INTRODUCTION

Growing up in the green and luscious city of Seattle during the 1970s was idyllic, but the real joy came in the summertime, when my family and I piled our camping gear into our station wagon and headed for the stunning North Cascades mountains. Since this was in the days before DVD players in the backseats, during the drive I'd look out the window and study the landscape. Each year I noticed that the mini-malls and houses reached a bit farther, while the forests started a bit later and got a bit smaller. Where were my beloved forests going?

I found my answer to that question some years later in New York City, of all places. The Barnard College campus where I went for my environmental studies classes was on West 116th Street on Manhattan's Upper West Side, and my dorm room was on West 110th Street. Every morning I groggily trudged up those six blocks, staring at the mounds of garbage that line New York City's streets at dawn each day. Ten hours later, I walked back to my dorm along the emptied sidewalks. I was intrigued. I started poking around to see what was in those never-ending piles of trash. Guess what? It was mostly paper.

Paper! That's where my trees were ending up. (In fact, about 40 percent of municipal garbage in the United States is paper products.[1]) From the forests I knew in the Pacific Northwest to the sidewalks of the Upper West Side to . . . where?

My curiosity was sparked. I couldn't stop there; I needed to find out what happened after the paper disappeared from the curb. So I took a trip to the infamous Fresh Kills landfill on Staten Island. Covering 4.6 square miles, Fresh Kills was one of the largest dumps in the world. When it was officially closed in 2001, some say the stinking mound was the largest man-made structure on the planet, its volume greater than that of the Great Wall of China, and its peaks 80 feet taller than the Statue of Liberty.[2]

I had never seen anything like Fresh Kills. I stood at its edge in absolute awe. As far as I could see in every direction were trashed couches, appli-

ances, cardboard boxes, apple cores, clothes, plastic bags, books, and tons of other Stuff. You know how a gory car crash scene makes you want to turn away and stare at the same time? That is what this dump was like. I'd been raised by a single mother of the post-Depression era who instilled in her kids a sense of respect for quality, not quantity. Partly from her life philosophy and partly out of economic necessity, my youth was shaped along the lines of the World War II saying: "Use it up, wear it out, make it do, or do without." There just wasn't a lot of superfluous consumption and waste going on in our house. We savored the things we had and took good care of them and kept them until every last drop of usefulness was gone.

So the mountains of perfectly good materials that had been reduced to muck at Fresh Kills made no sense to me. It felt terribly wrong. Who set up this system? How could those who knew about it allow it to continue? I didn't understand it, but I vowed to figure it out. After two decades of sleuthing, when I'd figured it out, I called it the Story of Stuff.

Interconnections

The Story of Stuff journey took me around the world—on research and community organizing missions for Greenpeace, Essential Action, the Global Alliance for Incinerator Alternatives (GAIA), and other environmental organizations—not only to more dumps but also to mines, factories, hospitals, embassies, universities, farms, World Bank offices, and the halls of government. I stayed with families in Indian villages so isolated that my arrival would be greeted by desperate parents running up to me asking "Are you a doctor?" hoping I happened to be the international medic—on her *annual* visit—who would be able to cure their child. I met entire families who lived on garbage dumps in the Philippines, Guatemala, and Bangladesh and who survived on the food and material scraps they pulled from the stinking, smoldering heaps. I visited shopping malls in Tokyo and Bangkok and Las Vegas that were so big and bright and plastic that I felt like I was in *The Jetsons* or *Futurama*.

Everywhere I went, I kept asking "why?" and digging deeper and deeper. Why were dumps so hazardous? Because of the toxics in the trash. And why were there toxics in the trashed products to begin with? Answering that question led me to learn about toxics, chemistry, and environmental health. Why were dumps so often situated in lower-income communities where people of color live and work? I started learning about environmental racism.

And why does it make economic sense to move entire factories to other countries: how can they still sell the product for a couple of dollars when it's

traveling so far? Suddenly I had to confront international trade agreements and the influence of corporations on governmental regulations.

And another thing: why are electronics breaking so fast and why are they cheaper to replace than repair? So I learned about planned obsolescence, advertising, and other tools for promoting consumerism. On the surface, each of these topics seemed separate from the next, unconnected, and a long way from those piles of garbage on the streets of New York City or the forests of the Cascades. But it turns out they're all connected.

The journey led me to become what people call a systems thinker. That means I believe everything exists as part of a larger system and must be understood in relation to the other parts. It's not an uncommon framework: think about the last time you came down with a fever. You probably wondered if it was caused by a bacteria or a virus. A fever is a response to a strange element being introduced to the system that is your body. If you didn't believe that your body was a system, you might look for a heat source underneath your hot forehead or some switch that accidentally got flipped and raised your temperature. In biology we easily accept the idea of multiple systems (e.g., circulatory, digestive, nervous) made of parts (like cells or organs), as well as the fact that those systems interact with one another inside a body.

In school we all learned about the water cycle, the system that moves water through its various states—as liquid, vapor, and solid ice—around the earth. And about the food chain, the system in which, as a simple example, plankton get eaten by small fish, which get eaten by bigger fish, which get eaten by humans. Between those two systems, the water cycle and the food chain—even though one's inanimate and the other is made of living creatures—there's an important interaction, as the rivers and oceans of the first provide the habitat for the creatures of the second. That brings us to an ecosystem, made up of interrelated inanimate physical parts and subsystems like rocks and water, as well as all the living parts like plants and animals. Again there are systems within systems. The earth's biosphere—another word for the planet's entire ecosystem—is a system that exists inside of that much larger thing that we call the solar system.

