The False Division

The False Division

Humanity's Imaginary Separation

Jonathan Hontz

ISBN-10: 1470085607
ISBN-13: 978-1470085605
LCCN: 2012905397
CreateSpace, Charleston, SC

There is always the distinct possibility that I am wrong.

Introduction

I don't know if many philosophical works begin with an autobiography, but this one does. People other than me will find there are some portions of my life that have uniquely suited me to the type of thinking to which you're about to be subjected, although quite unintentionally. I do this knowing that I might be opening myself up to attacks on my character rather than my arguments, but this is preferable to being pegged as just another angry armchair middle-class intellectual. Nobody cares what Random Everyman thinks. Hopefully some will care what I think. If none of this interests you, by all means skip to the meat of the matter, but don't blame me if you can't understand why I seem to play devil's advocate for both sides.

***

I was born into a lower-middle-class family in Hokendauqua, Pennsylvania. This little village is basically just a suburb of the Allentown that Billy Joel sang about, and that city is just as boring, average, and depressing as the song. In spite of that, I had a wonderful childhood with friends on the block and abandoned limestone quarries nearby. When I wasn't swinging from vines, building multi-level tree forts, or blazing trails through the undergrowth of these old pits, I was exploring the ruins of the Thomas Iron Works and other hulks of heavy industry. Think old, crumbling buildings and rusty railroad bridges with trees growing between the rails. I spent most of my time in the woods with a small group of kids and nearly as much time playing video games. We built small explosive devices out of model rocket engines and whatever else we could find. I made a cannon out of PVC piping and a stolen gas grill igniter that launched my mother's onions across the backyards of my neighbors. We once stole a bunch of sports cards and re-sold them to the neighborhood kids out of my best friend Matt's basement. I don't want to go all halcyon-days on you, but it was good fun. Broken bones were an issue.

One summer, after a fight with my best friend Matt, I decided not to talk to him or any of my other friends for about two months. I was interested in birds, having set up a feeder in the old sandbox in the backyard, and I dutifully kept it filled year-round. I bought a crow call and tried to hand tame one of the intelligent black birds. I tried to hand-feed birds courageous enough to get

close to a human. There were many long hours spent sitting very still among the skittish, feathered residents of my neighborhood, and I never did get one to eat out of my palm. When my little spat occurred, mom asked me why I wasn't going to see my friends anymore and I said something like, "The birds are my friends now." Who knows what she thought about it then, but she didn't stop me. I may have a touch of hermit in me. When I eventually went back to my buddies, I found that there were rumors regarding my sudden disappearance. One rumor was that I went to space camp. Another was that I got fat. When you're the skinniest kid on the block, rumors like that are quite startling.

My mother Cynthia was, and is, the kind of woman who makes a liar of people who believe that the home is a prison for women. She's always enjoyed the type of work provided by the household, and if our society were intelligent enough to pay homemakers for their work, she'd have done it for life. When she eventually forced herself into the workforce to make ends meet, she fell into retail work as so many do. She is underpaid and totally out of her element, and I hate that we live in a world where to earn a living she needs to sell people garbage they don't need.

My stepfather David wound up shouldering most of my upbringing on the paternal side of things, and he did it with dignity and authority. An optician, he can tell you all the attributes that make for the best eyeglasses. He's also a Civil War historian, although he would probably call himself an enthusiast. Whatever, the man is an encyclopedic resource of facts about the conflict and full of stories regarding that period of US history. He roots for the South, Yankee though he may be.

My father Richard was a machinist who thoroughly enjoyed the profession. Dad loved machines and models, having built several beautiful scale replicas, most notably his long-term creation of the battleship *Missouri* in miniature. Even miniaturized, the damned thing was about six feet long. My dad also had more than a passing interest in railroading, and I've inherited more than a few of his traits.

On one of my weekends with my father, he took my older sister Jennifer and me down to some railroad tracks. I remember that he had a friend of his along, whose name I remember as Jim. At some point, a train came by. When you're eight years old, you don't expect certain things. Things like the ground shaking

beneath your feet, for instance. This freight train comes rolling by with enormous black-and-yellow locomotives of the New York, Susquehanna, and Western Railway, lumbering into Lehighton, Pennsylvania, at about twenty or thirty miles per hour. Jim made it a point to show me something: as each set of freight car wheels passed by, the rails were flexing beneath their weight. Solid *steel* attached to solid *wood* on a bed of jagged, hard *rock* was being bent by this thing. You can imagine what that does to a kid. Dad took a picture on that day, but even had the picture never existed, I won't forget it. It remains the most powerful example I have that a memory isn't created nor improved by a photograph.

Many hours spent poring over dad's model railroad magazines followed. When he dabbled in building a small layout himself, I was there to help him construct and play. Dave would take me and sometimes a buddy to see the rail yard in Allentown. I would skip dozens of church services on Sundays to go watch trains and jump on for quick rides as they pulled slowly in and out of the yard. Any god who would send me to hell for choosing trains over church was a deity I didn't want to spend eternity with anyway. I was totally hooked, and from that time on, it was railroading for me when I grew up.

I regularly rode my bike a few miles to Catasauqua, where a railroad siding allowed me to talk with the crews of the trains that were waiting there. Many crews invited me up into the cabs of their locomotives for a chat, and equally many generously handed down to me souvenirs in the form of paperwork, rulebooks, and other memorabilia as they waited or rolled by. One crew member threw a T-shirt out the window of his train as it passed, and I kept it for almost twenty years. It was far too large for me when I got it but fit just right as time went by. It still makes a good grease rag.

It was in Catasauqua that I met Herm, whom I consider to be my big brother. He would drive down to watch trains and take videos, often with one or both of his parents. His family owned a garage down the road from my home, and I would hang out there, helping with basic tasks like inspecting cars, changing spark plugs, and just working for the fun of it. It seems I picked up quite a bit of my father's mechanical sensibilities. What I didn't know, Herm would teach. When we weren't in the garage, we were watching trains all over the region. We played Frisbee by the tracks. Herm bought me many dinners on the road and rode with me to the hospital when I fell off a bridge, breaking both wrists and a toe.

People like this don't grow on trees, and Herm was only one of a crew of folks with the same nerdy interests as I had, all very tolerant of a little brat like me in their midst.

I eventually joined the only model railroad club in the area that would allow a twelve-year-old to play with their trains. All the other stodgy old farts needed sixteen years of inexperience for such a privilege. If you're ever in the Bethlehem, Pennsylvania, area and you're totally nerd-a-tronic for trains, the Lehigh and Keystone Valley Model Railroad Museum is still the best group of Pennsylvanians in the business. After many years of their companionship and instruction, not to mention numerous overnight trips sleeping in their cars to go watch trains across the region, I have nothing but good memories of my other big brothers. Chance, one of the younger members, landed a railroad job working for an eastern Pennsylvania short line, the Reading and Northern, and invited me along on several occasions to ride the trains that he worked out of Port Clinton and Jim Thorpe, Pennsylvania. I had all the knowledge I needed of trains from an enthusiast's perspective, and now Chance was filling in the blanks left for railroading as a craft.

By this time I'd taken a job working for obscenely little money as a cart collector and customer assistance associate for a local hardware megastore. The job title was "loader" and all one hundred pounds of me helped people load their cars with everything from bags of cement to sheets of drywall. I got many funny looks when I showed up at the checkout stands as the help people asked for. A big, burly boy I was not. As a high school senior, my choice of school curriculum allowed me to take an apprenticeship at a place of employment, and I practically ran to the Reading and Northern to fill out the papers. Because I was only seventeen and railroading is considered a hazardous occupation, I was too young. It was eighteen or nothing. Ah, red tape.

I was angry and discouraged. My hometown was looking bleaker and bleaker, and I couldn't even work for the railroad for another year. I think the final straw came when I asked a crush of mine to go to a school dance with me, got turned down, and started thinking about the military.

I wanted to get out of Hokendauqua, and fast. I also wanted to blow things up, and it turns out that the army has a place

for people like that. I enlisted for three years as a combat engineer, who, my recruiter assured me, blow things up all the time. I left town in June of 1998, too young to sign myself up for military service. My parents gave their permission, and though the railroad was too hazardous for a seventeen-year-old, the US Army was only too happy to take me under its black wings.

***

I trained as an engineer (a grunt with explosives), but when I arrived at my duty station in Fort Carson, Colorado, I was assigned to a squad of heavy equipment operators. They taught me how to drive earth-moving machines and the trucks that haul them: more machines, more tools, honing my mechanical skills. My plan was to retire from service after twenty years, then go to work for the railroad with a military pension. The only problem was that army life started to wear on me.

