CHAPTER 13

Conclusion: Beginning the World Over Again

What will our civilization look like in 50 years? If we continue as we are now, with business as usual, chances are that our civilization will be in the process of collapsing. If we follow the path I have been exploring in this book, a program of economic reconstruction, centered on building a sustainable manufacturing sector, democratizing firms, and reorienting finance, and encompassing a green transformation of urban, energy, and transportation infrastructures, then chances are that our civilization will flourish. My path is certainly not the only possible successful one; what is most important is that we paint a picture of what a sustainable civilization will look like, and then form a global consensus to move in the agreed-on direction.

Human beings think in visual terms. When someone says, "A picture is worth 1000 words," it is because the human mind understands the world as a system, that is, as a set of elements with a certain structure. A picture shows how things are positioned relative to each other, and the mind can process this information instantly as a "gestalt," that is, as a whole. All of our problems and their solutions are connected together; they must all be addressed at the same time, or the problems will not be resolved.

ALL TOGETHER NOW

The progressive public, on the other hand, tends to be broken up into little pieces. There are those who are focused on health care
reform, some on global warming, some on union organizing, some on problems of the African American community in the cities, some on issues of concern to gay people, some on renewable energy, some on what the Republicans are doing (including almost all of the progressive media), some on electing good candidates, and many progressives are simply focusing on survival. All of these issues are very important and the work done on their behalf is to be encouraged. The problem is to link all of these issues together. Without this linkage, I fear, very little can be accomplished. With a common vision, I predict that most progressive policies could be realized.

Back around 1991, when the Soviet Union collapsed, many of us thought that the time had come to seriously shift resources from military to civilian needs. After all, the entire military had been built with one major purpose, to contain the Soviet Union. Surely, with the Soviet Union gone, the military would not need so many resources. This would be an opportunity to unite the various progressive movements; surely, everyone needed more money for their causes.

However, organizations only have so many resources, and cutting down the military budget seemed like Don Quixote tilting at windmills—that is, a lost cause. Meanwhile, the military was busy justifying their huge budget, although they needn't have worried too much, as the political machine they had built up, putting factories and bases in most congressional districts, plus a decades-long campaign of spreading fear and empire, was enough to keep them well-endowed until the next big foe, terrorism, allowed them to build up even larger budgets than when the Soviet Union was the big threat.

When the conservative movement was, seemingly, at a similar moment of loss of influence in the late 1960s, their response was to take a long-term view. They established various think tanks and media, engaged in wide-ranging discussions, and tried to work slowly to build up a set of ideas that would make for an attractive story about why the ills of society were the way they were, and how to fix them. With Ronald Reagan's ascendency into the presidency in 1981, this strategy came to fruition.

Conservative efforts have always had more resources behind them than progressive efforts because the very wealthy and very powerful wish to justify their wealth and power, and conservative ideology has usually (if not always) been based on the idea that the most wealthy and most powerful should be left to do what they will. As we have seen through the course of this book, the wealthiest and richest sectors of a society benefit from a positive feedback loop—their wealth and power increase: their chances that they will be able to gain even more wealth and power. That means that if government can stay off their backs, they can generally accumulate more and more. This might collapse the entire economy, but very powerful people can hire other individuals to convince both other people and themselves that their actions aren't the problem, even if they obviously are.

The major institution that is always in a position to constrain the richest and most powerful is government, which is why it is an essential part of conservative ideology—enshrined in the dominant economic paradigm, neoclassical economics—that government is the problem, not the solution. When the richest and most powerful can turn the government to their own bidding, then government is seen as useful, at which point the society tilts down steeper and steeper, in a process reminiscent of ancient Rome, in which the ruling class took more and more from the empire and contributed less and less, until Rome fell.

Therefore, progressive movements should try to form a long-term project of understanding and explaining how we can get out of our various messes. The most important task is to paint a picture of what a sustainable society would look like. Currently, particularly in the progressive media, the focus is on the terrible things that the conservatives and Republicans are doing and have been doing, at least since Reagan. This is necessary work, but it is not the most critical work. The critical work is to elaborate a vision of where the society will be, with a perspective of at least 10 years in the future.