The economy functions as a system, too, which is why there can be a domino effect inside it, as when people lose their jobs and then reduce their spending, which means that factories can't sell as much Stuff, which means that more people get laid off . . . which is exactly what happened in 2008 and 2009. Systems thinking as related to the economy also explains a theory like "trickle-down" economics, in which benefits like tax cuts are given to the wealthy so that they'll invest more in businesses, which would hypotheti-

cally in turn create more jobs for the middle and lower classes. If you didn't believe these parts (money, jobs, people across classes) operated within a system, there'd be no basis for the trickle-down theory, or for beliefs about the interplay between supply and demand. All these examples assume interrelated parts within a larger system.

Another way to say that everything exists as part of a larger system (including systems themselves) is to say *everything is connected.*

It's funny: Most people's professional paths start with a general interest that becomes increasingly specialized with years of education, training, and on-the-job implementation. There's powerful social and professional validation for increasing specialization like this. I, however, took the opposite path: I started with a fascination—and outrage—about garbage, specifically about the bags of the Stuff piled up on New York City's Upper West Side. After getting a degree in environmental science, I got a job with Greenpeace International, which paid me to track the destination and the impact of all the waste loaded onto ships in the United States and sent abroad. My whole job was about investigating and stopping the international dumping of waste.

I will forever be grateful to Greenpeace. Founded on the Quaker principle of bearing witness—the idea that seeing wrong-doing with our own eyes creates a moral responsibility to inform others and take action—Greenpeace provided me with a laptop computer and rudimentary training and then set me loose upon the world to bear witness to waste trafficking and tell everyone what I saw. However, like most institutions, Greenpeace divided its work into specific issue areas that left us working in silos, disconnected from one another: toxics, oceans, forests, nukes, marine ecosystems, genetically modified organisms, climate, etc. The organization cultivated a strong culture of specific expertise. For example, the toxics people knew a scary amount about toxics—even the interns could rattle off the molecular structures of chlorinated organic compounds and explain their environmental health impacts—and they single-mindedly pursued their issue to the exclusion of everything else. Back then, we didn't spend much time understanding the connections between the problems we were each working so hard to solve.

In the early 1990s, I started traveling extensively to work with allies in other countries. At first, I prided myself on knowing more about international waste trafficking than anyone outside my team at Greenpeace. But the more I traveled, the more I realized how much I didn't know and didn't understand. I was initially shocked by the scope of work that I found others

doing, in India, Indonesia, the Philippines, Haiti, and South Africa, for example. I met dozens of people who worked on a whole jumble of issues altogether: water and forests and energy and even women's issues and international trade. At first, I assumed that they had to cover so many issues because they were short staffed; I felt sorry for them having to do the jobs of multiple people while I had the luxury of devoting all my attention to one issue. After a while, I had a revelation: all those issues are interconnected. As I kept unraveling the strings of connections, I realized that garbage—or any single problem, for that matter—can't be solved in isolation. Focusing so exclusively on a single issue wasn't helping me; in fact it was retarding my ability to understand the context of the issue of garbage, to see the Big Picture. Learning about other issues wouldn't distract from my progress, it would enable breakthroughs.

And so it was that I went from poking in bags of garbage to examining the global systems of production and consumption of manufactured goods, or what academics call the materials economy. That means I cross back and forth between two disciplines that the modern world usually sees as not only sharply divided but at total odds with each other: the environment (or ecology) and the economy. But guess what? Not only are these two systems connected, one is actually a subsystem of the other, the same way that earth's ecosystem is a subsystem of the solar system.

Now, a lot of environmentalists don't really want to deal with the economy. Traditional environmentalists focus on that cuddly endangered bear or the majestic groves of redwoods or the nature preserves where they go to forget all about ugly things like the stock market. Endangered species and pristine places have nothing to do with pricing structures or government subsidies for mining or international trade agreements, do they? (Uh, actually, yes, they do.) Meanwhile, classical economists have acknowledged the environment only as an unlimited and cheap or *free* set of raw resources to fuel the growth of the economy. Oh, and the arena from which pesky activists sometimes pop up to challenge a new factory site based on protecting the habitat of the woodland shrew.

Yet in fact, the economy is a subsystem of the earth's ecosystem, its biosphere. You see, any economic system—like barter, slavery, feudalism, socialism, or capitalism—is a human invention. Since humans are just one of the earth's many species (albeit a powerful species, what with our written words and our weapons), any invention of ours is a subsystem of the earth's ecosystem. Once we understand that (which is not my opinion, but plain fact), it leads to other insights.