I hate when idiots tell me what to do, especially when they outrank me. I learned to keep my mouth shut and my head down in these circumstances; it's easier that way. Arguing with idiots is like clapping with one hand. But when George W. Bush was elected in 2000, I realized that my commander-in-chief was now a Texas oil idiot. By extension, I would be an idiot by virtue of having to perform whatever idiocy he and his idiotic regime came up with. There would be no re-enlistment for me, and I started looking for alternatives. As of this writing, ten years of bloody war later, I feel the decision was wise.

The army offered many tuition reimbursement options, correspondence courses, and a wad of college money for soldiers interested in that sort of thing. Such education used to be a requirement for promotions, in fact. At least the overwhelming American militarism has an educational advantage for soldiers and veterans. Ever since I'd become enamored with trains, I'd never had any desire to go to college. There's really no reason to go to a post-secondary school if your dream job doesn't require anything but a high school diploma, but I began a general course of studies in the evenings at a local community college with the intention of majoring in English: I enjoyed writing. The end of my commitment came in May 2001. My unit would deploy to war less than a year later, and they never called me back to go with them.

***

From the army, I picked up a position with a soft drink manufacturer in Denver, working full-time in their warehouse

loading delivery trucks. Eventually moving into production machine operator positions and quality control, I worked evenings and went to college full-time during the day: more machines and industry, reinforcing one of the themes of this introduction. At some point, I got frustrated with my major in music industry studies and took a semester off. I'd taken an introductory course in philosophy, found it more fun than college should be, and you can guess what my course of study became when I went back to the books.

Immediately upon finishing the last courses for my BA in philosophy, I practically fell right into my dream job, working as a conductor for the Union Pacific Railroad in Denver. I hated it. The people were burned-out from years of mergers and top-down, militaristic management. Working on-call with a cell phone and a ninety-minute call time was too much. (I had ninety minutes to report to work after being called, any hour of the day. Most railroaders work this way.) I made it three months before resigning during my training period.

I then found a position with the City and County of Denver, working in a cubicle as a plans review technician. I have never been so bored at work in my life. The only thing that made the job bearable was the other people I worked with, who were fortunately as bored as I was most of the time, and our conversations helped keep me from going crazy. I met other people interested in railroading and told stories of railroading life, what little of it I knew. I regretted leaving the railroad and wanted to give it another shot, thinking that a different outfit would have different people with better attitudes. That thinking proved correct.

BNSF Railway hired me in January 2007, and I was back where I'd always wanted to be. This time it stuck. The training was easy, having already worked and trained for the other big railroad in town, and the people were much more professional and helpful. The burnout and bad attitudes were still there but kept in check by many more employees who were willing to teach the craft. One such man was Henry, who, by some accident, began teaching me all that his thirty years of service had taught him. Perhaps it was merely because I was ready to learn. At any rate, I found that at BNSF, my seniority allowed me to hold onto a regular job working in the Denver rail yard, where there's no cell phone to answer and the shifts are typical eight-hour days instead

of the twelve-plus worked by many on-call railroaders. The work was hard, fun, and outdoors. I was finally playing with trains.

In 2009, I, along with several hundred other BNSF employees and thousands of other people in the US, was furloughed. There wasn't enough work to keep me around, and my seniority wasn't enough to hold the now-scarce positions. Not willing to relocate for work as a conductor, I put my name in the hat to become a yardmaster and was selected for the job two months later.

A yardmaster is a rail-traffic controller. It's a stressful middle-management position that pays well but costs you plenty. It was a promotion, but it included on-call work and the possibility of being forced into working sixteen-hour shifts. I figured it would only be temporary until I could return to work as a conductor, and if I found out that I liked it in spite of everything, then so much the better. My plan was to become a yardmaster eventually, so the furlough was just accelerating my timeline. It exposed me directly to the management of a large-scale industrial operation and required my skill and sensibilities in its inner workings.

***

After a few months of this work, my patience was wearing thin. Other middle managers will surely sympathize with me. I took a leave of absence to attend a permaculture design course in Basalt, Colorado, at the Central Rocky Mountain Permaculture Institute. What a relief. Permaculture is a design system for human habitation that focuses on regenerative and synergistic relationships between people and their surroundings. It was almost 180 degrees apart from what I was doing at BNSF and from just about everything I had ever done.

Returning to my work as a yardmaster, I started thinking about why I was still working for the railroad. I had always had my interest in railroading to keep me fueled-up for my days at work, but that starts to look quaint when you get a call to report for the midnight shift so that ten different people can cry for your attention all night. Another of my justifications for seeking railroad work was the fact that trains remain the most fuel-efficient form of land transportation on the planet. No other method can move as much stuff for as little input while on terra firma. But while directing the action in the yardmaster's tower, you realize that what trains move the most of is coal.

Coal is filthy. Its only advantage as a source for electric power is that we have trainloads of it. It is abundant and cheap, but it's still dirty, horrible stuff to burn. Second behind coal in most US railroads' lists of top earners is the overseas and domestic containerized-cargo business. Rail hauls a staggering array of consumer products to and from ports that link us to overseas markets, and domestic trailers and containers are loaded onto trains for cross-country journeys instead of adding to the already over-crowded highways of this nation. In Denver, BNSF also has a sizeable portion of the beer and petrochemical markets.

So we have the most efficient form of land transportation moving four things whose value to the economy is significant but whose value to me is bubkes: coal (we use far too much electricity in this country), consumer goods (we also buy and sell far too much stuff), beer (I've never had a taste for it), and petrochemicals (tout the advantages of this stuff all you want, but it's still dirty to obtain, process, use, and dispose of). My work was directly and efficiently helping this country burn coal in its power plants, ship cheap plastic widgets to big-box retail stores, swill watered-down alcoholic beverages, and consume increasingly large quantities of crude oil.

There's only so much internal conflict a person can take. Some people bottle it up and snap, taking it out on others. Some people take it out on themselves or start having health issues. As for me, I began thinking of the prospects for quitting, and it didn't sit well at all. Back in 2006, realizing that I really wanted to be a railroader, I thought for sure that no outfit would ever hire me after quitting during my railroad training at Union Pacific. When BNSF gave me the nod, I was so happy it made me cry right there in my pathetic little cubicle at the city. You don't just up and leave a job—a lifestyle—with an impact like that without doing some deep introspection. The deliberation and inner turmoil literally gave me hives. I woke up one morning, itchy from head to toe with worry and indecision. I was done being a yardmaster and wanted to return to my previous craft, but with no prospects of returning to work as a conductor—the furlough cuts were still deep—I left railroading after three years of service.

***

In alignment with my ideals, I took three jobs to replace all of the hours, and only some of the income, that I had at BNSF.

The first was a position with Denver Bicycle Sharing, a non-profit that was launching a city-wide bike sharing program. The second was as a shelver at the Denver Public Library. Third was a compensated volunteer position with UrbiCulture Community Farms, a small venture run by a husband-and-wife team. They found people with open land in the city, planted the plots full of food, and then sold the food back to the community using a sliding scale designed to make better-than-organic produce available to people at all income levels. My compensation was a portion of the harvest every week during the growing season. I had gone from corporate, industrial wage-earner to non-profit, public service garden hippie in less than a month.

During this time, my partner Sabrina and I had both been undergoing similar changes in outlook and lifestyle. We started to compost kitchen wastes in our backyard concurrently with the planting of a garden. Many things were eliminated from our lives, our cars among them. We rode our bikes and rode the buses. We raised the eyebrows of our friends. While working far too hard for our ideals, we started considering that perhaps we should look for another place to live. Sabrina was laid off shortly before I got hit with the furlough stick, and we were both ready for a change. She put her house on the market, and we tried unsuccessfully for the better part of a year to sell a property that nobody could get a loan to afford. While this was going on, we were doing research for a new hometown, and we settled on Portland, Oregon. We were becoming a stereotype, but never mind that.

We were just about to walk away from the mortgage and give the place back to the bank when a family member offered to rent it. With nothing to lose in that transaction, we sold or donated a truckload of stuff and loaded up another one bound for Portland. Arriving, we found that there were many highly-educated, unemployed people like us, and the job market was nearly impossible to break into. I volunteered at a feminist bookstore and contracted my services to transform a family's backyard into a permaculture-inspired garden. The new theme here is neo-hippie environmentalism if I haven't made that clear. In my downtime, I found the time to begin writing this book and took many walks near whatever railroad tracks I could find to clear my head. Sabrina tried unsuccessfully to break into the market, and with her unemployment running out and no job leads between us, we started looking to move again.

We both happened to find work in an unlikely place, Savannah, Georgia. I made a bittersweet return to railroad work but with the understanding that destitution was inferior to employment. I suspect that the world is littered with the graves of ideals laid to rest by decisions like this, but some things can't be helped. Sabrina began teaching at Savannah State University. Savannah is, was, and probably always will be a port city, fed by the globalized container shipping industry. The railroad I worked for was a short line that supported this industry. No coal trains this time, but more boxes from China than I could shake a stick at. This was not good for a neo-hippie. With an abysmal public school system that alienated Sabrina's teenage daughter and problems arising with the politics of being a landlord, we moved back to Denver where we live as of this writing.