CONSTRUCTING AN INCONVENIENT CONVENTIONAL WISDOM

How can one think about long-term visions and futures when so much is going wrong right now? The carbon-equivalent in the atmosphere is currently 385 parts per million (ppm), and going up, while many scientists argue that we need to be at 350 ppm, if not less, to avoid the worst effects of global warming. The manufacturing system is going down in the United States, and the rest of the economy will not be far behind. Millions of people are suffering without jobs or are soon to be without jobs. Who knows what kind
of right-wing demagogue will rise up ready with false answers? When oil prices spike permanently, the vast majority of Americans will have no recourse because they live in areas where there is no alternative to driving a car.

The list could go on, and meanwhile, as of this writing, the media are in a panic because someone ignited a device and burned himself on a passenger jet on Christmas, 2009. Perhaps this is a good time for the nation to consider a poem by the famous Persian poet, Rumi, that ends this way: "Just be quiet and sit down. The reason is you're drunk. And this is the edge of the roof."

Surely, we can work on the problems of the here and now while discussing and formulating a vision of sustainable systems. But proposing new ideas can be problematic, as John Kenneth Galbraith explained in his famous essay, "The Concept of the Conventional Wisdom":

A "good" liberal ... is one who is adequately predictable. This means that he forsweares any serious striving toward originality. In both the United States and Britain, in recent times, American liberals and their British counterparts on the left have proclaimed themselves in search of new ideas. To proclaim the need for new ideas has served, in some measure, as a substitute for them. The politician who unwise takes this proclaimed need seriously and urges something new will often find himself in serious trouble.

As Galbraith further points out, it can take an enormous investment of time and thought on the part of an individual to understand the current conventional wisdom. Conventional wisdom is similar to what I described in the discussion of Thomas Kuhn about a scientific paradigm. A paradigm is adhered to by most scientists of a certain discipline most of the time—science could not be as efficient as it is if every time a discovery was made, the entire edifice of theories on which the discovery was based had to be reexplained. Kuhn called the science undertaken within the confines of a paradigm "normal science." One might also have called it "conventional science."

Kuhn argued that "anomalies," that is, contradictions between what the theory hypothesizes should happen and what actually happens, motivate people to look for an alternative paradigm. In the same way, Galbraith explains that

Since [conventional wisdom] remains with the comfortable and familiar while the world moves on, the conventional wisdom is always in danger of obsolescence. This is not immediately fatal. The fatal blow to conventional wisdom comes when the conventional ideas fail signally to deal with some contingency to which obsolescence has made them palpably inapplicable. ... At this stage, the irrelevance will often be dramatized by some individual. To him will accrue the credit for overthrowing the conventional wisdom and for installing the new ideas.

Galbraith points to the overthrow of the idea that government must always balance budgets, most clearly elaborated by Keynes, as an example of the process of change of conventional wisdom. Perhaps we are in a similar time right now. Although people often think that their particular time is the pivotal one for world history, we certainly have enough environmental and economic warning signs to think that we may be entering such a time.

However, it may be that we will have to wait for things to get much worse before the conventional wisdom will be seen to be "palpably inapplicable" to the new realities. In which case, not only do we have some time to develop a more holistic vision, we are under a certain amount of pressure, morally, to forge a new set of ideas before the old conventional wisdom fails. Of all people, this was probably expressed best, or perhaps most famously, by the most conservative economist of the post-war era, Milton Friedman:

Only a crisis, actual or perceived, produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around. That, I believe, is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes politically inevitable.

He wrote those words in 1982, after his ideas had been picked up by Ronald Reagan.

Ironically, the ideas we should have lying around are in many ways the opposite of Friedman's. I'm sure that he would completely disagree that a competent government is absolutely critical for the long-term survival of a nation's economy and for the long-term survival of our global civilization.
THE MARKET IS NOT THE ANSWER

The market, if left alone, will virtually guarantee that the economic system will collapse. There are a number of reasons for this.

First, the economy is a system, similar to an ecosystem, composed of many parts, all of which must be present for the system to thrive. These niches exist because of the physical reality of complex societies. The market cannot guarantee that the economic ecosystem will stay complete, that parts of it will not disappear.