Nearing Limits

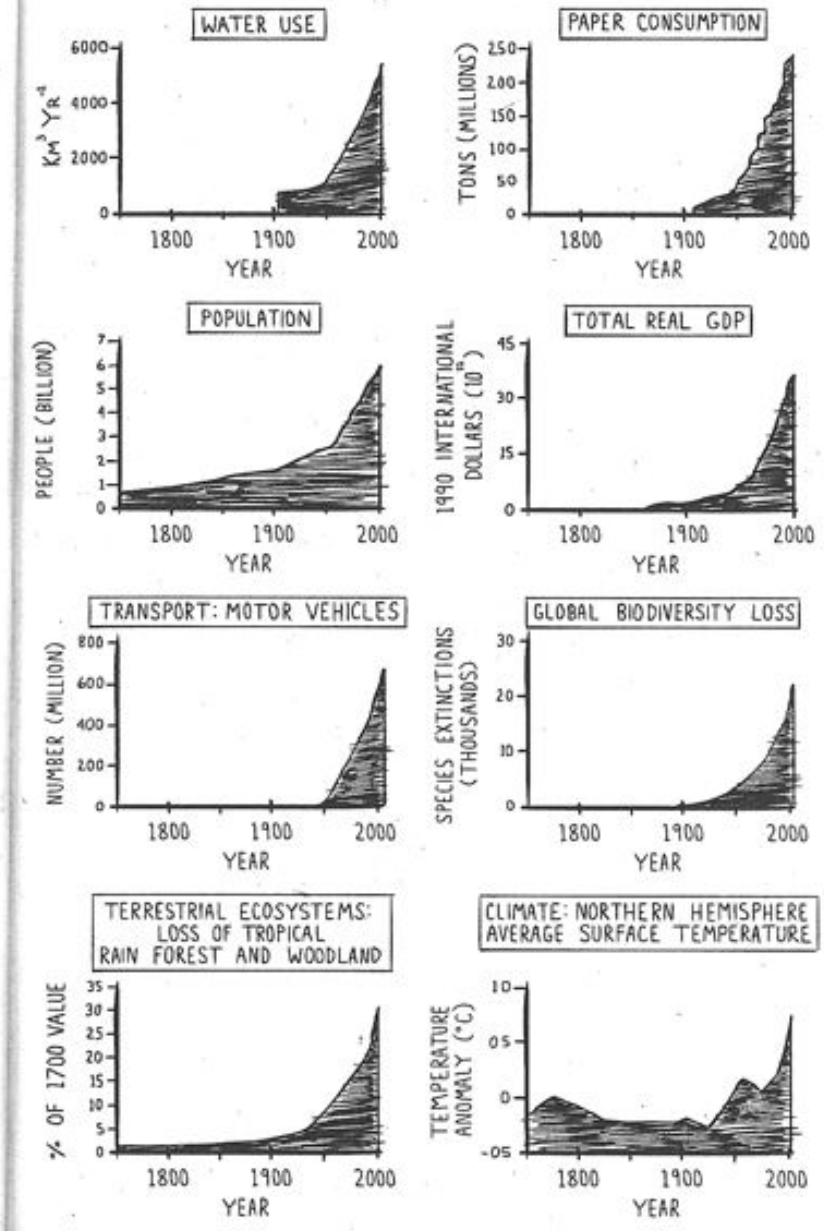
The most important of these further insights is about limits. For one system to exist inside of another, the subsystem needs to fit inside the constraints of the parent system. You've seen those pictures of our pretty blue planet from space, right? The surface area on this hunk of rock that we call home is 197 million square miles (roughly a third of that is land).[3] To wrap a (long) piece of string around the middle of the planet at the equator you would need 24,901.55 miles (40,075.16 kilometers) of it.[4] The total water supply—in all its states—measures about 326 million cubic miles.[5] That's what we've got. The earth's dimensions and capacity remain stable. That means there is a *limit* to the amount of land, water, air, minerals, and other resources provided by the earth. That's just a fact.

Believe me, I know that can be easy to forget, given the way most of us here in the United States or in other rich nations live. How would we know that the soil is degrading or the oceans are being emptied of fish? Few of us get to see our food growing or the nets pulling our fish out of the water. Let alone where and how our T-shirts, laptops, books, and other Stuff is made, halfway across the planet. From where I sit in my cozy Berkeley bungalow, the world looks pretty good: the weather's nice, the vast selection in the grocery store is undiminished by the fact that my state of California is in a multiyear drought. If our fruit harvest is low this year, apples still arrive from Chile. *Don't worry, be happy.*

But the reports of every credible scientist in the world tell a different story. Evidence of the environmental crisis is now so abundant that only those committed to serious denial continue to contest the facts. While mainstream economists and politicians seem blind to the very real physical limits, environmentalists, scientists, academics, and others have raised concerns for decades.

There are literally hundreds of books and reports, from countless reliable and trustworthy sources, that document how things are going on the planet. Here are just a few highlights:

- In July 2009, we reached 387.81 parts per million (ppm) of carbon dioxide (CO_2) in the atmosphere. Leading scientists around the world have identified 350 ppm as the maximum level that the atmosphere can contain for the planet to remain as we know it.[6]
- Toxic industrial and agricultural chemicals now show up in every body tested anywhere in the world, including in newborn babies.[7]



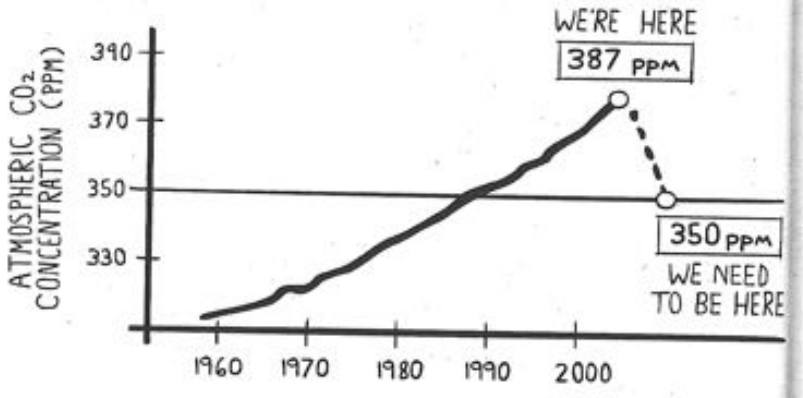
Source: W. Steffen at al, *Global Change and the Earth System: A Planet Under Pressure*, 2005.