***

This is already much more than I anticipated telling, but it's all significant if not entertaining. It is also funny and safe unlike much of the rest of the book. I'm essentially trying to cozy up to you before I strike at your nerves. When I analyze and critique industry, it's as a person who's worked for and managed a portion of an industry or two. There are commonalities among them that stem from the nature of such endeavors. When I examine the environmental movement, activism, and what I'll define later as remedial activity, it's as a person who's been fully immersed in such things. I'm not writing a philosophical work because I just read some Kierkegaard but rather because this is where my interest, education, and experience have led me. My commentary regarding science comes from long-term exposure to scientific theory in university classrooms, private studies, a strong interest in astronomy and astrophysics, and work in a commercial laboratory performing scientific analysis of industrial products. I am both train-watcher and bird-watcher, lover of machines and magpies. I'm not convinced of the utility attributed to credentialing, but these are my qualifications and experience in the subjects I'm about to cover.

Moreover, I hope this provides a context for what follows—a canvas upon which I'll throw my paint. If I'm harsh toward the foolishness of industry, it's as an eyewitness to that foolishness. I also know that my background predisposes me to certain channels of thought, which may become more apparent if

my readers first understand who's doing the thinking. You should all be aware of my strengths and vulnerabilities so you can make a better determination of when to adjust the volume, so to speak.

Finally, since I will go into some detail about why we should have a healthy distrust of experts, I want to be as transparent as I can about my agenda, if I can be said to have one at all. I'm not paid to think this way, and I probably stand to make more enemies than friends over what I'm about to delve into. Would it be nice to sell some books? Of course! But I also have other skills. How do I explain myself to people? What do I tell Henry and Herm about the reasons I divorced myself from a dream? There's just no way to explicate this in polite conversation without alienating people, confusing, misdirecting, and angering them. So I wrote a book, and maybe they'll read it.

On the Form of This Book

You won't find many quotes or any bibliography here. There's no rigorous scientific underpinning to some of what follows. I've assiduously avoided any footnotes. Essentially, I've written a book that I would want to read myself, and that's not going to be to everyone's taste. The information that can be cross-referenced and verified is easy to obtain, and I'm not going to insult your intelligence by telling you where to find it. This is what search engines and public libraries are for. If you prefer, assume that everything here is an opinion until you can confirm it for yourself. Even if this is considered a totally fictional work, it will bear fruit. I have no apprehensions that you might determine my ineptitude in your searching. In fact, you'll find whatever it is you've presupposed you'll find, assuming you presuppose anything at all. Too many books come loaded with thorough research, and they indicate this by putting footnotes, quotes, and bibliographic references everywhere. Of course if the sources are garbage, then so is the work that's citing them. I encourage you to make further explorations into this subject matter, and to that end I've provided a short reading list at the end of the book.

When I read, I want to understand the *author's* position and not the author's interpretation of another's position. I can interpret for myself, thank you, and I'm assuming my readers will be able to do the same. I've tried to keep the book in my own

voice, as much as possible. I want you to think while you read, and I find that impossible when the author keeps referring me to footnotes and references every few paragraphs.

Slightly hair-splitting perhaps, but it bears mentioning. I now present *The False Division*.

1: A Problem of Scale

Everything examined, separated, one thing at a time. The harder we stare the more complete the disintegration, dissolution.
Meshuggah, "Rational Gaze"

How do I begin something like this? I can't very well just point at everyone else screaming, "You're all stupid! Can't you see how stupid you are?" The chances are pretty good that if they're all stupid, I'm stupid too, and herein exists the problem with trying to fiddle with the beliefs of millions of people. There is also the small detail that I don't believe everyone else is stupid.

It's not even a matter of intelligence. What I'm calling the False Division, with capital letters and a sense of importance, is a cultural and philosophical mindset that predisposes people to believe in their own superiority. I just want to show that the mindset is stupid, not the people. After all, smart people are not immune to stupidity. To do this, it seems like the best approach is to just make the assertion and then try to figure out what the most likely response would be. If I tell people that civilization is a pursuit doomed to failure, that there is no reason to believe in the superiority of our species, and that such beliefs are leading us down a path toward self-destruction, what would they say?
I reasoned that in the United States, people would almost universally fall back on a scientific explanation. And this they overwhelmingly do: cite a study that only humans are self-aware; declare the obvious technological dominance of the human species all over the globe; point to humankind's ability to reason, create art, or think abstractly, and so forth. Kicking at the scientific crutch then becomes my tactic, and it is one well used by many philosophers of science.

Somewhere in the low five-hundreds of a well-appointed library's nonfiction section, you may find books about the philosophy of science. They all discuss the proper *why*'s of science and the role that science should play in society. To undermine the scientific defenses of people who believe in the superiority of humanity, I need to undermine science itself, at least enough that it can no longer be used in defense of the False Division. (Although, to be fair, people probably wouldn't call it the "False" Division, and as I'll discuss, probably don't even recognize a division at all.) I also need to be sure that there are no other defenses strong enough.

The only other formidable defense is a religious one. The people who man the bulwarks here cannot be reasoned with if their beliefs are strong enough. If they believe that their deity has chosen humans as the acme of living beings on Earth, then there's not much to do except show them a different perspective and let them make their own choice. Have you ever tried to argue the divine right of kings with someone? I refuse to be dragged into a yes-it-is-no-it's-not melee of an argument that cannot be won. It's mutually-assured frustration. Such a defense is unassailable and can be breached only by diplomacy.

On the subject of diplomacy, an excellent strategy is to attack people's will to defend. If they just walk away from their positions willingly, then there's no reason to fight. The examination of science I'm about to present is just such an attempt. I want to make science appear to be vulnerable enough that people will lower their weapons without argument. I aim to show that what is used as a common defense is more of a decoy, and a decoy can be damned effective.

There's a scene in Mel Brooks's classic (infamous?) film *Blazing Saddles* where a marauding band of, well, marauders comes storming into an old west town, dust flying, guns blazing, with murder and rape in their eyes. One of them dismounts his horse, storms up to one of the buildings, and kicks in the door. But the door is just a facade, and instead of kicking in the door, the entire facade falls down. The whole town is a decoy. "It's a fake! We've been suckered in!" he cries, and then the dynamite goes off.

That's what this is going to be like.

Naming of Parts

I'll spend a good deal of this book referring to industry and science, so definitions are in order. Paraphrasing several dictionaries and Internet references, *industry* is the production of goods by a collection of enterprises. An industry takes raw material, changes it into a finished product, and this activity is performed by a group of business ventures, companies, or what have you, all working together. It is a processing activity: raw materials flow in, and finished products flow back out. There are

societies that rely on industries to some degree or other, and there are those that don't.

The differences between industrial and nonindustrial societies go beyond the mere presence of industrial activity. The reasons for developing industry are predominantly a matter of philosophy and worldview, and it is mistakenly believed by just about everyone in my society that the growth of industry is a mark of progress from preindustrial life. The very word *preindustrial* suggests that notion of progress and development. The idea that a society would voluntarily maintain itself at a nonindustrial level rarely enters into the conversation, and the idea that this level of development may be the only sane choice never does. I want to help change that.

Note that someone hand-coiling clay pots for sale to the neighbors wouldn't qualify as an industry because that person isn't a collection of enterprises. If there were a clay pit, coiling shop, and a group of kilns that all worked in concert to produce clay pots, and all of which were businesses themselves, there would be an industry. The nature of industry is toward larger-scale production because with a collection of enterprises, there wouldn't be much point if it were just a handful of pots every few weeks to accommodate the needs of a few people. That type of work can be done by individuals or one enterprise that handles all aspects of the process. Industrial society recognizes the distinction between activities performed at different scales and has a word for the nonindustrial variant: *craft*. Even if you don't get my explanation of this, it's enough to notice the difference between the words *industry* and *craft* as they are generally used. Think handicrafts, arts and crafts, and home economics to get a feel for it.

Industry's tendency toward larger-scale operations is apparent in practice and will become more crucial to this discussion, but it doesn't follow that an industry needs to be large, only that the nature of the activity is such that larger tends to be more sensible. The advantages of industrial production decrease significantly as the scale of that production decreases. For example, the transportation of goods can be as simple as a person picking something up and walking it somewhere. At the other end of the spectrum, there are enormous container ships carrying thousands of tons of goods for the oceanic shipping industry. Those ships burn lots of fuel, and the shippers always try to sail them with as much cargo as they can. The more cargo is being

moved by the ship, the more cost-effective it is. I feel like this is so transparent that it doesn't even bear mentioning, and yet I still see so much confusion with regard to the operations of industry that I need to state it. The take-home point here is that unless you have a shipload of stuff to move, it's easier to just carry it with your own hands. If you have a shipload of stuff to do, you'll want an industry to do it.