Second, the market cannot design and plan a national or international system. There is no reason that an economy left to run by itself will maintain a production system. Adam Smith's "invisible hand" operates in the short term and within one industry, allowing for the automatic operation of most of the uncountable transactions that occur in an economy from moment to moment. But Alfred Chandler's "visible hand" is needed as soon as systems become complex and encompass a large territory; Keynes' "macroeconomic hand" is needed if a liquidity trap happens, which it will; and Japan's and every other developed country's "competent governmental hand" is needed to keep a country on track in the long term.

The various parts of the economic system develop at their own rate, and have no regard for the health of their required fellow niches. In fact, the consumer goods and services niches are usually much bigger than the technologically more critical production and reproduction machinery, which means that governmental policy will lean toward nonmachinery sectors, and the nonmachinery sectors may even destroy their less powerful but more important fellow niches.

The third reason free markets lead to collapse is that, as we have recently seen, the financial system will warp the entire economic system because of the power that accrues to it. Or to put it more colorfully, as Matt Taibbi said recently about Goldman Sachs, an unregulated, powerful private financial industry is "a great vampire squid wrapped around the face of humanity, relentlessly jamming its blood funnel into anything that smells like money." This power accumulates because the surplus resources of an economy are passed through the financial system, which can control where those resources flow. As gatekeepers to financial capital, they can insist on corporate policies that are good for the speedy return on investment, but not for the long-term health of the economy as a whole.

The fourth reason markets tend to destroy themselves is that they consume their own capital, thus killing the goose that is laying the golden eggs. The market does not distinguish between profits that are made by increasing wealth and profit that is made by selling off or otherwise liquidating capital. Machinery, or physical capital, may be left to fall apart; human capital may not be given training or may be thrown out of work; natural capital may be consumed, leaving society as a whole with less wealth.

The fifth flaw is the one that Keynes gained fame for pointing out, the tendency for economic systems to get stuck in a low level of activity, or a depression. This can be caused by a capital-goods-led depression, as explained in the chapter about sustainable growth.

For all of these reasons, an economic system is not self-correcting and cannot design a system to operate in the long-run. Both manufacturing and ecosystems are not sustained during the normal functioning of a market system, over the long term.

IS A SUSTAINABLE GOVERNMENT POSSIBLE?

If markets can't sustain an economy, what can? Governments have a different set of problems. First, national government elites have a tendency to want to expand their power, internally by restricting the freedoms that can lead to economic innovation and growth, and externally by directing resources to a military that is more interested in empire than in the long-term power of the country. Second, governments can be taken over by the very economic interests that are leading the economy off the cliff. Instead of working as a "countervailing" power to powerful firms, as Galbraith hoped, governments can become part of what Naomi Klein calls "disaster capitalism," helping the firms to gut the economy.

The process of decline thus involves two basic processes within a national political economy. The military becomes too powerful within the government, and because of its influence on the economy as a large-scale purchaser of military equipment, it warps the competence of the economic system as a whole. The result is what Seymour Melman called state capitalism, that is, the state becomes intertwined with the economy via the military. On the other hand, because of the positive feedback processes of the accumulation of power within the economy, large-scale concentrations of power emerge that are able to
take over the state, which turns to the processes of disaster capitalism. This is “state disaster capitalism,” the combination of an unconstrained market and a government that is not controlled by its citizens.

A sustainable government is one that is competent to guide the market while remaining autonomous from it. Occasionally, as in the case of South Korea in the 1960s and 1970s, this can happen when there is a dictatorship, but then the performance of the political economy is dependent on the particular person who heads the government. More common in dictatorships is the case of the Soviet Union, in which the economy rises to great heights, but then the military brings it to the point of collapse and beyond.

In a democratic polity, on the other hand, the citizen is able to elect a competent government that can avoid both state and disaster capitalism. This obviously is not easy. The citizen has to understand how a political economy works, not how neoclassical economists describe how it works. The electorate also has to have a sufficiently long-term perspective, ideally close to that of indigenous peoples as possible; that is, the citizenry should work toward an economy and environment that is sustainable, in perpetuity.

Not only will the people of the United States have to elect a competent set of public officials that are beholden to the long-term future of the citizenry and not the short-term power of the wealthiest and most powerful, but the people of most countries around the world also will have to do the same. Global warming is a global problem; any regional ecosystem is affected, one way or another, by the collapse of another one. The world has chosen a path of becoming dependent on nonrenewable resources like oil. If the poor regions of the world, including the failed states that breed terrorism, are to become wealthy and stable, they will have to build a green manufacturing sector. For the first time in history, governments all across the world have to competently, consciously, and cooperatively manage a transition from one form of civilization to another.

