistently referred to as the democratically-elected “Village Head” of Huangbaiyu that then when Benxi Mayor Li Bo referred to him as the CEO of Golden Grain Spring, who was *also* the “Village Head,” it was a surprise. The role of Dai as a businessperson had never been previously mentioned by the China-US Center. Heretofore, his work had always been mentioned as that of a public leader, even a philanthropist. Through his own self-promotion of what he called the “world’s first village” project, and what everyone started calling the China-US sustainable development demonstration village, he had been selected by China’s Philanthropy Times as one of China’s ten leading philanthropists for 2005.²⁸² His philanthropic contribution? The same RMB 2 million that he said Golden Grain Spring would invest in the construction of the first phase of the US-designed master plan for a “sustainable community” when he flew with Vice Minister and Chair of the China Secretariat Deng Nan, Benxi Vice Mayor Yao Hesong, and the new Nanfen District Party Secretary Yu Xiang to Washington, D.C. to assuage the China-US Center’s fears that Benxi provide its own financing for the development.

In addition to the recognized and confirmed American preference for dealing with elected officials, the Chinese officials involved also preferred dealing with Dai as “Village Head” rather than as CEO since in his role as Director of the Village Committee and as a member of the Chinese Communist Party there exist direct channels of communication and organization. As “Village Head” Dai was a government and party insider, and his selection meant that the Benxi City government and its subsidiaries would not have to allow an “outsider” into internal conversations. His political role also meant that they could take advantage of his role as “Village Head” so as not to need to actively seek resident participation, since through his role, he could stand in for the village. So while Dai was democratically elected in 2001 on an undelivered promise to bring the residents of Huangbaiyu free cable television access, both the American and Chinese participants in the China-US Center ended up using his elected position as a proxy for residents’ approval and support: if Dai supported the project, then the residents supported the project. His elected role then actually worked as a means of excluding active participation of Huangbaiyu Village residents in the plan through which they were said to be redefining themselves. Once the Village Committee had been treated with a bus trip to Zhenggou Village to see straw bale houses and a very boozy lunch, these representatives signed off on allowing Golden Grain Spring, Dai’s personal company, to investigate the construction of a “sustainable development demonstration village” on village land. There was never an open invitation to the entire village to explain the opportunities and costs of the project, who would lead it, and how it would effect them. Nor was there an open bidding process where the idea for the “sustainable community” was put forward, and companies invited to bid for the rights to act as the developer. The first time all residents of the village were requested to participate in the project was the day of the Opening Ceremonies, when they were told to bath, clean their yards and houses, and await the arrival of Very Important Persons. It is not that either side intentionally sought the exclusion of the population from being invited to participate in the re-making of their own futures, but by latching on to and promoting Dai as a democratically elected leader—even though Huangbaiyu was chosen as the location of the China-US Center’s project due to the role his company would play as the developer—they themselves often seemed to be confused as to which

²⁸² Xing Yuan (幸愿), “Dai Xiaolong: A Small Man with a Big Vision,” *Philanthropy Times* (“代小龙: 小人物的大眼光,” 公益时报) April 26, 2005, <http://www.gongyishibao.com/shownews.asp?newsid=2116>.

role Dai was playing. Neither side considered what effect this dual-role that Dai played so effortlessly might have on the process and outcome of the project.

Why did neither the Chinese nor American sides of the Center see Dai's role as "Village Head" and Developer as a potential conflict of interest? It would seem that the leader of the organization that has the authority to allow land development should not be allowed to—without any open invitations or bidding process—grant land development to his own company, and then continue to represent himself as the village leader even when he is acting as the developer. There is an obvious conflict of interest here: Dai's pursuit of company and personal profit vs. the best interests of the village as a whole, and its respective 1529 residents. Yet, the China-US Center for Sustainable Development was premised on the foundation that there is no conflict of interest in what others might consider the potentially murky world of companies using governments or ostensibly public agencies to facilitate the promotion of their own interests at the exclusion of open review of all courses of action, or direct public participation. As William McDonough wrote in his "Message from the US Chair" of the China-US Center's 2002 brochure:

We invite businesses, governments, organizations and individuals to join with us without concern for conflicts of interest to develop sustainable enterprises – initiatives based on eco-effective design principles that celebrate and profit from humanity's interdependence with other living systems. By demonstrating the commercial, social and environmental advantages of sustainable enterprises, the Center aims to chart a positive, hopeful course for human endeavor. ...

In pursuit of a prosperous, equitable future, our strategy is to engage leaders and citizens from both countries in commercial projects that illustrate the ways in which sustaining design and development serve nature, the marketplace, and human communities. ... We must reach for nothing less than the magnificent re-evolution of human enterprise.²⁸³

Assuming that there is no conflict of interest between nature, the marketplace and human communities is naïve, particularly given the history of the industrial revolution in Europe and the US, as well as the effects of the state-planned economy in post-revolutionary China. If there were no need for concern over conflicts of interest, then there would be no need today for concern over environmental pollution or global climate change. The very problem to which McDonough seeks to position himself and his work as the answer, and the reason given for the existence of China-US Center is that there have been many conflicts of interest between personal gain and communal welfare, the effects of which must now be ameliorated by new interventions. In short, there must be a shift from development to sustainable development. But even as the words are changing, or at least being modified, the ethos remains the same. The tagline on the cover of the 2002 brochure that proclaimed that was no need to fret over conflicts of interest was "sustainability through enterprise!"²⁸⁴

I am not arguing that the goals of sustainable development cannot be achieved through enterprise, but that to not recognize that there is always the potential for conflicts of interest between personal gain or a given business' interest and the interests of a community is absurd. Conflicts of interest should always be of concern, and mitigated from the outset of any project that purports to be in the public interest, lest the project be warped away from its stated goals by

²⁸³ William McDonough, "Message from the US Chair" China-US Center for Sustainable Development, Brochure (Portland, OR, 2002), 2.

²⁸⁴ China-US Center for Sustainable Development, Cover Brochure (Portland, OR, 2002), n.p.

particular, private interests. Despite the Center's proclamation that there should be no concern over potential conflicts of interest between corporations and the Center's vision for sustainable development, such conflicts of interest beset the "sustainable community" project from the outset, causing the project to be neither functional nor affordable. In particular, the decision to in effect sell a seat on the Board of Councilors to corporations who donate minimum annual amounts to the Center, who then set the agenda for the Center's work, created opportunities for public promotion of "corporate social responsibility" and advertising of new product lines and corporate skills in via the "sustainable community" project in Huangbaiyu, while introducing technologies to the "sustainable community" that were not only beyond the ability of local operators to use and maintain, but also ensured that the houses would be unaffordable to local residents. Unbelievably, some of the Center's product placements promoted as critical components of the ecological new town that was promised to revolutionize development across rural China would lead to the use of environmentally polluting construction materials that were heretofore foreign in the village.

When each of the hundreds of visiting corporate, research and government delegations would drive through the northern hamlets of Huangbaiyu to reach the construction area for the first phase of the China-US Sustainable Development Demonstration Village, they were always taken on a tour of the model house that was inaugurated by McDonough and Benxi Mayor Li Bo in May, 2005. Standing in front of the control boxes of a BP 1 Kilowatt photovoltaic system, Dai would explain how now that the house was powered by solar energy, there would be less energy needed from coal-fired electricity plants. When McDonough was leading a tour, he would take the group to look at the eaves of the roof, point to their thickness, and describe the special BASF-manufactured expanded polystyrene (EPS) roofing system that would, along with straw-bales in the walls, "create such a tight envelope that the house can be heated with a light bulb." Walking back out to the front of the house, McDonough always points out what he calls a "truth window," here a small window on the south-facing front wall that reveals the materials underneath the otherwise opaque concrete shell that encases the house. Here a load-bearing column of compressed earth blocks become visible, along with straw bales and polystyrene insulating panels. McDonough points out the importance of the compressed earth blocks made by machinery produced by Vermeer and Ital Mexicana: "China's outlawed the use of brick in buildings in 174 places! They know they need to find new materials. To fire all the brick, they'll burn all the coal and use all the soil. Compressed earth is the perfect biological nutrient. When the houses are torn down, the blocks can be broken down. Soil returns to soil." These journalists and their production crew—this time from Discovery Times, but there was not a single exception in the three years that the "sustainable community" was being actively promoted and toured—did not notice however that only two houses had "truth windows" and only one house had a BP photovoltaic system on the roof. And neither the Discovery Times team nor any other journalist asked if all the houses used the same materials as the model houses they were being shown. Neither Dai nor McDonough ever pointed out that the much-touted BASF roofing system and BP photovoltaic system were only installed on the one model house, and that the only two houses with compressed earth blocks were the two with "truth windows."

Another pertinent question would be why such expensive and imported materials were ever used in the construction of a "sustainable community" in rural China that was meant to be affordable, and scalable for rural residents across the country. With corporate product placement now categorized and rewarded as "corporate social responsibility," it becomes difficult even for investigators to look a gift horse in the mouth, so to speak. Shouldn't the engagement of multinational corporations in the developing world be rewarded for even being aware of the difficulties of rural Chinese villagers, sending high-level corporate representatives to visit the village on multiple occasions, even donating expensive and technologically advanced materials for use in a

model demonstration for the benefit of rural China? For whom was the installing of branded photovoltaic systems and expanded polystyrene a demonstration? The Center consistently said it was for the residents of Huangbaiyu, and McDonough was eager to point out the 800 million villagers for whom he argued the work in Huangbaiyu was a prototype. But neither Dai nor McDonough ever took the residents of Huangbaiyu's hamlets on personal tours of the model house. They did however lead hundreds of delegations comprised of: county, city, and provincial Chinese government officials; government and business delegations from varied foreign countries, including South Korea, New Zealand, and the US; and journalists from Australia, Japan, the UK, and the US. The village residents were invited twice, but each time they were invited not as participants, but in the dual role of living proof of the poverty and "backwardness" of rural China that authorizes developmental interventions and as audience for the celebrations of the Center taking place in Huangbaiyu.

What was heralded as corporate social responsibility is really corporate market seeding. Indeed, before describing the various corporate contributions toward the implementation of his "sustainable community" plan in a short article for the *Harvard Business Review* titled "China as Green Lab" McDonough wrote: "Huangbaiyu Village also highlights the business opportunities that a Chinese circular economy would offer Western companies."²⁸⁵ This should neither be surprising, nor is it necessarily a course of action that generates harm. Why would a corporation make any decision that commits tens of thousands of dollars, hundreds of labor hours, and its corporate name to an initiative without developing a business-line, and leading to at least the prospect of future profit?

It is this focus on profit-generation that made it so difficult for the senior manager at Intel who was personally sold on McDonough's vision of sustainability, and how that would be leveraged through the Center to find a way for Intel to fund the Center and dedicate labor hours to it, until Intel created the Emerging Markets Platform Group, that was in part charged with investigating life in rural China with the goal of generating market-specific computing platforms. Suddenly the Center's "sustainable community" project had a business interest for Intel, in addition to the general State-level access the Center sold for the \$50,000 annual fee. While Intel never had the opportunity to observe and test the adoption of communally shared technology, such as sewage and gas lines, their "donation" of me to the village to pursue those lines of research that were of interest specifically to Intel had other many other effects that altered what happened in the hamlets of Huangbaiyu, at the construction site, and how knowledge of these actions and places would become known to others—including through the writing of this dissertation. Intel's contribution of an anthropologist to engage with and observe the development of a "sustainable community" made sense due to long-term business interests, but this decision also had extensive effects beyond the production of knowledge about community-based technology adoption. I would argue that none of these effects produced financial or environmental harm. The externalities of BASF's donation are more suspect.

The China-US Center for Sustainable Development listed the donated value of the two BP 1 kW photovoltaic systems at \$15,000 each and the BASF expanded polystyrene roof at \$13,000.²⁸⁶ How could a house with \$28,000 in high-technology materials serve as a model for how to build hundreds of houses that were to sell for \$3500 each? When I asked this specific question of the Executive Director of the US Secretariat he replied that the model house, was just that—a model. It was built to highlight innovative materials to inspire the developer, but that he was responsible for

²⁸⁵ William McDonough, "China as Green Lab" in *Harvard Business Review*, February 2006, reprint, 7.

²⁸⁶ CUCSD, "Cooperative Agreement between the Village of Huangbaiyu and the China-US Center for Sustainable Development on the Ownership and Management of Sustainable Products and Technologies in Huangbaiyu Village," 21 May 2005, n.p.

sourcing local materials to build what McDonough called a “cradle-to-cradle village” in his Master Plan for Huangbaiyu. The use of expanded polystyrene as a model for the insulation material that was advertised as the material used throughout the “sustainable community” meant that Dai faced significant pressure to also use such material in all the houses—not just the one house for which BASF donated the material. Even media material for which BASF supplied the background information implied that their registered expanded polystyrene product, Styropor®, was being used in all 42 houses of Phase One.²⁸⁷ Given that cost of Styropor® for the roofs of the houses in the Center’s “sustainable community” is quadruple the intended selling price for the entire house, Dai had to look elsewhere for thermal insulation. Trying to cut costs as much as possible in order to protect his potential for profit-making on each house, Dai never hired a professional contractor to oversee construction or his material selection and supply chain. He had his sister go source “white board.” When I asked her what the thermal resistance rating (R-value) was for the expanded polystyrene sheets she was purchasing she looked at me blankly. “It’s white board,” she said. No one involved with the construction of the “sustainable community” ever tested thermal resistance of the “white board” being used in the actual construction of the “sustainable community.”

In addition, McDonough promoted BASF’s Styropor® because it was produced through a less polluting method than other expanded polystyrene forms. Small, independent manufacturing plants in China had not, however, hired McDonough Braungart Design Chemistry to redesign their manufacturing process in order to reduce the environmental air pollution and toxic effects on human health related to the production of EPS. This meant that not only was an untested, and likely inferior, thermal insulation product being introduced into housing stock, but encouraging the use of regular EPS products in a market with poorly enforced environmental and labor protection regulations meant that more workers were being exposed to the carcinogenic effects of pentane and styrene being released during its production. When I asked Sun Lina, the local architect Dai hired to sign the construction drawings and oversee the project, why she had chosen to use “white board” insulation, she replied, “No, no. It was not our choice. It was the US side that picked. They sent the BASF roof. We had to use it. But those materials are so expensive. So, Dai found what he could to look similar.” Looks can be deceiving—the white board visible through the “truth windows” was not BASF Styropor®. Yet, BASF and McDonough could highlight the advantages of Styropor® as a “technical nutrient” and applaud BASF’s contribution to “Huangbaiyu: the Cradle-to-Cradle Village,” while also knowing that this marketing opportunity for both of them was creating a situation that was also causing a general environmental and health harm, and not necessarily making an improvement in the insulation of houses available to rural villagers. Others might see a conflict of interest in the fact that McDonough’s firm was paid to consult on the redesign of Styropor’s® manufacturing process, but he did not.

BP donated two 1 kW photovoltaic systems to the “sustainable community,” but only one was ever used there. The other was taken by Dai and installed on his own office building, instead of the village primary school for which it was intended. When I asked the US Secretariat’s Managing Director about this appropriation as we stood on the roof next to the PV cells, he turned to me indignantly. “He’s the developer. He can use it. He’s spending a lot of money to build the sustainable development demonstration village. Who are you to say that he shouldn’t be part of the energy savings?” Technically, the Center had signed a contract with the Village Committee of Huangbaiyu that all materials donated by the Center for use in the “sustainable community” were the property of the Village Committee, not of the developer. But since Dai was also the Director of the Village Committee, his appropriation of the BP system did not seem to bother the Center, for

²⁸⁷ Ecobuild Shanghai, “BASF Huangbaiyu Article,” June 2006, http://www.green-shanghai.com/eng/newsletter/june06/BASF_Huangbaiyu_article.html.

whom obfuscation of his role was useful. On the other hand, at least one local government official was perturbed by it, and by the fact that there was only one system for Dai to steal. The government official from Sishanling Township who sat on the official government coordinating committee for the project told me, “They said the whole village would have solar power. Then there came two. What use is two? So Dai took one, yes. It does not matter. One, two. What’s the point? You tell me. It is only one system on one house. It does not produce enough electricity to be worth the trouble to connect and manage it. You saw that. If they all had solar energy that would be worth it, but who could afford that?” I had spent two days with two BP engineers sent to Huangbaiyu to connect the PV system to the grid so that it would be contributing solar energy to the grid, offsetting the coal-fired electricity distributed through the grid. Despite diligent efforts, they were not successful. Voltage fluctuations were too extreme for the sensitive machines. It also became clear that Benxi Electric was not particularly interested in resolving issues of measuring the electricity produced by the PV system, determining the price at which to purchase this energy, and making payments for a one kW system in a place that was not even going to have ongoing maintenance for the system. Dai was pushing for Benxi Electric to take responsibility for the system. How was he, or the local village electrician he had hired to do all the electrical work on the houses in the development, going to maintain a PV system? Fortunately for Dai, and McDonough, none of the visiting officials, businessmen, or journalists ever asked for details on how the PV system was being maintained, or how it was integrated with the grid, or how much energy was produced via the PV system vs. total electricity usage in the house. Or, as the rest of the forty-two houses of Phase One were built, why only one had a PV system.

How did McDonough ever think a “cradle-to-cradle village” “powered by the sun” would ever be built in Huangbaiyu? Or Styropor® could be used in houses designed to be sold to impoverished rural villagers? While he did not highlight this issue when putting forward the new Huangbaiyu as a solution to the world’s energy and development crisis, in the text of his Master Plan he wrote:

While some of the strategies proposed for the Cradle-to-Cradle Village may not meet the economic test in the first instance, the village is designed to anticipate and integrate existing and future technologies as they become cost-effective. The village will thus become a laboratory for constant improvement and hope, inspiring people to honor creativity as a tool for change.

But what of when this creativity (or desperation) leads to the use of untested materials? When the person the Center selected to run this “laboratory” is not an experienced architect, engineer, real estate developer, or experienced business operator with a track record for innovation and environmental protection, but a man with no such experience, but with big dreams for profit and fame?

Like McDonough, Dai also believed that sustainable development would be achieved through enterprise—particularly if he were personally involved. The first night I spent in Huangbaiyu—the night after the Opening Ceremony concluded during the day and McDonough, Mayor Li Bo, and the various corporate representatives had left—Dai told me about the 6000 trademarks he had registered using the name “Huangbaiyu.” Huangbaiyu roof, Huangbaiyu window, Huangbaiyu flooring, Huangbaiyu door. He did not limit himself to construction materials. Dai is a man of expansive dreams: Huangbaiyu cola, Huangbaiyu camera, Huangbaiyu car. To purchase the rights to these names, Dai paid a total of RMB 340,000. At the time, I was shocked by Dai’s audacity, and a bit confused how much he was focused on the “China-US Sustainable Development Demonstration Village” as a business proposition. It was only that morning that I had heard Mayor Li Bo announce that Dai was the CEO of Golden Grain Spring, and that Golden Grain Spring was the investor in the project, not the Village Committee itself. Up to that point, he had always been

introduced as the “Village Head,” and as a philanthropist who was committed to sustainable development in order to better the lives of the rural poor. What he was committed to was his own success. He was sure he would get rich because of Huangbaiyu—that Huangbaiyu would become the model village that the entire countryside would be told to emulate in the era of ecology and sustainable development, like Dazhai under Mao Zedong and agricultural reform and Daqiuzhuang under Deng Xiaoping and economic reform.

While Dai neither supervised construction of the “sustainable community” nor selected or tested its materials, he did spend his days visiting manufacturers of the types of products for which he had a Huangbaiyu trademark, and selling them on the vision of sustainability on which he had already been sold. Two months later, in July 2005, Dai made one of his many, many pitches to the manager of a PVC pipe manufacturer in Western Liaoning. Until I categorically refused to ever again attend such meetings in November, both Dai and local government officials pressured me into attending as physical proof of American support of Dai’s vision:

This project looks small. But it is not just a village. It is a principle! The Huangbaiyu Principle. Soon you will hear it all over China. Had you heard of ecology five years ago? No! The circular economy? No! But now, it is government policy. Listen to Hu Jintao. The Americans are with me. The Chinese government is with me. Do you want to join now, or later? When the Huangbaiyu policy is announced, it will be too late. You can’t tell now how big Huangbaiyu is going to get, but I can. Mao rose from the countryside. It can happen again. You should buy the rights to Huangbaiyu PVC now.

This operator of a few small, struggling rural businesses had made a large investment in the future value of a brand that did not yet exist, but he was going to work hard to sell that brand, and with it make a name for himself, a fortune for himself, and perhaps, even become a national leader.

The expansiveness of Dai’s dreams, like McDonough’s, is intoxicating, and the energy with which he promotes them, and himself, is relentless. But, there was little substance beyond his salesmanship. Part of Dai’s pitch to the joint board of the China-US Center for Sustainable Development was that he would put up the first RMB 2 million to build the first phase of the 400 household new town. But what really sold the Center on Dai being the right fit for their vision was when he described his current businesses, and how he had already integrated the “circular economy” into his business practice: he used corn to make alcohol, the waste remainder of which he fed to his beef cattle, in the excrement of which he raised worms to feed to his rainbow trout. The wastes of each enterprise fed the next. Standing in Washington, D.C in front of senior Chinese government officials and Fortune 500 CEOs here was a man telling them that he was already doing exactly what McDonough had just argued would be the basis of the next industrial revolution in his then just-published book: turn waste into food. McDonough and Dai shook hands on their shared vision, and Dai was confirmed as the developer of the Center’s “sustainable community,” and Huangbaiyu Village as its location. Critical to Dai’s selection was not only his purported status as a natural-born sustainable development guru, but as an entrepreneur with multiple growing businesses that would employ the residents of the new town, as well a man with a lot of cow manure that could do more than grow worms—it could be used to supply the biogasification plant that would provide heat and cooking energy to the new town! In this unknown man from the mountains of Eastern Liaoning there was a clear winner amongst their request for proposals. Eager to move forward on their first project, the Center chose Dai that day in Washington, D.C. and never looked back—including to verify if Dai’s pitch was fact or fiction.

In fact, Dai had primarily made his alcohol from sorghum, not corn. He purchased maize from villagers to feed to his cattle, but did nothing with their excrement other than shovel it outside the cattle shed. In the year before Dai made his pitch to the Center, a series of heavy rain storms had

washed his untreated manure pile down the valley and into spring of Dry Riverbed, poisoning the trout in several household's aquaculture pools. He fed his own trout soy protein imported from Peru. None of these businesses were labor intensive and there was no reason to assume that there would be a sudden expansion of any of these businesses that would create additional jobs for local villagers, or proof that Dai would hire them. His fishery was not even located in Huangbaiyu, but more than twelve kilometers away in another village. These facts should have been obvious, in that on each visit to Huangbaiyu members of the board of the Center were taken on a tour of Dai's cattle shed and fishery and given his alcohol to drink (which was labeled), but despite visual cues to the contrary, everyone remained sold on the vision he had described to them in Washington. No one seemed very concerned, at least at first.

By the third visit of the US Board of Councilors in June 2006, it was becoming clear to the board that there were significant problems with the construction of the "sustainable community." This visit was a particularly awkward one for many members of the board, as several joined the Center after being pitched on the market opportunities and high profile visibility the Center could offer their companies, particularly through participation in such projects as the one in Huangbaiyu. After having toured the biogasification plant, the representative from Johns Mannsville told me that I should never go near it again. He feared that if it were ever to become fully operational, the gas tanks might explode. Other representatives pointed out what village residents had been saying for 8 months: the eaves of the houses were too short, allowing rain to fall down the walls leading to rot; the foundations were not laid correctly, leading to significant settling and cracks in the walls and porch platforms; there was mold growing on the ceilings and walls; there was moisture visible on the inside of the two "truth windows." It had to be assumed that the straw bales inside the walls were already starting to rot, less than a year after the houses were constructed. Eleven months after villagers were supposed to start moving in to the new community, there was still no water, no electricity, and no source of heating. Another new board member, representing Hycrete, asked me how it could be that there were such materials and engineering problems in Huangbaiyu: "I don't understand. With all of the resources and knowledge at the disposal of this group, how could such obvious errors be made? Autodesk, Dow, BASF, BP, Intel. Bill [McDonough]. How could they let this happen?" This chapter has been an attempt to answer a question I had then left unanswered.

Conclusion: Assembling Civil Authoritarianism

While the villagers who live in the valleys of Huangbaiyu have long been subject to the alien ends of their own developmental state (China), the claims of ecological citizenship increase the foreign ends to which their own lives and livelihoods become the means. It is no longer only the interests of their own national government but now also foreign agents that establish who and what is of value, and re-order lives and livelihoods accordingly. The present and future daily life activities of the villagers of Huangbaiyu, however trivial, are seen as potentially harmful to the lives of Americans, British, Urban Chinese, and their future generations. The inequity in this scenario is that the villagers of Huangbaiyu do not have the power to re-order the daily life practices or modes of production of the various American individuals and their respective corporations who have so much influence on them. Global asymmetries are re-inscribed, and an already vulnerable population is made more so.

It is an unfortunate irony that the very weakening of state sovereignty and the increase of the influence of "civil society" and other interested agents that are so often taken as the advent of deliberative democracy often increases authoritarianism. Over the past twenty years, the rise of non-governmental organizations and international networks has been heralded as an expansion of democracy and a demonstration of the increasing power of the individual and small groups versus

unitary power. Diffusion has been commonly taken as a proxy for increased inclusiveness and participation. On the contrary, the more pluralized and fragmented are the sources of governance, the more autonomously they rule. While a ruler is classically conceived as an exclusive sovereign of a specific territory, that “Westphalian moment” is waning, and it is clear that there are now many rulers whose edicts, ideologies, and actions govern the lives of persons in a given territory, such as the valleys and mountains of Huangbaiyu. The leaders of organizations are not merely officials or experts, but rulers; like the “princes of industry,” they decide who gets what, when and how.²⁸⁸ But to whom are they accountable? While a non-governmental institution may be held accountable to its donors, and corporations to their shareholders, the more sway these institutions have over defining and establishing the normative values of “the good life,” the more authoritarian and less democratic governance becomes. This effect is amplified when NGOs work internationally.

The general popular attitude is that NGOs and other such activist institutions increase the representation of subjected interests. All that is sure in the work of an NGO is that it represents its own interests, as stated in its mission, and as guided by those who fund its staff, and projects.²⁸⁹ This is not how late-modern society likes to see its “civil society,” nor how NGOs see themselves. The greater authority non-elected “rulers” have over a population, the more tyrannical their rule becomes. The population—NGOs’ supposed beneficiaries—have little recourse to oust a group or change its agenda. The agenda, after all, was set somewhere else, by someone else. All that is definite is that the actions taken were in the best interest, as understood at the time, of the person making the decision. If the “beneficiary” populations interests were of primary concern, for a project to be in their own best interests, they would have to have not only the negative ability to refuse the project or decline the program, but the positive power to set the agenda.²⁹⁰

This is the sinister side of “civil society”: its diffusion of power makes it difficult to know who makes the rules, who controls their enforcement, and who must follow them. The more complex an assemblage of interests working together, the more confusing it is to identify who is accountable for what is done. With a “center” with as disparate and varied interests intersecting as the China-US Center for Sustainable Development—comprised of an assortment of Chinese national government officials, a leading US green architect and designer, NGO staff, Fortune 500 company representatives, partnering with Chinese academics, local Chinese government, and a small businessman—identifying a centrally shared purpose and plan of action, and then remembering who made what decisions and who was responsible for what actions became a difficult and defeating job for themselves, let alone for the families who live in Huangbaiyu.