***

My definition of *science* is also cobbled together from a few sources and should be sufficient for my purposes without ruffling too many feathers. It is a system of knowledge wherein observations, hypotheses, experimentation, and cross-checking by peers all work in concert within an iterative framework, striving to produce a self-policing and unbiased body of information. It's a mouthful, but since I'm dipping into the philosophy of science, I want to be somewhat rigorous. Scientists hate having their work miscategorized.

Biology, astronomy, and chemistry are all sciences. Examples of nonscience include astrology, alchemy, and telekinesis. I'm deliberately staying out of the hornet's nest that is criticism of nonscientific or pseudoscientific disciplines by scientific people, which has a tendency to turn into an ugly display of derision. It turns out that in a society that places as much importance on science as we do, anything other than science is a step or two above hogwash. Carl Sagan and many philosophers of science have more fully examined this subject than I care to. Refer to *The Demon-Haunted World: Science as a Candle in the Dark* for Sagan's perspective.

I value nonscientific views insofar as they are useful and don't set off my bogeyman alarm, and I value scientific views when they make claims about situations to which they are properly suited. Nonscientific claims about inherently scientific data are suspect, and the reverse is also true. I say that science aims to be self-policing and unbiased with the full knowledge that there are exceptions, but properly conducted scientific work tends to be both of these things, and *all* scientific work benefits when these traits are associated with it. They are hallmarks of objectivity and rigorous practice, both of which are revered by the scientific community.

The recognition that science has a place is a crucial one. It's been said that all writers are propagandists, and that being the

case, this is a part of my propaganda campaign: recognize that science is useful in many situations and useless in equally many. The philosophy of science is rich in the theories of people like Paul Feyerabend, who offer up critiques of science that cause scientists to spit nails. Apparently, in addition to miscategorization, scientists also hate having their work accused of being subjective and variable, and Mr. Feyerabend has had no shortage of negative feedback to his assertions that it is both of these things. I will dive more deeply into the place of science as we go on.

Holism

Within industrial societies, it has become commonplace to invoke science in debates about all sorts of things. Scientific evidence is cited in both support of and opposition to global warming. It's an excuse for genocide and eugenics. It's been used as a reason to develop weapons systems in the case of military-industrial corporations that produce not only weapons but also civilian technologies like planes or satellites and that use their developments in one to enhance the production of the other. This invocation has become an almost knee-jerk reaction to criticism of anything, especially when the criticism begs (or asks outright) the question, "Should we?" This is dangerous because science has some limitations that preclude useful answers to certain questions, but it is extremely useful in other situations. For example, *holism* refers to the concept that in order to understand something, it's not accurate or sufficient to split it into parts, offer explanations of those parts, and then slop all the explanations back together to understand the whole. Instead, the whole has characteristics and properties that will influence the characteristics of the parts, and the character of a whole may bear little resemblance to that of any of its individual parts.

Holistic viewpoints and evaluations are poorly suited to scientific treatment owing to the nature of scientific investigations. It is necessary to reduce and separate in science, which works in opposition to the abstraction and unification of holism. It is for this reason that scientific criticisms of holistic disciplines often lack credibility. I can't subject holistic nutrition to criticism using the United States Department of Agriculture's recommended daily

allowances because those allowances are developed using scientific data. I could conclude that based on the USDA's allowances, holistic nutrition doesn't seem to account for some particular nutrient, but I cannot say that it is invalid for its treatment of the nutrient in question. This can be attributed to the USDA's treatment of nutrients as separate entities with unique values while holistic nutrition uses the whole person as its unit of value. And though this may create some anomalous results with regard to some individual nutrients, the effect on the whole person is what is important. The USDA says that "You need to ingest one thousand milligrams of this and two thousand milligrams of that to be healthy" while holistic nutrition says that "You need to use your overall health as a guide for what you can eat."

Another way to see this is by taking one of the USDA's "evil" ingredients, saturated fat, and examining it using a holistic perspective. The scientific examination has implicated saturated fat as the cause of clogged arteries and heart disease. The holistic examination reveals that saturated fats contain necessary nutrients and that high saturated fat intake is not the only thing coincident with blocked arteries and heart disease. So by denying yourself that butter cookie because the USDA is telling us that saturated fat is evil this week, you may be inadvertently replacing the butter in the cookie with negative emotions, or even just crappier food. Think of the vegans who, because all animal products are always evil ingredients for them, ingest all sorts of quasi-edible things that contain chemically-synthesized ingredients as a replacement for the animal products. They avoid butter, but ingest partially-hydrogenated oils that have more in common with plastic than they do with food. Vegans may be poisoning their bodies with chemical goop, but they are certainly avoiding their evil ingredient. A scientist looks at a vegan and states, "You don't eat animal products, and I can easily synthesize replacements that will leave your food tasting and looking as if nothing has changed." A holistic nutritionist looks at a vegan and states, "You're filling your body with poisonous substances and replacing nutrition with your ideals. Either stop eating foods that contain poison or stop being a vegan." See the difference? Science does not readily admit holism and vice versa. Each has their place.

The Scientific Human

Humans seem to be well equipped to address common problems with the logic of science, and though I can't prove this (anthropologists, are you up for it?), I'd wager that even long ago, humans used something like science in their everyday lives. I'm thinking of ancient people figuring out how to hunt. Trial and error would've refined their techniques, and those who learned how to do it would have passed that information on to their peers, risking life and limb to figure out how to find food. I'm also thinking of a review process for edible plants that included ingesting a variety of things and observing the results, slowly working up a catalog of what was delicious and what was not, what could kill or incapacitate, and synergistic relationships between plants. The development of tools or building materials would have been similar. These are all scientific thought processes, and they would have shown themselves in ancient cultures, as can be inferred from the tools on display in museums and the knowledge of plants and animals passed down to us by our ancestors. People of all kinds still display this type of thinking every time they adapt to using new tools or to living in new conditions. It's proof of our innate scientific capacities.

Nonindustrial and ancient societies serve as examples that people need not be modern or civilized in order to think scientifically. Science is a natural extension of human curiosity without which people wouldn't be able to survive. But contrary to the notion of progress, it need not lead to the development of industrial societies, although the interplay between science and industry is apparent. The two of them operate in a positive feedback loop where new science leads to new industries, whose products enable new science, and so on. Scientific work in electronics resulted in computers, whose development enabled more accurate and precise manufacturing, allowing for scientific development of faster computers, for example.

Science holds the hearts and minds of industrial people in its hands, and is sometimes revered with a dogmatic and insane ferocity. All manner of disgusting and foolish acts are carried out in the names of scientific progress and discovery. An equally large number of beneficial and noble causes are furthered by scientific efforts. While we can all disagree on what constitutes disgusting

or noble, it sometimes happens that what's assumed to be scientific work carried out in the name of humanity might actually be done in the service of industry, and there's a world of difference between the two. Science stands alone simply because people think scientifically, but industry cannot function without science. The manufacture of goods requires tools, which can be simple hand tools or sophisticated machine tools, but all of which require scientific thought to develop. There wouldn't be an automobile industry without the tools and materials to build cars, both of which come from scientific investigations. The agriculture industry wouldn't know fertilizer from sanitizer (from the results each of them produce, this difference is difficult to discern anyway) without the work of scientists, and so on, industry by industry, all of them included.

Tools don't need to be physical objects. If I have arrived at a particular procedure for hand-coiling clay that produces the perfect pot, rest assured that I have arrived at that method by trial, hypothesis, and peer evaluation, and that the process was iterative. All this is a complicated way of saying that I didn't get it right the first time, and the input of others or perhaps just my own reflections were useful in discovering how to get it done better. My procedure was developed scientifically. Method can be a powerful tool that is discovered and refined by scientific thought.

It is the iterative and self-policing qualities of science that seem to get people so confuzzled. Take the scientific community's ability to change itself in the face of new evidence. Newton's law of universal gravitation describes what we observe in most cases where something called gravity is present: an apple falls toward the ground from a tree, it takes effort for me to jump and I will come back down, and projectiles travel in predictable paths. What is misunderstood about scientific laws is that they are always subject to revision. When Einstein was working on things like gravitational forces, he found that Newton's work needed some revisions for special circumstances and also to allow for the changing nature of scientific equipment, such as more precise instruments, better experimental conditions, etc.

The civilized people of the world treat scientific laws like dogma, assuming that when a scientist makes a discovery, it's equivalent to The Truth. We run with that supposed truth, developing industries around the new knowledge, and we get burned when the science revises itself. Ideas and paradigms are

easy to change relative to the ingrained cultural and infrastructural constructions that are built upon them.