- Indoor air pollution kills 1.6 million people per year, with outdoor air pollution taking another 800,000 lives each year.[8]
- About one-fifth of the world's population—more than 1.2 billion people—experience water scarcity, and this resource is becoming increasingly scarce.[9]
- Global income inequality is staggering. Currently, the richest 1 percent of people in the world have as much wealth and Stuff as the bottom 57 percent.[10]

So what happens when there's a subsystem like the economy that keeps growing inside of a system of a fixed size? It hits the wall. The expanding economic system is running up against the limits of our planet's capacity to sustain life. Economists project that, with current and projected rates of growth, developed countries will grow at 2 to 3 percent per year, and China and India at 5 to10 percent per year.[11] Already, in generating today's volume of goods and services across the world, we're producing more than five times (closer to six, actually) the level of CO_2 emissions to which we'll need to reduce by 2050 in order to avoid total climate chaos.[12]

So that's the conundrum. Then factor in the impact of raising the standard of living for the world's poor (which inevitably means increasing their carbon dioxide emissions). With carbon dioxide overloading our fragile atmosphere, and our demands on all the other life-sustaining services and resources that the earth provides, we're stressing the planet beyond its limits.

Put simply, if we do not redirect our extraction and production systems and change the way we distribute, consume, and dispose of our Stuff—what



Source: J. Hansen et al, "Target atmospheric CO_2: Where should humanity aim?" 2008 350.org.

I sometimes call the take-make-waste model—the economy as it is will kill the planet. Look at the news coming through as I write these words: the financial markets have collapsed and were only partially resuscitated thanks to vast Wall Street/Washington bailouts; food prices are erratic and causing misery both for farmers and for the world's hungry; carbon dioxide levels are rising to life-threatening levels, and resources like oil, fish, and fresh water become scarcer every day.

In the face of the grim data and the stubbornness of the problem, I know it's tempting to tune out, give up, and resign oneself to the way things are. One friend told me that reading this kind of information actually makes her want to go shopping because it is such a relief to be in a situation where your biggest concern is if your shoes match your purse. People everywhere, but especially the poor, are experiencing crisis fatigue. Heck, there are flu pandemics, freak storms, unemployment, and foreclosures to worry about. The thing is, we don't have a choice. In the words of Joseph Guth, a lawyer, biochemist, and the legal director of the Science and Environmental Health Network: "*Nothing* is more important to human beings than an ecologically functioning, life sustaining biosphere on the Earth. It is the *only* habitable place we know of in a forbidding universe. We all depend on it to live and we are compelled to share it; it is our only home . . . The Earth's biosphere seems almost magically suited to human beings and indeed it is, for we evolved through eons of intimate immersion within it. *We cannot live long or well without a functioning biosphere, and so it is worth everything we have.*"[13]

Fragmented Solutions

While the challenges are interconnected and system-wide, the responses are often partial, focused on just one area—like improving technologies, restricting population growth, or curbing the consumption of resources.

Proponents of techno-fixes, for example, believe that cleaner, greener, and more innovative technologies will make our industrial and economic activity so efficient with energy and other resources that our problems can be solved this way. They point out that there's less and less environmental destruction per unit of activity (per dollar of gross domestic product or per ton of product made). They're not wrong. Many technologies are getting more efficient. But that progress is canceled out by the fact that—at least until the economic crash of 2008—there was more absolute growth overall: more people extracting, using, and disposing of more Stuff. (Even the decline in production from 2008 to 2009 was relatively small, and if past trends are any guide, we will revert to growth soon enough.) So the overall

adverse environmental impact is still increasing, regardless of more efficient technology.

The reason that green technologies will not save us is that they are only part of the picture. Our collective impact on the planet—how fast we reach the limits of the earth's capacity to sustain us—results from a combination of how many of us there are, what kind of technologies we use, and how much we're consuming. In technical terms, this is often represented by the I=PAT equation, which was conceived in the 1970s during debates between the camp that believed that technologies and consumption patterns were the main driver of environmental destruction and the opposing camp, which argued that increasing population was at fault. The I=PAT equation—in which I is impact, P is population, A is affluence (aka consumption), and T is the technologies used—recognizes the interplay between all these factors. The equation helps us see how these factors can interact; *generally* we can decrease our impact by reducing population and/or improving technologies. Generally, but not always: not if other variables cancel out the change. Fewer people consuming much more Stuff, for example, still increases impact. More people consuming less Stuff could decrease impact. There are many ways these variables can relate to one another.

Of course total population growth is part of the problem: all you need to do is see those hockey-stick-like graphs on page xv to know that one of the big reasons that exponentially more of everything (trees, minerals, fresh water, fisheries, etc.) has been used up in the last fifty years is because there are exponentially more of us. It took us two hundred thousand years (until the early 1800s) to reach 1 billion people; then a little over a century (1960) to reach 3 billion; and we've more than doubled since then, with our current 6.7 billion and counting.[14]

Yet historically, interventions aimed at stabilizing global population have usually been driven by those in the overconsuming regions of the world and have often ignored the fact of vastly unequal consumption patterns. Often places with the most rapidly expanding populations are using very few (too few) resources. Meanwhile the very small slice of the global population that owns most of the world's wealth (the top 1 to 5 percent) is producing the lion's share of greenhouse gases and other environmental destruction. It's important that whatever strategies we democratically decide to employ in order to stabilize population must be grounded in an unshakable commitment to human rights, especially women's rights, and equity.