In order for a civilization to be sustainable, it will have to develop a production system that can function for the foreseeable future. Within the constraints of current technologies, a sustainable civilization will have to be designed so that it does not use up its nonrenewable resources, does not change the climate, and does not destroy its ecosystems. In other words, a sustainable civilization will maintain its natural capital, not destroy its natural capital at a rate that will eventually lead to a planet of deserts.

A sustainable civilization will also have a sustainable economy. The first prerequisite of a sustainable economy is the maintenance of natural capital. But the second is to manage the various niches of an ecosystem, as in a managed national park, so that the various parts of the manufacturing and, most critically, machinery sectors are supported and maintained. That manufacturing system must, in turn, use mostly recycled materials, not pollute, and create recyclable goods to maintain natural capital. To build, expand, and even grow this economy, the government will have to support and encourage the development of human capital.

Creating a sustainable civilization will require popular debates about what are the best technological alternatives. The broad technological design of a society cannot be left to a semiconscious interplay between short-term corporate interests and the government, as happened with the development of an automobile-and-suburb-based system. That might be what most people want, ultimately, but at least the alternatives should be discussed. The design of a civilization should be a broad-based, citizen-centered undertaking, directly related to who is elected to serve in government.

A DAY IN THE LIFE

What would a sustainable civilization look like? We can speculate about what a typical day might look like of a person who wakes up in a sustainable society.

You would wake up in the center of a city or town, where most people live, in a spacious apartment in an apartment building. All the appliances communicate with the municipal electrical system to minimize electrical use; all of your heating and cooling comes from underground geothermal heat pumps, and most of the electricity for your daily use is generated from the solar panels installed on the sides and roof of your building, with battery backup. Your basic heating, cooling, and electricity are free, because the geothermal heat pumps, solar panels and wind-powered electricity from the grid have been financed by a government program, and are maintained by municipal and national building energy agencies.

You can hear birds chirping a few buildings away because the center of town has been blocked off from automobiles, which are small electric cars parked in structures at the end of the town or city
center. They usually come from the ecovillages\(^5\) and densely built single- and multiple-family homes outside of the center of the town or city. You can get around by walking, biking in a physically separated bike lane, or taking a light rail or subway around, depending on the size of the city.

This morning, you’re using your free municipal high-speed Internet, connected to a high-speed national backbone, to plan your trip on a high-speed train. The 1,000-mile trip you’re taking with your family to the National Prairie Park, that now covers most of many states, will only take five hours. You’ll be traveling in large seats, with easy access to observation cars and a restaurant—and the fare will be less than air fare now, because the government has already built the Interstate Rail System and only charges enough for maintenance and labor. Most electricity for the rails is very inexpensive, because the government has built an Interstate Wind and Transmission System, which, again, only requires maintenance.

Today, most of your food for breakfast, and then lunch and dinner, will come from a 20-mile radius around your town or city, and it will all be organic and nutritious (and good tasting). In fact, any vegetables will be from nearby neighborhoods. You can eat very inexpensive local catfish, tilapia, or chickens, as those are subsidized by the local government, or buy more expensive meat that either comes from the prairie or local small-scale farms.

All of the waste from your plate will go down the building’s compost chute, and that and your bodily wastes, collected by another building system, will be used to grow the food you’re eating. City agencies will pick up all your nonfood garbage for you and recycle them to the factories that are situated outside the city region.

This morning you take a free electric commuter train to work, which arrives at a factory a few miles outside town. First you stop to get cash at the local municipal bank, which uses the funds you deposit there to loan to small manufacturing and service firms in town, helping them to get started and expand. Your factory also uses loans from a larger, regional governmental bank for its operations, and for expansion plans for its cell phone production lines. You’ll be going to training today, which is a major part of everybody’s life at the factory, from engineers to managers to factory floor workers. After most of the day at training, you’ll attend a factory-wide meeting to elect a board of directors.