Margarine (I love food examples) was a concoction designed by industry to correct the things that were viewed as scientifically wrong with butter, but we're discovering that margarine probably causes terrible problems in a human body. It is one of the aforementioned hydrogenated oils and has more in common with plastic than with food. Its effects couldn't have been known until the product was released for consumption on a wide scale or perhaps until better analytical tools were developed that could detect the flaws. One such flaw is that hydrogenated oils are implicated for causing heart disease, just like the saturated fat in the butter they were designed to replace. Insert irony here.

People with cancer ingest lots of chemicals and expose themselves to harmful levels of nuclear radiation with the hope that maybe the disease will go away while ignoring or discounting the many thousands of suspected carcinogens used everywhere in industrial society. The production of the very instruments and devices used to detect and treat the cancer has an incomprehensible supply chain, resulting in human surroundings full of substances that are probably responsible for the cancer: the lead mining industry required for shielding patients from radiation, the plastics and electronics industries required for the medical equipment, and the construction industries to build places for cancer treatment. Each of these has effects on the places we live ranging from making an eyesore to toxification of food and water supplies. What came first, the cancer or the industry? Is it really any wonder that cancer is so prevalent and insidious? There is also the unsettling reality that sometimes people just get sick and cannot be cured.

***

What happened to science? At what point did it slip from the hands of common people and into those of specialists? Scientists are almost a social class unto themselves, and they garner much respect from society as a whole. This is an example of the larger trend toward specialization in civilized society and the depletion of the polymaths and generalists. At some point people started agreeing that science was best left to professionals and relinquished control of a universal human trait. We began to leave *everything* to professionals, surrendering our capabilities,

faculties, and skills while developing narrower specialties ourselves. I can't help but call that a bad thing.

The defense of such specialization is that it leads to subject-matter experts who have deep knowledge of a particular area. The problem is that by definition, these people can't see much outside of that area. They are narrow-minded. There is little to the breadth of their knowledge, and so they miss many of the glaring errors of their work because they seldom look up from their microscopes. Regaining control over our own information and ideas is, in part, necessary to avoiding mass idiocy. People can't be expected to see everything, but the more broad our fields of vision, the more likely it is that we'll see *something*.

Collateral Damage

Industry has used science to come up with all sorts of things to put into the soil, plants, and animals to make them produce more food, but now scientific inquiry into that food is revealing the unintended consequences. Let the increasing incidence of Alzheimer's disease, growth hormones sending kids into early puberty, a multitude of chemicals swimming around in people's bloodstreams, and the irrevocable alteration of our land base by the use of these things all serve as evidence.

Aluminum is used everywhere: in farm implements, machinery, the cans and foil used for packaging, vehicles, cookware, and utensils. The metal's become a controversial suspect for the onset of Alzheimer's. It's fairly common knowledge that the brains of people with Alzheimer's contain higher-than-normal levels of aluminum. How it gets there is fiercely contested. If that's not enough to condemn such widespread use of the metal, then consider the aluminum industry, which requires the mining of bauxite ore and tremendous amounts of electricity to smelt. Find an aluminum smelter and visit the site. Better yet, find a place that used to have one and see what that's like. This is going to be a recurring theme with me, people. Would you eat potatoes grown in the soil under an aluminum smelter? Would you drink the water issuing from its spillpipe? You really only need to look at a photo of a smelter to make your decision, but the visceral factory-floor experience is not to be missed. If your answer is anything but an immediate *yes*, then perhaps the

idea that aluminum causes Alzheimer's isn't so far-fetched, and it might be best to avoid consuming even trace amounts of it.

The bovine growth hormones pumped into cows to keep them producing their milk and the ubiquitous plastics of our time contain chemicals very similar to human hormones. Hormone therapy is also a medical treatment used for such pleasant pursuits as cancer (there *that* is again…) treatment, hormone replacements in menopausal women, testosterone replacement in aging men, as a component of sex-change therapy, and as a treatment for people with hypothyroidism. If we're dumping hormones, or even things remotely like hormones, into products that we either ingest directly or that contain things we eat, we're asking for a beating with the idiot stick. The bovine growth hormones that companies are now very quick to distance themselves from, as evidenced by the labeling all over milks, meats, and cheeses, are finally getting the bad reputation they deserve.

Bisphenol A (BPA), a compound used in the manufacture of plastics, acts like a hormone in the body. We don't eat plastic, but there's BPA in many plastic packages, including the linings of some cans that make them corrosion-resistant and coatings applied to cardboard containers to make them water-resistant. Notice the difference in taste between the same beverage when it's packaged in plastic, aluminum cans, and glass bottles. Leave a plastic container of water in the hot sun and then drink it. Discover what that tastes like. Traces of these linings and packages are all merrily making their way into our bodies, with strange results.

If we're all accidentally ingesting regular doses of hormones and hormone mimics, I can't begin to describe all the possibilities, but the large-breasted ten-year-olds and increasing numbers of obese people seem like a good place to start. Michael Pollan and Joel Salatin are both authors of books on food culture that are excellent places to dig even deeper into these issues. The Weston A. Price Foundation produces copious amounts of literature and research discussing food safety and wisdom, in addition to driving some of the scientific community to insanity.

If you think that the production of all these products, their consumption by millions of people, and the waste generated by all this activity doesn't have a negative impact on the land, you're a moron. I really should be able to stop there, but apparently all an industry needs to do to dupe people into believing that it is "green" and "clean" and "sustainable" is produce press releases about the

wind power it uses. My dear readers, you are not morons. Industries are regulated and monitored, and so they do pay attention to the things that get them into trouble with the authorities.

But if any of the above has made sense to you, it should be apparent that there are gobs of things that make it past the authorities if for no other reason than because nobody knows they exist yet. Authorities are people too. I can't really do any better than mention Agent Orange, the Vietnam-war-era defoliant sprayed by the millions of gallons over Southeast Asia and all over the world. Our very own Monsanto corporation, yes, the same people who are now selling us herbicides like Roundup for our weed "problems" at home, manufactured this stuff. It contained dioxin, which is an extremely dangerous toxin. Long story short, people started to show the symptoms of exposure to Agent Orange and it wasn't pretty. Is your Roundup any safer? Probably not, and yet most of the agriculture industry in the United States and elsewhere relies upon herbicides, fungicides, pesticides, and other -cides to grow food. This poison is sprayed all over the soil that grows it, the plants that produce it, and then the food itself before you stuff it down your gullet. The *cide* suffix is Latin, and it means to kill or murder. The -cides we spray everywhere wash away when they're not absorbed directly by the soil, plants, and animals, and then they flow into the waters of our world. The infamous ocean dead zone (it's not the only one…) at the mouth of the Mississippi River shows that when this stuff reaches living places like the Gulf of Mexico, it kills and murders whatever is there, true to suffix. Fertilizer runoff is also implicated in this destruction. I want to provide a very clear picture of the unintended consequences that are inseparable from industrial activity. Even if you only understand what I've presented here, I think you'll be in good shape.

This is the face of industry that isn't talked about in an advertisement for toilet bowl cleaner. When an industrial solution to a problem is proposed, it's typically a problem that was created by the last solution that was proposed to fix some other problem, and so on in that fashion back to the beginnings of industrialism and probably earlier. Everything ever produced by industry has created at least as much harm as good, and it is with this in mind that I want to examine the limitations of science. Many people believe that science has no limitations, but this is a

misunderstanding of the discipline, doing a disservice to a useful and essential trait of human beings.

The Methods of Science

The first person to begin examining something mysterious needed to come up with a method to reveal the mystery that would be comprehensible and useful to people. When that person began this process, it started a trend that is continued by modern scientists: the distillation of the complex into the simple and the removal of seemingly irrelevant factors, all in service to demystification. Some modern scientists are singularly frustrating in their ability to simultaneously acknowledge how little humans know about the universe, assert that humans should endeavor to know everything, and suggest that scientific theories actually do explain what happens in the universe. Make no mistake that the goal of science as co-opted by industry is to reveal *everything*: to make a map of the world so accurate that it enables humans to find their way from ignorance to enlightenment simply by opening to the appropriate page and referring to the legend. Scientists themselves seem to revel in the ability to make sense out of the world by providing an explanation for it, and I really don't see any harm in this. They're as curious as I am.

It is, however, important to this discussion that the above goal, to achieve perfect understanding of everything, is implicit in most modern scientific investigations and is related to the activities of industry. The reductions that take place during these investigations are the keys to understanding the limitations of scientific knowledge. It is impossible to take every variable into consideration when performing scientific inquiries. The process of removing unwanted variables simultaneously limits the applicability of the results to the physical world, where all variables are always in play. From there, the much-lamented unintentional consequences practically fall on top of us.