We don't know what the actual carrying capacity of the planet is, but we know it isn't one inflexible number; it depends on our levels and patterns of production and consumption. That raises huge issues about equity in

resource distribution and value judgments about how much is enough. Should we be asking how many people the planet can sustain at the U.S. level of consumption or at the Bangladesh level of consumption? And, importantly, who decides the answer?

The questions are complicated, but we need to have the conversation and decide on our answers together. We need to do this because there is no doubt we will reach the planet's carrying capacity; we're heading in that direction now. And once we cross that line, it's game over: *We depend on this planet to eat, drink, breathe, and live. Figuring out how to keep our life-support system running needs to be our number-one priority. Nothing is more important than finding a way to live together—justly, respectfully, sustainably, joyfully—on the only planet we can call home.*

If what's getting in the way of that is this human invention gone haywire—the take-make-waste economic growth machine—then it's only logical to consider dismantling and rebuilding that machine, improved upon by all that we've learned over the previous decades.

It's the Economic Growth, Stupid

Economic growth generally refers to an increase in economic activity across the board (trade, services, production, consumption, everything), which also implies an increase in the amount of natural resources extracted from the earth, run through the economy, turned into products, and returned back to the earth as waste. Put simply, this means *more*. More Stuff. More money. Just like it sounds, growth means getting bigger.

Now, economic growth should be a value-neutral means toward the real goals: meeting everyone's basic needs and creating healthier communities, greater equality, cleaner energy, sturdier infrastructure, more vibrant culture, etc. For a long time, growth did contribute to those fundamental goals, although it's important to remember that growth in some places has too often required the exploitation of others. A century ago, when we still had vast stretches of open land, the growth model brought roads and houses and central heating and full bellies. Now, in much of the world, we have those things. In fact, we do have enough Stuff to meet the basic needs of everyone in the world; it's just not distributed well enough. We have a shortage of sharing rather than a lack of enough.

A big part of the problem we face today is that our dominant economic system values growth as a goal unto itself, above all else. That's why we use the gross domestic product, or GDP, as the standard measure of success. It counts the value of goods and services made in a country each year. But it leaves out some really important facets of reality. For starters, GDP doesn't

account for the unequal and unfair distribution of wealth or look at how healthy, satisfied, or fulfilled people are. That's why the GDP of a country can keep rising at a good 2 to 3 percent clip while the incomes of its workers don't rise at all in the same time period—the wealth gets stuck in one spot in the system. Earth Economics director Dave Batker, a disciple of the great ecological economist Herman Daly, says the GDP is akin to a business owner adding up all her expenses and all her income and then adding them together into "a big dumb useless number." The fact that the number is big doesn't tell us a thing about how the business is really doing.[15]

Another huge problem with how the GDP is calculated is that the true ecological and social costs of the growth are not accounted for. Industries are usually permitted (both in the sense of being given permits by government as well as generally not being held accountable) to "externalize costs," which is a fancy phrase economists use to describe the fact that, while companies are busy producing and selling widgets, they're not paying for, or even tracking, the side-effects they cause, like contaminating groundwater, exposing communities to carcinogens, or polluting the air.

This is totally messed up: while on the plus side, GDP counts activities that cause pollution and cancer (such as factories making pesticides or polyvinyl chloride) as well as activities to clean up that pollution and treat the cancer (such as environmental remediation and medical care), there is no deduction in the GDP for the pollution released into the air or water or the loss of a forest. In his book *Deep Economy*, Bill McKibben gave this real world example of the failure of GDP to measure success: for years in Africa, the non-native water hyacinth was clogging waterways, and herbicides had done nothing to solve the problem. Then someone discovered that dried water hyacinth made great material for growing highly nutritious mushrooms, and that when the mushrooms broke down the cellulose in the hyacinths, it made a great medium for earthworms. The worms chomped that down and created high-quality fertilizer, then were themselves feed for chickens. The chickens, of course, provided people with eggs, while their droppings could be used to fuel biogas digesters that produced power, and this reduced the need to cut down more trees for firewood from the already deforested regions in that part of Africa. Because monetary transactions—like the purchase of fertilizer—were reduced, a solution like this actually shows up on a measure like GDP as diminished "growth."[16] Yet it's clear to anyone with eyes, a brain, and a heart that the hyacinth-mushroom-worm-chicken solution is true progress: healthy and sensible.

For the powers that be—the heads of government and industry—the

undisputed goal of our economy is a steady improvement in the GDP, aka growth. Growth as a goal has supplanted the real goals, the things growth was supposed to help us achieve. What I and many others have come to see—and as I hope this book makes abundantly clear—is that too often, as a strategy, focusing on growth for growth's sake undermines the real goals. Too much of what gets counted toward "growth" today—tons of toxic consumer goods, for example—undermines our net safety, health, and happiness. Despite increasing growth and with all of our advances in technology, science, and medicine, more people than ever are hungry, half the world's people live on less than $2.50 a day,[17] and income inequity is growing within and between countries.

Our society's deep, unwavering faith in economic growth rests on the assumption that focusing on infinite growth is both possible and good. But neither is true. We can't run the expanding economic subsystem (take-make-waste) on a planet of fixed size indefinitely: on many fronts, we're perilously close to the limits of our finite planet already. Infinite economic growth, therefore, is impossible. Nor has it turned out to be, after the point at which basic human needs are met, a strategy for increasing human well-being. After a certain point, economic growth (more money and more Stuff) ceases to make us happier. I mean, if everyone were having fun and enjoying leisure, laughter, and well-being, we might decide that the pursuit of growth was worth the trashing of the planet. But the majority of us are not having fun; instead we are reporting high levels of stress, depression, anxiety, and unhappiness.