During design and construction of the model village, members of the CUCSD and its affiliates had little clarity over who was responsible for what. As difficulties arose, responsibility was shirked and blame passed in a cycle of genuine confusion over who might be accountable. The architect of the Master Plan, William McDonough blamed the developer he selected, Dai Xiaolong, for his poor implementation; Dai blamed the Managing Director of the US-side of the CUCSD, Wang Miansheng, for lying to him; the US-side’s Executive Director Rick Schulberg wondered why the Benxi government didn’t see it “as their project” even though it was initiated by McDonough, who in addition to being its architect, was also the Chair of the US Secretariat when he suggested the project. Dai’s sustainable design manager, Feng Huandu, blamed McDonough for not providing

²⁸⁸ Marcel L. J. Wissenburg, *Political Pluralism and the State: Beyond Sovereignty* (New York: Taylor & Francis, 2009).

²⁸⁹ Julia Elyachar, *Markets of Dispossession: NGOs, Economic Development, and the State in Cairo* (Durham: Duke University Press, 2007).

²⁹⁰ This is similar to the argument William Easterly makes in *The White Man’s Burden* as to why development as a project has, and continues to fail. Easterly’s solution of creating greater transparency back to the donors will not solve development’s critical failing: not being accountable to the people it is *supposed* to serve. William Easterly, *The White Man’s Burden: why the West’s efforts to aid the rest have done so much ill and so little good* (New York: Penguin, 2006).

construction drawings for the grey water system; McDonough blamed not being paid his market rates for his own lack of work on the project; Dai's office manager blamed all the Americans for expecting too much; the Nanfen district director wondered why the Americans kept coming if they were not going to invest; the American corporate representatives wondered why when they came to check on their philanthropic endeavors they were put through hard sales pitches; and on and on. With no identifiable person or entity to hold fully accountable—and with none of these people accessible to them anyway—the villagers were left to blame the dust. Fed up with having all of their clean laundry covered with fine particles of dust that the construction project's heavy trucks and earth movers kicked up into the air as they moved back-and-forth all day down their narrow hamlet road, the women of Dry Riverbed organized themselves, and their men, and blockaded the road through the hamlet. The dust was tangible and directly affecting their quality of life—and its cause—unlike what had turned 55 mu of their maize fields into a construction site—was easily traceable.

Six

Ecological Modernism

Looking at any master plan it is immediately apparent that its function is to mark the spatial relationship between buildings and corridors, civilization and nature. What is less obvious at first glance is that a master plan is always also a reification of political philosophy. The relationship between buildings, between edifice and environment is the material manifestation of a desired relationship between persons, and between humanity and nature. A master plan is no less than the transformation of the abstract idea into concrete structure. Political theory—from what is understood as the good life, to what is deemed acceptable as life—is made tangible in walls of houses and streets of cities. Not to recognize the conclusions as to the proper order of things (and people) that have been made through the trussing of wood, mortaring of brick, and reinforcing of concrete is to ignore how the organization of material space limits the conditions of possibility of human behavior.

As long as the Master Plan remains an Idea articulated through the relationship of figures and ground drawn on paper or stored on hard drives, it can be read much like a philosophical treatise: an argument for what should be. In this state Master Plans act as mediating documents between the abstract and the real, much like a philosophical text. It is influential in its visualization of the forms of an ideal civilization, but it is not determinate.

Once the Master Plan is built on the ground that is not a line but soil, however, its arguments become an apparatus that alters what civilization is, and shapes what it may become. Capital investment in constructing this vision creates an obstacle to change that a few hours reading Hegel does not, and brick, concrete, and steel have a physical permanence that language does not. Hegel may engage thought, but it is buildings, the streets, and the city they form that obliges behavior, and through the body alters thought. To make an analogy after Hegel, if philosophy is its time comprehended in thought, architecture is its time constructed in things.

In this chapter I outline the foundational tenets of William McDonough's ecological thought in order to give specific background for the intentions of the Master Plan for Huangbaiyu. While McDonough has oft repeated his maxim that "design is the first signal of intention," in order to decode the signals from his designs for Huangbaiyu, and thereby for rural China and the organization of urban life more generally, we have to understand not only the context of the general discourse of anxiety about global climate change and pollution, but his specific arguments as to the dangers we face, and the path we should take to save our planet, and ourselves.

While there is an elegance to McDonough's phrase that makes it easily quotable and ring with common sense, it is deeply problematic. Highlighting its problems at the outset will help me begin to establish McDonough and his Master Plan's modernist orientations, as well as to return to an argument that is developed throughout this dissertation: context is critical to understanding. To begin with the latter, the claim that the intention of the designer (and implied function of the object) is known through simply analyzing the object itself, is based upon two essential assumptions: that function always follows form, and that the function of the form is always what the designer intended. The first assumption is one that has been long challenged in the discipline of anthropology, and had its most famous public argument in the 1887 debate between Franz Boas and

Otis Mason and John Wesley Powell as to how to organize the ethnological museums' vast collections of tribal artifacts: each artifact within the context of other artifacts of the same tribe, or all artifacts of the same function categorized together, such as musical instruments and cooking utensils. Boas' argument was that "premature classification" of function based on form relied on "superficially similar phenomena which in fact might be the products of quite different historical processes."²⁹¹

Many American journalists at first visit to the construction site of Huangbaiyu visually surveyed the houses and then invoked Levittown. While superficially the two plans and the cities that have been built according to them may look similar, with rows of identical houses on rationally organized streets, neighborhood parks, and commercial and industrial zoning all being built on what was once farmland, reading Huangbaiyu in terms of the critical American historical memory of Levittown, flattens the complex historical inheritance of economic and social relations lived by the people in these rural Chinese valleys in the beginning of the 21st century into an aestheticized critique of the suburbanization of America Post World War II.

That both master plans were modernist²⁹² and utopian in type, mythologized in the press, and similar in visual form, makes the assumption of congruence easy, however. On a visit to the construction site in February 2006, even McDonough fell to the comparison himself, defensively posturing against the criticism he must have been thinking in his own mind as he spoke aloud to no one in particular: "Levittown looked better after the trees came up." It did, perhaps, and the new houses in Huangbaiyu looked better to both visitors and the proposed residents when they were painted yellow. Reading the plans for Huangbaiyu in aesthetic terms against American historical memory of tract developments makes the mistaken assumption that urbanization of the same structural form has both the same impetus and effect. Focusing on such superficial phenomena of the case obscures the philosophy that buttressed McDonough's design decisions, and the particular condition to which his designs are responding, both in the US and in China.

McDonough's focus on the designer and his intentions is paradigmatic of modernist type. It is typical of modernist planners, as James Holston noted in his work on Brasilia, that they assume "that their intentions are more or less perfectly realized in their plans."²⁹³ Such presumed perfection of the plan refuses to admit any unexpected outcome of the project as being the responsibility of the designer. McDonough has repeatedly insisted that all the difficulties the model "sustainable community" he designed for Huangbaiyu has faced are due to the real estate developer, Dai, erring from the plan.²⁹⁴ As he told reporter John Heilemann in the fall of 2006, "Some of [designing communities in China has] been neither fun nor rewarding: seeing local entrepreneurs executing our plans in ways that surprise us without delighting us, doing truly frightening stuff."²⁹⁵ The plan, in his mind, perfectly realized his utopian ideal of an ecological small city, so how could the project have failed except due to external forces?²⁹⁶

²⁹¹ George W. Stocking, *Race, Culture, and Evolution: Essays in the History of Anthropology* (Michigan: Free Press, 1968), 205.

²⁹² McDonough is what I call an ecological modernist, as he holds to all modernist tenets except one: that nature should be conquered for the use of humanity. McDonough argues that humanity must alter its technologies in order to not cause his own demise through toxification of the planet. Yet, like a modernist, his thought is future-oriented, technology-focused, and growth-celebrating; moreover, his utopian critique of the current state of things leads him to the classic modernist stance on governance: it must be expert driven. A more thorough discussion follows.

²⁹³ James Holston, *The Modernist City: an Anthropological Critique of Brasilia* (Chicago: University of Chicago Press, 1989), 23.

²⁹⁴ For an example see Dejan Sudjic, "Making Cities Work: China," BBC NEWS, June 21, 2006.

²⁹⁵ John Heilemann, "Growing Green Buildings," *Business 2.0* November 1, 2006, http://money.cnn.com/magazines/business2/business2_archive/2006/11/01/8392027/index.htm.

²⁹⁶ Failure is a relative, and thereby difficult, term. For lack of an official metric for the project, I use the term failure to denote that the project did not achieve sustainability, using McDonough's own criteria of economy, equity, ecology. It would lower household income for the majority of households, put an inequitable burden for the wastes of industrial

By analyzing the values being given physical form in the Master Plan for Huangbaiyu, it can be established to what extent it is the ideals and assumptions of this plan that laid the foundations for the unintended outcomes that would follow. I begin by following McDonough's arguments for the need for a "next industrial revolution" in his own words, and the form that revolution will take. It will become clear that while McDonough is calling for a revolution in the common sense of upheaval, his sensibility is the same as all the industrial modernists that came before him, except for a slight modification that changes very little in the philosophy and practices of those earlier industrialists. This is likely why he is the most popular of all the early 21st century sustainability gurus: he sustains more than he changes. While nature was once something to be harnessed for the use of humanity, for McDonough nature is to be used as a barometer of humanity's viability. As such, I call McDonough an ecological modernist. After presenting McDonough's case for design as the necessary salve to the humanity's peril and placing it within context of the modernist sensibility, I present his Master Plan for Huangbaiyu, the grounds upon which it is to be built, and the radical, rationalized social, economic, and ecological relations it promises to bring into being. At first glance, the site plan for the new prototype of ecological design for rural China may seem all too familiar, like the forms of the Levittowns we know so well, but we must remember that this town is being built in rural China, where wage labor and urbanized spatial forms are unfamiliar.

The Case for Design

Examples of sustainability are not hard to cull from the *history* of world cultures. Most often they are small-scale social solutions that involve a limited number of people who do little or no damage to their surrounding habitat. Typically, there is no design or designer that guides the inhabitation of the place. But this is rarely true anymore. The interactions between people and nature have grown so complex, the rate and scale of change so overwhelming, we can no longer rely on setting up benign situations and letting innovative solutions slowly evolve. Design has become crucial to our future—and to achieve any measure of sustainability we are in need of designs that strike a balance between the local and the global, traditional settlements and the emerging planetary culture.²⁹⁷

In six sentences from their essay "The Meaning of Sustainability," William McDonough + Partners and David Rothenberg establish the imperative of design to intervene in present civilization, and transform it. With "the rate and scale of change so overwhelming" it is no longer possible for "small-scale" solutions that "do little or no damage to their surrounding habitat." With the environment now conceived as the planetary ecosystem, it is no longer possible for human beings as individuals and spatially-localized communities to *know* how to live sustainably. That time is history.

development on those who did not fully enjoy its fruits, and have a negligent effect on carbon calculus. It was also a technical and financial failure, which while external to the plan, where internal to the development process. During several interviews with CUCSD staff before construction began and during the first four months of construction, I asked what their measure of success was for their work in Huangbaiyu. The question was systematically avoided. There seemed to be no possibility for failure, in the project managers' minds. This treatment of success as a given was constantly reiterated throughout the first year of the construction, 2006-2006. This approach to governance—which is what the development of a master planned "sustainable community" for 400 households is—requires an authoritarian practice, which is what makes modernism as an orientation to the world dangerous. See James Scott, *Seeing like a State* (New Haven: Yale University Press, 1998) for a thorough treatment of the disaster that such a combination portends.

²⁹⁷ William McDonough and Michael Braungart, *The Hannover Principles: design for sustainability* (Charlottesville, Virginia: William McDonough Architects, 2003), 31-32, emphasis added.

And the present, they imply, is imperiling the future. Someone must arise who can mediate between the needs of “traditional settlements,” those places comprised of edifices that individuals, families, and communities build for themselves with local knowledge, and the planet. The present state of civilization, they imply, is unsustainable, and so for their salvation, humanity must realize that it is to design that they must turn. In this elaboration of the meaning of sustainability, design is the antithesis of the present. In order for there to be a future, the present must be negated through design. It was on the grounds of this founding principle—that the present means of human existence are unsustainable and must be transformed—that the designs for the future of Huangbaiyu were drawn.

McDonough’s indictment of the present is encapsulated in the title of his 2002 book written with his long-term collaborator, Michael Braungart: *Cradle-to-Cradle*. Subtitled “remaking the way we make things,” this text is more than a book. It is a manifesto calling for a new way of thinking about existence, and a charter for how to bring their utopic vision into reality. The present is conceived as a cradle-to-grave existence, in which not only the detritus of consumptive living is being thrown “away” as pollution in our soils and waters, but the very products we produce in pursuit of an increase to our quality of life are causing our cells to mutate, and filling our lungs with metallic dust. The scientific advances of the industrial revolution are sending us, and the planet to our graves. McDonough and Braungart’s indictment of the present inherited from the scientific and technological advances of the industrial age is so scathing, and so uniquely and personally addressed that it is necessary to quote the opening pages of the book at length.

In their first few hundred words, they turn the world on its head. Their goal is to awaken the oblivious to the doom that awaits them if the present state of things is not altered. The peaceful mind must become distressed, comfort recognized as hazard, and safety realized be an illusion. To ensure that the urgency of their doomsday is felt personally rather than abstractly, it is “you” this is happening to.

At last. You have finally found the time to sink into your favorite armchair, relax, and pick up a book. Your daughter uses a computer in the next room while the baby crawls on the carpet and plays with a pile of colorful plastic toys. It certainly feels, at this moment, as if all is well. Could there be a more compelling picture of peace, comfort and safety?

Let’s take a closer look. First, that comfortable chair you are sitting on. Did you know that the fabric contains mutagenic materials, heavy metals, dangerous chemicals, and dyes that are often labeled hazardous by regulators—except when they are presented and sold to a customer? As you shift in your seat, particles of the fabric abrade and are taken up by your nose, mouth, and lungs, hazardous materials and all. Were they on the menu when you ordered that chair?

That computer your child is using—did you know that it contains more than a thousand different kinds of materials, including toxic gases, toxic metals (such as cadmium, lead, and mercury), acids, plastics, chlorinated and brominated substances, and other additives? The dust from some printer toner cartridges has been found to contain nickel, cobalt, and mercury, substances harmful to humans, that your child may be inhaling as you read. Is this sensible? Is it necessary? Obviously, some of those thousand materials are essential to the functioning of the computer itself. What will happen to them when your family outgrows the computer in a few years? You will have little choice but to dispose of it, and both its valuable and its hazardous

materials will be thrown “away.” You wanted to use a computer but somehow you have unwittingly become party to a process of waste and destruction.

But wait a minute—you care about the environment. In fact, when you went shopping for a carpet recently, you deliberately chose one made from recycled polyester soda bottles. Recycled? Perhaps it would be more accurate to say downcycled. Good intentions aside, your rug is made of things that were never designed with this further use in mind, and wrestling them into this form has required as much energy—and generated as much waste—as producing a new carpet. And all that effort has only succeeded in postponing the usual fate of products by a life cycle or two. The rug is still on its way to a landfill; it’s just stopping off in your house en route. Moreover, the recycling process may have introduced even more harmful additives than a conventional product contains, and it might be off-gassing and abrading them into your home at an even higher rate.

The shoes you’ve kicked off on that carpet look innocuous enough. But chances are, they were manufactured in a developing country where occupational health standards—regulations that determine how much workers can be exposed to certain chemicals—are probably less stringent than in Western Europe or the United States, perhaps even nonexistent. The workers who made them wear masks that provide insufficient protections against the dangerous fumes. How did you end up bringing home social inequity and feelings of guilt when all you wanted was new footwear?

That plastic rattle the baby is playing with—should she be putting it in her mouth? If it’s made of PVC plastic, there’s a good chance that it contains phthalates, known to cause liver cancer in animals (and suspected to cause endocrine disruption), along with toxic dyes, lubricants, antioxidants, and ultraviolet stabilizers. Why? What were the designers at the toy companies thinking?

It may be difficult to focus on the intention of the designers of these objects, when “you” are likely overcome with fear about the power of the objects “you” use everyday to gravely damage your health, change your sex, and kill you. It is not an act of literary chance that McDonough and Braungart began their manifesto with a revisionary revelation of the world. It is this fear that every utopian visionary needs to activate in his audience in order to be able to have the power to convince others to follow his revolution. That McDonough and Braungart desire a revolution does not have to be implied, as at the end of this same section they write that they are seeking to lead “an emerging movement we see as the next industrial revolution.”²⁹⁸

A little more than a hundred years earlier, Nietzsche captured the rhetorical device which McDonough employs to great effect: “It seems that all great things first have to bestride the earth in monstrous and frightening masks in order to inscribe themselves in the hearts of humanity with eternal demands: dogmatic philosophy was such a mask.”²⁹⁹ McDonough’s process of designing the Huangbaiyu Master Plan will demonstrate him to be such a dogmatist, whose arrogant faith in his own knowledge led him, and his team, to ignore all but an existing set of limited ecological

²⁹⁸ William McDonough and Michael Braungart, *Cradle to Cradle: Remaking the way we make things* (New York: North Point Press, 2002), 6.

²⁹⁹ Friedrich Nietzsche, “Beyond Good and Evil: Prelude to a Philosophy of the Future (1886)” in *Philosophical Writings*, ed. Reinhold Grimm et al. (New York: The Continuum Publishing Company, 1997), 160.

conditions in the valleys of Huangbaiyu because it was precisely the forms of energy, land use, household type, and community that he was seeking to change. Self-organized sustainable communities were *history*; the present conditions must be negated to bring the rationally planned, designed sustainable community into being.

If what McDonough and Braungart have described in these opening pages is the effect of a cradle-to-grave mentality, what type of world is the one to be made by cradle-to-cradle? Unlike early environmental catastrophists like Garrett Hardin³⁰⁰ and Paul Ehrlich,³⁰¹ McDonough does not speak or write about the need to control population growth, to consume less, or to make sacrifices. While he is similarly motivated by a fear of the devastation of the planet, McDonough's response is not to seek limits, but to encourage growth. In defense of a philosophy that does not sound like a sane response to a planet in peril—to continue to celebrate the unlimited birth of children and to encourage the “fun”³⁰² of consumption—McDonough and Braungart write the parable of the cherry tree.

Consider the cherry tree: thousands of blossoms create fruit for birds, humans, and other animals, in order that one pit might eventually fall onto the ground, take root, and grow. Who would look at the ground littered with cheery blossoms and complain, ‘How inefficient and wasteful!’ The tree makes copious blossoms and fruit without depleting its environment. Once they fall on the ground, their materials decompose and break down into nutrients that nourish microorganisms, insects, plants, animals and soil. Although the tree actually makes more of its ‘product’ than it needs for its own success in an ecosystem, this abundance has evolved (through millions of years of success and failure, or in business terms, R&D), to serve rich and varied purposes. In fact the tree's fecundity nourishes just about everything around it.

What might the human-built world look like if a cherry tree had produced it?³⁰³

Before giving McDonough's interpretation of this parable, it is important to highlight the internal logic that it exhibits. If a cherry tree produced the human-built world, it would produce one in the image and practice of a cherry tree, McDonough rhetorically implies. This is a striking

³⁰⁰ Hardin wrote the scientifically received, ideologically based article “The Tragedy of the Commons” that launched an entire field of research on use of enclosures and private property to simultaneously improve ecological health and limit the fertility of the poor. His article spawned a new field in science, often simply called ecology, but the intentions of which were specifically population control; see Bonnie J. McCay and James M. Acheson, eds, *The Question of the Commons: The Culture and Ecology of Communal Resources* (Tucson: University of Arizona Press, 1987). For a thorough critique of Hardin's reification of political ideology into a science, see Eric Ross, *The Malthus Factor: Population, Poverty, and Politics in Capitalist Development* (London: Zed Books, 1998).

³⁰¹ Paul Ehrlich published *The Population Bomb* (New York: Ballantine Books, 1968) in the same year as Hardin's article “The Tragedy of the Commons,” a time that could be seen as the zenith of modernist perspective on poverty and environmental degradation: the key to protecting the environment was not reconsideration of existing living systems, power hierarchies, or the distribution of resources, but the limitation on the amount of people who could lay claim to those resources. His study was commissioned in part by the Sierra Club, and republished by them in 1969, and used to ensure that population control was integral to the agenda of the first Earth Day in 1970. See Sierra Club, “Global Population and Environment: Program History” April 27, 1995, <http://www.sierraclub.org/population/history.asp>. For his work, Ehrlich was nominated for the Nobel Peace Prize in 1998.

³⁰² See *Cradle to Cradle*, 7, where McDonough and Braungart write, “If you are going to help save the planet, you will have to make some sacrifices, share some resources, perhaps even go without. And fairly soon you must face a world of limits. There is only so much the Earth can take. Sound like fun?” The rhetorical answer is, of course, no, and it is implied that such limits are not necessary.

³⁰³ McDonough and Braungart, *Cradle to Cradle*, 72-73.

assertion of universal narcissistic genesis that parallels the Judeo-Christian tenet that the creator (God) creates his worlds in his own image and likeness.³⁰⁴ The analogy between millions of years of evolution and the practices of corporate research and development is evocative of McDonough's emphasis on working both at speed and scale, and assumes that myriad commercial interests can not only have the knowledge of how all their products may affect the environment we know as the world, but that they can coordinate all of their activity into a "fecund" and healthy ecosystem— instantaneously.

McDonough uses this arboreal fable to dramatize his Aesop-like moral lesson: waste equals food. Limiting "products" and their consumption would limit the beauty and fun of life, like denying a cherry tree the rights to thousands of blooms since it only needs one seed to reproduce itself. Limiting growth limits the possibility of "improv[ing] the quality of life."³⁰⁵ With growth taken as a proxy for improvement in the conditions of living, McDonough and Braungart conclude that the path to a better world is not where industry is smaller, limited and constrained by efficiency—for who wants that cherry tree with only one blossom?—"but to design them [industries] to get bigger and better in a way that replenishes, restores, and nourishes the rest of the world."³⁰⁶

In order for commerce to be "regenerative," it must recognize what can be safely returned to the soil, and what cannot. McDonough and Braungart call the former biological nutrients, and the latter technical. Cotton, vegetables, stones, and excrement are examples of biological nutrients that the earth can reuse. Chromium, aluminum, petroleum and other things that humanity has dug up from the ground and reconfigured or synthesized are technical nutrients. To avoid the terror of "Frankenstein products"³⁰⁷ and "monstrous hybrids" in the "next industrial revolution" such nutrient cycles will be respected by commerce, and exploited for growth and wealth.

By taking all the "waste" of humanity, and classifying all materials that humanity uses into one of these two categories, McDonough and Braungart are creating a new cosmology in which the danger of pollution is rectified through purification: biological nutrients must remain in the biosphere, technical nutrients in the technosphere.³⁰⁸ When nutrients from these two separate spheres combine, we are left with products—monsters and Frankensteins—that have their promise for benefiting humanity undermined by the peril of mixing the material of separate spheres. By establishing two separate spheres in which biological and technical nutrients should flow in an endless, closed cycle, they have imagined a cosmology of radical purity in which any "confusion of flows" portends disaster.³⁰⁹ Leather shoes cured with chromium tanning, human sewage purified with chlorination, human sewage combined with paint, bleach and nail-polish removers poured down pipes, endocrine disrupters³¹⁰ in water of treated sewage—they may all cause mutations in the living organisms of fish, and people. In their worldview, almost everything we touch pollutes and mutates our bodies.

³⁰⁴ For the Biblical reference see Genesis 1:26-28; also Psalms 139:14, Isaiah 43:7, Ephesians 2:10 and 4:24, and Colossians 1:15 and 3:10.

³⁰⁵ McDonough and Braungart, *Cradle to Cradle*, 78.

³⁰⁶ McDonough and Braungart, *Cradle to Cradle*, 78.

³⁰⁷ Following a popular misconception Jacobs and then McDonough and Braungart call man created through the agglomeration of other dead person's body parts Frankenstein, when in fact Frankenstein was the name of the doctor, not the man, who, significantly, Dr. Frankenstein is unwilling to give a name. Without a name, without recognition as an individual, perhaps the "monster" will cease to exist.

³⁰⁸ McDonough and Braungart, *Cradle to Cradle*, 93.

³⁰⁹ McDonough and Braungart, *Cradle to Cradle*, 100.

³¹⁰ In this passage, McDonough and Braungart also list "hormones," which is what endocrine disrupters mimic often leading to development deformation of the sex organs and cancerous growths, as pollutants in treated sewage waters. Interestingly, estrogen and testosterone while being endogenous as a biological nutrient within the body, are treated as technological nutrients that cause pollution outside of the body.

Cosmological systems of purity and pollution are present in all civilizations in some form, and work to establish and protect a moral hierarchy and the social order it engenders—such as the caste system in India.³¹¹ While such cosmological systems have been shown to exist across times and places, they have also been shown to be radically different in different societies. McDonough and Braungart's methodology for eradicating pollution through purification does not allow for differences of particular social organization, as its claims to necessity for salvation are not for a specific people, but for the species—indeed all species. Their logic posits itself as universal: wind and water, and the toxins they carry respect neither political boundaries nor cultural divisions, so their revolution cannot either. As their revolution claims all the industry of all humanity as its subject, it also demands universal adherence, not piecemeal reform.

McDonough and Braungart dedicate an entire chapter of *Cradle-to-Cradle* to “Why Being ‘Less Bad’ is No Good.” Those three “R”s—reduce, reuse, recycle—ingrained in the environmental consciousness since the first Earth Day in 1970 are not even less bad, according to McDonough and Braungart. They are a farce. For there is no possibility of being “less bad” when the only measurement of the “good” is purity: the sanctification of the biosphere and the technosphere. Once the “confusion of flows” has occurred, reduction does not help because it does not change the “monstrous hybrid” that is the system. Reusing only keeps the same Frankensteins at loose in the world, awaiting the chance to find their creator and ensure his death. Recycling degenerates Frankensteins, making them less promising and more perilous than there were before, as the materials they were originally produced from are degraded in their reprocessing. The only re- that can save the Earth from its grave is revolution through purification.

Unlike many other environmentalists who seek to make humanity act on “inconvenient truth[s]” through a combination of government policy of regulation and subsidy, and consumer awareness and behavior change,³¹² McDonough and Braungart turn to commerce as the key to their revolution. Building on the thought of Jane Jacob's *Systems of Survival*, they give their own analysis of what she conceived as the two, exclusive moral syndromes that pervade work: guardians and commerce. They summarize: “The guardian is government, the agency whose primary purpose is to preserve and protect the public. ... Commerce, on the other hand, is the day-to-day, instant exchange of value. ... Any hybrid... [is] ‘monstrous.’ Money, the tool of commerce, will corrupt the guardian. Regulation, the tool of the guardian, will slow down commerce.”³¹³ Given that it has been the work of commerce, in pursuit of profit, that McDonough concedes was the motive behind the industrial revolution, and all the devastation he has described, one might assume that McDonough would seek to slow down commerce through regulation long enough to enable commerce to create and separate the pure materials he advocates, and then to manufacture pure products, as well as create systems for the endless cycling of these “nutrients” he says is necessary to save the planet. But that assumption is incorrect.