The foundation of modern science is the scientific method, which describes a series of steps to take in the pursuit of an answer to a question. It is roughly diagrammed by the definition of science that I've assembled. It isn't a step-by-step procedure from a manual, but all the steps need to be taken, even if out of sequence, in order to achieve the prized self-policing and unbiased

virtues. Observations are made, hypotheses are created to explain what's happening, experimentation is done to test the hypotheses, and then theories are derived from the results. Throughout the process, there are loops back to previous stages, steps taken out of order, and the requirement that other scientists be able to verify the conclusions.

Take the observation of some phenomena, like apples falling from trees. The question arises, "Why do apples fall from trees?" If I want to know why the apples fall, the apples and trees are observed for a time, similarities and differences are noted, and ideas are derived from these about what causes apples to fall. These ideas are hypotheses, which form the next step in the process. I could have come up with a question and a hypothesis before I made the observation and it wouldn't have changed the nature of the work.

Science is question-driven and if we should ever find that we've run out of questions, we will also find that we no longer need science. The questions can be about something directly observed or about something inferred by the application of what I already know to something unseen. Some of the outer objects in our solar system were discovered in the latter manner. We didn't know Pluto was out there, but given what we knew about Neptune, hypotheses were developed to explain what we knew. Those hypotheses predicted the existence of something like Pluto, which was there when we looked. A criticism of science used by philosophers like Feyerabend is that it is best at finding what it already expects to see, as in the above case.

Since it is question-driven, the quality of the questions will determine the quality of the answers and thus the science derived from them. There are such things as inane questions. "Is a space elevator a viable transportation endeavor?" is the one coming immediately to my mind, but there are others. Quality is highly subjective, but the variable nature of scientific knowledge is inherent in the discipline. If the question is never asked or it is a poorly asked question, then the answer will never be found or will not actually address the question. People sometimes act as if just asking a question and then applying the scientific method to it will open a gateway to The Truth, and all who follow the method will be equally privileged to receive it. People are entitled to this belief, but they will also find very little to discuss with me if they cling to it.

Also a sticking point for a question-driven discipline like science is the origin of the questions: people. People make mistakes and are fallible. People have egos. I'm not trying to lead you by the hand, but people also have beliefs and convictions that influence them. Someone who believes in the necessity of space elevators is going to be asking very different questions than I will. Any questions asked by people come loaded with their unspoken assumptions. Let's call them baggage. Take, for example, "Is a space elevator a viable transportation endeavor?" This question assumes that:

1. We should be looking for more transportation endeavors.
2. Space transportation is worth examining.
3. A space elevator could be constructed.
4. Viable transportation endeavors should be implemented.
5. Things need to be transported from Earth to space.
6. Asking this question is more important than asking others.

There are probably many more assumptions than these. Often what people assume to be a reasonable and beneficial question is neither to most other people. The scientific discipline inherently acknowledges this fallibility by requiring that work be cross-checked by peers, which is why results must be verifiable in order to mean anything to the scientific community.

Notice that the majority of the assumptions in the above question cannot be addressed scientifically. As a matter of fact, *only* the third assumption on this list could be addressed by scientific evaluation. I could come up with a team of experts to brainstorm construction of the thing, determine what we'd need to do it, and then determine if the stuff we'd need actually exists or could be developed. This assumption is really a question of technology and engineering, while the others are more subjective and value-laden sociological ideas. There's no scientific way to address the first assumption since it deals with the appropriateness of seeking out more ways to transport stuff in a world already replete with other methods. The fourth on the list is a distinctly ethical question asking, "Just because we can, *should* we?" which also lacks a scientific path to an answer.

Science is in the business of asking *How* and not *Why*. Questions of volition and motivation cannot enter into proper scientific inquiries and sometimes that's useful. However, a healthy portion of human endeavors are loaded with questions of motivation, volition, and *Why*, and science is irrelevant or at the very least inadequate for providing their answers.

Science cannot ask *Why* because it implies some type of cognition is involved, and being a reductive and mechanistic discipline, science is disallowed from admitting that things happen as a result of other things wanting them to. For a scientist, the window was broken because of the physics involved when I threw the rock at it. For a philosopher, the window broke because I got angry at the person whose house it's attached to. Sometimes the disagreement is merely semantic, but many times it's the perfect example of our modern worldview. This is a loaded issue with roots in the very beginnings of civilization and the machine age, where it was collectively decided to follow a more mechanistic belief system rather than an animistic one. I'm using a little poetic license by implying that we made a choice here, but if you follow the trail of bread crumbs, you end up with the conclusion that science can't ask *Why* because our society doesn't believe that rocks have souls. In a society with a more animistic bent, the life-force and volition contained within a thing play a role in its properties and behaviors. In my society, we believe such talk to be silly, primitive explanations that children give for things before they learn science.

Philosophy is the discipline involved in addressing *Why* for our mechanistic society, and there is a philosophy *of* science for this very reason. Philosophy was founded on questions of *Why*, but it is only theoretically important in questions of *How*. For example, I may believe, philosophically, that a space elevator is a requirement for important scientific exploration and that it should be built. I can make that claim without knowing how to build one and regardless of whether its construction is possible. I can simultaneously hold that something is important and impossible without any trouble. Philosophy can be done without science, but it would result in a world with a whole lot of thinking and very little doing. Science can be done without philosophy, but it would result in doing a lot without much thinking. Neither situation is desirable.

Also common is that the question we're asking raises not only implicit assumptions that lack scientific answers but more questions. A scientific study often begets more scientific studies because this is true. Some consider this trait to be a mark of good scientific work. It certainly ensures that we never run out of questions to explore using science.

Suppose that in my investigation of falling apples, I find that there are globules attached to their stems that cause them to fall. Now I need to answer questions about the globules so I can figure out what role these play in order to thoroughly answer the original question. Scientists who study atomic, subatomic, and even smaller elementary particles are caught in this loop: atoms were once thought to be the smallest units of matter until subatomic particles were found, and then even smaller particles were found. This loop exists because it is assumed that there is an end to the questioning: that one day we will have all our inquiries answered instead of an ever-growing pool of questions. I would like to see a scientific inquiry into the proliferation of scientific questions in relation to the proliferation of scientific inquiries. The task is well-suited to the methods of science.

The Limitations of Experimentation

The question has been asked and however subjective or inane it might be, there's no harm in the asking. The subjectivity or inanity of a question can be exposed by doing a simple analysis of the implicit assumptions, as I've done. If the question stands up to scrutiny, then the hypothesis that was created to answer the question must be tested to determine if it is adequate to explain the observation. To perform an experiment, the scientist needs to isolate all the variables involved and try to change only one of them to see which variable is responsible for the phenomenon. If my hypothesis is that the color of apples is what makes them fall, then I need to find a tree of apples and figure out how to change only their colors. If it's a well-designed experiment, *only* the variable in question, in this case the color of the apples, changes during the experiment. If I can't change *only* one thing, then I can't ever know with certainty which variable is responsible for the observation. If the results change when *only* a particular variable changes, then the hypothesis is proven. Conclusions are

drawn about the experiments, and then other scientists try to replicate the results. The process is iterative, with refinements occurring throughout until all experimental evidence points to the same conclusion or the hypothesis is shown to be false.

The catch is that one thing can *never* be changed in isolation, except perhaps in some highly controlled experimentation labs, with the most extreme example of this occurring in mathematics, where it's necessary to change only one thing to see what happens to everything else.

Nowhere else in the universe will it be possible to duplicate the thing being done in the lab or in the mind of the mathematician, which is something grossly misunderstood. For example, if I perform color tests on apples in my lab and determine that the color is what makes them fall, then what, precisely, have I determined? This is not a trick question: I have determined that *in my lab*, when I create an experiment designed to test the hypothesis that the color of apples is what makes them fall, I find that their colors are responsible for their falling. This is important to comprehend because every time scientists make a discovery in the lab that bears a determined result, the result is then carried over to the non-experimental world as if nothing has changed. This frequently looks like an industry producing a product like margarine without knowing exactly what will happen to the people of the world when they consume it. I'm sure that leaded gasoline worked marvelously when bench-tested on an internal combustion engine in a laboratory, and it was put into production for long enough to realize that the fumes were highly poisonous. Never mind that unleaded gasoline exhaust is also poisonous, that its use is having consequences that couldn't have been foreseen, and that other fuel sources named as alternatives each have their own consequences. It's enough to make a person nauseous.

But that is just the point: the results of an experiment are taken to represent accurately what happens in the world outside of the laboratory. During my experiments I may have found that color is what makes apples fall, but what is actually happening out in the orchard is that different colored apples attract dust particles of different weights to settle on them, causing them to fall at different times, but I couldn't have known this in my lab owing to the dust-free controlled environment I created there. What will be the consequence of not knowing about these dust particles?