Alright. Are you ready? I'm going to say it: this critique of economic growth is a critique of many aspects of capitalism as it functions in the world today. There. I said the word: "capitalism." It's the Economic-System-That-Must-Not-Be-Named.

When writing the film script of The Story of Stuff, my intent was to describe what I saw in my years on the trail of trash, visiting factories and dumps and learning about how things are made, used, and thrown away around the world. I certainly didn't sit down to figure out how to explain the flaws in capitalism. It was trash, not economics, that was originally on my mind. So, at first it took me by surprise that some commentators called the film "an ecological critique of capitalism" or "anti-capitalist." Was it? Really? That inspired me to go back and dust off my old books on economics to revisit the core characteristics of capitalism. And I realized those commentators were on to something. It turns out that a hard look at how we make

and use and throw away Stuff reveals some pretty deep problems caused by core functions of a specific economic system called capitalism. There's no way around it: capitalism, as it currently functions, is just not sustainable.

As lawyer and former presidential advisor Gus Speth wrote in his book *The Bridge at the End of the World*, "Inherent in the dynamics of capitalism is a powerful drive to earn profits, invest them, innovate, and thus grow the economy, typically at exponential rates . . . My conclusion, after much searching and considerable reluctance, is that most environmental deterioration is a result of systemic failures of the capitalism that we have today, and that long-term solutions must seek transformative change in the key features of this contemporary capitalism."[18]

Yet, in the United States, we're still hesitant to broach this unmentionable subject, fearful of being labeled unpatriotic, unrealistic, or insane. Elsewhere in the world, there's a widespread recognition that some aspects of capitalism aren't working well for the majority of the world's people or for the planet; people talk about it openly. Michael Cohen, Lecturer in American studies at the University of California, Berkeley, says that's because in other countries capitalism is seen as one option among many, whereas in the United States it's considered an inevitability.[19]

Can we put capitalism on the table and talk about it with the same intellectual rigor that we welcome for other topics? Can we examine the failures of capitalism without falling into generations-old stereotypes and without being accused of being un-American? Refusing to talk about it doesn't make the problems disappear. I believe the best way to honor our country is to point out when it's going astray, instead of sit here silently as many economic, environmental, and social indices worsen. Now would be a good time to start looking at what we could do differently, and what we could do better.

Take the Red Pill

The belief that infinite economic growth is the best strategy for making a better world has become like a secular religion in which all our politicians, economists, and media participate; it is seldom debated, since everyone is supposed to just accept it as true. People who challenge capitalism or growth are considered wackos, or as a recent article in *U.S. News & World Report* put it, "The growing anti-economic-growth movement [is] made up of extreme environmentalists, hand-wringing technophobes, and turn-back-the-clock globalization bashers . . ."[20] Even while taking over the reigns of a country steeped in social, environmental, and economic problems, during a

troubled time ripe for the adoption of alternative strategies, President Obama and his team promised over and over that economic growth would return. The U.S. Treasury's $800 billion rescue package to stabilize financial markets in late 2008 was to protect this sacred idea of economic growth, and by 2009, Obama, Treasury Secretary Timothy Geithner, economic czar Larry Summers, and Federal Reserve chair Ben Bernanke had committed an estimated $13 trillion of public funds to bailing out Wall Street and kick-starting economic growth again.

What gives? Why are so few people willing to challenge, or even critically discuss, an economic model that so clearly isn't serving the planet and the majority of its people? I think one reason is that the economic model is nearly invisible to us.

"Paradigm" may be an off-putting word, but it's an important concept when considering different ways of organizing our economy and our society. A paradigm is like a framework, or like the operating system of a computer. It's made up of the dominant set of assumptions, values, and ideas that make up how a society views reality. It's our worldview. After a while we tend to forget that we're viewing the world through the paradigm, like it's a pair of contact lenses. "Your paradigm is so intrinsic to your mental process that you are hardly aware of its existence, until you try to communicate with someone with a different paradigm," said prominent systems analyst Donella Meadows.[21]

You're more likely to notice aspects of the paradigm when you view a culture from the outside. For example, living in Dhaka, Bangladesh, for five months in the mid-1990s provided me with many opportunities to see another culture's norms and also see my own from a new perspective. While there I lived in a house full of Bangladeshis and worked in an organization composed of Bangladeshis; there were no other westerners around. At first my housemates and co-workers were warm and friendly, but after about a week, they cooled toward me. I kept asking people if I had done something to offend them but got no response until one woman who had lived in the United States explained that I had insulted them by not going to their homes for dinner. "But they haven't invited me," I protested. She told me that I had to just go and show up at their homes at dinnertime and invite myself in.

Growing up in the United States, I never went to someone's house for dinner unless I was invited by them. In the back of my head was the understanding that it is rude to go to someone's house at dinnertime and expect to be fed without an invitation. "That's impolite," I told the woman. "No it isn't," she said. "Where you come from that is impolite. Not here." It was a

simple thing, but it made me think. I started a mental inventory of all the beliefs, values, and concepts that I considered the truth without having ever questioned them: I started unpacking my paradigm.

Paradigms are so pervasive and invisible that they can be easily mistaken for truth. When this happens, we limit our creativity in finding solutions to the problems we face, since our thinking is cramped and predefined by society's dominant framework. For example, if your culture believes the earth is flat, you're unlikely to explore what lies beyond the horizon. If your paradigm views nature as a reservoir of supplies intended for meeting humanity's needs, you treat nature very differently than if your paradigm holds nature as a sacred, complex system of which humans are just one part. If your framework says that economic growth is the key to ending poverty and bringing about happiness, then you protect growth at all costs even when it makes many people poorer and less happy.