McDonough and Braungart argue that because “guardians” seek “one-size-fits-all” solutions through regulation, government policies stifle creative problem solving. Regulations tend to be “end-of-pipe,” or work to “dilute or distill emissions to a more acceptable level.”³¹⁴ They write off both of these approaches along with those detested “Three Rs” as being only reformatory, and so therefore not tackling the system itself. Regulation also causes comparative commercial

³¹¹ See Louis Dumont, *Homo Hierarchicus: the caste system and its implications* (Chicago: University of Chicago Press, 1970).

³¹² Gore, *Inconvenient Truth*. As Chairman of the Alliance for Climate Protection, Gore heads one of the strongest government lobbying organizations on climate change, as well as directing the \$300 million We Campaign to mobilize consumers.

³¹³ McDonough and Braungart, *Cradle to Cradle*, 59-60.

³¹⁴ McDonough and Braungart, *Cradle to Cradle*, 60.

disadvantages, where a regulated products' cost rises, but cheaper imports from non-regulated areas are what the consumer purchases. Commerce is retarded, but the toxins still remain.

Of course, regulations do not have to take the tack that McDonough and Braungart argue that they do. Regulations could target the system, just as they could target the “end-of-[the]-pipe.” Regulations do not have stop at national borders either, just because they may have in the past. Why is it that in McDonough’s philosophy the government is always stuck in the practices of the past, retrenching existing systems with each new edict? Yet, commerce, the very source McDonough identifies as the cause of the crisis industrial capitalism has posed to humanity, is somehow able on its own radically to alter its way of doing business.

It is significant that in McDonough and Braungart’s analysis of these “moral syndromes” the guardian is “slow and serious” and “[i]t reserves the right to kill,” while commerce is “quick, highly creative, inventive, constantly seeking short- and long-term advantage, and inherently honest.”³¹⁵ All positive attributes accrue to commerce, and those who might be guardians are essentially represented as tiresome meddlers, and war wagers. While Jane Jacobs—who articulated these two syndromes of work, and who had much more to say about guardians than McDonough relates—held that “both systems are valid and necessary,”³¹⁶ McDonough and Braungart dispense with the guardians all together. Guardians—the government—do no more than give commerce “a license to harm” through regulations that allow industry to “dispense sickness, destruction, and death at an ‘acceptable’ rate.”³¹⁷ Government, although meant to represent the public interest, is depicted as no more than a supervisor of the rate of humanity’s demise.

McDonough and Braungart’s substitution of design for regulation, and commerce for government in the protection of public interest is a fascinating move. The oft-debated conflict between private interest and public good becomes no more than a problem of time in the present, and is obliterated in the future. The government is only needed to protect the public interest when commerce is unusually shortsighted, McDonough implies. For once a danger is known, such as tanning leather with chromium, no commercial interest would continue to do so, for as McDonough has said, “the first rule of business is do not kill your customer.”³¹⁸ Since he holds that business is inherently honest, does not deceive, and pursues long-term interest, once it has knowledge that its products harm humanity it will act on that knowledge, and alter its industrial processes, bringing about the next industrial revolution—McDonough’s revolution in which private interest has become synonymous with public interest.

In *Cradle-to-Cradle*, McDonough and Braungart do not allow for the positive role of regulation in guiding commercial interest into fields that the government sees as being in the best interest of the public. It should be possible for government regulation to steer private interest through regulative policy in order to make those irregular and inexplicable occurrences of private and public interest congruence a little more likely to happen. Unfortunately, there is no possibility of reading ironic humor into McDonough’s exaltation of the congruence of the private interests of profit seeking with the public good. He argues this in all seriousness, willfully ignoring the myriad cases of commerce having knowledge that its products cause damage to human, animal or ecological health. He seems to be oblivious to the decade of litigation against tobacco manufacturers in the US and Europe, where it was finally disclosed that cigarette manufacturers knew that the intended use of their products killed their consumers. Tobacco manufacturers had a different view of long-term

³¹⁵ McDonough and Braungart, *Cradle to Cradle*, 59-60.

³¹⁶ Jane Jacobs, *Systems of Survival: a dialogue on the moral foundations of commerce and politics* (New York: Random House 1992), xi.

³¹⁷ McDonough, *Cradle to Cradle*, 61.

³¹⁸ China-US Center for Sustainable Development, Transcript of CUCSD Board Meeting, May 20, 2005.

interest than the one implied by McDonough: as one customer died, another could start smoking. One might even argue that tobacco corporations held the long-term view that is closer to McDonough's advocacy of thinking about humanity in terms of the species.

The Designers of Ecological Modernism

McDonough and Braungart's elimination of government from the role of deciding and designing public interest leaves only one other class of people to take charge of the future of humanity and civilization: the architect designer. After their analysis of the roles of government and commerce they conclude, "regulation is a signal of design failure."³¹⁹ If regulations are the only tool of government, and regulations are a signal of a failure of design, then the only solution can come through design itself. Through this argument McDonough and Braungart have collapsed the authority of the modernist mandate to plan and develop the world coming from the state and the expert,³²⁰ into only the expert—and not just any expert, but an architect designer. With the catastrophe of planetary devastation upon us, McDonough argues that we need to act with urgency, a quality that is the antithesis of the guardians' slowness, and is typified by the means of commerce: currency.³²¹ The means of enacting his utopian critique of the planet that the industrial revolution has left us, is another, unfettered, unregulated industrial revolution led by himself, according to his principles encapsulated in the phrase cradle-to-cradle.

McDonough's attitude toward development is unabashedly that of an architectural modernist, with an ecological twist. There are several aspects of the modernist sensibility that set it apart from other perspectives on how to engage and enact civilization. First, modernists tend to argue that contemporary organization of society and practices of daily life are at odds with how life should be lived. Second, modernists primarily seek to establish an alternative form of human life that should be brought into being. Third, they act as if the complexity of human activity and organization can be known so as to create abstractions of human behavior that make it possible to alter human civilization through prescribed interventions to achieve their desired goal—the future alternative. Fourth, they hold that the instrument of intervention—when applied to the (human) problem in question—will have the effect expected. Fifth, a desperate urgency pervades the sensibility that affects its perspective on both time and space: the project to replace the past with the present must be done with both speed and scale. Sixth, architectural modernists' critique is not textual, but physical. They do not write; they build. Seventh, the environment is either seen as harboring resources that must be liberated from the ground and its inconsistencies regulated for the ease of humanity's use, or ignored as a mere background upon which humanity creates civilization. In short, the modernist sensibility is one that it is both critical and utopian, lays claim to both omniscience and omnipotence, and acts swiftly with universal ambitions focused purely on the progress of human civilization.³²²

³¹⁹ McDonough and Braungart, *Cradle to Cradle*, 61.

³²⁰ The rise of the expert as an authority of knowledge, and the use of this knowledge to discipline and rule subjects through state-sponsored programs was a focus of Foucault's study of psychiatry in Michel Foucault, *Birth of the Clinic* (France: Presses Universitaires de France, 1963), Ferguson's analysis of World Bank projects in Lesotho in James Ferguson, *The Anti-Politics Machine* (Cambridge: Cambridge University Press 1990), Escobar's review of the developmental apparatus in Arturo Escobar, *Encountering Development* (Princeton: Princeton University Press 1995), Mitchell's examination of transformation of Egypt in Timothy Mitchell, *Rule of Experts* (Berkeley: University of California Press 2002), Ong's investigations of the making of citizens in Aihwa Ong, *Buddha is Hiding* (Berkeley: University of California Press, 2003). I would offer that any document that asserts a program of development is ascribing to this same logic, even if it is not reflexive of its own will-to-power.

³²¹ McDonough and Braungart, *Cradle to Cradle*, 60.

³²² The scholarship of Paul Rabinow in Paul Rabinow, *French Modern* (Chicago: University of Chicago Press, 1989), James Scott in James Scott, *Seeing Like a State* and James Holston, *The Modernist City* has been particularly helpful in my work to

McDonough shares all aspects of this sensibility but the last. Rather than taking the environment as the background of human development, he takes it as the foreground: the ground without which human development—even human existence—depends. This inversion changes little of the modernist sensibility, however. In fact, it heightens all the other aspects of it. With the indictment of the present based upon fears of planetary devastation, the future functions as a threat of a terrible unknown, even death, if contemporary social forms and economic relationships are not radically altered. With the condemnation of the present posed in ecological terms, the will to act with speed and scale to identify, measure and then alter the actions that are putting the ecosystem of the Earth at risk resounds as a biological imperative. With the threat to the “good life” framed in ecological terms, it becomes politically impossible to deny the need to alter the present in the name of humanity’s future. To do so at first sounds recklessly selfish, resounding as a desire to preserve the status quo at the expense of the species. If humanity no longer exists, then what point is there of arguing about the merits of various forms of social organization or distribution of capital? With the threat of extinction held up as the result of inaction, what I call ecological modernism may be modernisms’ most powerful and pervasive form. It is Ferguson’s “anti-politics machine” *par excellence*.³²³

With the imperative to create a utopian future to put aright the heresies of the past put forward with such urgency, ecological modernism also amplifies the triumph and tragedy of utopianism: creating one world through the destruction of another. What had been a philosophical sensibility of modernism, what Habermas has called the “novelty of the future,”³²⁴ becomes a biological necessity to re-imagine the present forms of human civilization in an alternative, ecologically healthy future, and to build that future as a denial of the forms of existence of the present that if continued would lead humanity to ruin. In utopian logic, the past that is to be denied disappears, leaving a future to be incarnated in the present that is not altered by its past.

McDonough exemplifies this sensibility when he effuses one of his stock stories about himself. I first heard him relate the story at the welcome reception for the corporate representatives attending the China-US Center for Sustainable Development’s annual Joint Board Meeting in Beijing on May 18, 2005. Introductions of the group began with McDonough introducing himself: “It has been said about me: ‘The pessimist sees the glass half empty, the optimist see the glass half full, but for Bill, the glass just isn’t big enough.’ At the end of the *Newsweek* interview [for the series *Designing the Future*],³²⁵ the reporter turned to me and said ‘I finally get how you do your work. You speak about the future in the present tense.’” With a slip of tense, the reality of the world disappears and is replaced by the presence of the future. In this language, as in utopian dreams, there is no inheritance of that which is disparaged. It is as if it never existed. Architectural drawings and master plans strengthen the power of this mythic slip, as buildings, neighborhoods and cities appear

articulate this sensibility into language. Each of these anthropologist have undertaken Foucault’s challenge to write a history of the present, extensively engaging with historical texts to elucidate the assumptions and aspirations of the modernist era which we have inherited, and still enact. While Scott’s treatment focuses on the perspective of the State in its approach to social and economic development through various case studies, Rabinow traces the multiple contours of the construction of modern France, and the role of its colonies in creating its self-image through the perspective of government officials, architects, and scholars. Of the three, Holston is the only one who combines ethnography with historical records in his study of the quintessential modernist city, Brasilia. I am particularly indebted to the perspectives of both Rabinow and Holston, as I learned as much through conversations with them throughout my study as through each specific text.

³²³ See Ferguson, *The Anti-Politics Machine*.

³²⁴ Jürgen Habermas, *The Philosophical Discourse of Modernity: Twelve Lectures* (Cambridge, MA: The Massachusetts Institute of Technology, 1987), 5.

³²⁵ Anne Underwood conducted the interview. Selections from the interview were published in Anne Underwood, “Designing the Future,” *Newsweek Magazine*, May 15, 2005.

on flat pages upon which the future rises, and the complex social and economic inheritances of the present are impossible to represent.

Local environments, Universal knowledge

If modernism strives for universal solutions, how can that be reconciled with McDonough's insistence on the local criterion of sustainability? While there seems to be a contradiction between McDonough's emphasis on scale and his arguments for the importance of locality and diversity, it is one that is resolved through his anointing of the designer—himself—(and the commercial interests that pay for and implement his ideas) as the salvo to the planetary crisis. McDonough has written, and often says, "Sustainability, just like politics, is local. It can only be measured locally." The first key to understanding McDonough's syncretism of the universal and the particular is in the last sentence: measurement. In order for anything to be measured, there must be an agreed upon system that makes diverse things commensurable, and that system of measurement is universal. Second, is to remember that for McDonough the local is always in reference to the environment, not to people. When he designs, as he likes to say, he looks at the landscape as if he were a bird, to see what a bird would want in the habitat.³²⁶ While the locality may change, the perspective remains universal: the aerial gaze of a bird.

In choosing the perspective of a bird as his gaze McDonough's modernist sensibility, modified by an ecological spirit, is again brought to the fore. He has taken the defining object of the modernists—the airplane, conquering distance with speed, embracing change³²⁷—and replaced it with a bird. While the switch from airplane to bird may seem significant, it has no effect on the perspective from which knowledge is acquired. It preserves a spatial gaze that is incompatible with the perspective of a person standing on the ground.³²⁸ The everyday sensuous practices that create Michael de Certeau's "spatial stories" cannot be experienced, or even heard, from this distance.³²⁹ But that is the point. Produced through a "redistribution of space," McDonough's bird-gaze can claim to be "scientific"—objective, rational, universal—precisely because it denies the particular and the personal.³³⁰

When we hear social problems framed in this way, such as "where had [the songbirds] gone?",³³¹ we should not only hear a concern for how humanity affects other species, but also recognize a shift in perspective that displaces human concerns from the center of human activity. This metaphorical displacement reinforces ecological modernism's authoritarian tendencies: since birds cannot speak, there is no need to hold open meetings to elicit their concerns. Sustainability is local, because the expert—McDonough—must take the local environment into account, seen from the perspective of a bird, when applying his universal scientific system. We should not forget that the role of the expert in the first place is to deploy the knowledge necessary to transform society for the benefit of humanity—not to listen to the society that is already denigrated as causing the planet's

³²⁶ Martin Pederson, "The Eternal Optimist," *Metropolis* (February 2005).

³²⁷ David Harvey, *The Condition of Post Modernity* (Oxford: Blackwell Publishing, 1990) has written about such phenomena as "space-time compression," and also argues that the world gets smaller, so to speak, through the ease of travel, making it possible to think the words "global village." See particularly Chapter 15, "The Time and Space of the Enlightenment Project," 240-259.

³²⁸ While such an aerial orientation to the spaces we inhabit is commonplace amongst modern cartographers, this was not always the case, as Harvey, *The Condition of Post Modernity*, 240-256 demonstrates in his comparison of the "sensuous" mapping of social order by medieval cartographers in contrast to the "rational and objective" qualities of modern maps.

³²⁹ Michael de Certeau, "Spatial Stories," in *The Practice of Everyday Life*, tr. Steven Rendall (Berkeley: University of California Press, 1984), particularly 91-130.

³³⁰ See de Certeau, "Spatial Stories."

³³¹ Rachel Carson, *Silent Spring* (New York: Houghton Mifflin, 2002), 2.

devastation. Like in the case of Huangbaiyu, McDonough and the China-US Center for Sustainable Development had the solution already—a “sustainable community”—they just needed to find a location for it.

So now we may ask, what might the human-built world look like if McDonough had produced it? How will the spirit of the next industrial revolution be reflected in its designs? What signals does it send?

The Master Plan

The Master Plan for a model “sustainable community” in the central valley of Huangbaiyu stands as both an indictment and a celebration of the industrial revolution. It marks the promise of a double salvation: a rectification of the industrial revolution’s ignorance of nature’s cycles, and a deliverance of those people who were left behind in a state of poverty as industrial revolution carried human development far ahead. It is a double critique of the rural valleys in which it is to be built, for they are not yet even industrial. They represent a past physical and economic organization that was already negated by the industrial revolution, but it is this very absence of present forms of the industrial city that make it a perfect ground on which to experiment with building the ecological modernist utopia. It provides a physical space that can be conceived as a *tabula rasa* for the designs of the new industrial city—a place to avoid the errors of the past.

There are no pre-existing pipes and sewers, highways or monuments to demolish. There are only a few “scattered” “farmhouses”³³² to tear down, and their families to relocate. As the Master Plan encloses upon them, some houses in Western Mountain Riverside will be preserved as a “cultural memory of the previous settlement,” a physical artifact of the world they have left behind, and a marker of the developmental distance they have traveled away from it. The selection of the site purposely allows for the first phase of construction—ten percent of the whole program—to be built without demolition of a single building. The conversion of 55 mu of farmland was thought to pose no obstacles for the compromise or complication of the design—a ground that seems as blank as the page on which the Master Plan is drawn. Without any of the detritus of the unintelligent designs of the industrial revolution, the designer is granted a pure potentiality upon which to build the edifices that will structure the next industrial revolution. At last, there would be a place to put theory to practice and achieve the CUCSD mission to “leapfrog past limitations and accelerate sustainable development.”³³³

Like other modernist plans of an idealized future, this Master Plan is decontextualized and dehistoricized, as utopias always are.³³⁴ Despite intending to create “a higher quality of life for the villagers and to exemplify a more hopeful future for the children,” there is no discussion of villagers or children at all. There is no mention of existing household structure, spatial patterns of sociality, relationships between geography and kinship networks, let alone the indicators more obviously important to a developmental program that celebrates industrial capitalism. There is no survey of existing types of labor and their earning power. There is no discussion of land tenure and its relationship to household income. The focus of the Master Plan is on architectural form and

³³² All quoted descriptions of the valleys of Huangbaiyu, existing settlements, and the Master Plan not otherwise referenced from this point onward are from William McDonough + Partners and McDonough Braungart Design Chemistry, “Huangbaiyu,” n.p.

³³³ “Mission,” China-US Center for Sustainable Development

³³⁴ See Holston, *The Modernist City* for a critical ethnography of architectural modernism. The problems of context and history are directly treated in both “Premises and Paradoxes” (3-29) and “Blueprint Utopia” (31-58).

systematic urban planning. It is implicit in the Plan that building an eco-city in the countryside will improve the lives of its residents and bring a more hopeful future for the children.

I use the term “city” intentionally here, as the transformation that the Master Plan performs in Huangbaiyu is more than an environmentally conscious upgrade of rural housing. Its ecological goals are achieved through a radical transformation in family and community organization. It is the blueprint of a new developmental regime that unifies seemingly disparate and unrelated events and concerns—global climate change and food security, denigration of “peasants” and the aesthetics of modernity—into an instrument of environmental, economic, and social transformation. A desire to reduce carbon emissions causes a shift away from the responsibility to provide for one’s own survival needs to an infrastructure of shared resource distribution. This transformation entails another: a shift away from small-scale ownership of household production to the wage labor of market production—to a life that is at greater mercy to forces that are beyond one’s control, but where there is a guarantee of convenience and the promise of affluence. New economic dependencies increase insecurity for households as they are brought into greater “organic solidarity” with each other, the nation, and the planet. This new sociality is reflected in neighborhood parks and a town center, where a people can congregate and converse, and thereby transformed from “isolated” private individuals into a community. To save the planet from peril, “the effectiveness and elegance of natural systems” are taken as the foundational principles for the design of Huangbaiyu, and specific historical phenomena of urban structures and market relationships are naturalized.

Building Community

McDonough begins the Master Plan by outlining six key principles of his Cradle-to-Cradle designs.

- Buildings will be primarily constructed of locally sourced, rapidly renewable materials that can be safely returned to the ecosystem as a biological nutrient or of man-made materials designed to be safely reused for the construction of new buildings in the future as a “technical nutrient” in the circular economy.
- Locally sourced rapidly renewable materials including animal, human and agricultural wastes will power the buildings.
- Human habitation will be centralized and consolidated to optimize the use of the valuable productive land, while enhancing habitat and honoring the natural setting of the site.
- Quality of life will be improved through increased community, convenience and comfort.
- Materials will be used in cradle-to-cradle cycles.
- The village will be powered by the sun.

Echoing the concept of sustainable development that emerged from the Brundtland Commission,³³⁵ McDonough concludes that the goal of the Cradle-to-Cradle village “is to provide a higher quality of life for the villagers and to exemplify a more hopeful future for the children.”³³⁶

³³⁵ A result of the work of the multilateral UN World Commission on Environment and Development held in 1987 and led by the prime minister of Norway, Gro Brundtland, the commission’s report, *Our Common Future*, defines sustainable development as “meeting the needs of the present while not compromising the ability of future generations to meet their own needs.” United Nations World Commission on Environment and Development, *Our Common Future* (Annex to document A/42/427 - Development and International Co-operation: Environment, 1987), 43.

³³⁶ William McDonough + Partners and McDonough Braungart Design Chemistry, “Huangbaiyu,” n.p.

While much of this more hopeful future is to be made possible through the use of specific materials and energy sources, there are two facets of the Master Plan that call for a reorganization of spatial order: centralization of human habitat to “optimize the use of the valuable productive land” and to improve quality of life “through increased community, convenience and comfort.” Both of these objectives lay the framework for a radical reorganization of self and society, household and economy.

Community is a key conceptual lens of the Master Plan. In September 2002, Deng Nan and Bill McDonough committed their respective Chinese and US Boards to develop a “sustainable community” in China’s countryside, and within five months had selected Huangbaiyu as the site to place their “scalable model for the revitalization and sustainable development of China’s rural communities.” The implication is that life in rural China is both collapsing and unsustainable, although no description of the lives or livelihoods of families whose lives are so described is given. Having simply described them as “rural” was synonymous enough with degeneration that the Master Plan proffers no other explanation.³³⁷

Conversations amongst CUCSD Board members and their partners in the project to build a sustainable community help to give background as to why everyone, both American and Chinese, planning this new sustainable community believed that there was no community in Huangbaiyu, and how they would remedy that.

Looking out over the construction site of Phase One of the model village in July 2005, Peng Sizhen, the CUCSD-affiliate from China’s Agenda 21, turned to me to explain what I was seeing. “They are scattered like kernels of grain. There is no order to it. It is chaotic. When they are collected together through the plan, when there is a comprehensive plan, then it will be better. Their lives will be better together. There will be parks and a lake. Then it will be a sustainable community.”

A few days later the lead architect from the Benxi Architecture and Design Institute, Sun Lina, took me to the construction site to explain the designs. “They are all so far apart,” she said, gesturing toward the houses down the valley with her arm. “Just scattered. How can anyone live happily in that way? Isolated. We’re bringing them together. It will be organized. It is planned. Those houses just shoot up like weeds. Now it will be tidy, a tidy community.” Peng Zhenwei, the architect and professor of urban planning at Tongji University, told me, “They are self-sufficient. Water, wood. It makes them proud. They don’t need others. They have no community.”

In the early fall, I was walking past the construction site with Feng Huandu, Dai Xiaolong’s latest hire. He bemoaned, “There is no place to meet friends here. In the countryside you have to knock on doors. If you do not know anyone, no doors will open. There is no community. There should be a public space—a place that you don’t have to knock. In the Master Plan there are parks and community rooms.”

In *The Hannover Principles*, McDonough and Braungart’s precursor to *Cradle-to-Cradle*, McDonough argued for the importance of an “identifiable center” to a “successful community.”

The original city was based on the intermingling of people from different social classes and the cultural value of chance meetings in the streets with a past. Can such a traditional way of life be simulated? A successful community needs a *locus mundi* where an identifiable center for human interaction and interchange is scaled to social and cultural demographics. There needs to be a ‘well point’ where unplanned communication can occur.³³⁸

³³⁷ Refer to discussion of “The Three Rural Problems” in Chapter Four, “Global Uncertainty, National Anxiety.” When a population is conceived of as a “problem,” there needs no other explanation that a solution to their state must be had.

³³⁸ McDonough, *The Hannover Principles*, 42.

Over the course of my fieldwork in and about Huangbaiyu these same distinct but inter-related descriptive themes about the lack of community in Huangbaiyu came up repeatedly in planning meetings for the project, and in explanatory conversations. Intertwined together they form a specific vision of the desirable social order. Community is conflated with the creation of rationally ordered, centralized housing and formal public spaces that facilitate chance and casual encounters between persons. First, there is the consistent assertion that since the houses in Huangbaiyu were scattered, the lives lived in them were isolated. (That it was not the houses that were scattered but the hamlets was never recognized.) There could be no community—no sociality—amongst people physically separated in this way. Second, community is aestheticized as a place that is ordered according to a legible comprehensive plan, and the hamlets in Huangbaiyu are not (to the urban Chinese and Americans). Third, current household provision of subsistence goods is seen as prohibiting community formation. Echoing Durkheim’s logic in admiring the strength of “organic solidarity,”³³⁹ to be part of a community, a household must be reliant on shared infrastructure, and Huangbaiyu has none. Fourth, there could be no community—no friendship—without public spaces, and there are none. A community, as such, is something that can be encountered in open space, and as a stranger. Taken together, these four articulations make community synonymous with the organization of physical structures that bring the private dwelling of persons into close proximity with shared services, and encourage them to enact a public life that is observable and open to engagement by others. Community is conceived as a public series of flows: of water and gas, and of people.

In the perspective that guided the Master Plan’s approach to building a community, the term “building” was always taken literally. Specific physical relationships and spatial relationships are necessary for happiness, friendship, and reciprocity—community—to be possible. Significantly, none of the leaders of the designs to build a sustainable community for rural China in Huangbaiyu lived in rural China or in Huangbaiyu, and their perceptions of the existence of community are based on urban spatial forms, and historically informed perceptions of sociality. In each conception of community, there is a conflation of “community” as a network of people connected through reciprocal personal relationships with “community” as a specific form of built space, marked by centralization, shared public infrastructure, and constructed public spaces. From this perspective, community becomes not a concept, but a material form; not something created by personal activity but by impersonal structure. It is this conflation that makes it possible to see Huangbaiyu as lacking community, and to provide the solution through construction—to literally build a community through material structures that did not exist before.

Designs for Sustainable Living

The “community design” begins with the benefits of consolidation and centralization of the settlements, and the advantages and services that such a social environment brings to the quality of life of its residents.

The new Huangbaiyu is consolidated into the space bordered by the National Road 304 to the East and the South, the Western Mountains to the West, and the southern edge of “Existing Village 3” (Huang Family Neighborhood) to the North. A village gate is placed at the North entrance, marking the space of the town within and creating a sense of community. While the north-south axis spanning the existing hamlets in these valleys stretches 4.5 miles, the model prototype reduces it to little more than half a mile. This proximity will ensure that “every house will be within walking distance of the employment center, the central public park, and the school.” The

³³⁹ Emile Durkheim, *The Division of Labor in Society* (New York: Free Press, 1997).

southern and northern edges are demarcated by trees, separating Huangbaiyu from the surrounding valleys and creating corridors that lead from the mountains, down the watershed and through the town. These corridors, McDonough thought, would serve to integrate nature and the city, providing a tranquil environment that brings people closer to the cycles of nature.