For raw material inputs and unused outputs, the factory contracts with governmental/business organizations that handle the recycling networks of your urban region, and coordinates with other recycling networks for materials that might be in short or oversupply. Using these recycled materials—except in the case of the cell phone factory, where some new silicon is made from sand, using the government-financed regional silicon purification plant—the production of the cell phones takes place with no pollution or toxic waste, and the cell phones are designed to be disassembled by robots you’re helping to build that will allow the phones to be 100 percent recycled.

After work, you go back on the free commuter train and pick up your kids from school or free preschool, either of which has 15 students or fewer in all classes, with art, library, gym, and science classes every day. You can attend a local political meeting with your partner at the town hall, because you get free child care if you engage in civic events. It’s easy to get back and forth to your apartment, what with all of the people out on the streets going to restaurants, movies, cultural events, or just walking around, and with easy, free transport back to your building.

Speaking of walking, people are healthier, and the town hall used to be a hospital. Fewer hospitals are needed now since there is no pollution, the food is actually good for you, there are almost no vehicle crashes, and health care is free. There are city-sponsored prevention activities, such as early-morning tai chi and exercises in the park in the town square.

You can afford to take many trips and enjoy the cultural life of your and neighboring cities because you need to spend very little or no money on electricity, heating, cooling, travel, health, or education, and your food and housing are inexpensive. Many of the new apartment buildings in the town/city center have been financed by the government, and people can rent-to-own or buy new apartments with very low interest rates.

Your taxes are low or nonexistent because the municipal, regional, and national public banks make enough money from loans so that only the wealthy and large businesses need to pay taxes; the government also receives revenue from extra electricity and transportation that people want. In addition, the military has mostly been converted into those neighborhood recycling and energy teams, and the maintenance teams for the national rail, transmission, solar, and water infrastructure maintenance operations. These were formed after the converted military employees helped build the systems in the first place. Since the dollar became legal tender printed by the
government, there are no interest payments on the national debt, because there is no national debt, further decreasing taxes for the middle class.

The expansion of employment from the switch to organic farming and from the revival of manufacturing, plus the government's employer-of-last-resort policy, has virtually eliminated poverty, and this has also meant that there is less of a need for taxes. Any addition to the national wealth, for example, by building more infrastructure, is financed by new, debt-free money, which prudently adds more money to the money supply.

You go to sleep, after a relaxed, busy, and engaging day at work, in town, and with your family.

IT CAN HAPPEN HERE

You can describe or paint your own picture of a sustainable society; the important point is that envisioning a better civilization should become a social process, part of the political debate, even perhaps part of conventional wisdom. When Martin Luther King Jr. said, “I have a dream,” he didn’t stop there, he described his dream.

Envisioning the dream of a wealthy, sustainable, just society is one that everyone can engage in. In fact, it will be absolutely necessary to discuss, debate, and delineate many different varieties of dreams and designs if we are to have a political process that translates good ideas into good legislation. To move forward politically, the citizens of the United States—and around the world—are going to have to come up with a political plan that they can use to hold candidates for office accountable.

Too often, candidates can get away with lofty words or vague rhetoric. They can do this because there is no set of policies that the officials know that the electorate wants. Political parties used to have something called a “platform,” but they have largely abandoned such efforts, and the policy positions in the platforms often didn’t come from the grassroots in any case. Particularly when we are facing long-term problems, we need to champion a set of coherent, mutually self-reinforcing ideas that can easily be used to tell an elected official, “See, this is what we elected you to do, to move toward.”

So I would suggest to anyone reading this book that you start with yourself, your friends, your neighbors, people you do organized work with now, of whatever sort, to figure out what you think would be a good vision for the future. Then, look out for others around you, electronically or physically, who might want to expand the discussion. See if there are good forums for discussion—I will attempt to create one at the Web site for this book, http://www.manufacturinggreenprosperity.com, but there are plenty of others. For example, I started by commenting, and then blogging, at Grist.org.

ONE PERSON’S VISION

The civilization sketched out above, and throughout this book, has been designed to avoid the crises that the current civilization is doomed to exacerbate: the decline of manufacturing; global warming; the depletion of nonrenewable resources, particularly oil; and the collapse of ecosystems.

To prevent the worst of global warming, humans need to stop emitting greenhouse gases. Using wind, solar, and geothermal energy to generate electricity, using geothermal power to heat and cool buildings, and making buildings more efficient, in combination, should eliminate the need for fossil fuels for electrical generation. Converting the transportation system to electric trains and electric cars, and industrial heat processing from natural gas to renewable electricity should stop the rest of fossil fuel emissions.