Unfortunately many organizations and political leaders working to improve environmental and social conditions operate unquestioningly from within the paradigm. However, to paraphrase Einstein, problems cannot be solved from within the same paradigm in which they were created. A prime example is the cap and trade approach to reducing greenhouse gas emissions. In this scenario, private companies are permitted to sell their "right" to pollute to other companies, which can then pollute more, in the belief that the free hand of the market will find the most efficient opportunities for greenhouse gas reductions. But viewing pollution as a "right" and relying on the market to solve environmental problems reinforces the very paradigm that got us into this mess. In a different paradigm, human health and ecological survival would be paramount, and industrial activities that undermine these goals would be prohibited outright. The right to clean air and a healthy climate would trump the right to pollute.

Before we can change a paradigm, we need to identify it as a paradigm rather than assume it is truth. In the film *The Matrix*, the dominant paradigm is the simulated reality that was created by machines in order to subdue the human population while their bodies' heat and electromagnetic activity are used as energy sources for the machines. The first thing that the band of rebels led by Morpheus does is "unplug": they take the red pill to see the Matrix for what it is. I believe that examining the hidden impacts of all the Stuff in our lives is a way to unplug, which is the first step toward changing things.

Donella Meadows worked for years to identify the leverage points where a "small shift in one thing can produce big changes in everything."[22] Over time she developed a hierarchy of leverage points, from those that make

incremental but immediate change to those that can fundamentally change the entire system. At the top of the hierarchy is challenging and changing a paradigm itself, because a shift in the paradigm immediately changes everything.[23] For me, this fact is a huge source of hope and optimism. Although changing a paradigm can take generations, it can also happen in a second, when a person suddenly sees things in a new light, as I did standing aside the Fresh Kills landfill.

The Story of Stuff

My journeys led me to realize that the issue of garbage was related to the whole of the materials economy: to the extraction of natural resources, like mining and logging; to the chemistry labs and the factories where Stuff was designed and produced; to the international warehouses and stores where Stuff was shipped and trucked and then stuck with impossibly low price tags; to the clever television advertisements created with the help of psychologists to hook a consumer's attention. I learned about international financial and trade institutions like the World Bank, International Monetary Fund, and World Trade Organization; corporations like Chevron, Wal-Mart, and Amazon; indigenous tribes protecting rainforests in Ecuador, seamstresses making Disney nightgowns in Haiti, the Ogoni fighting Shell in Nigeria, communities along Cancer Alley in Louisiana, and cotton-field laborers in Uzbekistan—and all of these processes and institutions and communities turned out to be part of the same story! As environmental economist Dr. Jeffrey Morris explained when I asked about true cost accounting for my laptop, "Take any item and trace back to its true origins, and you find it takes the whole economy to make anything."[24]

As I pieced together the whole trajectory of the dysfunctional system, I discovered a number of different groups approaching these issues from many different angles. There are the super serious "wonks" in the fields of science, economics, or policy, armed with their true yet terrifying statistics and facts which, unfortunately, tend to inspire panic and despair that shuts people down as opposed to motivating them to take action. Then there are shrill voices waggling their fingers at bad consumers, relying on guilt to motivate mass change in resource consumption, rarely with much success. There are the downshifters, those who voluntarily live simply, unplugging from commercial culture, working and buying less. While they can effectively model a way to live besides take-make-waste, they're largely unable to get cultural traction beyond their communities. Similar to those who believe that technological improvements will save us, there are the conscious-consumption folks, who believe if we just provide enough of a market for

greener products and processes, if we buy *this* instead of *that*, all will be we
(Those are the ones who inevitably ask at the end of my presentation, "O
so what *should* I buy?") There are also green designers, working to make c
products and homes safer while they're still in the idea stage. And of cour
there are all the activists and campaigners working on their issue of choi
as I did for many years.

For my part, I wanted to figure out how to talk about the materials ecc
omy and its underlying paradigm of economic growth by drawing on t
best from each of the existing approaches and encouraging a broader sy
tems perspective but without getting bogged down in technical jargon, gu
or despair.

My goal with this book (and the film upon which it's based) is to unpa
the Story of Stuff—the flow of materials through the economy—as simp
as possible. My aim is never to make you feel guilty (unless you are the he
of Chevron, Dow Chemical, Disney, Fox News, Halliburton, McDonald
Shell, or the World Bank); it should be clear that the fundamental proble
I identify here is not individual behavior and poor lifestyle choices, but t
broken system—the deadly take-make-waste machine. I hope reading t
Story helps inspire you to share information with people in your life abo
issues like toxics in cosmetics, the problems with incineration and recyclin
and the flaws in the IMF's economic policies. I do my best to explain or ju
avoid the technical jargon of fields like chemistry, supply chain theo
and trade policies, which too often excludes people from this critical co
versation.

In the face of so many tough challenges, there are many exciting an
hopeful developments that I celebrate in these pages and that I see as ste
toward a truly sustainable ecological-economic system. Above all, I invi
the citizen in you to become louder than the consumer inside you an
launch a very rich, very loud dialogue within your community.