In the southern half of Huangbaiyu, the blocks run east-west, with houses facing south. As the valley narrows the blocks shift to a north-south axis, but preserve the orientation of south facing structures. Despite the curved north, west, and south perimeters of the village, this allows for the 400 houses to be ordered into fifty slightly curving horizontal rows.



Figure 6.1. The Master Plan diagram for Huangbaiyu. The greatest North-South distance is approximately 0.5 miles. Existing hamlets are listed as villages, and denoted by their “Team” number. For example, Huang Family Neighborhood is listed as Existing Village 3. For a table of all names in use for all hamlets, see Table 4.1.



Figure 6.2 The Hamlets of Huangbaiyu. There are twelve discrete hamlets in the valleys of Huangbaiyu, separated by a North-South axis of 4.5 miles. Deep Ravine (A) is in the far North, stretching west from National Road 304. Mu Family Neighborhood and South Ravine (F) are at the tips of the fork in the far South. Phase One of the Master Plan's "sustainable community" (D) can be easily identified in the central valley between Western Mountain Riverside/Team 4 (C) and Dry Riverbed/Team 6 (E). At completion the new development would stretch northward to Huang Family Neighborhood/Team 3 (B).

All interior streets feed like spokes into the hub of the new town: a semi-circle of commercial and government buildings that face a central great park and lake. This is the new town's *locus mundi*—the legible well-point where individuals come together and in that space become visible as a community. It is envisioned that “village administrative offices, community center, health clinic, post office, bank, convenience retail, restaurants, day care, senior center, and farm market” will all be built here to serve the needs of the residents. The “community design” ensures that no house is further than a third of a mile from the commercial and administrative center of town.

The new “recreational lake” stands at the existing juncture of two streams, serving as a “centerpiece of the new public park.” The lake will allow the path of fish up and downstream, preserving the flows of the aquatic habitat. As part of the protection of the watershed, aquaculture would be restricted to “isolated and independent ponds.” Nature as an aesthetic form, rather than a working resource, is to be highlighted and integrated throughout this “sustainable community.” McDonough also envisions that the streams and lake can be incorporated into the school science curriculum, and provide a place of play for the children.

In addition to the central park, there are four neighborhood parks serving the northern and western sections of the town, with a soccer field acting as a de facto park for the southern section, which abuts the existing school. Each park is intended to “provide identity” and “enable a smaller scale of collective activity.”

The Plan acts to create a “jobs and housing balance” by locating an industrial zone across National Road 304 at the southern edge of town. A large area (2,000-4,000m²) has been set aside to accommodate several facilities. “Although,” McDonough writes, “the specific development program for the industrial employment facilities has not yet been outlined, ...[they will be] interlinked with utilities to allow the effluent of one process to be used as a raw material for the next.” From the outset, all aspects of the new town will be designed to restore the flows of biological and technical nutrient cycles. “It aspires to create an intergenerational community of people productively engaged in restorative commerce. Its goal is to provide a higher quality of life for the villagers and to exemplify a more hopeful future for the children.”

Anticipating the town's future “affluence,” the majority of houses have an automobile garage, but no parking is provided anywhere else in town. Paths follow the streams that wind along the north-south axis of town, encouraging walking and cycling within the town limits. While the spatial organization of the Master Plan for the prototype town has been set, McDonough suggests that more expansive villas could be built in the valley to the southwest (Temple Gully). While not in the Master Plan text, throughout McDonough's and other CUCSD Board member's visits, creation of tourist facilities was repeatedly discussed, with the plan of turning the existing old houses climbing up the mountainsides in “Existing Village 5” (Mouth Ravine) into tourist cottages.

A central focus of the Master Plan is on the role of settlement consolidation in making shared infrastructure economically viable. “Closed cradle-to-cradle cycles [will result] in cleaner water, cleaner air, and a healthier population.” Water will be supplied through a closed community system with the reuse of “grey water” before it is discharged. A cattle facility is located uphill from the town biogas plant, facilitating the transport of the largest component of the wastes that will be turned into the energy for cooking food, and heating houses. Since a greater supply of gas will be required in the winter due to heating needs, the designers stated that industry that can use intermittent extra methane supply should be pursued; both pasteurization and electrical generation were proposed. The biogas facility is the linchpin of the model's ecological aspirations: “Using biogas in lieu of coal will transfer the village's predominant reliance on fossil fuels to a reliance on fuel generated from a rapidly renewable organic material, positively affecting the community's carbon balance.”

Consolidation also allows the design “to optimize use of the valuable productive land, while enhancing habitat and honoring the natural setting of the site.” While the phrase “valuable productive land” is not explained within the text of the Master Plan, statements at project meetings and official documents regularly announced that “valuable productive land” meant land used for commercial cropping. But with land as a finite resource, to increase land for cropping, other land uses would have to be eliminated and space reconfigured. All non-farming land uses were classed as “wasteland,” legitimizing their appropriation and transformation through the Master Plan. Similar to how the people who lived in these valleys were thought to be “scattered,” their use of the lands leased to them by the State was seen as inefficient. Scattered settlements required more roads and paths between them, trampling land that could have tall stalks of maize under people’s feet. The irregular spaces in between houses were seen as the problem of each family having built their own house, only thinking of their own needs and preferences rather than adhering to a rational system that would create an order that would optimize benefits for all. Land enclosed within a courtyard was similarly classed as wasted, and the result of ill-informed practices. Here following his edict that waste should be turned into food literally, McDonough’s prototype for a sustainable community is determined to bring piecemeal, inefficient use of natural (and national) resources into a rationalized master plan—be that energy, land, or people.

Mediating Excrement, Forming Organic Solidarity

While denser settlements do lower the cost of laying pipes, and decrease loss in energy and cost of distribution across distance, making provision of shared infrastructure more economical, it is not necessary that the unit through which ecological impact is measured is the town or city. It could just as well be the house. McDonough’s discussion of the ecological features of house construction does not require proximity or other spatial relationship between houses.

Efficient systems of water use and recycling can be implemented at the household level, from rainwater collection to grey-water reuse. It is not the use of public infrastructure that makes the reuse of kitchen and laundry water for toilets possible. What makes it possible is the routing of pipes within the house, not outside of it. The recycling of animal and agricultural waste into gas for cooking can also be done on a household basis, if the fodder available is proportionate to the gas needed. At the household level, it is easier to estimate and then ensure the ratios needed, although it does require that every household, if to produce enough gas for their cooking and heating needs, raise enough livestock to produce enough excrement for their energy usage. Unlike the water example, in which ecologically-minded usage only requires reconfigurations of piping, household-based biogas energy requires a particular form of household production—the raising of large, sedentary livestock herds of pigs or cattle, which must provide a means of income in addition to their energy contributions to economically justify the expenditure of the land, feed, and water used to keep them. City-distributed biogas, on the other hand, transfers the labor burden of each household to a single facility, freeing up their labor hours in exchange for a fee for the service provided. In China, this shift from household production to distributed services through a shared infrastructure is what delineates the rural from the urban, the country from the city. Rather than each household bearing the responsibility for providing their own water and gas, pipes form a network that binds their access to these necessities to their neighbors’ access. Public infrastructure serves as the city’s circulatory system, supplying the necessities of biological life so that urban labor power is freed to circulate within the capital market.

This binding yet libratory tie of the person to a distributed public is the distinction of urbanity in China: urban residents receive their sustenance through the pipes and wires managed by

government, and through this system are governed.³⁴⁰ The urban-rural divide should therefore no longer be thought of simply as a divide between types of economic activity, or the remains of historical geographic divisions. To be rural is to be responsible for the provision of one's own biological needs: shelter, heat, water, and food. To be urban is to be managed and measured through circuits of consumption. My argument here is not that the rural population is not governed, but that it is governed in distinctly different ways than the urban population in modern China. The critical distinction is the provision of public infrastructure.³⁴¹

Simply thinking of communal infrastructure as creating the opportunity for employment is misleading, however. It requires it. The delivery of water and energy to one's home comes with a bill. How is that bill to be paid? From the wages earned by the labor that the infrastructure services made possible. Just as household biogas provision requires a specific form of household production, based upon assumptions of land use and the profitability of raising sedentary cattle or pigs, a city, or in the words of the project, "sustainable community"-based biogas system requires a system of market production.

The relationship between public circulatory systems and market production has an intimate history. Historically, cities existed in Europe long before a circulatory system was in place beneath the surface of the city's streets and buildings. At its core, the city is a place of accelerated exchange of goods and services, where the proximity and density of persons encourages specialization in the production of goods, and facilitates profitable trade. This specialization requires a literal interdependence between persons for survival: the cobbler's work allows other persons to no longer make shoes, allowing them time for other pursuits, such as iron mongering, baking or trade. When each person or household takes up a specialty of production, they then must, first, rely upon other persons to take up all the other production that they would need to do to survive, and, second, make enough profit from the sale of their own goods in order to be able to purchase their meeting of their needs from others. This is, of course, the sum of the socio-economic relationships we generally call the division of labor.

There is more to the division of labor than specialization of production and the trade in such product, however. The interconnectivity that market production requires has long been argued to be of moral, as well as economic benefit. Social theorists of various inclinations have written of the transition from household production to market production as one that is integral to the development of humankind, privileging it above a life in which a person provides all of his own needs himself, or within his household. Karl Marx argued that "[t]he contrast between town and country begins with the transition from barbarism to civilization, from the tribal regime to the state, from the individual locality to the nation, and recurs in all history of the world until our own days."³⁴² Much influenced by Charles Darwin's work on the evolution of species and the benefit of ecological niches to species survival, Emile Durkheim wrote that such self-sufficiency is "a state of detachment and indeterminateness [that] is somewhat anti-social"³⁴³ and that it is not only "a law of

³⁴⁰ See Stephen Collier, "Post-Socialist City: The Government of Society in Neo-Liberal Times" (Ph.D. dissertation, University of California, Berkeley, 2001) for analysis of biopolitical governance through heating pipes in Russia.

³⁴¹ Confirming my analysis, the National Bureau of Statistics' announced in November 2006 that any area—regardless of nomenclature as a township or village or the economic activity of its residents—would heretofore be deemed urban if its buildings were integrated with government provided infrastructure. Lisa Hoffman and Liu Zhongquan, "Rural Urbanization on the Liaodong Peninsula" in *Farewell to Peasant China: Rural Urbanization and Social Change in the Late Twentieth Century*, ed. Gregory Eliyu Guldin (New York: M.E. Sharpe, 1997) on rural urbanization in Liaoning province in the mid-1990s also concluded that public infrastructure was seen as a critical marker of "urbanization," along with other forms of "service," such as retail stores.

³⁴² In Fernand Braudel, *Capitalism and Material Life, 1400-1800* (New York: Harper Row, 1974), 373.

³⁴³ Emile Durkheim, *The Division of Labor in Society* (New York: Free Press, 1997 [1933]), 4.

history”³⁴⁴ but a “law govern[ing] biological development”³⁴⁵ that such a “horde”³⁴⁶ of independent and detached persons be transformed into a state of organic solidarity through the division of labor. Such evolutionary biological sentiments are encapsulated within the everyday language of historical time used to authorize the necessity for intervention in some people’s lives: progress, development, and their antithesis, backwardness. Those who are not enveloped within the circuits of exchange are not fully human, not properly human, and so all the work done to incorporate individuals into “a social body” is done to realize their potential.

Once the body metaphorically represents society, following the work of Foucault and Paul Rabinow, physiological knowledge of the biological functions and interrelated systems of the body are projected onto the social body.³⁴⁷ This grounds the objectification of all human interactions as available for scientific study and intervention. Durkheim’s analysis that the division of labor experienced in modern, industrial cities is due to a biological law—a law that cannot be circumvented without harming the welfare of the body—is shaped by this epistemology. By the end of the eighteenth century, Foucault noted a shift in the technique of government, whereby the organization of space became an object of scientific practice and political technology.

Architecture begins at the end of the eighteenth century to become involved in problems of population, health and the urban question. Previously, the art of building corresponded to the need to make power, divinity, and might manifest. The palace and the church were the great architectural forms, along with the stronghold. Architecture manifested might, the Sovereign, God. Its development was for long centered on these requirements. Then, late in the eighteenth century new problems emerge: it becomes a question of using the disposition of space for economico-politico ends.³⁴⁸

The welfare of the population had become a project of governance, and the ordering of urban space its instrument.³⁴⁹ It is only at the point in which the eye of the planner is focused on how to improve the social body through the application of perceived social laws to the organization of the city that any city becomes modern.³⁵⁰

It should be no surprise that one of the first targets of urban planning was the elimination of human and material wastes. When Haussmann brought running water and sewage, gas and electricity

³⁴⁴ Durkheim, *The Division of Labor in Society*, 126.

³⁴⁵ Ibid., 139.

³⁴⁶ Ibid., 126.

³⁴⁷ Rabinow, *French Modern*, 10-11.

³⁴⁸ Michel Foucault, “The Eye of Power,” in *Power/Knowledge*, ed. Colin Gordon (New York: Pantheon, 1980), 148.

³⁴⁹ In addition to Foucault’s work on the normalization of the welfare of a population through architectural space, there have been several illuminating studies of urban planning and its role governing the practices of everyday life and structuring a moral imagination in the past twenty years. Rabinow, *French Modern*, provides history of the present through organization of space in France in the hundred years from the 1830s-1930s; Holston, *The Modernist City* provides a historical and ethnographic investigation of the modernist aspirations and real outcomes of the utopian capital, Brasilia; Scott, *Seeing Like a State* seeks to unravel through comparative history how the “State” has come to construct and objectify a “population,” and then intervene for its benefit, and cause tragedy; Mitchell, *Rule of Experts* focuses on the roles of experts, and the model constructions they think will bring “new peasants” into being in Egypt; David Bray, *Social Space and Governance in Urban China: the danwei systems from origins to reform* (Stanford: Stanford University Press 2005) constructs a genealogy of urban planning’s social and moral aspirations to undergird his study of the system and architecture of the *danwei*, or work unit, in China; more peripatetically, James Faubion, *Modern Greek Lessons: A Primer of Historical Constructivism* (Princeton: Princeton University Press, 1993) takes us through the negotiations and reformations of spaces of Athens.

³⁵⁰ Rabinow, *French Modern*, elegantly makes this argument with extensive historical detail, using the construction of the social environment of France as a case study.

through his “regularization” of Paris, like McDonough, he had conceived of the city as an organism, and sought to open up its blockages and accelerate circulation in a plan to provide a healthy environment for the social body. Growing population and increasing density were trying the limits of the self-organizing city to maintain the welfare of the people. Wastes from various forms of production, including the excrement from human existence, were polluting the waterways, and as waste literally become food, cholera epidemics swept through the great cities of Europe,³⁵¹ claiming 18,000 people in Paris alone.³⁵²

The epidemics of the 1830s and 1840s demonstrated to those in government that much of what determined the health of the social body was beyond their control. While economic integration through the division of labor had made the conflation of market production with human development possible, the lack of regulation of the basic necessities for the survival of the social body made the care for its welfare beyond its reach. The advent of public sewage systems, along with provision of water, gas, and electricity, to the sections of Paris that Haussmann demolished and then rebuilt integrated the social body as never before: now production, consumption, and elimination were all systematized. This “regularization” did have enormous public health benefits, precisely because it made it possible for a few persons to know, measure and control the activities of many.

A circulatory system that accelerated the elimination of wastes and delivered water and fuel was as important to the existence of the social body as the structures that facilitated the division of labor. It also made the metaphor of the social body more literal, in that with the advent of public infrastructure, the bodily necessities of individuals were now mediated through a circulatory system that tied their ability to receive nourishment or eliminate waste to each other. The changes in economic relations at the end of the eighteenth century, Foucault wrote, “made it necessary to ensure the circulation of effects of power through progressively finer channels, gaining access to individuals themselves, to their bodies, their gestures and all their daily actions. By such means power, even when faced with ruling a multiplicity of men, could be as efficacious as if it were being exercised over a single one.”³⁵³ While Foucault is speaking of channels in a figurative sense here, reading channels literally, as the pipes that connect all the spaces of urban inhabitation, illuminates the effective power of such banal structures as plumbing to dictate the conditions of everyday life.

Such infrastructure that distances the body from its own waste is also, following Norbert Elias, a critical juncture in “the civilizing process.”³⁵⁴ Ever increasing separation of the human body from its animal functions creates the distinctions of civility that are taken as the markers of human development. If a person needs to defecate in one of the existing hamlets of Huangbaiyu, they will walk to a shed located in either the western corner of their yard or outside their walls near a path or road, and squat over a slanted channel that leads to a pit dug a few feet into the ground just behind the shed. It is not deep and it is easily accessible, for this waste is used to produce food—annually turned into manure for vegetable gardens. The shallowness of the hole, and the slanted face of the channel, means that the last visitor’s deposit is often visible to the next. This does not usually provoke disgust, but can arouse concern. The color, texture and smell of another’s excrement reveal the state of the gastrointestinal system within; making comments as to what someone should or should not eat for the next few days, or simply altering what is cooked that day is an everyday

³⁵¹ Both Rabinow, *French Modern* and Holston, *The Modernist City* argue that the cholera epidemics in the 1830s were events that transformed the perspective and instruments of urban governance. For a history of the epidemic itself, see John Morris, *Cholera, 1832* (New York: Holmes & Meier Publishers, 1976), and for a focus on Paris see Francois Delaporte, *Disease and Civilization: The Cholera in Paris, 1832*, tr. Arthur Goldhammer (Cambridge, 1985).

³⁵² Rabinow, *French Modern*, 34.

³⁵³ Michel Foucault, *Power/Knowledge: Selected Interviews and other Writings* (New York: Harvester Press, 1980), 151-152.

³⁵⁴ Norbert Elias, *The Civilizing Process: Sociogenetic and Psychogenetic Investigation* (Oxford: Blackwell Publishing, 2000).

practice. This publicity of excrement is certainly the antithesis of urban flush toilets that whisk away all proof of the bodily functions at the touch of a button. In addition to distancing the body from its wastes, the sewage system also takes what was a natural resource, or in McDonough's terms, a biological nutrient, that cycled in a "closed-loop" within the household, and removes the prerogative of its use from the household to the "public," and requires payment before its use-value is returned to the household as gas. What was a closed-loop cycle through the household becomes a cycle that mediates between the household and the "community," private and public. That mediation not only "civilizes" through distance and marketizes through a division of labor, but as the circulation of excrement is externalized from the household, central governance of the everyday functions of life becomes possible. Cycles of nutrients are also cycles of power.

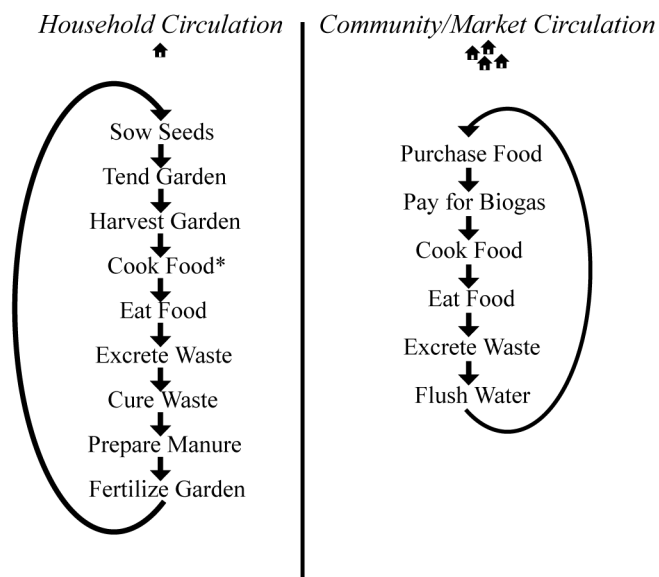


Figure 6.3. Excrement-Nutrient Cycles in Systems of Household and Community/Market Circulation. In household circulation, the circulation of excrement and nutrients is primarily internal within the household. Vegetable gardens are fertilized with human manure; vegetables are eaten, and their wastes excreted, which form the basis of manure. In the community/market cycle, excrement is flushed down toilets and then converted into a gas, which is purchased by households for cooking. Excrement is externalized, and monetized. Most vegetables are purchased since land for vegetable gardens was severely reduced in the Master Plan, making subsistence gardens no longer viable. *Under Household Circulation food is primarily cooked with subsistence wood fuel, some families sometimes also use purchased LPG.

Naturalizing a New Chinese Working Class

The fear of wastes at the advent of urban planning was more literal than the wastes that are seen to threaten the social body at the beginning of the 21st century. Now the social body is understood as a global rather than national organism. Rather than the uncontrolled flows of the excretions of the human body polluting local waterways leading to mass death in the city, now it is the uncontrolled flows of the emissions of the industrialized social body that pollute the air, and imperil the planet. But then, as now, the response is to make ever more of the activities of persons knowable and controllable, so that they may be governed as part of the social body. The change in the scale of the social body has changed urban planning's object, however. While Haussman's eyes were focused on the city, McDonough's gaze roams everywhere. Why is this significant? While Haussmann's plan effected a regularization of an existing working class in the name of the health of the social body, McDonough's would create a new working class.

In seeking to build a “sustainable community” out of “isolated,” “scattered,” “self-reliant” households, the Master Plan for Huangbaiyu reverses the temporal relationship between public infrastructure and market production. In cities such as Paris, the advent of water, gas and sewage systems came after the density of inhabitation and local threat to public health necessitated this new division of labor. In Huangbaiyu, the biogas infrastructure *establishes* a density of living that would make the forms of household production that had sustained most families in these valleys untenable. In addition, with the labor that households normally perform to provide water and fuel to their homes transferred to a centralized system, they must now pay for the service of other’s labor and capital investment. What was earned by the work of one’s own hands and so required no cash outlay must now be paid for in money. Of course, the various partners of the CUCSD often heralded the importance of the biogas plant in freeing up “wasted” time, so that people could use their labor-time more productively, always meaning for a wage. What the biogas plant actually does is increase the cost of living, so that if a family wants to just to maintain the lifestyle they had before the “sustainable community,” they must earn more money than they did before, and in an organization of space that effectively dispossesses them from their means of household production income through reduction or elimination of all land uses that are not for commercial crops. The designers of the Master Plan were aware that their rendering of the model eco-city would reduce the land used for subsistence gardens, and leave no space for the various forms of animal husbandry that occur in the existing hamlets.

The designers did not consider this a problem, however, as the point of the exercise was to create an ecological town where the residents would be gainfully employed in “restorative commerce.” Given McDonough and Braungart’s heralding of commerce as the engine of sustainable growth, it should be no surprise that their “sustainable community” is imagined as an industrial town. This is obviously indicated in the inclusion of an industrial zone, where McDonough conceives of manufacturing plants where one plant uses the waste of another as an input in its own production cycle. Writing for the audience of the *Harvard Business Review*, McDonough highlights the economic opportunities that are embedded within such cradle-to-cradle design: “For example, wasted heat from a green textile factory could be used to dry grain in a nearby brewery; the spent grains from the brewery could be used as bedding for neighboring mushroom growers. These kinds of experiments not only present commercial opportunities for Western firms but also may yield valuable economic lessons for the entire world.”³⁵⁵ With the commercial opportunities accruing, supposedly, to Western firms, it is left to the residents of this ecological city to provide the labor.

Writing for the United Nation’s Environmental Program, McDonough and Braungart make explicit that “the promise of cradle-to-cradle design” for Huangbaiyu is a transformation from smallholder agriculture to commercial industry. “The people of Huangbaiyu will be steadily employed in a variety of local enterprises, from sustainable forestry to farming to working in the biogas facility or a wood products plant. The enduring cycles of nature, it is hoped, will generate a wide spectrum of community wealth.”³⁵⁶ They do include “farming” as a local enterprise, but the consolidation of the hamlets and elimination of the “wasteland” that households used for animal husbandry and gardens turns being a farmer from a viable means of supporting a family to an assured path to poverty. The use of the term “employed” in conjunction with farming is also significant, in that it tacitly acknowledges China’s specific national interest in rural settlement centralization: the consolidation of household farms into corporate agriculture holdings. Self-employed small-holders are transformed into wage labors on land that was once their own from

³⁵⁵Harvard Business Review, “The HBR List,” 7.

³⁵⁶ William McDonough and Michael Braungart, “Towards a Sustaining Architecture for the 21st Century: The Promise of Cradle-to-CradleDesign,” *UNEP Industry and Environment*, April to September 2003, 16.

which to profit. As Dai told a reporter from the Ministry of Construction, “We are in the process of diligently exploring high-efficiency agriculture and intensive agriculture, planting high added value cereal and grain crops and industrial cash crops, then we will raise the productivity through combined (holdings) agriculture. As we change the way of life of the farmers and increase the rate of forest coverage, developing forestry manufacturing will also be a feasible road (of development).” Both paths to development that McDonough and Dai offer involve transferring the use value of lands from households and communal holdings to a commercial venture. In each case it is the farmers who will become the workers, rather than the farmers who will retain control or equity.

In order to improve their quality of life, the lands that households could invest in and profit from themselves, where they would receive the surplus value between their expenditure of capital and labor and the sale price of grain or wood, were to be transferred to industrial interests, whereby they would benefit from providing wage labor. The income of households would no longer be subject to the uncertainties of weather and risk of rising costs and falling prices, but would find regularity in a predictable wage. “Time would become money,” where the return of work can be quantified in a labor schedule of hours, weeks and months, unlike the hours of work that go into sowing, husbanding and harvesting a crop or raising animals where the weather, insects, viruses, and fungi all work in ways that can either help or hurt. No direct, calculable relationship is guaranteed, for good or bad. In the transition to wage labor, the smallholder gives up the poverty of a bad season and the wealth of the good for the consistency of a wage. Both the risk of profit and loss is transferred to the industry.

While this might seem an equitable trade, it should be considered that after a bad year, the farmer still has his land and his herd from which to seek profit in the next, and even when these businesses collapse, he can rely on his land as insurance for subsistence food. When the industry collapses, he loses his job, and realizes that the security he had was false—it was still dependent on the rises and falls of price. It is just that the upside is denied him, and the downside is amortized over a longer length of time than when he employed his own labor time. When the downside comes, he is left with nothing to ensure his subsistence.

The implications of the Master Plan for the transformation of small-holders whose dominant economic orientation remains household production into wage laborers is not one purely based on a hermeneutical reading of the Master Plan, or other discourse on the goals of the project. Living in the valleys of Huangbaiyu and watching the first 42 houses of Phase One of the new “sustainable community” replace what had been a field of grain provided the residents of the surrounding hamlets ample time to consider the architecture of this new development, and what it would mean for their own lives.

Table 6.1. Available Sources of Household Income in Existing Hamlets and Under the Master Plan. The Master Plan eliminates all prospects of smallholder agriculture except commercial grain agriculture.