Reconfiguring the agricultural system to build up the soil instead of destroying it, by universally adopting organic techniques, and halting the use of fossil fuel-based pesticides and artificial fertilizers, will make agriculture a potential way to take some of the carbon dioxide out of the atmosphere, and will make the food and soil more healthy, not less. Recycling livestock manure and minimizing their belching will also help.

Many greenhouse emissions can be avoided simply by stopping the destruction of forests, which is partly the result of the spread of unsustainable agricultural practices, such as growing livestock or soybeans on degrading grassland. Another important source of deforestation is the need for heating fuel in poor countries; a sophisticated, renewable electricity and heating infrastructure can be built in poor countries as part of a plan to develop them.

An inclusive recycling system will eliminate the need for landfills, another source of greenhouse emissions. The need for recycling is
essential to solve the problem of the destruction of ecosystems by eliminating or minimizing mining, pollution, and landfills. In fact, all of the policies needed to prevent global warming are also needed either to preserve ecosystems or prevent resource depletion, such as for oil.

Dense cities and towns, made possible by electrified transportation and necessary to make electrified transportation possible, also allows for the restoration of ecosystems and the prevention of further destruction from development, otherwise known as sprawl. Saving forests is essential for saving ecosystems; if countries don’t manage livestock sustainably, then their rangelands will turn into desert, as is presently happening. Protecting the oceans is critical to keeping the planet’s biosphere healthy, and the encouragement of farmed freshwater fish will help in that effort as well. Without coal, oil, uranium and manufacturing pollution, lakes and other areas might also come back to life, which would greatly increase the health of the human population.

The problem of resource depletion, the limits to growth that the biosphere and Earth impose, can be avoided by implementing programs designed to prevent global warming and ecosystem destruction. Electric transportation eliminates the need for three-quarters of our use of oil; even coal and natural gas have their natural limits. Sustainably harvested biomass can replace whatever oil is used for manufacturing, and if plastics and other products of the chemical industry are recyclable, not much biomass would be needed in any case. Recycling cuts down on the need for energy use, and eliminates the need to use up nonrenewable resources.

Thus the three large categories of environmental crises—global warming, ecosystem destruction, and resource depletion—can all be accomplished with the same set of policies. In turn, by implementing these environmentally friendly construction programs, we can turn the economy into one that is re-centered on manufacturing, which will make the economy sustainable.

Governments have long had many tools available to maintain and augment the manufacturing systems in their countries; Erik Reinert’s book Why Rich Countries Get Rich and Why the Poor Countries Stay Poor is a long compendium of these techniques and literature. The United States and every other natural economic region around the world have the unique opportunity to rebuild the transportation, energy, urban, agricultural, and resource systems by rebuilding the manufacturing system at the same time. This will involve making the manufacturing sector environmentally sustainable by constructing recycling networks and producing without polluting.

But the other reason a green transformation will lead to a manufacturing renaissance is that governments at all levels can direct their financing of this transformation at domestic companies and labor. By making a program of economic reconstruction stable and predictable in the long term, and using various tricks that governments have learned over the centuries—training and educating workers and engineers, providing resources for research, and transferring technology from abroad—the government can create an economically self-sustaining manufacturing system. The government can also encourage the empowerment of employees, both with economic democracy in the firm and by supporting people with health care, social security, and well-funded education.

Manufacturing is the foundation of any economic system, but it must be protected from the other parts of the economic and political systems, or its wealth-generating capital will be looted to build up parasitic centers of wealth and power. This sclerosis then leads any country, even a Great Power, into decline.

A world that has overcome the immense challenges of the 21st century will be one with a higher standard of living for all—with higher income, lower prices for necessities, better and more job opportunities, travel, housing, health, and education. In such a world, with virtually no poverty, and a dispersed distribution of power, the middle class will not just be rebuilt, it will dominate our political and economic systems. We have the technologies, the policy tools, the democracy, even the international peace, to make the transformation.

Over 200 years ago, the United States stood at a fork in the road, and Thomas Paine penned these remarkable lines:

"We do have it in our power, so let’s begin the world over again."