Perhaps there will be nothing apparent, and this is why industry has been able to function in the human world using scientific data. Even if I'm partially correct, I can still have enough information to get on with living. Science has always been reductive, and it is still useful despite its limitations. It is still possible to land on the moon using Newton's physics.

But then maybe something will be apparent, like the buildup of chemicals in the bloodstreams of people that can be directly traced to the use of chemical pesticides in the food that they eat; chemicals that cause horrible disease in the nonexperimental world; chemicals that, when tested inside the lab, answered the question, "Can this plant be protected from this pest by using this chemical?" The answer came back a resounding "Yes!" and I'm sure the scientists did their best to continue their experiments and testing, trying to figure out all the effects of the chemicals before industries began using them, but even had they succeeded, it wouldn't have been enough.

No amount of experimentation is enough to determine the effects because these experiments and tests are developed by the reductive techniques that disqualify science from being able to effectively answer questions involving more than one variable at a time. Since it is a requirement of scientific methodology that isolation and separation occur, the whole is excluded necessarily. Reducing the world to answer a question and then applying the ideas gleaned from the results into the full-scale world will introduce errors. Blame the errors on poorly performed experiments or bad data, but these traits are always going to be a part of the scientific discipline. Mathematics is pure method and reduction, and as such it is the closest thing to a perfect science humans have ever devised. The numbers need not represent anything actual in order for the logic to work. Most science is experimental and rooted in the physical world and is incapable of this degree of perfection.

***

The Earth is interconnected to an extent we'll never fully understand. I don't think it can be proven, but the universe probably shares this interconnection. Changing something in the world has effects that cannot be predicted by a laboratory experiment designed by the limited human mind, and pesticides, margarine, and leaded gasoline are three very good examples. This is not to say that action is inadvisable without knowing precisely

everything that will happen, but merely to illustrate why it is that so many unwanted things occur and why people seem so surprised when they encounter them. Since science is viewed as a path to absolute knowledge, people are confused by the imperfections, not realizing that they are inherent in the discipline. Any errors are blamed on faulty people and faulty equipment rather than the limitations of science itself.

The scientific method begins to become irrelevant as the scale of the question increases due to the inescapable incongruity of any contrived experiment to what happens in the wider interconnected world. If you start pulling enough strings, eventually the sweater falls apart. Again, this doesn't mean that nothing can be accomplished by using scientific principles, as we see. What this means is that industries, being larger-scale endeavors, will always be acting on scientific information, applying it to their businesses, and producing things without the full knowledge of what will happen, as we also see: lots of acting, not a lot of thinking. It also means that science is particularly well-suited to inquiries at *human* scale, where human activity occurs without the services of industry and the questions are simpler, with fewer implicit assumptions. When engorged to *industrial* scale, there are far more assumptions, and while there is no scientific way to address many of these assumptions, at human scale the difficulties are mitigated by size. Industrial scale inflates these difficulties to an unmanageable size, with the result being that oftentimes leaded gasoline, margarine, and pesticides get manufactured with nasty results.

***

Automobiles are used for transportation, and this is an industrial-scale phenomenon, occurring all over the globe and with millions of interested parties. It requires the establishment of many manufacturing and transportation infrastructures and the forming of a culture that accepts these as beneficial. The automobile was a product of scientific investigations into materials, production, and tools, and now there are scientists studying how to eliminate traffic problems and smog, both things that could never have been predicted in a laboratory. Henry Ford couldn't have told us how to build highway interchanges. Let's look at some of the implicit assumptions within the question, "How can we eliminate traffic problems?"

1. Traffic problems need to be solved.
2. Traffic problems can be solved.
3. Traffic is a problem.
4. Automobiles are viable transportation devices.
5. Automobiles are desirable transportation devices.

Just these assumptions would fill books, but if any one of them is false, then the question is useless. If we don't need to, or simply can't solve traffic problems, then asking "How?" is senseless. If automobiles aren't viable or desirable as transportation devices, then I suppose the question isn't without sense, but pointless and misdirected, akin to asking if people can be transported on the backs of ants. All of these assumptions predicate *Why* questions that science can't address.

If I'm only refining the hand-coiled clay pots that I make for my neighbors, I'm operating at human scale. My question, "How can I make a better hand-coiled clay pot?" has implicit assumptions:

1. I need to make a better pot.
2. I am able to make a better pot.
3. Hand-coiled clay pots need to be made.
4. These pots are viable containers.
5. These pots are desirable containers.

At this scale, I can easily ask my neighbors or consult my own ideas to find the answers to all of these questions. Any consequences for my decisions are also at human scale and, while potentially embarrassing, are fairly harmless. For instance, I might decide that better clay would make a better pot and discover that my neighbor has some in his yard. If his kid falls into the hole where I'm digging the clay, I'm in a sticky spot with the neighbor, but I can fix that with a shovel, some work, and an apology. Maybe I'll bribe him with some of my new special pots if things get tough.

If I'm trying to solve the traffic problem and I figure out that smaller, faster cars are the solution, that has ripples all the way across the network of industries connected to automobile production, and the results of my solution are too complex to predict. It's a matter of problems magnified by scale. Not

surprisingly, industry doesn't make all the predictions because industries are run by people, and we just can't take all that information into consideration at the industrial scale, even if we use computers to crunch the numbers for us. After all, computers still need operators. Science can't be consulted on the matter because it can't address most of the assumptions. We might be able to create an industry to address these problems, but that industry will have its own industrial-scale problems that can't be solved by people or science. At this point, we're painting over dirt.

This is the reason there always appears to be more red tape this year than the year before, by the way. We act, consequences arise, and we legislate to protect ourselves in the future, essentially codifying what we've learned from our mistakes. We put the lessons on paper instead of in our culture, relying on compliance instead of sense. The problem is that no rulebook is large enough to cover all circumstances. The world is too big and complex to reduce into a book of rules governing experience. This won't stop your city's zoning department from telling you that chicken coops are illegal in city limits because some guy in Sheboygan got his eyes pecked out by a hen, necessitating an amendment to the zoning ordinances of the entire state.

So not only are we creating new problems by being blind to what happens outside the scope of our experiments, but the experiments themselves are based on questions loaded with implicit assumptions, and at the industrial scale, it isn't feasible to evaluate them all. If it is feasible, then our track record shows that it is still too much work. If all that isn't enough, the game can be rigged by those who place bets on the results of the experiments and whose industries stand or fall on the answers to questions predicated by the myriad assumptions. Industry has an interest only in the continuation of industrial activity and decidedly not in making a thorough, self-policed, and unbiased investigation into its own activities.

In the United States, we've created at least one industry to police industrial activity and address the unintended consequences, and we call it the Environmental Protection Agency. The EPA has industrial-scale problems all its own, dirt receives paint, and so it goes. They're very good at making regulations and unrolling the tape. The EPA and agencies like it assume a scientific stance to address nonscientific issues. The use of pesticides, herbicides,

fungicides, and synthetic fertilizers has long been shown to be detrimental to the overall health of land and people. If you believe this to be a hoax, drink some weed killer and let me know how you feel. The voices proclaiming this fact aren't heard quite as frequently as the voices of the scientists and industry people who are well paid to frame their findings in terms that will be favorable to the companies who pay them. Humans can be wrong, but they can also be overruled, ignored, misled, and manipulated. Because of this, it's vital that red flags go up if a scientific finding is produced by an industry-supported scientist extolling the virtues of something produced by that industry: I wouldn't trust any argument for the necessity of war made by a person who sells bullets. Since we can never know where everyone's allegiances lie, I'm arguing that red flags need to be waving *every* time a scientific finding is released.

Lab time and experiments can be expensive, and if there's no money or material, there's no experiment. The quality of the data is perceived to be higher if that data came from state-of-the-art research facilities and highly educated scientists because many people assume that such sources ought to be trusted based on names alone. An outsider trying to get scientific work published in one of the scholarly journals will have a much more difficult time than a person of repute, another instance of the bias in favor of specialists rather than good ideas. Any facility is bound to be getting generous contributions of money and material from groups who have an interest in the data coming out of it, and the scientists are educated in institutions (funny how we use that word for schools, isn't it?) whose operations are also costly and whose balance sheets will also show inputs of money and material from groups who have an interest in seeing people taught to think how those groups want people to be thinking. Recall that scientific data is revered by civilized people as absolute knowledge and can be manipulated by those who have the power and inclination to do it. Fortunately, science tends to be self-policing and unbiased to avoid this sort of thing.

However, the co-opting of science by industry is singularly dangerous, leading to stupid decisions, and it should be met with fierce skepticism on the part of every person. I reiterate: science can stand alone, but industry requires science.