<i>Hamlets</i>	<i>Master Plan</i>
Smallholder Agriculture	Smallholder Agriculture
Trout	—
Goats	—
Silkworms	—
Vegetable Gardens	—
Subsistence Livestock (pigs)	—
Commercial Grain	Commercial Grain
Wage Labor	Wage Labor
Contract Labor	Contract Labor
Day Labor	Day Labor

By the time the houses were completed, the differences between their own houses built by their own hands and the mass-produced houses designed to be sold to them were obvious to everyone with whom I spoke. Residents' reactions were consistent, and can be summarized into two general observations from which I have selected two typical responses. First, "Those are houses of workers. Only people who live in a factory could live there." And second, "If there was a guaranteed job with a pension, then I'd consider it. There is no land, so there must be other guarantees." After all, their legal classification is as a "farmer" not as a worker. All residents with whom I spoke over the course of the 15 months I lived in Huangbaiyu made the first observation, while slightly less than half made the second. Of course, classed as "farmers" for life due to their birth in the countryside, industry is neither obligated to provide a pension plan, health insurance, nor abide by any existent labor laws. After all, their legal classification is as a "farmer," and their insurance is supposed to be the land. Residents in these valleys know this, as attested to by their recognition that a pension must come in exchange for their land. Since this is not required by law, it remains to be seen whether commerce that is "constantly seeking short- and long-term advantage"³⁵⁷ would be concerned with equity.

Their perceptions of the new development as a "houses of workers" accurately represented the economic effects that moving into the "sustainable community" would have on their household incomes. The results of a randomized ten percent household survey I conducted in each of Huangbaiyu's hamlets in August-October 2006 detail the devastating economic effects that would befall families relocated from the hamlets into this model of sustainable development.

When I asked Zhao Qinghao if there was wasteland in the surrounding valleys, he looked at me quizzically. "Wasteland? No, no," he replied shaking his head. Then thinking that perhaps I had misspoke, he offered, "Do you mean to ask about extended land [the land claimed beyond what is officially leased by the hamlets to each household]?" In the minds of valley residents, all land was used productively, albeit for many varied purposes. There was crop land and garden land; land for goats, cows and mules; land for homes and land for graves; land for walking paths and land for waterways. Even the land used for throwing garbage was not considered "wasteland", as it too had a purpose. Half of the wasteland that municipal government officials and the CUCSD design team thought would be the source of the 171 percent increase in arable land—land that was to be

³⁵⁷ McDonough and Braungart, *Cradle to Cradle*, 60.

converted for cropping—was in fact not wasteland, but primarily the garden lands and lands for animals that formed a critical foundation to household economy. In order to increase the median household income by sixteen percent through an increase of 3.55 mu, families' gardens would be severely limited and animal lands eliminated.

In the hamlets of Huangbaiyu, profit from the annual corn crop provides the median household only twenty-three percent of their annual total net income, or RMB 1,750 out of a total of RMB 7,641.³⁵⁸ The sources of the additional seventy-seven percent of annual household income vary by household to include various proportions, in increasing order of importance, of seasonal contract labor, casual day labor, non-grain agriculture, animal husbandry, and aquaculture. In these valleys, thirty percent of households raise goats for their cashmere. Of these households, the median profit from the sale of cashmere is RMB 5,030.³⁵⁹

While the CUCSD and its partners in development categorize Huangbaiyu as a “scattered” village, it is more accurately described as a composite village that is distributed through a central valley with twelve distinct areas of residential density divided into nine official districts.³⁶⁰ As such, the primary way in which centralizing the nine districts increases available farmland is through the reduction of land available to each household for non-farming use. Through this process, it is said that unproductive wasteland is made productive, implying an increase in farmers' income. In the Master Plan for Huangbaiyu, however, fifty-one percent of the 1,422 mu of new arable land does not arise from a transformation of un-used land into production. Rather, by converting what was perceived by McDonough and his Chinese partners as wasteland in between houses and within courtyard walls, the Master Plan not only eliminates the areas in which goats are penned for the night in summer and housed in the winter, but also the space for family vegetable gardens. In so doing, the Master Plan would cost the median family that raises goats RMB 5,030 per year, while only potentially increasing their farm income by RMB 1,243 per year.³⁶¹ This would cause a potential loss in household income of RMB 3,788, or 49.5 percent of the median annual income. For who then would the additional land for a commercial grain crop generated through what McDonough himself writes as in the Master Plan as “an economic restructuring of the village,” be productive? What is wasteland according to national and global priorities is the lifeblood of local livelihoods.

In the conversion of the watershed from a working resource to an aestheticized landscape, the most profitable local form of agriculture is lost. Twelve percent of households in these valleys practice aquaculture of golden and rainbow trout. In 2003-2005, raising rainbow and golden trout provided a minimum annual profit of RMB 12,000.³⁶² While the presence of aquaculture is

³⁵⁸ This data comes from a ten percent household survey conducted by the author in each of Huangbaiyu's hamlets, August 2006-October 2006. Median household holdings are 5 mu (6 chinese mu are equal to an acre), earning on average 350 per mu per year.

³⁵⁹ The average herd had forty head, with each head providing .9 jin of wool per year, at a price of RMB 180 per jin, earning an income RMB 6,480 annually. The median cash outlay for cornstalks for this size heard is RMB 750 per year, supplemented by the loss of cash income from the use of two mu worth of grain, leaving a median profit of RMB 5,030. Households raising cashmere consistently earn above the village per household median income.

³⁶⁰ Before 1949, each of these twelve areas was a distinct village, with its own name and social structure. It is just as common for residents to refer to these areas by their village name, as it is to here reference to “work units” and “groups”.

³⁶¹ The average household farms five mu. Assuming an equal distribution of the additional 1,422 mu between the families who could move into the 400 houses of the “sustainable community,” that would provide each household with an additional 3.55 mu.

³⁶² Market prices for live trout at the time fluctuated between RMB 8-10/half kilogram, or 斤 (jin). An initial survey of aquaculture households demonstrates that annual sales trout exceed 4,000 fish at 1.3 jin per fish. After costs, the profit per fish is approximately RMB 3.

considered in the Master Plan, it states, “to prevent contamination of the natural streams with diseases and waste from the confined fish” the “fish raised as an aquaculture crop would be confined in isolated and independent ponds.” Trout cannot be raised in isolated and independent pools, however, as they are a species that requires cold, running water. These households would have their income cut by 85 percent.³⁶³ Without additional income, such a household supporting only three persons would be well below China’s rural poverty line.

The rural poverty line assumes in-kind income from subsistence gardens and unpaid use of natural resources, such as those from watersheds and forests. In the “sustainable community” these “wasted” uses of land and perceived abuse of the environment would no longer be allowed, and families would lose those in-kind incomes. In 2005, the rural poverty line was established at an annual income of RMB 683 per capita, while for urban residents it was RMB 1,200 per capita. The implication of this policy is that to maintain the same quality of life rural residents require less cash expenditure than their urban counterparts. But in the transformation of “scattered” and “isolated” households that waste natural and national resources into a “sustainable community” with public infrastructure, the governance of these households is effectively changed from rural to urban.

With the “wasteland” that was their vegetable gardens converted into crop land, families will no longer be able to sustain themselves with their own food, but must purchase it. Throughout the year, however, food is neither inexpensive nor convenient to purchase. The truck that plies the village roads from the next town over the mountains sells produce at a higher rate than found in the cities, and does not reach these valleys most years November-February. Without an extensive garden to prepare a winter store of pickled cabbage, root vegetables and dried sliced vegetables—or the *dues ex machina* arrival of a grocery—hunger would quickly lead to weakness, and weakness to disease in these frigid mountains. The median household left to only their slightly increased crop income would already be barely living above the poverty line of RMB 2,391, earning RMB 2,993. Given the increase in the cost of living in urban space—the purchase of food, water, waste management, fuel, etc.—if income is calculated against the urban poverty line, and if households are left to rely only on crop income, they would then be living on less than half the income below which families qualify for welfare payments under China’s urban minimum livelihood guarantee.³⁶⁴ It is a farce that such a household could ever afford an automobile.

No longer builders of their own homes, they are to purchase them. No longer providers of their own heat and water, they are to purchase them. No longer having the land for growing their own food, they are to purchase it. No longer having the space needed for agribusiness, they are left to find wage work – in a place that has little. Huangbaiyu was rural by all accounts, after all, before the plan to make this valley a developmental model for 600,000 villages across China began. The “three rural problems” of the countryside, agriculture, and farmers were knotted together precisely because in the countryside the only means of surviving was living off the land. If there were other forms of work available to the population, it is likely that families would have already chosen to live closer to each other on less land and with shared public services, just as many towns and cities have evolved before.

The case of Huangbaiyu reveals that there is a familiar industrial logic embedded within current designs to stem the rising energy consumption of rural populations through settlement consolidation and provision of public infrastructure: turning subsistence producers into market consumers, and shaping household economies to produce nationally recognized and measured

³⁶³ These families would lose their aquaculture income, leaving them with income only from the sale of maize. While this maize would have been used as fish feed, it could now be sold. Using the median cropland holdings and income from maize sales, this would provide an income of RMB 1,750.

³⁶⁴ Calculated at RMB 200 per person per month.

economic growth. With the labor needed to simply survive made obsolete through public utilities, labor is freed for wage work. With ecological urbanization heralded as the solution to planetary crisis, we should realize that urbanization is not just a change of housing, but also the making of a working class. The very same structures that would enable the model eco-city planned for the valleys of Huangbaiyu to provide what was thought of as an increase in quality of life without increasing the dangerous wastes of energy would also require that residents' relationship to the world around them change abruptly.

It would be impossible for families to afford to live in the "sustainable community" without becoming part of China's working class. But that was the point. As the Director of Benxi City Coordinating Council for the project, Xie Baoxing, told me, the directive of the project was to change the rural mode of life in order to lead to a new mode of production. "We must transform the countryside, we must transform the farming way of life. By turning to manufacturing their incomes will rise. Huangbaiyu sustainable development village is an experiment for the nation." With rising incomes, the majority of China's population could finally be transformed from producers to consumers. Justified by an ecological paradigm, the Master Plan for Huangbaiyu naturalizes the radical transformation of economic and social relationships. The tenets of the Master Plan that are framed as ecological are in fact geared toward the structuring of a particular form of industrial economy—naturalized as "the necessary minimum requirements for a living organism." The consolidation of settlements, conversion of "wasteland" into "productive" land, and integrated waste and energy system all organize space and material substance in such a way to force a transformation from household production to market production, from isolation to "community," from countryside to "civilization." The Master Plan also enforces a peculiarly "Western" vision of the single-generation family home as the core unit of "civilization."

Unlike the neighboring hamlets where families themselves built their houses over time, the houses of the "sustainable community" were to be built all at once, and their size permanently set. The first phase of forty-two houses were built in was built in seven tight rows. In Huangbaiyu's other hamlets, each house is the embodiment of a family's vision of its future; its layout a personal design. After already being married for fifteen to twenty years, a man is likely to have saved enough money to build his own home. Leaving the west room of his parents home, he and his family will move into the east room of his new home. The west room will remain empty, awaiting the soon-to-come marriage of his eldest son. Moving out of one's own parents house is often timed to precipitate one's child becoming a parent himself. The house will figure strongly in a potential bride's parents' decision to agree to the arrangement.³⁶⁵ A recently built house is a signal of the family's fortune, and their willingness to provide for a new daughter-in-law. An unoccupied west room also offers the son a place to meet and touch girls in privacy. Houses are built as need arises, timed with the cycle of life's great events.

The houses in the "sustainable community" are the embodiment of a global vision for the future of families in China's countryside, designed by national and international experts seeking to transform a perceived undesirable and impoverished way of life into a better one. Fears of the effects of global climate change have enabled governments and corporations to change what it is possible to think (and not think) and do (and not do) in the context of "a good life" today. We must be cautious in accepting these changes, and in accepting the plans made in the name of ameliorating global climate change as a scientific necessity, for all such plans are in fact political—and should be treated and debated as such. The convergence of global climate change fears with the increasing

³⁶⁵ See Shannon May, "Bridging Divides and Breaking Homes: Young Women's Lifecycle and Labor Mobility as a Family Managerial Strategy," in *Gender in Flux: Agency and Its Limits in Contemporary China*, eds. Harriet Evans and Julia C. Strauss (Cambridge: Cambridge University Press, 2011), 83-104.

strength of the ideology of the market has also meant that many such political decisions as to who should be targets of sustainable development also increase the economic burden on those least able to bear it.

Following McDonough's faith in the market as the solution to all problems, and China's hope that marketization will allow the countryside to pay its own way forward into modernity, the houses in the new Huangbaiyu would be sold. But given existing land tenure and population mobility restrictions—indeed, the very point of the project was to prevent more rural residents from becoming urban migrants—the houses could only be sold to existing Huangbaiyu village residents. For the master plan to work, all existing residents had to *purchase* homes in the new eco-town, so that their old houses and settlements could be demolished and turned into farmland. There could be no holdouts. If there were, the (non-market) subsidies for land conversion might not come through, and the premise that centralization would raise farmers' income through the increase of land would be undermined. That even if everyone "voluntarily" bought a house in the new eco-town, they would have nowhere for all their various agricultural implements and animals, did not raise itself as an issue for the designers and planners. The primary developmental issue at hand was global uncertainty and national anxiety, not household income.

The sustainable model development village was a prototype for changing the energy consumption of and environmental degradation caused by villagers; doing that was understood as an improvement in their quality of life when it came in the form of "modern houses." The image of the modern model house and of the first phase of the development were also obviously no longer the houses of farmers, but could perhaps be those of someone else's (well-paid) farmhand. Or perhaps a well-paid worker at any one of the factories or enterprises that the US Secretariat of the Center kept holding out as a carrot to Dai and the local government so that they would make the legal exceptions necessary for the construction of the model houses in a model development to go forward. But while the houses materialized, the jobs never did.

Even if waged jobs had materialized, there are few people who resided in the village to whom employment would likely be offered, or would make sense. China's employment laws set a retirement age of 45 for women, and 55 for men; while employers are not bound to these restrictions when hiring "farmers," many employers in China follow these guidelines, not wanting to hire people who are "old," despite these ages being considered the prime of life on the farms. More importantly, legally classed as "farmers" regardless of their means of income, none of them would be protected by China's labor law. They would have no legal recourse to maximum hours or minimum wage protection, to health care, or to a pension. Without a pension, by becoming workers they would be trading in the minimum survival security of land that can at least grow subsistence crops for the constant vulnerability of insecure wage labor. The sustainable model development village was in actuality a town—a place where agricultural activities had been in effect zoned out and household courtyards full of tools, animals, and vegetable gardens had been transformed into grassed lawns.

When Xu Changxiang heard that the point of the model houses was so that she would live there and have a better life, she said, "I don't care if it's free. This is my house. I want to stay here." When I then added that they would not prove to be free, but that a method was being devised for valuation and that current estimates were that families would have to pay anywhere from RMB 50,000 – 80,000, she exploded with indignation, in one breath summarizing the grumbles of so many:

They would have to pay me to leave the land. Pay them? I may look like a pig but I'm not going to eat whatever they throw at me. [Living] there we cannot farm. Those are workers' houses. Where's the work? Who will hire me? I'm already over 45. [The retirement age for women.] If you live in those houses, you'll be begging for

food. Modernization? They want me to move? They need to buy my land. That is our future. It is all the nation has given us. Sure, farmers are farmers, but we're not their pigs. Officials only take care of officials. If they want my future, my children's future, my grandchildren's future, all the generations, I want [RMB] 500,000.

For the planners making decisions premised on countering an uncertain future of ecological change for the planet, the fact that greater integration with market-forces and wage labor might be experienced as bringing a fraught and vulnerable future had not occurred to them. Looking to the history of centuries past, ecological preservation has often led exhortations that justified primitive accumulation of resources away from many small-landholders to a few large ones. In proposing technical solutions—energy systems, waste management—McDonough and his partners acted as if these interventions were nonpolitical,³⁶⁶ as if they were not interfering in the personal, familial and social ways in which life is lived. That an intervention in the lives of a person or a population is only technical is part of the illusion of development whereby radical political shifts are masked behind what are conceived of as technical programs.

Ecological discourse centered on human-caused catastrophe, whether centered on the “tragedy of the commons” for local pasture or extrapolated to the peril of the planet, is a normalizing justification for accumulation and distribution of resources—intentional or not. Such ideology uses the projected self-interests of individuals within “the masses” to justify their disenfranchisement under the guidance of expert caretakers. It is a temporal disjunction that gives this reasoning its effective power: although it is clear that in the present such interventions lead to distributions of resources that could be evaluated as being harmful to the already most disadvantaged, the justification that without such a reformation of life today, the preconditions of life would no longer exist tomorrow, is a compelling and empirically irrefutable argument.

This line of argument also obfuscates the spatial and temporal differences between whose lives might be altered in the future, and to what extent, and whose lives are being altered now. The legitimacy of the intervention lies in an unknowable future, abetted by scientific authority, but premised upon the preservation of a particular notion of “the good life.” There are risks, of course, of not acting on knowledge of a probable future catastrophe even though its certainty cannot be verified in the present. But does a risk to one way of life—a risk to current modes of living and consuming in the US and places like it—authorize the radical intervention into the lives of persons living in rural China, in the name of a global benefit?

Conclusion

Through the work of the designers' hand, disorder is ordered, irrationality is rationalized, waste is made productive, and the irregular is regularized. Through the Master Plan's introduction of successive methods of mediation—circulatory systems of waste and labor—hamlets in rural valleys are transformed into an industrial town. It is a utopia where the economic relationships of commodity production and distribution are perceived as the natural filaments with which to tie a community together, where science and technology allows for increasing control over both the individual body and the social body. McDonough's ecological modernist perspective enables him to believe that his intervention is not an intervention at all, but simply a restoration of “natural systems.” The Master Plan restores “the preconditions of a living organism” by creating an “open system through which materials flow,” and naturalizes the market production and urban governance as the only non-pathological forms of human existence.

³⁶⁶ Ferguson, *The Anti-politics Machine*; Li, *The Will to Improve*.

When architect and designer William McDonough took on the challenge of designing a sustainable housing development in this rural valley, he remembered his vow to build a better world from taking the perspective of all species on the earth into account in his designs. He turned to the perspective of a bird to guide him to decide the overall design of the habitat, and following the drainage of the watershed and the flow of indigenous fish to indicate where the new, consolidated sustainable development should be constructed in the valley.

Following the guide of established practices in the field of sustainable design and the suggestions of his Chinese counterparts, McDonough inadvertently designed an ecologically sound plan—from the perspectives of both birds and the green movement—that would devastate the local economy and bankrupt the households whose lives were to be improved. From an ecological view,³⁶⁷ McDonough and his counterparts in the design process did evaluate aesthetic, natural resource, and social values as the foundation upon which to proceed. From the perspective of lessening both the burden of the Earth in processing carbon and the burden of rural residents to labor untold hours to simply generate enough heat to stay alive, shifting the local fuel source from wood to agricultural waste seemed a brilliant solution. The mistake was having government officials and designers assume what was waste and what was productive in an agricultural economy in which they did not participate. Paying attention to how waste is classified reveals the structure of value that organizes our material world.

People and places carry the inheritance of history even as development seeks to transform the old into whatever is now understood as the next step in the evolution of universal progress. The project to make Huangbaiyu into a model eco-town was not the first developmental project to re-order the lives of the residents of these valleys. The People's Republic of China is an exemplar of what has been called the developmental state. While it has sought to revolutionize the countryside twice in the name of national progress, first through Communism, and second, through the market, each revolution never successfully erases the past. It builds upon it. And yet modernist development has an unfaltering faith its own ability to identify the obstacles in the way of universal progress, and create projects to remove them. In the following chapter, I turn my focus away from the ecological claims, politics, organization and design of the project to build a “sustainable community” in Huangbaiyu. In Chapter Seven, *An Experience of Universal Progress*, I focus on how previous iterations of development have shaped the lives of people in these valleys and in the neighboring city of Benxi, while also providing a more general social and geographic history of the hamlets of Huangbaiyu and the people who live in there. I also work to show the hopes and aspirations of people who are seeking the promise of what development is to deliver, and yet whose conditions seem to be repeatedly misunderstood by the people who would help them. Far from a blank slate upon which a Master Plan could be drawn, the families in Huangbaiyu bear the residue of the various states of China's national developmental history, and the notions of “the good life” that they enshrine: the imperial, the colonial, civil war, Communism, and finally, markets and the roads that bring and take away.

³⁶⁷ Ian McHarg, *Design with Nature* (New York: American Museum of Natural History, 1971).

Seven

An Experience of Universal Progress

In this physical and socio-historical analysis the hamlets of Huangbaiyu Village and Benxi City, the city in whose shadow Huangbaiyu exists, I highlight the concerns that motivate the everyday actions of the people who live there in their struggle to survive, support their families and protect what they experience as their world. These are the grounds of earth and memory, experience and prejudice that the vision to (again) reorder the lives of Huangbaiyu's families encountered when it moved from conversations amongst experts and from a flat, blank piece of paper to the complex and layered terrain of actual life.

The Chinese-American Sustainable Development Model Village is not the first externally conceived program intended to improve the lives of the people who live in these valleys. It was the first international plan, one conceived from the perspective that global problems had global solutions, but the people who live in Huangbaiyu had long been subject to national programs intended to improve the nation, and perhaps their lives. The commune and its effects on land tenure radically altered both where people lived and how they husbanded the land; the re-division of land amongst households transformed how households lived off the land, and in their homes. It is not only these two revolutions in China's national developmental history that have left their mark on the land and people of Huangbaiyu. The Qing Dynasty, Japanese Manchuria, and the Civil War all shaped the history of this place and the lives lived there; and memory remains even when modernist utopias—be they communist or capitalist—seek to erase the past in the name of the future. Like most development plans, the plan to redesign Huangbaiyu into a “sustainable community” was drawn as if these sediments of experience did not exist. But it is not that the experts and government officials acted *as if* a complicated, localized, national and global history did not already exist in these valleys. They did not know. They did not ask.

Despite decades of critique of “development” as an international or national project to improve the lives of populations, there remains the hubris that leads development practitioners to think that they can identify a “problem” that affects human lives and a solution for that “problem” without having direct and extensive engagement with those human lives before the “problem” is even identified. The desire to re-make the world—a world—into a place where people's lives are lived with less deprivation and more opportunity is an honorable one. But without the egotistical impulse that drives some individuals to want to change the world being tempered by the humility to personally engage with the individuals who live in that world, what Tania Li has called “the will to improve” becomes little more than a will to power.³⁶⁸ Even when such humility does lead the development practitioner to fully engage with the person's who are the intended beneficiaries, and with that new knowledge design a program of intervention, the intervention will have far more effects than were possible to account for. And, the intended effect may still not be achieved. Perhaps the only thing that can be said with surety is that in the case of large projects to reform people's lives and livelihoods is that the outcome is always uncertain.

³⁶⁸ Tania Li, *The Will to Improve: Governmentality, Development, and the Practice of Politics* (Durham, NC: Duke, 2007).

The work of development, so to speak, is to make the world an “intelligible field” that points to a specific problem that can be remedied through a technical solution.³⁶⁹ Because the lens through which sustainable development was seen in Huangbaiyu was the lens of global ecology, and global market economy, the assemblage of people dreaming, designing, and implementing the “sustainable community” in Huangbaiyu were blind to everything else in Huangbaiyu. This expansive blind-field surrounding the pinpoint of light on energy use and “wasted” land ensured that the project to build a “sustainable community” in Huangbaiyu was shaped more by what was unknown than what was known.³⁷⁰

In this chapter I introduce many of the myriad influences that worked to create the lives of the people and the lands of the place that the China-US Center for Sustainable Development encountered, and sought to transform. Mountains, coal, buses, iron, famine, forests, conscripts, fire, springs, and roads all play a part. It is my answer to a question posed by Peng Sizhen while touring the construction site for the model village in July 2005. As the organizational manager of the China Secretariat of the CUCSD, it was from his office in the Administrative Center for China’s Agenda 21 that the solicitation for a site on which to rebuild a village as a “sustainable community” was sent. That was in December of 2002. Two and a half years later, Peng stood in the midst of the valley that was once a maize field that was now dirt corrugated with tire-tracks and marked by pillars shaping what would become houses. He looked out at this landscape, and said to no one in particular, “In Shanghai, we can build a highway in months. The buildings just go up. This is just a village. Why is it so hard to build a little village?”

One of the reasons it was so hard to build a village, “a little village,” is that as I have worked to make clear in this dissertation, Huangbaiyu is not a village. Although it is commonly referred to as a village, since this title is the one used to demarcate the lowest level administrative unit within the hierarchy of Chinese government, Huangbaiyu is not what is often referred to in scholarly literature as a “natural village.” Rather, there are twelve hamlets within the valleys of Huangbaiyu, each a “natural village.” Conflating an administrative unit with complex socio-historic ties that create strong social organization was a critical error in the design of the project to “redefine” Huangbaiyu. Ignoring history does make things hard to do, because the people who lived that history have not forgotten. It is for this reason that in this chapter I have taken care to provide a history of each of the hamlets within Huangbaiyu’s ravines, and include historical events and personal remembrances from individuals who live in each of them. I have focused to some extent on the past as it relates to previous developmental and particularly environmental programs, but at times also dwell on residents’ perceptions—trust and mistrust—of people in their own, and other hamlets within Huangbaiyu. In the design of the project to build “a village,” no one considered that they were actually also trying to forge *one* village out of *twelve*—twelve places with different histories, families, economies, even weather.

Depending on the road taken, it takes one and a half to four hours to arrive in the valleys of Huangbaiyu from Shenyang, the political and economic capital of not only

³⁶⁹Ferguson, *The Anti-Politics Machine*; Escobar, *Encountering Development*; Mitchell, *Rule of Experts*; Li, *The Will to Improve*.

³⁷⁰ See also Li, *The Will to Improve*.



Figure 7.1. Map of China. Liaoning Province is one of China's three Northeastern provinces. It is separated from North Korea by the Yalu River.

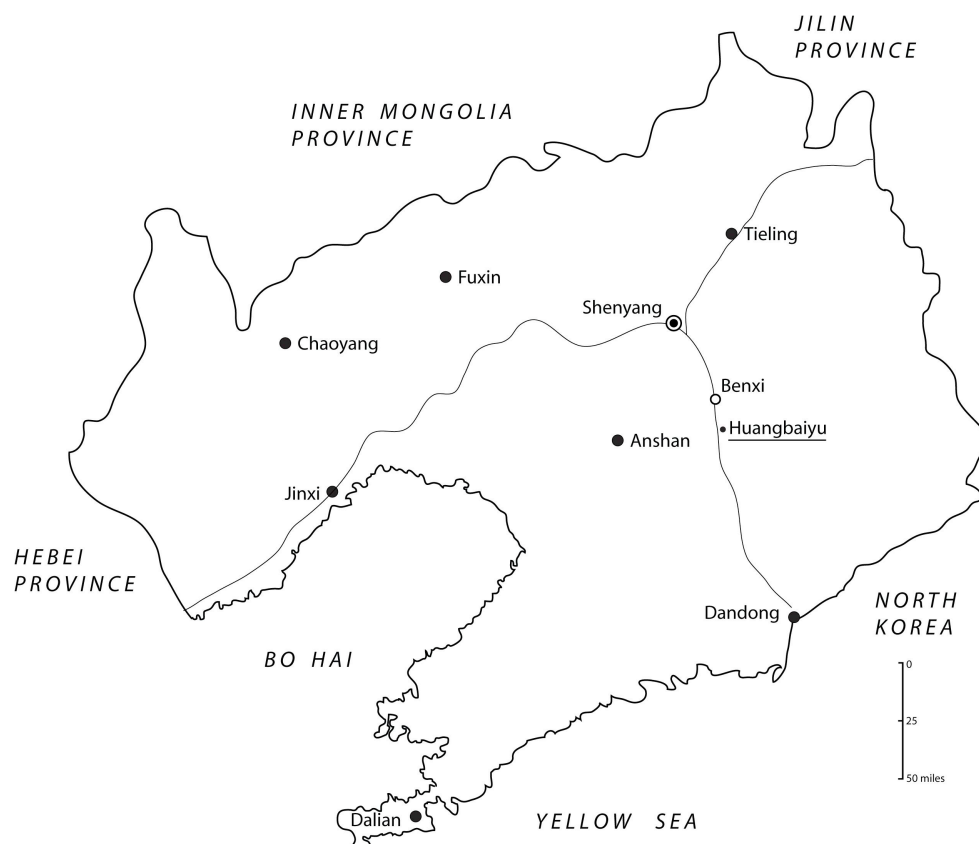


Figure 7.2 Map of Liaoning Province. Asian Development Bank financed expressways connect Shenyang to Dandong, on the North Korean border.