A few points of clarification:

1. I'm not against Stuff.

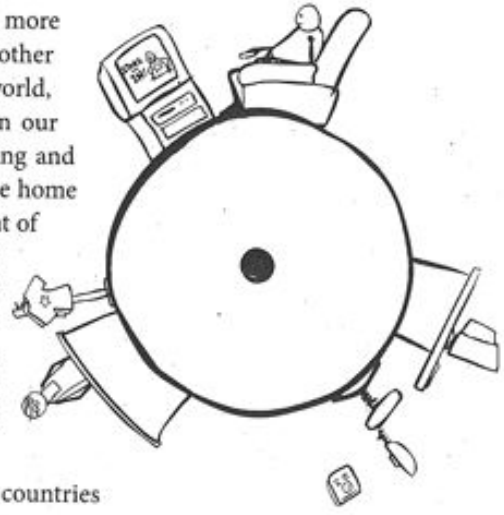
In fact, I'm pro-Stuff! I want us to value our Stuff *more*, to care for it, to gi
it the respect it deserves. I want us to recognize that each thing we buy i
volved all sorts of resources and labor. Someone mined the earth for t
metals in your cell phone; someone unloaded the bales from the cotton g
for your T-shirt. Someone in a factory assembled that pair of sunglasse
and they might have been exposed to carcinogens or forced to work ove
time. Someone drove or flew this bouquet around the country or the wor

to get it to you. We need to understand the true value of our Stuff, far beyond the price tag and far beyond the social status of ownership. Stuff should be long-lasting, made with the pride of an artisan and cared for accordingly.

Like most average Americans, I have plenty of Stuff and I battle clutter. However, I do try to avoid buying Stuff, especially new Stuff, that I don't need. I buy furniture, kitchenware, sporting equipment, and just about everything I can from secondhand sources, which prevents new waste from being made during production. That also allows me to buy higher quality, longer-lasting Stuff than I could afford if buying it new. And then I take good care of it. I get my shoes resoled; I mend my clothes; I bring in my bike from the rain so it will last as absolutely long as possible.

2. I'm not romanticizing poverty.

When I point out the flaws in our overconsumptive U.S. lifestyle and praise the slower-paced and less materialistic countries that I've visited, I am not romanticizing poverty. Poverty is a wretched and intolerable reality, an outcome of the broken economic model that maldistributes resources. I don't wish that kind of existence for anybody, ever. I once visited an Indian boarding school that had just lost half a dozen kids to malaria, where I realized the medicine that could have saved them costs less than I pay for a cup of coffee at home. For those kids, and others without enough food, medicine, shelter, schools, and other basic goods, more money and more Stuff definitely helps. But once our basic needs are met, it's been proven that a focus on getting more and more Stuff actually undermines happiness. (See chapter 4 on consumption for details.)



In the United States we work more hours than folks in almost any other industrialized country in the world, and two of our main activities in our scant leisure time are TV watching and shopping. So we go to work, come home exhausted, and plop down in front of the TV; the commercials tell us we need new Stuff to feel better about ourselves, so we go shopping; and in order to pay for it all, we have to work even more. I call this the work-watch-spend treadmill.

What I'm appreciating about countries

that aren't as stuck on this treadmill as the United States has nothing to do with poverty. Instead, I admire societies where people work fewer hours, are guaranteed longer vacations, watch less TV, spend more time with their friends and neighbors . . . and waste less of their energy on Stuff. You could even say I romanticize that lifestyle: I'm OK with that.

3. I'm not bashing the United States.

There are some sweet things about life in the United States. Many of the technological advances and consumer options we have here have added to our quality of life. But after having traveled to forty countries, I also know that there are places from which we could learn a thing or two. I'm envious of my friends in Europe who aren't stressed about how to pay for their health care or their university education. I wish we had subway systems as clean, quiet, and prompt as the ones in Seoul and Montreal. I wish it was as pleasurable and safe to bike in U.S. cities as it is in the Netherlands. I wish our rates of obesity, diabetes, and other health problems weren't topping the charts. I don't believe it is U.S. bashing to point out that we're losing ground on some serious quality of life issues. On the contrary, I think it's patriotic to express a desire to aim higher and fix what's not working. I think of it as a tribute to my country's incredible potential.

A WORD ABOUT WORDS

Americans:

The Americas are, of course, far larger than the United States, including Canada, the Caribbean, and all of Latin America to our south. I'm therefore aware that it's inaccurate to refer to the citizens and residents of the United States as "Americans." But using "citizens and residents of the United States" repeatedly is a mouthful. Another term, *états-unisians* (French for "United Statesian") is catching on in international circles but hasn't made it to our own shores yet. So, with apologies to folks in the rest of the Americas, I use the word in this book to mean that mouthful: people living here in the United States. Similarly, all amounts given in dollars ($) refer to U.S. dollars.

Consumer/Consumption:

The word "consume" originally meant to destroy, as by fire or disease, to squander, to use up. That's where the old-fashioned term for the disease tuberculosis, "consumption," came from. That means that a consumer society is a society of destroyers and squanderers. No thank you.

Michael Maniates, a professor of political science and environmental science at Allegheny College, says perhaps we should rename most of what goes on in various life stages of Stuff—extraction, production, even distribution—and call it all consumption.[1] When we cut down a virgin forest to make disposable wooden chopsticks, wrapping them in paper and then burning fossil fuel to ship them halfway around the world, aren't all those processes, not really production but simply consumption, aka destruction? Yes. In fact, when we talk about national rates of resource consumption, all those things such as how much wood or oil the United States consumes, are included.

However, in the chapter in this book on consumption, I am using the common definition, focusing on the slice of consumption that involves consumers purchasing and using Stuff.