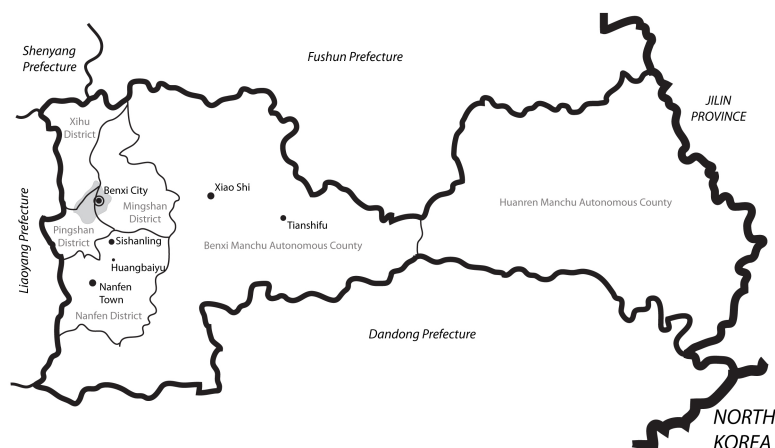


Figure 7.3 Map of Huangbaiyu village, Sishanling Township, Nanfen District, Benxi City, Liaoning Province.

Liaoning Province, but also Northeast China. In September 1996, the Shenyang-Benxi³⁷¹ section of the new highway that would eventually connect Shenyang—and all the products that feed into this city from around the Northeast and Eastern Inner Mongolia—with China’s northern ports of Dandong and Dalian was completed.³⁷² Funded by the Asian Development Bank’s first loan to China,³⁷³ the road was to provide economic development support to the Shenyang-Benxi-Dandong corridor, and the surrounding “hinterland.”³⁷⁴

Building the 75 km of expressway cost \$201,380,000. The investment of \$2,685 per kilometer of road was considered by both the ADB and Liaoning’s Provincial Ministry of Communication (MOC) as critical to the development of the region, since it would enable goods and people to speed to market. While the new expressway did significantly decrease the amount of time it takes to travel from Shenyang to Benxi, and its southern district of Nanfen, it is unlikely that the investment in the road has led to significant positive changes in the economic development of the communities too remote to be known by the international and provincial experts who see the countryside merely as a hinterland of the cities.

Before the completion of the expressway, all traffic between Benxi southward toward Asia’s largest iron strip mine at Nanfen and onward towards the tourist sites at Fenghuang Mountain and finally to China’s border with North Korea at Dandong had to travel National Road 304. Unlike the expressway, which in pursuit of speed traverses high bridges across deep valleys and cuts long tunnels through the heart of the mountain ranges, National Road 304 winds up and down the mountainsides, passing through the villages in between. In the mountains between Benxi City and Nanfen District, residents of the villages of Stone Lake, Three Rivers, and Huangbaiyu had relied on

³⁷¹ The section of the expressway that reached the northern edge of city proper of Benxi was completed in September 1994, but it would be another two years until the road would reach the additional distance to Benxi’s southern most District, Nanfen.

³⁷² The 8th 5 Year Plan included the construction of approximately 90,000km of roads and the improvement of approximately 50,000km roads, comprising 10,000km of expressways and 42,000km of automobile-only roads. Most of the those 90,000km of roads are being constructed as part of China’s National Trunk Highway System, which resembles the initiative under US President Truman to build a interstate highway system.

³⁷³ The loan was made in two stages. The Shenyang-Benxi loan, No. 1168-PRC, and then the Benxi-Dandong loan. The total project cost for the Shenyang-Benxi leg was \$201,380,000 (2000 dollars). See Asian Development Bank (ADB), “Project Performance Audit Report on the Shenyang-Benxi Highway and Jilin Expressway Projects (Loans 1168 and 1262-PRC)” (2000).

³⁷⁴ ADB, “Project Performance Audit Report.”

the passage of traffic through their valleys to support burgeoning small businesses and supplement household income.

Many families whose houses bordered the road opened “family-cooking” and “peasant family” restaurants to cater to hungry and tired travelers in their front rooms. Each of the three villages also supported several convenience stores, selling drinks, candies, and other sundries along the roadside. In addition to these year-round businesses, seasonal income could be derived from the flora of the mountains. The collection and sale of wild ginseng, the woody *lingzhi* mushroom,³⁷⁵ and cat’s claw could fund much of a household’s expenses over the year, while the sale of wild mushrooms, celery, fern, hazelnuts and walnuts allowed many women to earn cash of their own. But as traffic diverted to the expressway, the travelers who could afford to pay for meals and buy luxuries big and small, no longer passed through the villages, but took the expressway that by-passed them.

All but one family restaurant in Huangbaiyu was closed by 2000, and even the remaining one was no longer open every day. The two convenience stores lessened the goods they carried, and now competed with each other for the business of the other eighty households in their section of the valley. Without consumers of ginseng and *lingzhi* passing through the village, when such a rare treasure was found, households found it difficult to sell their prize. The lack of consistent travelers along National Road 304 made the opportunity cost of running a roadside stand of wild nuts, mushrooms and greens too high. In many ways, the reach of residents of Huangbaiyu contracted as the length of the expressway grew.

The road that was to bring the distant and unchartered “hinterlands” closer to the cities turned out to create the problem it was planned to solve in many of the mountain villages in Eastern Liaoning: a lack of economic opportunity and difficulty in getting goods to market. In Huangbaiyu at least, no one knew of anyone except the “village head” who had ever traveled on the expressway. With his fleet of cars and conspicuous wealth, the RMB 5 toll to reach South Benxi was well worth the time it saved him.³⁷⁶ Payment of the toll also purchased social capital, as to be seen coming from the old National Road 304 to enter the city was to be seen as a “peasant.”

With money more precious than time, other villagers continue to use the old road that connects them to Benxi, and onward to Shenyang in the North, and down to Nanfen and Dandong in the South. All but a handful of households out of 400 have no choice but to take the old road. It is the only one that the twice-daily bus uses. Most adults take the bus to Benxi rather infrequently, often no more than twice a year, while a once a year trip to the city for special occasions—to purchase appliances, clothes, and bridal gifts; to take engagement photographs; to fill-out bureaucratic paperwork—is common.

The timing of the bus schedule prevents it being used as transportation for labor, as it once was. The bus arrives from Benxi to Huangbaiyu’s southern hamlet of Underneath the Willows at 7:30am, makes a returning pass through the northern hamlet of Zhao Family Riverside by 7:50am, and arrives at the Forever Beautiful pedestrian shopping district just off South Liberation Road in downtown Benxi by 8:45am.

This is not the neighborhood of ore processing and factories of heavy industry that once had use for unskilled labor. It is a place of consumption, not production. Regardless of the problem of alighting in the midst of a shopping district as a rural laborer, the bus leaves at 3:30pm, returning back to Underneath the Willows by 4:45pm, ensuring that there is only enough time in the city to

³⁷⁵ There is no common English name for this mushroom. Its scientific classification is *Ganoderma lucidum*.

³⁷⁶ When opened in 1996, the toll rate was RMB 0.25 per kilometer. By 2005, it had risen to RMB 0.5 per kilometer. (It remained at this rate at least through 2007). The toll for the distance between the closest entrance to Huangbaiyu and the exit for central Benxi is RMB 10. The cost of the bus to Benxi is RMB 6.

shop or visit a government office, but not to work. In the 1980s and early 1990s, when rural labor was critically engaged in Benxi municipality's mines and processing plants there was a bus every half hour, 4am to 10pm, transporting residents from one part of the countryside to the other, and onward to towns and cities. With the dismantling of many of the state-owned enterprises in China in the late 1990s, the heavy manufacturing base of Liaoning Province—once thought of as China's heart of steel—has been left to rust,³⁷⁷ while the coastal provinces have financially benefited from policies encouraging a march toward a market economy. With residents of the countryside longer needed as industrial laborers, developmental policy began to consider how to turn the people once celebrated as laboring peasants into consumers.

Taking the “peasant” road to Huangbaiyu takes twice as long as traveling by the expressway, but the twists and turns that slow down travel on this low road as it approaches Benxi, climbs into the mountains and then twists its way twenty-six kilometers to Huangbaiyu makes it possible to glimpse the socio-economic history and physical geography of this region. This is a perspective that the expressway blurs and bypasses.

As National Road 304 stretches beyond the plains of Shenyang, it begins to climb the foothills at the western edge of the Eternal White mountain range and enter Benxi. In the early summer, the maize fields that dominate agriculture in this area are bursting a bright green from the soil. Cliff faces carved by strip mining sometimes cut the rolling hills short, however. As the fields on either side of the road begin to give way to dusty earth, and the sky hazes over with a grey veil, the road nears Beicaitun Village, an area that was once a village, but under the developmental regimes of both the Japanese from 1932-1945³⁷⁸ and then as a foundation of the “industrial cradle of New China” after 1949, both this village and Caitun Village to its southeast have long since transformed into urbanized centers of industry.

While the air often remains tinged grey in the Caitun area of Benxi, it was once so full of soot and other industrial particulate matter from factories and smelters that snow fell in flakes of charcoal, and then was blown into hills of black snow as more of winter's dust settled on its surface. Men from Huangbaiyu who worked hundreds of meters deep in the area's coal shafts wondered why the snow in Caitun was black, yet white in Huangbaiyu. I asked Mu Jianguo what he thought about the difference between the two snows, and if he thought it mattered. “Black snow, white snow, it's still cold,” he said.

Mu Jianguo did not have the luxury of time reflexively to ponder the conditions of his world. And what would it matter if he did? Weather was even more inexorable than leaders. Winters were frigid in Benxi, and even colder in Huangbaiyu, some 1000 feet higher into the mountains. Deng Xiaoping held the pragmatic perspective that the color of a cat doesn't matter as long as it catches mice—an analogy made to show that whether China uses communist or capitalist methods, as long

³⁷⁷ William Hurst has done extensive research on the “rusting” of Liaoning, and the effects of privatization on official and unofficial employment rates. See Hurst, “Understanding Contentious Collective Action by China's Laid-Off Workers: The Importance of Regional Political Economy,” *Studies in Comparative International Development* 39, no. 2 (Summer 2004), 94-120; William Hurst, *The Chinese Worker After Socialism* (Cambridge: Cambridge University Press, 2009). As Hurst notes, official records of unemployment in China do not include “temporary” workers, otherwise known as the people who have “farmer” stamped on their identification cards. When “farmers” are dismissed from labor pool, it is as if they were never there.

³⁷⁸ The Japanese invasion of China began in Manchuria, or what is now called Liaoning with the Mukden (now, Shenyang) Incident on September 19, 1931. From 1932-1945 the Japanese occupied Liaoning, actively extracting its rich natural resources of iron, coal, and other metals. With the defeat of the Japanese in 1945, Manchuria was turned over to the Russians, who proceeded to mine Liaoning from 1946-1947. The Russians retreated as the civil war between the Nationalists and Communists moved north. The People's Republic of China was proclaimed on October 1, 1949.

as the country develops, the goals of the nation will have been achieved. Mu Jianguo, however, has a rather fatalistic view of life. Whatever the color of the snow, he would always be cold. He has no power to influence the snow, just as he has no power to influence China's centrally planned economy, and the demands on Benxi Steel that kept him down the dark pits, day after day. "We were told it didn't matter. The East is Red."³⁷⁹ The snow is black. It's just how things are," Mu concluded.

While Mu and other workers and residents of Benxi saw black most of the winter, other people trying to get a glimpse of the city saw white. When the United Nations Environment Program (UNEP) took satellite images of Northeastern China in order to document changes in landscape in the late 1970s, all that was visible for much of the winter in the location everyone knew as Benxi was a large white smudge. There were no other clouds in the sky to cover the land, but Benxi had shrouded itself in the wastes of industrial development. In order to draw attention to environmental degradation in China, and in particular air pollution caused by the exhaust from heavy industry and coal smelting, UNEP announced to the world in 1979 that Benxi had become a "city that cannot be seen by satellite."³⁸⁰

Busy living up to his name out of both patriotism and the basic need to find work to support his family, Mu Jianguo didn't know that those years in the early 1980s working in Benxi were years that would shorten his life. By 1989, Benxi had become known as the world's most seriously polluted city,³⁸¹ where the death rate from lung cancer had more than doubled between 1971 and 1982,³⁸² earning the city the distinction of having the highest death rates from lung cancer in the country. Men could no longer hope for escape from their local fate by joining the military: their lungs were so damaged by black dust that they deemed unfit for service.³⁸³

In an authorized local campaign to educate citizens of the hazards of the wastes of coal, steel and cement production,³⁸⁴ Benxi's *Economic Daily* informed readers that they have been serving as China's "human vacuum cleaners" to clean up the wastes of industrial development, and while the nation prospers, they suffer. In his book, *The Angry Earth*, Liu Ningrong calculated that the 1,930,000 tones of smoke and dust spewed into the air annually in the 1980s by Benxi's factories could be formed into a line 107,000 km long of standard bricks.³⁸⁵ As Liu laments that "it's hard for children to pay their parents debt,"³⁸⁶ it is hard not to imagine a stack of bricks reaching to the moon and back weighing down Build-the-country Mu's chest—his crippling reward for having spent six years digging for the resources of China's national development.

In the late 1980s, Benxi's government led a herculean campaign to relieve the weight of the polluted sky from the chests of its citizens. Made aware that his city's plight was visible to the world through the UN's satellite imagery in 1982, the Mayor used the perspective that revealed his city's visual absence from the Chinese nation to argue that China had a debt to repay to his citizens for

³⁷⁹ The East is Red (东方红) was the popular anthem in China during the Cultural Revolution.

³⁸⁰ Yu Liu, Pan Wei, Shen Mingming, Song Guojun, Vivian Bertrand, Mary Child, and Judith Shapiro, "The Politics and Ethics of Going Green in China: Air Pollution Control in Benxi City and Wetland Preservation in the Sanjiang Plain," in *Forging Environmentalism: Justice, Livelihood, and Contested Environments*, ed. Joanne R. Bauer (Armonk, NY: M.E. Sharpe, 2006), 34; Liu Ningrong, *愤怒的地球* [*Angry Earth*] (Beijing: China Workers' Press, 1991), 113.

³⁸¹ Sven-Oluf Ryding, *Environmental Management Handbook* (Amsterdam: IOS Press, 1992), 265.

³⁸² Yu, Pan, Shen et al, "The Politics and Ethics of Going Green," 36, 54.

³⁸³ Wang Yadong, "Where is Benxi? Boundless Smog Covers Benxi—Citizens Say Whoever Can Clean up Our Pollution We Choose as Mayor," *Economic Daily* August 9, 1988; Liu, *Angry Earth* [Chinese], 114.

³⁸⁴ For extensive details on this campaign and the case of Benxi in general, see Yu, Pan, Shen et al, "The Politics and Ethics of Going Green."

³⁸⁵ Liu, *Angry Earth* [Chinese], 114.

³⁸⁶ Liu, *Angry Earth* [Chinese], 116.

their sacrifice.³⁸⁷ How could a city that was at the vanguard of Mao's "high tide" of industrial development be abandoned to obscurity? Shouldn't their sacrifice be recognized, and repaid?

The Mayor's efforts were rewarded with Benxi being named China's first "National Heavily Polluted Recovery City" in 1989. Being named such an *anti*-model city meant that Benxi would now benefit from central government support and financial contributions to its environmental clean-up efforts, including a seven-year, \$60 million program approved by the State Council to bring Benxi's air quality up to national standards.³⁸⁸ While there was a reported nineteen percent reduction in precipitation of dust between 1989 and the close of the program in 1995, in 1994 the World Bank reported that in winter months Benxi's air quality did not even meet China's least stringent Class III standard—the minimum standard for protection of human health.³⁸⁹ That did not prevent the United Nations, which had sponsored the seven-year Environmental Pollution Control Program, from heralding the program in Benxi as a success, and highlighting it in its Best Practices Initiative. In 2003, Benxi was still considered a "blackspot" of heavy pollution that did not meet Chinese national air quality standards.

Yet, for those who had lived in Beicaitun since the 1960s, like Ancient-civilization Song, the differences in the air, and their bodies was remarkable.

We used to say back then, "Benxi gave its natural resources to the state, but kept the pollution for itself." How greedy we were, we'd say! Little thieves! It was the only way we could talk about it. We had to keep some of the coal for ourselves. You could see it on everyone's faces: two lines of stolen coal running from the noses to the lips. We didn't know that our hearts were turning to coal until the whole country knew, and then it was too late. We thought our honor was our country's honor, but then it turned to shame. But now, have you ever seen my nose run black?

Song Wenjiu made the drive on National road 304 between Becaitun and Huangbaiyu every day when I met him in September 2005. He had just begun to work for Dai, serving as the accountant for Golden Grain Spring, based in Huangbaiyu Village. Although Golden Grain Spring had been making grain alcohol from sorghum in previous years, it was now managing the development of what was known locally called the "Chinese-American sustainable development model village." Dai, and his company, had been chosen by the Chinese-US Center for Sustainable Development to act as the developer of their master plan for China's first planned, rural sustainable community.

Having been laid-off from the job he held for almost twenty years as the accountant for a bakery supplying Benxi Steel, Song Wenjiu had turned to filling his day with reading newspapers, and contemplating how to find meaningful work. A contemplative and patriotic man, he had accepted that his dismissal from the bakery was a good thing for China, and Benxi, if not for his family. The bakery had gone out of business when the orders from Benxi Steel disappeared along with the thousands of workers that had been laid-off there.³⁹⁰ China's new President Hu Jintao had begun promoting sustainable development in 2003, and Ancient-civilization had been listening. As a member of the Communist Party, he was always careful to study new concepts that the leadership

³⁸⁷ Liu, Pan, Shen et al, "The Politics and Ethics of Going Green," 37.

³⁸⁸ Yu, Pan, Shen et al, "The Politics and Ethics of Going Green."

³⁸⁹ World Bank, "Staff Appraisal Report: China: Liaoning Environment Project" (Report No. 12708-CHA, July 7, 1994), 157.

³⁹⁰ For detailed analysis and data on lay-offs at Benxi Steel, Benxi in general, and how this affected the regional economy, see William Hurst, *The Chinese Worker After Socialism* (Cambridge: Cambridge University Press, 2009).

promoted. He felt that losing his job at a company that served the largest polluter in the city should be understood as taking the first steps down a new road, the path toward sustainable development.

After being unemployed for more than a year, however, his wife began to lose patience with his decision to only take work that would build what was now being called a “harmonious society,” or a society that balances the needs of humanity and nature. “I am lucky that I started reading the agricultural papers, for that is where I found our future. China’s future and my future would be built in the countryside! I never thought that would happen.” Song Wenjiu showed me the *Farmers’ Daily* article he had come across, and that now led him from Benxi to Huangbaiyu every day.

A few days ago the first phase of the project to forge the “Huangbaiyu Sustainable Development Model Village Engineering Project” was formally commenced, a collaborative project between the China-US Center for Sustainable Development and the government of Benxi City, Liaoning Province. In the construction of the “Huangbaiyu Sustainable Development Model Village” harmoniously developing humanity and nature will be stressed, and a form of rural village will be built that renewably uses ecological natural resources.

Located in Benxi City’s Nanfen District, Huangbaiyu Village is surrounded by green mountains, where clear mountain streams run through this beautiful mountain village. The China-US Center for Sustainable Development undertook repeated investigations before selecting this pilot project. The village will abide by internationally famous designer, China-US Center for Sustainable Development American Board Chair William McDonough’s “cradle to cradle” design concept.

Huangbaiyu Village Village Committee Director Dai Xiaolong explained, the important content of the “Huangbaiyu Sustainable Development Model Village Engineering Project” is: Huangbaiyu village shall use locally available, renewable building materials to build 400 environmentally protective houses that are energy saving, environmentally protective, sound-proof, shock-proof, and well-insulated, the cost of building each environmentally protective house will remain below RMB 50,000, and all villagers will move into them. A maize stalk biogasification plant will be built, as will a wastewater drainage system that will prevent pollution. The existing primary school will be transformed. A perfect medical clinic will be built. An Internet information network will be constructed. An organization to support animal husbandry built, and a rational overall arrangement of a district for planting and breeding district created. Within the planned district, will initiate enterprises that conform to environmental protection, arranging for villagers’ jobs.

According to one’s understanding, Huangbaiyu Village Model Village Engineering Project is divided into four phases. This year, the first phase of project will be built, completing forty-two environmentally protective houses, building a biogasification plant and running water station. In 2006, 100 environmentally protective houses will be completed. In 2007, 150 environmentally protective houses, and in 2008 will complete remaining 110 houses. It has been calculated in advance that through consolidation this engineering project will create 2000 mu of new land.

According to one’s understanding, the Ministry of Science and Technology, the Ministry of Construction, the Ministry of Agriculture, and Tongji University have all given their support to the sustainable development model village’s plan design.

American Intel Corporation, Hewlett Packard Corporation, Ford Corporation, Wildwood Mahonia Corporation, Balama-Vermeer Corporation; German BASF Corporation; Adventist Development Relief Agency; British Petroleum Corporation; and other businesses and organization have all given their enthusiastic assistance to the project.

After reading this article, Song knew he had found not only his own path to redemption, but China's as well.

In a village he had never heard of, but located in his own municipality, the Chinese government and US, German and British companies were building a new type of village, a sustainable development village that would serve as a model for his nation, and the world. Why else would so many international corporations be involved, he had thought? Song Wenjiu had never met an American, German or Britain, and marveled at the science and technology that would be brought by these companies to revitalize and transform rural China. He did not know what "biogasification" was, but he was sure that American technology would provide the means to revolutionize rural villages, and perhaps the cities, too. He told his wife she need not worry anymore, and that they would soon be part of China's leapfrogging into the future. In one place, income, land, and housing difficulties would be solved for the villagers, and with environmental protection being the core of the project, he thought, it will alleviate all the terrible pollution that had long come from the region's reliance on coal.

He called an old Party friend he had known from years before who was now working as the Director of the Federation of Trade Unions in Nanfen District in hopes of finding an introduction to Dai Xiaolong, the man named as the Village Committee Director in the article. As he described his interest to Xie Baoxing, he could not believe his luck: Xie was actively involved in the project himself, serving in the government's three-member Benxi City Huangbaiyu Sustainable Development Model Village Construction Coordinating Office that oversaw the project. The very next day he came by bus to Huangbaiyu, and the day after that he began working for Dai as his accountant.

The new bus schedule not only prevented rural day labor from coming to the city, but also impeded skilled urban labor from working in the countryside. So Dai provided Song with the use of one of his drivers and one of his two new black GM Sonatas to pick up Ancient-civilization from Beicaitun in the morning, and return him in the evening. To avoid paying the toll, Dai told the drivers to use the old road.

Leaving Beicaitun, the road passes through Caitun, and the sprawling complex of the coal mine lies just to the north of the road. The man-made gaping mouth of the mountain through which men pass as they descend deep into the earth is a constant reminder of Benxi's history, and its waning role in China's future. According to accounts of men who have worked there, its veins already descend a kilometer into the earth, and the veins often run dry into rock. Scientists and development agencies have been predicting that the exhaustion of deposits was near since the 1990s.

After crossing Crown Prince River, the road enters downtown Benxi, and its names reflect the hopes of an era. As the road skirts the main factories of Benxi Steel, it becomes Vigorous Work Road. As it turns south, it is called South Revolution Road, and is lined stores of all kinds, restaurants and fancy public bathhouses. Most days of the week, some company sets up an impromptu stage along with sidewalk and employs women to dance in scanty sequined clothing to music so loud it penetrates buildings across the road. Fifty to a few hundred people may be watching the girls dance as they are told about a product they cannot live without; but mostly people on the street gather to experience the color, noise, and companionship of strangers. The path of the road

turns east, and now follows A Thousand Pieces of Gold Road, winding out of town, and into the mountains. Leaving Benxi, the structures of the city disintegrate as potholes ravage the road, and donkey carts begin to compete with lorries, buses and cars. Continuing south, the road winds up the ever-steeper foothills that rise from here eastward into Jinan Province, and North Korea. At Thousand Pieces of Gold Gully the road peaks, and the mixed pine forest that once covered the mountainside is replaced by an avalanche of plastics, metals, furniture, and rotting food that tumble down the slope until each finds its angle of repose. From here, the city and its waste recede. The countryside lies ahead.

The serpentine road twists down toward a narrow valley, and the houses that comprise the small hamlet of Stone Lake begin to appear to the west. The road climbs onward, laboring back up the foothills that have long since grown into mountains. Around another bend, three streams tumbling down from further ravines form a river that has carved a plain from the mountainside. The hamlet of Three Rivers occupies this land, with orchards of plum and pear planted on the communal lands still bearing fruit decades later.

The road continues southward. The land begins to narrow. The first hamlet in the valleys collectively called Huangbaiyu strains from the road west, and up, up, up. Up the rocks and into the mountain a handful of homes cling to a land literally named: Deep Gully. A little further on, the road takes a sharp turn, bridging the main river of Huangbaiyu. A stand of poplars grows along the river's edge to the north; rectangular pools of trout reach south.

Here is Zhao Family Riverside, the largest of Huangbaiyu's villages. Some eighty households spread both east and west of the road, and even up into the entrance of the far west gully where the rare green and purple striated rock that has been prized for carving ink stones since the Liao and Jin period a thousand years ago is scattered across the ground like leaves after a heavy wind. At the northern-most end of the village just before the road turns sharply, there is a large, three-story home complete with grape trellises and a lap-size swimming pool. It was built as a summer retirement home in 2003 by a couple whose wealth was gained by managing the steel company that made Benxi famous during the years when Mao promised that the ores of Liaoning would finally catapult China beyond the West and into modernity. Huangbaiyu is their idyll: a landscape of early summer blossoms, dog days in the pool, and the stunning orange, yellow, and ochre of oak and maple leaves. They leave before the winter sets in at the end of October.

The white dots scattered across the slopes to the west and cliffs to the east belong to those for whom the land of Huangbaiyu must work. Twice a day in the handful months that are not winter, the goats are taken into the mountains to browse on leaves and shoots. After the long winter, their cashmere can be combed and a family can be fed for the next year.

The houses reach right up to the edge of the road, and lorries heaving with iron ore, rock, sand and shale spray dust on drying clothes. They also killed a twelve-year-old girl in 1999 and forty-four-year-old father in 2006. Residents of Zhao Family Riverside pleaded with the transportation department in the Nanfen District office to add speed bumps to the road, but were denied. There can be no speed bumps because the road is classed as a National Road, and national roads are priority conduits for trade and transport even when they cut villages in half. There are two small convenience stores in Zhao Family Riverside, directly across the street from each other.

The houses end abruptly, and the valley fills with maize. Just after tilling, each family's farm land is made visible by the slight changes in the spacing and angle of their plowed rows, but even when the maize is waist high at the height of summer, the eye can discern the hundreds of small holdings that cover every inch of valley land, and creep high up the slopes.

A series of rectangular pools full of swirling rainbow or golden trout, stretches through the middle of the western valley like a giant centipede, connecting Zhao Family Riverside with a hamlet

that cannot decide if its proper name is the Neighborhood of the Imperial Family (皇家街) or the Neighborhood of the Huang Family (黄家街). Residents of this hamlet are not disturbed by the two competing names, not only because in Chinese “imperial” (皇) and “huang” (黄) are homonyms, but also because at least in these mountains of old Manchuria, they are considered synonyms. The man who renamed the nascent Later Jin dynasty to Qing, and became the first emperor of the Manchurian dynasty that invaded China and ruled it for 267 years is known in these valleys as Huang Taiji (黄台吉)—or, literally, the auspicious foundation for the rise of the newly united Manchus from disparate hunting tribes to a continental power. Local stories tell of his hunting in these mountains, and seeking refuge from Ming Dynasty troops in their ravines. Thus the hamlet can be thought of as the imperial (皇) neighborhood for the Qing Dynasty’s first emperor (黄) and his family without any confusion at all. The imperial interpretation is also favored by families with the surname Huang who reside here, as it gives a royal history to what might otherwise just be another village named according to the dominant surname in the area.

Of course, after the Communists began governing these lands, all place names with odes to imperial or clan histories were eliminated. It is said that it was because of the prevalence of the surname Huang that the Communists could allow the traditional name to remain unchanged, as its claim to nobility could be easily undermined by attribution to an ordinary, “peasant” family clan. But even the names that were allowed to remain in people’s minds were silenced from their lips. While many families in these valleys had welcomed the Communist government, this was due more the Communist People’s Liberation Army’s success in freeing the region from Japanese occupation, and the forced labor and conscription that had defined their interaction with the local population, than to any firm commitment to Communist political theory and practice. The experiences of the families in this particular area did not fit with the feudal myths, and they did not suffer at the hands of greedy landlords as much as they did at the hands of government leaders.

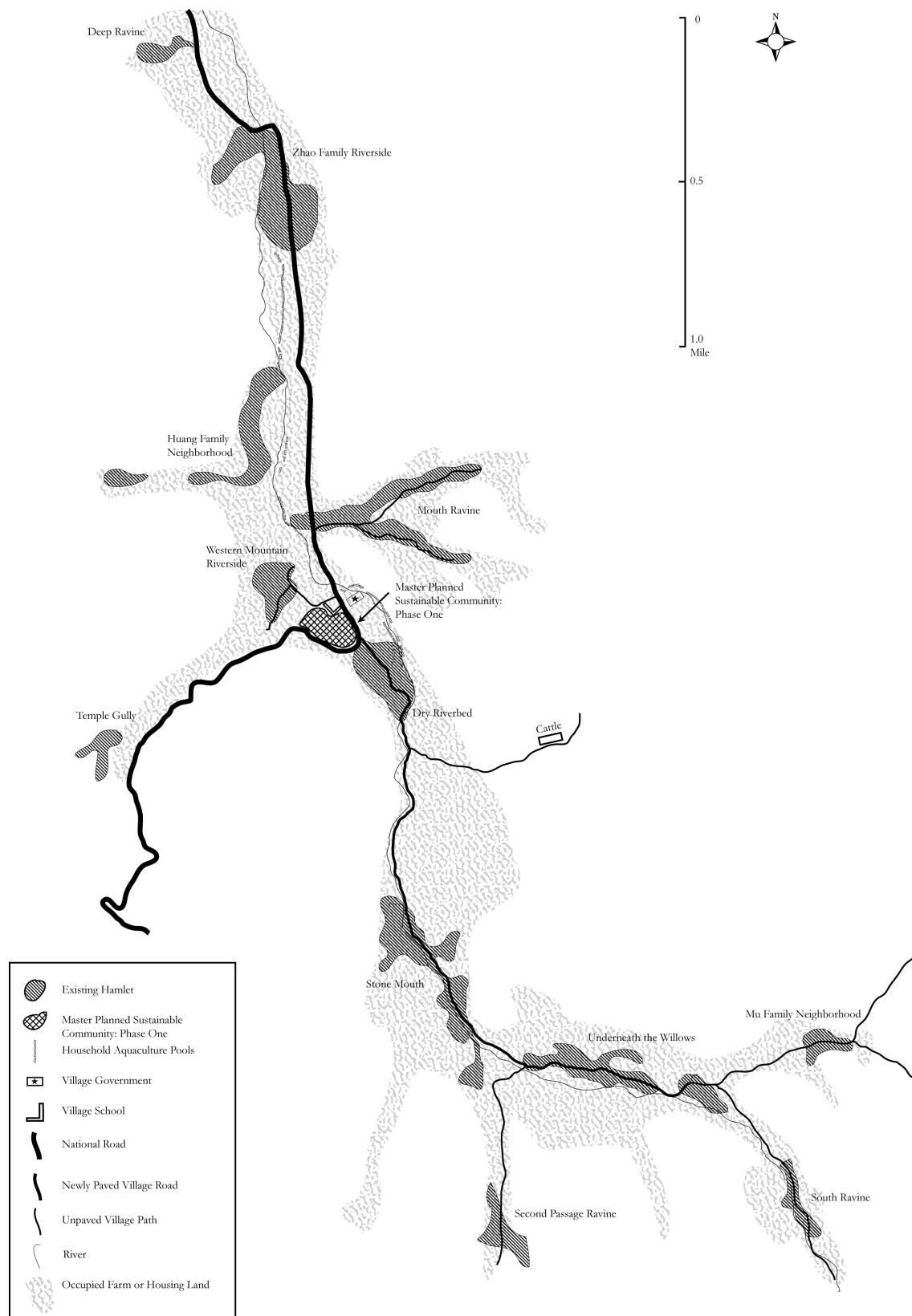


Figure 7.4. Hamlets of Huangbaiyu Village. The hamlets that comprise Huangbaiyu are in the narrow valleys and ravines of mountains.

Table 7.1. Huangbaiyu Hamlet and Production Team names.

Hamlet Name	Production Team
Deep Gully	Production Team One/Two
Zhao Family Riverside	Production Team One/Two
Neighborhood of the Imperial Family/ Neighborhood of the Huang Family	Production Team Three
Western Mountain Riverside	Production Team Four
Mouth Ravine	Production Team Five
Dry Riverbed	Production Team Six
Stone Mouth	Production Team Seven
Second Passage Ravine	Production Team Eight
Underneath the Willows	Production Team Eight
Place of the Emperor's Relatives/Wang Family Ravine	Production Team Nine
Mu Family Ravine	Production Team Nine
South Ravine	Production Team Nine

These mountains had long served as a dearly sought after barrier from the vulnerability of living in a world subject to the plans of men who considered themselves more important or informed than the rest. The families who chose to settle here were all running from something or someone. First there were the pangs of hunger that gripped China in the midst of famine in the 1890s. Then came the chaos of warlords and generals, as Republican China was torn apart by men seeking to govern in their own name. Next, the Japanese invasion of China, from Manchuria to Nanjing, sent families packing, and in search of more than temporary shelter. Finally, when the Japanese were at last driven off, the Communists and Nationalists continued to fight. The steep ravines and serpentine valleys protected the residents of Huangbaiyu's hamlets from being discovered in these once forbidden lands of the Qing Dynasty's sacred forest, safeguarded them from enslavement in the Japanese iron and coal mines of newly conquered Manchuria, and insulated them from one of the great battles of China's civil war just kilometers away.

But the Communists came to them, and didn't seem so bad, recalled Wu Guihai. "We were all living separately, each clan apart from the other. Many families lived deep in the ravines and never encountered anyone until it was time for a wedding, if they could help it. Chairman Mao taught us that we must not only rely on family. This is selfish. We must build the Nation for the pride of our people; we must do this together. When we became part of the Commune, we brought

all the families out of the deep ravines and down into the valleys so that we could work together.” Wu had joined the party early, selected for his ability to read and write. He dedicated his life to the Party, an organization he saw as a protector of the people.

With the rise of Communist governance, Huang Family Neighborhood, and the people living here, became simply known as Production Team Three. This wide section of the valley was then full of sorghum or maize, as dictated by government planning, and sowed, tended and harvested in communal holdings by the Team. State quotas for grain were filled, and the remainder was kept and distributed amongst families. The road that would become National Road 304 then followed a different course, holding close to the river and following the topography of the valley.

But then the road has moved away from the homes to make a straighter path for lorries with fewer bridge crossings that might get washed away. It is the river now that acts as the main link between the homes here, nestled in the shadow of the western slopes, and the world beyond the mountains. After the communes were divided back into family plots in 1982-1983, households could decide for themselves how to support their families. By the early 1990’s a few families began following the lead of a state-owned enterprise that was set up in a distant production brigade within their old commune, experimenting with raising rainbow trout in the cold, clear waters tumbling from the mountains’ slopes. Now the stream’s waters are diverted dozens of times to feed the pools throbbing with as many as 10,000 fish fry each.

Every possible location for raising trout has been exploited along the narrow stream, not only by residents of old Production Team Three, but by “immigrants” from Production Teams Four and Six who have built small “fish houses” alongside their pools so that they can better care for their investment and run their small business. From the thaw of the stream in March until it freezes again in November, the so-called “immigrant” families live a bi-hamlet life, with the father remaining at the fish house for all but the dinner meal to guard their life’s work and savings from theft. Only when the winter takes over his duty, securing the fish below a secure ceiling of ice, can he return to his family’s home.

Continuing southward, the mountains close in on the valley. Western Mountains Riverside lays to the left, a dense hamlet of 55 families hugging the mountain a few hundred yards from the road. When this area was known as Production Team Four, its jurisdiction also included the few families scattered deep in Temple Gully a few kilometers to the west. There is no temple now, having been enthusiastically destroyed by emboldened children during the tumultuous years of the Cultural Revolution.

The small ironmongery on the road near Western Mountain Riverside is the only township and village enterprise that remains in Huangbaiyu from the heady days of reform in the mid-1980s. It does not belong to what was Production Team Four, but Production Team Two, comprised of half the population of what is also known as Zhao Family Riverside. Families in the old Production Team Four blame the loss of their land on a corrupt deal between the leadership of Production Team Two and the Commune leadership, based in Red Mountain Range. There are many Guans in both places, as a mountain pass makes it easy to walk from Zhao Family Riverside to Red Mountain Range, and the two settlements were closer to each other than Production Team Two was to Production Team Four. Production Team Two sold the ironmongery to Old Guan in 1998, and while he runs it as a private business now, all but one of his employees still come from Production Team Two families.

As Western Mountain Riverside hugs the slopes to the west of the road, Mouth Ravine (嘴子沟, zuǐzīgōu and 嘴家沟, zuǐjiāgōu) stretches high to the east. Rising from the valley floor, the pass forks, rising to the north and south, leaving a mountainside lolling in the middle, much like a tongue in the middle of a mouth. When families in this area were part of Production Team Five,

they used to tease the other Teams that they were Team Five, of the Most Beautiful Ravine (最佳沟, zuìjiāgōu). It was about the only taunt they could muster, as given that they lived in the steepest and narrowest ravine in Huangbaiyu, their contributions of grain were always less than the others'. All they could do was use a phonetic homonym to try to turn the hungry mouth of their mountain into something that others might envy.

Once families in these two ravines were no longer required to refer to themselves as Production Team Five, both names were used interchangeably to refer to the area. But the cheer to give pride to a weak production team had been transformed over the years into a jab about a ravine's dominant family. It was a common joke around a dinner table well lubricated with grain alcohol that the proper name for the area was in fact Drunk Family Ravine (醉家沟 zuìjiāgōu). Told to anyone not having lived in the hamlets of Huangbaiyu for some time, the joke would fall on deaf ears, as Most Beautiful Ravine, 最佳沟, and Drunk Family Ravine 醉家沟, are both phonetic and tonal homonyms. But anyone who had lived in Huangbaiyu had long known and alternately been amused by or suffered from the drunken days of Dr. Fu and Teacher Fu, two fifty-some year old brothers who were the patriarchs of these ravines, and who had treated and taught most everyone's children.

Just to the south of Western Mountain Riverside and Mouth Ravine, is the center of governance for Huangbaiyu. There stands the white rectangular building for the management of the village, with rooms for: medical treatment, pharmacy, and diagnosis; a family planning service room, but which is now used as the treasury; the Party Secretary's office; an activity room; and the office for the Director of the Village Committee, but which now doubles as the family planning room and the village information service center. The post box for the village is just outside the front door. Mail is distributed when someone in one of the offices happens to walk past the recipient's house, or sees them or a neighbor walk by.

Most often, Dr. Fu, of drunken fame, can be found either in the treatment room, usually administering sugar-water to a patient laying down on the cot, or if it is after 11am, drinking with any number of hosts at the village restaurant next door. Wu Baoping, the son of old accountant Wu, can sometimes be found in the treasury tending to village records, and other times playing in a regular poker game hosted there by the Party Secretary, Zhang Guiqing. Since the start of the Americans coming to the village and the work of the Village Committee being taken over by Golden Grain Spring, there was no longer as much work for the rest of the Village Committee's standing officers and Party Secretary to do. If the game is not on, Zhang may be in her office, tending to complaints from and disputes amongst village residents, or she may be tending her fish further down the valley, or entertaining guests at her home. The activity room is almost always empty. Village Committee meetings are no longer held there as the Director of the Village Committee, Dai, does not come to this building anymore. He has built his own set of offices in a three-story building across the street, and requires that any village business that he participates in be conducted in his building. That meant that his office remains empty, allowing this largest of all rooms in the building to be given over to family planning, and the village information service center. While the computer and Internet connection that was installed in 2006 were meant to be used to help villagers market their goods through district and city trade websites, no one in the village leadership knew how to use the computer or the Internet for such things. Solitaire was the application that was usually open. If someone says they are going to the Production Brigade, or the Head of the Village, it is to this building that they are heading.

Dai's new, gated compound stands across the road from the village offices. Rising like a mountain out of the center of the valley, and peaked with a secret fourth story sacred space for Buddhist oblations, Dai's office complex dominates the heart of the valley, and, through its sheer size and stark contrast with all the other buildings in the valley, is a visible marker for everyone who

walks by of both power and transformation. His office was only completed in late 2004, taking over the space of the old village offices, and displacing the new village office across the street. Dai built the complex to serve as both his residence in the village, and as the headquarters for a growing business empire, all managed under the name Golden Grain Spring Alcohol Company Limited. Dai's business interests were far more diversified than his company's name implies, having interests in grain alcohol, beef cattle, rainbow trout, and, most recently, real estate.

In December 2002, just a little more than a year after he was elected as Director of the Village Committee on a platform of bringing free cable television access to every house in the village, Dai had been tapped by an old friend who was then Party Secretary of Nanfen District to be the city's nominee for "build a sustainable community model project." Municipal government leaders with ties to this area were excited by the prospect of locating a joint China-US sustainable development project, with direct sponsorship from the Ministry of Science and Technology, under their jurisdiction. Given that Dai had previously traveled to the US on a tour of cattle ranches in Texas, and was an ambitious Party member with a gifted tongue, district and municipal leadership hoped that his selection, and the encounters with national leaders and American technology that it would bring, would provide opportunities to each of them that would otherwise be impossible. They were right.

Within a few months, Dai, and the village he led, Huangbaiyu, were provisionally chosen for the pilot project. Within a year, Benxi Assistant Mayor Yao Hesong and Nanfen Party Secretary Yu Xiang were traveling with Deng Nan, the daughter of Deng Xiaoping and Vice Minister of Science and Technology, to Washington, D.C. While there, Dai Xiaolong would secure Huangbaiyu's selection as the site for what would be come to be called in 2005 "The World's First Sustainable Development Model Village."

Across the street from Dai's office complex stood the shell of one of his earlier ventures in Huangbaiyu. Just after his election, he had a plan to create an animal trade market in the village alongside National Road 304. By creating a place that he could bring his cattle for public sale on a weekly basis, Dai thought he would be able to leverage traffic from the road to spread the word about Huangbaiyu as a center for cattle trade in the region. Already elected as Director of the Village Committee, Dai persuaded the other members of the Village Committee, and the Village Representative Assembly that the community-owned land by the road should be allocated to him to develop a market to which all villagers could bring their animals. Encouraged by Dai's great enthusiasm, and convinced that his connections with the District government meant that he could not fail, the Representatives agreed to give him the land to develop in their name. He secured a loan from the Bank of China to develop the property, and built two rows of stalls surrounded by a wrought-iron gate. He had his cattle brought weekly to the stalls from their shed in a far ravine, but no buyers came. In Dai's vision of a busy market and quick sales, he had not considered how much traffic along the road had dropped off since completion of the Shenyang-Benxi-Dandong expressway in 2001. Most of the traffic that did still pass through the village was lorries laden with iron ore, heading from the strip mine in Nanfen up to Benxi Steel's processing plants. The drivers were not looking to buy cattle.

"It is on communal land, but we weren't allowed to bring our animals to the stalls," said an older man who always asked that I refer to him as Comrade Mu. "But that was for the best. The first winter the roofs collapsed under the snow. He says his pursuit is philanthropy (公益), but he does not work unselfishly for the public good (克己奉公). He's not a comrade." Many people in the village wondered what happened to all the money from the loan they knew he had received, since the stalls were obviously built shoddily, and after the project was declared bankrupt, his new office complex quickly rose on the opposite side of the road. "He decided Americans were more valuable

than cattle,” said Literature He, who served as Party Secretary through the 1980s and early 1990s. It was a sentiment that many people shared.

But Dai’s encounters with Americans were also a leading reason he was re-elected in 2004. When I asked Old Li, a previous Village Committee Director, why Dai had won, and why he worked with him now on the sustainable development model village project, he said, “He’s been beyond the Mountains. He’s been with Americans. There is much he has seen that I have not.”

Dai’s office complex is as far as into the valleys of Huangbaiyu that his new accountant, Ancient-civilization Song, ever went into Huangbaiyu. The only exceptions were the few times he came to visit me in Dry Riverbed. The office is where his work was, and his work was on managing the accounts of all of Dai’s enterprises, including the sustainable development model village rising just outside the window. The documents he managed, the money he counted, and the meetings he attended were all on the second-floor of the office building. From his second-story office window he could see across the primary school that abutted the Southside of the office parking lot, and survey the progress at the construction site.

After passing the primary school, National Road 304 makes a u-turn around the southern edge of the construction site and climbs back up the Western Mountains, passes the barely visible houses of Temple Ravine far below, and heads on to Nanfen.

To reach the rest of the hamlets of Huangbaiyu, you would continue heading south down a dirt path lined with houses on either side, rather than following the lorries heading back to the mines in Nanfen. When the houses encroach on the road, leaving only room for one car, donkey cart, or man-powered cart, to pass between neighbor’s walls, this is Dry Riverbed. The houses are built close together here, with almost all of them sharing a courtyard wall with two to three neighbors. A small convenience store is open every day at the top of the village, and serves as a center for exchange of news, cigarettes and Benxi’s own Dragon Mountain Spring Beer. Guan Xuemei charges a thirty percent mark-up on the goods she sells. This covers her costs of transport to and from Benxi; leaves enough for her to file for licenses, pay taxes and rent; and then leave some for herself. Since Dr. Fu is authorized by the Nanfen District government to charge a thirty percent mark-up on all medications, everyone accepts this mark-up as what is expected.

Guan rents a room in Dry Riverbed, as she is from Zhao Family Riverside. After the expressway came, it could no longer support her mother’s roadside noodle shop, and so she came down to Dry Riverbed to open her own shop. Her last name gives her away. No one by the last name of Guan has ever been born here, residents say. That is a name from further north, they say. Here the Mu family is the most abundant, while the He family was long a leading political family during the days when this was Production Team Six, as was the Zhang family. With their kinship connections to the most populous hamlet in the village, Zhao Family Riverside, the Zhangs have held many village offices, and it is the patriarch’s middle-aged daughter, Zhang Guiqing, who is now Party Secretary.

While several of the households in Dry Riverbed have fish houses along the stream in Huang Family Neighborhood, several households were able to secure land alongside the stream that runs from the spring that emerges from the Eastern Mountains near the southern edge of the hamlet. Of all the places in Huangbaiyu to raise trout, this is the most desirable. With the mountain spring surging forth water at a constant 46°F, it does not freeze in winter for a few hundred yards. With water flowing year-round, the trout do not hibernate, and being fed continuously they grow much faster, allowing for a quicker turnover from investment to profit. Zhang Guiqing has the section of the stream closest to the spring, while He Wenfu and his nephew, He Minjun, secured prime locations as well. Each of these families had to build fish houses by the stream, in addition to their main homes to manage their business. The last family to have year-round running water in at

least some of their pools, is a Mu household that was lucky enough to have built their house along the steep wall of the Eastern Mountains long before aquaculture came to Huangbaiyu in the 1990s.

Walking along the main path in Dry Riverbed, you cannot see the fish pools, but you must be constantly aware of ducks and geese crossing the road lest you trip over one, and of flocks of goats trotting down the path lest they run into you. Most households in Huangbaiyu's hamlets keep ducks and geese, as they need not be fed for most of the year, yet provide food for the family. They are released from courtyards in the day to devour insects and other nibbles along the paths and on the nearby slopes, and return in the evening. When the insects begin to awake from their winter slumber, the ducks and geese begin to eat to their belly's content, and begin laying shortly thereafter. Each duck may lay 100 eggs before the frosts come at the end of October, and each goose may lay 50 eggs. For many households these eggs provide their only reliable and regular source of protein, and are brined to keep through the winter.

At the end of Dry Riverbed, the valley widens and Huangbaiyu's single greatest expanse of farmland stretches between the mountainsides. As the path hews toward the Western Mountains, the dry riverbed that gives its name to the hamlet just passed becomes visible. Just ahead lies the place blamed for it all: Stone Mouth (拉嘴子, lāzuǐzi). All the waters from the mountain streams tumbling down this path are pulled into a thirsty mouth hidden in the stone—a mouth, that it is said, that was left behind to take water from this world to another. Old lady Li, who lived at the head of the hamlet had her own interpretation of the meaning of name, using a homonym of the hamlet's name to say what she thinks of the place: "It's a place full of liars (拉嘴子, lāzuǐzi). Just as that stone mouth pulls all the water, it pulls tongues! It pulls the mouths of the people who live here and twists them."

Of all the hamlets in Huangbaiyu, it is this one where the most remembrances of violence and betrayal are recounted. A neighbor's son attacked Old Lady Li with a machete while she was in the fields harvesting her maize 10 years ago. Left unconscious by the attack, she was found by neighbors, and taken by bus to the hospital in Nanfen. She recovered, but the scars on her arms, legs, head, and minds remain, and she's lost much of the use of one arm. She has not forgiven many of her neighbors for not being willing to testify against the young man, which was necessary to push forward a criminal case. But his acts didn't go unpunished. Afraid of living with him, the mother of the boy poisoned him with pesticide. This did not assuage Old Lady Li's distrust of her neighbors. She did take some solace in her house being on the opposite side of the riverbed from the majority of the hamlet. "I live on the other side of the riverbed. I think that pulling mouth is weaker here."

The path skirts Stone Mouth on its eastern side, and other than Old Lady Li's house and a few others, all the other houses are across the riverbed to the west. While it is most often dry at the head of the hamlet, it runs with water at the foot, tumbling down from the slopes above. From this hamlet further south, and climbing higher into the mountains, it becomes harder to make a living through agriculture, on narrow slips of higher altitude land. There is more poverty here than down below. There are ducks and geese and goats as well, but there never was a town and village enterprise here.

There are wealthy families as well—wealthy in comparison to their neighbors, anyway. Li Zhenjun gained his wealth by opening the coal mine deep in the far south passage of East Ravine after rural enterprises were encouraged in the 1980s, and smelters were able to buy coal from any provider rather than through state-controlled channels. He operated it for fifteen years, before selling it off to a retiree from Benxi Steel. He employed mostly men from Dry Riverbed, Western Mountain Riverside and Mouth Ravine, rather than men from his own hamlet. "I didn't want to be responsible for the deaths of relatives," he said. Using his many contacts forged during the years of selling coal, Li worked as an independent foreman, gathering labor teams, and sending them out for

construction details. In 2006, he gathered fifteen young men from Pulling Mouth and Dry Riverbed, and sent them off to construct a new expressway in Jilin Province for two months. He was never asked to gather men for work at the model village construction site.

At the foot of Stone Mouth, the path veers further to the east following the contour of the larger of the valley floors. Ahead lies Underneath the Willows. The western fork leads to the less scenically named Second Passage Ravine. The three houses at its mouth were assigned along with Stone Mouth to Production Team Seven during the years of the Commune, while the handful of houses deeper in the ravine were assigned along with Underneath the Willows to Production Team Eight. Since the opening of the expressway and the loss of traffic to the restaurants along the National Road in the central valley, the dog farm and butchery in Second Passage had closed. The copper mine ran out of capital, and so now few people who do not live there ever bother to walk so far down a dead-end.

Wang Xiaowu and his second wife left their house on the main lane of Underneath the Willows to come here, where there was plenty of unassigned land to grow a tree nursery, all their own food, and where Wu says “[t]here is tranquility away from all the noise of the village.” While Wu thought the hamlet too busy and crowded, several retired couples living on pensions have moved away from Benxi City to Underneath the Willows to live the quiet, country life.

As the road turns into Underneath the Willows a stand of lithe poplars with whistling leaves transform the high blue sky into a golden canopy. There are no longer any willows in the hamlet, however. They had all been on bits of land not encircled by courtyard and not specifically leased to anyone household. When Production Team Eight was disbanded and before the new “civilian” government hierarchies were created someone or some persons had cut them all down and sold them for timber. Shortly after the communal trees were transformed into private money, Teacher Jiang decided to lease the little bit of land next to the stream in front of his house and plant poplars. Some fifteen years later, his investment towers into the sky, making many of the older generation nostalgic for the time when Underneath the Willows made sense as a name for the hamlet.

Climbing higher into the foothills of the mountains, the houses in Underneath the Willows occupy a narrow hollow that drops away from the mountains’ high meadow. As the road and path progress from Zhao Family Riverside to Underneath the Willow, the road slowly, steadily and almost imperceptibly is climbing. Underneath the Willows has an elevation 100 feet greater than Zhao Family Riverside, and a shorter growing season and colder winter. With the average season in Western Mountain Riverside lasting only 128 days, families deeper in the ravines have little grace for error in their judgment of when to plant in the spring. Winter comes early, and with the winter comes the cold. It is often -22°F during the day for much of the long winter that puts the bears that once roamed these mountains to sleep, and causes the people to narrow the space of their lives to the *kang*.

The *kang* is an ingenious, ancient technology that if development workers in the United States or United Kingdom had invented it and manufactured it for sale would be hailed as “appropriate technology.” But the *kang* was not invented by people who could claim to be enlightened by science and technology, and so the *kang* is often used as a symbol of Northern China’s poverty, a way of living where human survival and reliance on earth and fire are far too intimate, and the family lives and sleeps together on one bed rather than being separated and “civilized” into distinct spaces that mirror their roles in family life. In Huangbaiyu, it is said that “each *kang* is a family,” meaning that the number of *kangs* in a house reflects the number of generations living together. In order to secure a bride for a son, a separate *kang* must be built for the new family to begin.

The analogy of the *kang* as appropriate technology is not completely germane, however. Unlike the programs to design and distribute appropriate technology for development across the world where poverty is seen to reign, the *kang* is not a technology that can be purchased, either as a branded product or as commodity. It is not something that can be manufactured in a private factory and then sold to empower the “bottom billion” to increase their income and become what is considered by others to be “developed.”³⁹¹ Each *kang* must fit the house, and the family that will be living on it, and so in hamlets all over Northern China each family builds their own. It is not a means to development along a ladder of imagined progress, but the foundation of sustainable survival, year after year, in a harsh climate. It is the place where children are conceived, meals eaten, sweaters knitted, *majiang* played, homework done, drunks pass out; where sunflower seed shells are never spat and shoes do not touch.

The *kang* is where the design of a house begins, and from it the kitchen is oriented so that the fire of the stove feeds the *kang* with smoke. This smoke rises slightly from the firepit below the family wok, and flows through three long channels formed by rock or brick, and covered with stone or metal sheets. On top of this ceiling, earth mixed with either rice flour or cement is pressed down to form a layer eight to twelve inches thick. This layer, and its depth, is critical as it is the earth that captures the warmth of the smoke wafting through the channels, and holds this heat for hours, radiating it into the bodies lying on top of it. On top of earth, woven grass mats or pages from old schoolbooks are pressed to create a cover. As more families were able to earn the cash income in the 1990s that allowed for the purchase of what would have once been considered a luxury, they went to what was and is still called the Commune Store in Three Rivers and bought yards from a brightly colored vinyl roll to protect the centerpiece of their home.

Heating the *kang* is a matter of survival in Huangbaiyu, and requires the work of both men and women. For a month each late winter, when the snows are high, the paths frozen and the trees dry, a man from each household heads deep into the mountains to his family’s allocation of forest, where he will cut down trees and section them on the slopes, before hauling them down to his courtyard on a cart he pulls. There is no animal used for this other man. By wearing worn shoes without treads, he can slide and skate his haul down the paths to his house. There he’ll chop the trunks and branches into firewood, and stack them for use next winter. Inside a woman will be tending the fire, lighting it first thing in the morning to cook breakfast, although in the winter first thing in the morning comes at around 7:30-8am. She’ll keep it going a while longer than it takes to cook breakfast to bring warmth back to the *kang* cooled by the bitter wind. She’ll light the fire again to cook the main meal at 3pm or so, and then for the last time around 7pm before going to sleep, this time stuffing the pit full of wood so that it slowly burns out, and leaves embers to smolder into the night. In Huangbaiyu, the rhythm of life takes its cues from the sun, and in the winter the people come as close to hibernating as people can.

In the long five months of winter, it often seems that if your hands are not occupied chopping wood or lighting a fire, they are holding tumbler full after tumbler full of straight grain alcohol, most often 118 proof. To drink until the bottom is dry is the only winter sport in Huangbaiyu: to goad others, and thereby oneself, to drink until your hands, cheeks, and ears no longer feel the burn of superficial frostbite. On special occasions, such as kin or friends coming over to help with the labor of woodcutting, hauling, or chopping, the first glass will be had with breakfast. The rest will follow with the afternoon dinner. It is perfectly normal to find any number of men passed out on a *kang* not their own. I always made it back to my own.

³⁹¹ See Prahalad, *Fortune at the Bottom of the Period* to read the most widely read argument for “eradicating poverty through profits.”

Underneath the Willows' Teacher Jiang has two sons who have both married and live in detached rooms with their own *kangs* and kitchens within the family compound. While his first house was built in 1965 out of stone, mud and thatch, he rebuilt it in the late 1980s with brick and concrete, and a tile roof. The elder son's rooms were built in 1994 to prepare for the arrival of his bride, but all of the rooms were remodeled in 2004 when another room was built to prepare for his youngest sons' coming family. With three *kangs* to heat, there was always work to be done. Even in the summer, the *kang* must be lit at least once every other day, it is said, lest the spirits of the grass embedded in the earth are let free, and cause headaches of all whose heads rest on the cold earth. Up in the hills around Underneath the Willows, it is said that the grass is wilder, so families must be particularly careful lest the sprites infect their minds.

After a long conversation over a lunch of wild frog and sauerkraut soup and many glasses of grain alcohol, Teacher Jiang decided to explain to me how Deng Xiaoping must have come to his theory of pragmatism. "Before Deng Xiaoping got to thinking about which cats could catch mice, he first had to be fed up with the lazy cat who just slept on the *kang* all day." Given the hard labor that goes into keeping the *kang* warm, in a place where the *kang* is understood as a sacred space, to be called a lazy cat on a *kang* is a damning insult. Yet, Teacher Jiang concurred with the others that Mao Zedong was certainly a god.

The path rises steadily as it passes the houses on either side in Underneath the Willows. Here more than in the hamlets below, houses formed from walls of stone, mud and straw, thatched roofs, rammed earth floors and paper windows remain. These houses could have been built 100 years ago in the same way, with the same materials, but these were built in the late 1950s and 1960s. Entering one of these houses is to find Maoist ideology syncretized with both the local traditions it tried to eradicate and the goods that only capitalism succeeded at bringing into the lives of the poor.

In Wang Yongquan's mud house, an old television, and VCD player are reflected in the light from a mirror hanging on the wall above the *kang*. Wang uses the VCD player to watch a traditional Northeastern type of vaudeville performed by two people, where one man commonly performs in drag, and the dialogue sends up intimacies between men and women and the intrigues of government for laughs.³⁹² Within a cartouche framed by red ribbon and peach roses in the top center of the mirror, red characters announce, "Quotation of Chairman Mao: The Chinese Communist Party is the leading core of all the people of China. If there were not such a core, the socialist cause could not be victorious." Below these words, a black silhouette of factory buildings and smoke stacks spew the exhaust of industrialization into the sky. Wang Yongquan is eligible to move into a state-sponsored home for childless, indigent elderly, but he does not want to go. "They make you work for your food and clothing there. You are allotted no cash. I couldn't buy any alcohol or cigarettes. Even before Reform, you could make alcohol, and cigarettes were distributed. I would rather die here alone than be in a jail. But the Production Brigade! They should be giving me some care! They took better care before Reform."

Just beyond the house of Wang Yongquan, the path bends to the east again, rises steeply and soon arrives in another hamlet where an imperial name was glossed over by the Communists with an acceptable clan euphemism. This tiny ridge was once known as the Place of the Emperor's Relatives, but in the name of defeating mythological feudalism in the countryside, it was called Wang Family Ravine by the Communist government, although no one thinks a Wang lived there then. Wang families were mostly down in Underneath the Willows.

³⁹² This type of performance is called 二人转 (èr'rénzhuàn), and while it originated in the folk dances and songs of Northeast of China, also referred to as Dongbei, it was the most popular skit on the annual CCTV Spring Festival Gala in 2009, as Little Shenyang emerged on the scene, figuratively taking over from his mentor, Zhao Benshan who has been on the gala every year since 1990.

There are only sixteen families in this mountain outpost, clinging to the mountainsides. The fields are small, and many are found high into neighboring ravines on slopes far greater than the 30° above which the government has decreed that it is illegal to farm. That land does not appear on any official lease record. As Jiang Peisheng recounted, “After the household responsibility system was instated, we decided to grab more responsibility for ourselves than the small leases gave. Walk Deng Xiaoping’s new road. We reclaimed wasteland along the springs and streams high into the mountain. What else were we to do? You look around? Do you see anything flat here?” Taking advantage of their surfeit of mountains, the families here in old Production Team Nine raise goats to comb their cashmere, bees for their honey, and silkworms for food.

Still climbing into the mountains, the path forks. One tine leads toward the Place of the Mu Family, or simply East Ravine, and the other leads deep into South Ravine. East Ravine gives protection to eight families, while South Ravine secures ten. Both of these little hamlets were also assigned to Production Team Nine. After Reform, a retired Benxi Steel manager bought hundreds of acres in the back of East Ravine. The record of the sale seems to be lost, members of the Village Committee say, so no one is sure or willing to say how much was sold, and what the Village Committee did with the money. What is known is that the money from the sale was not used for any village development project that anyone knows about.

While some 300 acres of South Ravine were put up at auction in October 2006 as part of Benxi’s program of land privatization under the auspices of the Socialist New Countryside initiative, no one bid. The minimum price of RMB 500,000 was considered too high, even by the speculators from Benxi who drove in swarms to evaluate the land, and the likelihood of striking iron ore. Since these mountains were only a few hundred meters away from the immense iron deposits that have been mined since the 1930’s in Nanfen, the Village Committee had set the price high so as to encourage a buyer who’d open a mine. Officially, only residents of Huangbaiyu classed by household registration as farmers were supposed to be allowed to bid in the auction. But with the minimum bid set at more than 66 times the median household income, no one in these hamlets could seek to buy the land that they once shared communally for themselves. Only urban citizens who had already cashed in on China’s industrial development for themselves would be able to buy up the resources of the countryside away from the last vestiges of communal holdings.

Residents of South Ravine were relieved that the Village Committee’s auction failed. If the mountain slopes in South Ravine were to be privatized, there would no longer be land for their goats to browse; or to forage for wild ginseng, *lingzhi* mushrooms, cat’s claw, hazelnuts, and wild ginger; or to put out their silkworms to feed. But they had heard that another auction would be convened, and if the Village Committee lowered the minimum bid, surely, sometime, someone from some city would decide they wanted it, and pay off some resident “farmer” in Huangbaiyu to place the bid in his name.

Everyone recounted variations on the same events when I asked them why they were sure that another auction would be called, and that the Committee would accept an illegal bid. Production Team Nine’s members on the Village Representative Assembly had told them that Party Secretary Gentle-laurel Zhang had said that the auction was part of the process of building a Socialist New Countryside—a campaign that everyone knew was the government’s leading initiative in 2006. And that there had been one auction closed on the same day that Southern Ravine remained unbid: Dai had paid a resident to place his winning bid on 672 pine trees planted more than thirty years ago by Production Team One in a ravine east of Zhao Family Riverside. Since he does not have a farmer registration in Huangbaiyu, Dai Xiaolong was not eligible to bid in what was supposed to be an internal auction of communally held land to village residents. But he was also presiding over the auction as Director of the Village Committee.

With the minimum bid set at RMB 500,000, residents of Huangbaiyu knew that they were not the intended purchasers of South Ravine. It was obvious to everyone that their land was going to be sold to a carpet-bagger. Party Secretary Zhang Guiqing even asked me if I wanted to buy the ravine, and that if I didn't want it myself, she'd like me to talk to my friends about it.

When the Vice Mayor of Benxi, He Huangqiu, came to my room and asked me to take his family on a spring walk through Huangbaiyu on May Day earlier that year, he told me his inspiration for spearheading the privatization of all lands remaining under communal Production Team management. As I guided Vice Mayor He, his wife and daughter from Dry Riverbed to Underneath the Willows he recounted:

Last fall, I got out of my car in Three Rivers, and started to walk up a path into the mountain. A young girl stopped me on the path, and told me that this was her family's land, and that I couldn't go there. If I took her hazelnuts, she told me, then her family wouldn't have any to sell. "It is not fair! You drive from the city and think you can just walk into our land and take everything for yourself! It's ours!" I couldn't believe it. Here was this girl of maybe ten or twelve, and she was confronting me, a man in a suit and telling me to get off her land. That would never happen over communal land. I'd just walk right in, and no one would stop me. That girl taught me the value of individual management [个人管理]. When someone has responsibility, he'll protect his own resources.

Vice Mayor He did not know that at two different places along that very same road that he parked his car in Three Rivers where paths wound past houses and up into the mountains, the Village Committee had erected hand painted signs that informed city folk such as himself that it was forbidden for them to enter the Village's lands and take hazelnuts for themselves.

What He Huangqiu had assumed was the vigorous protection only afforded to privately managed lands, was actually the dedication of a girl to protecting the communal holdings of her village, and her family's share in it. She knows who is in her community, and who is not; and by arriving to climb a mountain in a black suit and leather-soled shoes, she knew even if it were possible that as a child there were men in her community she did not yet know, he clearly marked himself as someone whose life is not dependent on the resources of these lands. Those dressed in that way—everyone who lives in these mountains know—are people who see their homes and livelihoods as landscapes.

The Vice Mayor, and many other city folk who come out to these mountains to see the spectacular kaleidoscope of reds, oranges, yellows and greens that the fall chill brings to the forests, assume that the bounty of the land is for their own taking. "Why shouldn't hazelnuts be free for the taking," their actions imply. "This is the countryside! A place of beauty and abundance!" The tragedy of the remorseless logic of such an urban day-tripper is that their daydream of an imagined landscape of abundance that they are free to visit, enjoy, and leave, blinds them to the historical circumstances, economic conditions, and in China, discriminatory policies, that have bound that young girl and millions like her to protect this land as their insurance against hunger.

It is always the fall that brings the city folk out to these mountains, and almost always during the first week of October when celebration of the founding of the People's Republic of China on October 1, 1949 dictates holding a "golden week" of rest, and consumption. In South Ravine, the Places of the Mu Family and the Emperor's Relatives, and all the other hamlets of Huangbaiyu, however, the arrival of National Day signals the start of the long days of harvest. "It is hard to keep those people out of the mountains then. We are all in the fields, stripping the maize," Wang Ni told me. "I try to go the week before to find what nuts I can. They [city folk] don't come in the spring.

They all go to those supermarkets in the city and buy wild vegetables wrapped in plastic. But all those wild vegetables grow here! They could come and take them too. They don't know the sweet from the poisonous. They would eat [their] death! Haha!" Wang Ni's nervous laughter was echoed in the throats of the women sitting with us stuffing dumplings with the wild vegetables we'd picked that morning. In the slight moment of silence that followed it was clear that the same transgressive thought had come to each of us: it might be fair if they died.

Vice Mayor He's misinterpretation of the hazelnut impasse demonstrates the extent to which even the Communist Party has embraced individual management of property as a necessary foundation for moral, and environmental, rectitude. When he thought the mountain was a communal resource, He Huangqiu was playing the role of William Forster Lloyd's and Garrett Hardin's selfish herdsman,³⁹³ taking more grass for himself to the detriment of the other herdsman, and the ecosystem. He was only prevented from pursuing his own best interest to the ruin of all due to the invention of privately managed property, which forced him to abstain. The closeness to which the Vice Mayor's logic hews to the political paradigms that successfully dispossessed rural English farmers of their access to commons, putting an end to the possibility of rural self-sufficiency for many, made me wonder if he'd read E.P. Thompson's *The Making of the English Working Class* as a how-to manual in a study class for leaders of the Party.³⁹⁴ Families without land on which to subsist must join must leave their own pursuits and become part of the national economy, as wagedworkers and commodity consumers. After all, that is what is described as modernization.

From their houses looking back up into the depths of South Ravine, residents knew that their government was bringing change to their valley. But how does one reconcile the building of a Socialist New Countryside with the taking of land from the hands of many people who've relied on it for their livelihoods and selling it into the hands of one person who'll profit at their expense? Perhaps because these buyers are often called developers, dispossession is often called development.

"If they sell the ravine, I'll have to sell my goats. There will be nowhere for them to feed. If there is iron in there, they'll eat the mountain and spit out water. Where will it go? They'll flood this whole area. You know the grey lake? That's what will become of us. Where will we go?" Just beyond over the mountain to the east is the place known as the grey lake, or just "wastewater." The largest strip-mine for iron ore in Asia—and the bedrock of China's industrial development—is just around the corner, and as Revolutionize-the-scenery Mu knows, for iron ore to be broken away from stone, water is used—a tremendous amount of water.

Following National Road 304, making the u-turn past the sustainable development model village construction site and following along the bend past Temple Ravine to travel on the western edge of the range known as the Western Mountains within Huangbaiyu, suddenly a lake rises to meet the road. The water is silvery grey. The first time I was driven on the National Road toward Nanfen, I asked the superintendent of schools of Nanfen District if people fished in the lake. She looked at me like I was crazy. "No, not anyone who lives here. But I've heard of migrants fishing and selling the fish to other migrants. Who knows if they do that because they know it is poison or because they don't. That's the wastewater from the iron mine." Driving on the serpentine road, skirting the edges of the grey lake, the water soon begins to disappear altogether, soaked into the earth below. All that is visible is the sporadic roof of a house. Those houses were once high on the mountain slopes, but even they drowned in the slurry.

Mu Gejing was still looking into the depths of the ravine. "If the South Ravine is sold, would you consider moving into the sustainable development model village then?" I asked him. "There

³⁹³ William Forster Lloyd, *Two Lectures on the Checks to the Population* (Oxford, 1833); Garret Hardin, "The Tragedy of the Commons," *Science* 162 (1968): 1243-1248.

³⁹⁴ E.P. Thompson, *The Making of the English Working Class* (New York: Vintage, 1966).

aren't any jobs," was his reply. The opinion of the residents of this hamlet toward the sustainable model development village was demonstrated by their actions: in 2006, before the announcement of the sale of the ravine, three families had begun building new homes. If they had any intention of moving into the model village, as Dai Xiaolong had told reporters would be required, they would not have already invested in building new foundations here. Yet, Dai was still doing everything he could to build awareness and approval of the project, some weeks hosting a government delegation every day.

The managing director of the US Secretariat of the China-US Sustainable Development Center, Wang Miansheng, had been to visit the construction site and meet with Dai and other partners at least 25 times by the end of 2006—all efforts to ensure that the sustainable model development village would be built, and built according to plan. He had not, however, sought to engage residents of any of the hamlets in conversation. He knew "peasants" well enough, he told me many times. He had been "sent-down" from the city to the countryside during the Cultural Revolution for a Maoist re-education through labor and redemption through the crucible of peasant life. Knowing "peasants" from some thirty-years earlier was all the knowledge that he needed to know; peasants are peasants are peasants.

That so many residents in Huangbaiyu were building new homes not only demonstrates their resistance to moving into a "sustainable community" that they see as at best as irrelevant, and at worst as disastrous. Moreover, the families building their own homes still held that what they could build for themselves was better than what an international consortium of multi-national corporations and leading architects could produce. How could that be?

A month before his wedding, I asked Shao Mingzhu if he would have wanted to move into one of the new "sustainable community" houses with his new bride, if they had been ready at that point. His reply took all the assumptions made by the China-US Center for Sustainable Development and turned them on their head. "Those houses are no different than ours," he said. "They have running water, but that doesn't matter. I don't go to the city for running water. I go to work! I'd rather be here. It is clean. It is open. I can relax. It is quiet. But where am I going to get cash? So I have to go out [to work in the city]. Who cares about running water. We have a pump [in the well]. Isn't that running water? And who wants shit in the house anyway?"

It should be no surprise that urban designers—Chinese and American, alike—assumed that the conveniences that they took as emblematic of an improved life, of modernity, would be desired by the rural residents they hoped to help. They saw the current way of life in Huangbaiyu, and saw a lack that needed to be filled. "Improved" housing provides a technical solution to technical problem, assuming that the housing is itself the problem that defines the countryside. But, it is not.

Eight

Conclusion: Ecological Citizenship, Normative Science, and Civil Authoritarianism

In the plan to transform Huangbaiyu into a sustainable community—a self-proclaimed prototype for the 600,000 other villages across China—ecological reasoning leads to the *obvious* answer that twelve hamlets should be consolidated into one, those houses demolished and a new town built in the midst of a valley of farm fields, but where the yards were to be lawns rather than gardens, and the new houses would have both centrally supplied biogas for energy, and a garage ready to accommodate their future mobility. It was *ecologically* obvious as well that the farmers who had always built their own houses, would and should purchase these new houses; it would *of course* be an improvement in their quality of life. Scattered all over the valleys—piecemeal farmland between them—they are isolated, and their use of land is *ecologically* wasteful. Centralization both creates community, and a town; and centralized settlements—cities—are the *natural evolution* of human civilization, and the solution to increasing populations. Less land should be wasted on non-productive activities.

What is productive, like what is progress, is a normative value. It is considered progress for families to move from using their own outhouses to centralized sewers, from wood-fires to centrally-supplied gas; from being producers to consumers, from “peasants” to wage laborers. If these ecological reforms were not already about preserving and expanding the market, and its norms of progress, villagers could have been taught how to insulate their existing homes with locally available materials and how to modify their existing stoves and wood-burning techniques to increase thermal output and reduce smoke. They were not. They—as a prototype for other Chinese rural residents who still build their own homes and grow their own vegetables and whose lives are obscure and economic contributions to the state pitiful—are to be urbanized and marketized, and pay for the privilege of becoming citizen-consumers in an ecological age.

At a time when concerns over how the material life of our present human civilization may put the prospects of future civilization at risk, the politics of consumption is leading to a supraterritoriality of ecological governance that exacerbates global inequality. While Andrew Dobson argues for the ideal of ecological citizenship as a framework that establishes non-reciprocal obligations,³⁹⁵ where those who bear greater responsibility for what Kirk Smith has called the “natural debt” of historical carbon emissions³⁹⁶ have greater duties to fulfill, the industrialized nations seem less eager to radically change the structures, and desires, of their own lifestyles, than to intervene in changing the lives of others. This bias is clear in both the popular and scientific press every time the Chinese “peasant” is portrayed as the bogeyman whose desires and demands to consume in the way that Americans consume will soon so deplete global resources that Americans’ way of life will be made untenable for themselves. While within America environmental leaders

³⁹⁵ Andrew Dobson, *Citizenship and the Environment*.

³⁹⁶ Kirk Smith, “Allocating Responsibility for Global Warming: the Natural Debt Index,” *Ambio* 20 (1991): 95-96.

exhort people to change their lifestyles, in other countries, Americans can *exploit* difference in geo-political power and privilege to experiment on the lives of those bogeyman-potential-consumers, to ensure that whatever they do, their future consumption doesn't threaten the global population's present inequitable resource consumption.

While the ideal form of Andrew Dobson's argument for ecological citizenship may be one in which those who have benefited most from the industrial revolution take the greatest responsibility for its effects on the global ecosystem, the future-orientation of "sustainability" tends to enshrine the status quo—in all of its inequality—as the normative ecosystem. Actual existing ecological citizenship may prove to be more unilateralist and authoritarian than cosmopolitical and emancipatory.

Elmar Altvater has warned of a coming "global apartheid" caused by the rationing of limited goods, instead of an ethical recognition of equality of access and need.³⁹⁷ Current practices invoking ecologism demonstrate that a redistribution of limited goods that would cause industrialized countries or the North to alter their way of life would be considered a disruption of the current "food-chain" within the ecosystem. On the other hand, the transformation of ways of life in the South from subsistence to industrial forms—justified by claims of ecological necessity—is perceived as an obvious contribution to sustainable development, even though what is being sustained is often the expansion of global market capitalism at the expense of local networks of exchange and use of local materials.

The premise of horizontal and symmetrical obligations implicit in ecological citizenship is easy to lose in practice, as the specter of radical planetary uncertainty inspires some people to claim a moral certainty to act on behalf of others, on behalf of the species—but still, for themselves. Rather than horizontal and symmetrical obligations being realized, and emancipation from dominion being expanded, one set of individuals remains as individuals—pursuing their own personal and national interests—even as they work to divest other individuals of their own agency, in the name of preserving the species. As Zhao Qinghao said, shivering in the decrepit house in Huangbaiyu's internationally heralded "sustainable community," "The business of leaders and commoners is different."

While experimental urbanization in Huangbaiyu has been lauded by both environmental researchers and the press as a critical new technological form to insure the health of the planet,³⁹⁸ the case of Huangbaiyu makes clear how a new fear can generate authority to continue old patterns of power and domination. Unless attention is focused on what – and who – a new hierarchy of (carbon) value *de*-values, an ecological age may prove to be little different from the present industrial age, albeit following the values of ecology rather than simply economy. Yet the seemingly immutable laws of ecology often share the same foundational assumptions as classic economics: political-arguments-as-laws that have long protected the status quo – current practices and patterns of inequity – while purporting to be necessary for the health and wealth of both the nation, and humanity at large.³⁹⁹

The grand hypothesis of Huangbaiyu failed in its goal to create a better life for its residents while insuring that their increased energy use would not put the "planet in peril." This failure

³⁹⁷ Altvater, "Global Order and Nature."

³⁹⁸ Sudjic, "Making Cities Work;" Economy, "Environmental Governance;" Friedman, *Addicted to Oil*; Harvard Business Review, "The HBR List;" PBS, "Deeper Shades of Green;" Steffen, "Huangbaiyu."

³⁹⁹ Adam Smith, *The Wealth of Nations* (London, 1778); Thomas Malthus, *An Essay on the Principle of Population* (London, 1798).

succeeded, however, in making an often-obscured assumption of ecological thought transparent: ecosystems presume an existing pattern and hierarchy of life, normalizing present conditions as the way things “should” be rather than simply what now “is.” Both scientific and popular discourse frame the peril of the planet as coming from the future possibility of the world’s “undeveloped” populations – the “commoners” – taking the liberties taken as the birthright of American and European populations to be equally their own. When individual lives and livelihoods are obscured through synecdochal representation by “the planet,” what is beneficial for some people at the expense of others is argued to be for the necessity of all.

In the hopes and promises of both the Chinese officials and American participants in the plan to remake Huangbaiyu into a beacon of a “future that is both bright and green,”⁴⁰⁰ real-estate development was confused with economic development. Cities were understood primarily as a place with a certain type of housing and infrastructure, rather than as a place of specific economic and social relationships, which housing then supports. While eco-cities in the countryside may seem like the solution to a planet in crisis from pollution, when designed from the purported perspective of a bird they exacerbate the ethical crisis of inequity that has plagued the Earth for centuries. With leaders across the globe calling for a “new development path,”⁴⁰¹ and China singled out as the place from which planetary peril will arise, the myriad ways in which the model of sustainable development for Huangbaiyu would impoverish the local population for the benefit of the already powerful and wealthy should be remembered as a harbinger of things to come if “global solutions” continue to be sought for “global problems.”

⁴⁰⁰ Steffen, “Huangbaiyu,” 276.

⁴⁰¹ Economy, “Environmental Governance,” 182.

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