***

Going back to the color of apples and the scientific method, there's going to be a time in any experimental process where the practical limit of hypothesis-testing is reached. Let's say that in order to determine if the color of apples is what causes them to fall, I need some type of genetic mutation device that doesn't exist. Since there are no better theories out there, my theory that the color of apples makes them fall is the best explanation available until the device required to properly create the conditions necessary for the experiment can be developed. Most scientific knowledge is a theory in this stage. Even Einstein's much-revered relativity work is always up for revision, and yet people refer to him when setting up new experiments or coming up with new ways to harness power and energy for the nuclear power industry, for example. Tact requires that I mention the solidity of Einstein's work, but it is also perpetually tentative. He didn't know The Truth any more than I do.

We ask questions spawned by the tentative work of our forebears and contemporaries, and the questions being asked refer to the theoretical worlds they've created. In the case of Newton, if he was trying to rule out the color of apples as a factor, it might've only taken him five minutes, but for those five minutes, nobody is any the wiser as to the mechanism responsible for falling apples. Even after the discovery is made, it still must be verified by others before it can be given any credit, and unfortunately people don't seem to have the patience for such a thorough examination of new information. Couple this impatience with the intractability of the problems arising at industrial scale, and it certainly seems as though an industry can't do anything without some type of unintended consequence, which is precisely what I want to make obvious. Humans will always make mistakes, and any human endeavor is also saddled with this burden.

For some of the more difficult questions facing scientists today, like "Is an electric car a viable transportation alternative?" the question remains open until proven otherwise, even though the automobile industry has tooled up to make the cars. It could be a long time before it's discovered that a very small amount of lithium vapor escapes from the lithium-ion batteries in electric and hybrid cars and that when concentrations of this vapor build up in human brains, they explode. The vapor might also just stain interior fabrics or give people sinus infections if you prefer less gruesome consequences, but the fact remains that nobody knows

because the hypothesis was never tested in the non-experimental world. A more realistic scenario is that all the increased activity in the lithium industry will have nasty side effects. Lithium-ion batteries are messy to produce and difficult to dispose of, but they're still used everywhere for all sorts of devices, from cellular phones to cars. After all, we're concentrating a dangerous heavy metal that's also a prescription medication under the seats of our cars and in devices snuggled up on our laps and next to our heads.

Industries have always proceeded this way, ignorantly taking Earth as an experiment, willing to take risks unthinkable to those who recognize their limitations. I'm going to cite the example of those scientists who developed the atomic bomb. They recognized that there was a tiny, remote, *miniscule* chance that starting an atomic fission reaction could cause a chain reaction and incinerate Earth's atmosphere, and yet the weapons manufacturers *proceeded anyway.* They didn't incinerate the atmosphere, but they also certainly didn't predict the ensuing Cold War arms race, our society's pursuit of the capability to annihilate all life on the planet, or the nuclear disasters at Chernobyl and Fukushima. I sincerely doubt that they predicted we would have a problem disposing of nuclear wastes.

So why in the world are we still pretending we can sensibly operate at industrial scale? I'm typing this while trying to run a list of things in my head that I owe to industrial activity that I couldn't do without, and I can't name one. I'd be dead without the penicillin administered to me to cure my pneumonia when I was younger, but without the industrial cleaners and preservatives that kept fungi and molds out of my diet, I probably would have accidentally ingested enough of the helpful Penicillium fungi to defend against me catching it in the first place. My body may have been born already weakened by my parents' exposure to harmful industrial substances.

For any example I can think of that seems to prove the advantages of industrial activity, I can conceive of a very credible, often already-noticed-by-others reason why that activity is actually at the root of an insidious problem. A scientist may have discovered the bug that causes pneumonia, but industry just went ahead and worked on killing that bug and all other possible bugs that might make us sick without considering that these actions might make the problem worse. I'll repeat the salient points of that last sentence because you're going to see it again in this book:

people just went ahead and worked without considering that these actions might make the problem worse. The proliferation of antibiotics and cleaning products is implicated in promoting the evolution of very tough viruses that resist those medicines and cleaners, threatening everyone's health. If this were a human-scale endeavor, the error could be realized without the possibility of worldwide death. Problems that occur at an industrial scale are impossible for people to understand without reducing the problems, simplifying them so that they can be understood, and, in doing so, utterly destroying any practical similarities between the reduction and reality. Experimentation is the weak link in the chain of the scientific method for this reason.

***

Let's take a nice, fun detour into the realm of particle physics. I promise it will be brief. Heisenberg's uncertainty principle states that there's a limit to how accurately we can simultaneously measure certain properties of a particle because trying to more accurately determine one property results in less accuracy in determining other properties. Focusing on one thing occludes our sight lines to others. The line from the Meshuggah song at the beginning of this chapter is a restatement of this principle, but it introduces a broader perspective. This perspective suggests that the uncertainty principle might not only be something that we see when we're doing particle physics but an inherent property of the universe: the closer we look and harder we try to understand, the less we see and comprehend. Our own efforts to know remove the possibility of knowing.

I told you it would be fun.

Mathematics

We need to do a little math before I can wrap this up. I've had numerous instructors, usually philosophy teachers or astronomers, ask the rhetorical question, "Can you think of any place where one plus one doesn't equal two?" The rhetoric implies that this mathematical statement must necessarily apply everywhere and therefore proves the inviolability of mathematics. If asked today, my answer would be that this and all other mathematical statements *only* apply within mathematics and

nowhere else. I suppose if you could transport a human thought everywhere, then yes, mathematics would apply everywhere.

Math is the ultimate in reductive logic, and it is limited by the same mechanism that limits experimentation and science: it reduces the universe to comprehensible units that do not accurately depict reality. An experiment is no more a representation of existence and all its interconnections than the number one is of anything singular. There is no equivalent to the perfectly replicable *One* of mathematics in the universe, owing to the fact that identical things just don't exist except in theoretical constructions. Identical twins aren't even identical things. One plus one only equals two when you're talking math, but everywhere else it's not only impossible to isolate one thing, another thing, and then bring only those two things together, but it is impossible to add any two things together without getting something extra added or taken away by their proximity.

If I could take one star, another star, and then put them near each other, I don't get two stars. I will most likely get a binary star system or some other bizarre interaction between two massive bodies. They will be two things that react to each other's presence, the way everything does. This is why astronomers start asking these wild questions about addition. Saying that one plus one equals two outside of mathematics is committing a composition fallacy: just because something is true of a *part* of the whole doesn't make it true of the whole itself. Sayings like "More than the sum of its parts" and the concept of synergy arise from this knowledge. This is also a key acknowledgement of holism.

When two people get together, there is more going on than just two people being together. Mathematically, it's correct to say that there are now two people there, and that means something, like needing two pairs of shoes and enough food for both of them. But there are the emotions and experiences that they share that count for something even if they can't be quantified. These two people might really hate each other, meaning that if they are two employees of mine, they might count for significantly less than two if I'm trying to work with them. Two employees who work well together can count for significantly more than their number. Mathematics simply discounts everything it can't convert into numbers because it is a reductive discipline, and sometimes numbers are deceptive.

This deception causes war (or intense games of freeze tag) to be quite interesting. If I have one thousand soldiers and you have three hundred under your command, it's pretty much assured by a cursory glance at the numbers that I will win the day should we see battle. But those three hundred fighters can be positioned in any number of advantageous positions, use any number of advanced tactics, or have unbeatable troop morale, all of which serve as what military strategists would probably call "force multipliers." It's a quasi-mathematical term to describe something that's altogether outside the scope of math. To understand how to overcome that force of three hundred soldiers, I will need to have battle experience so that I can figure out how to use my advantages and exploit the enemy's weaknesses. Mathematical advantage counts, but it's not everything.

What this shows is that math can help us understand basic ideas of greater and less than and even more complicated relationships like perimeter, area, and volume. It can help you calculate interest and understand why usury ought to be punishable by flogging. But for all that, it is only a diagram of experience. Math is a reduction of reality, just like a scientific experiment. It is a bullet-point summary of the universe as opposed to the full-written version. This isn't a reason to consider mathematics as worthless, and it holds the same benefits as any manner of reductive thinking, just as it should be subject to the same criticisms I've discussed for science. From this, it should be evident that the discipline is not sacrosanct. I only hammer this point because there is often a mathematical data point or two within the evaluations of scientists, and it seems that civilized people take these numbers to be scripture. You should be picking up a theme here.

A certain percentage of carbon dioxide in our atmosphere may represent an acceptable number on the scale set up by climate scientists concerned with the greenhouse effect, but that number can never reveal what would happen if that much carbon dioxide were actually in the air around Earth, right now. The coal power industry is in a fierce debate with the EPA, climate scientists, and environmental groups on an almost constant basis over these very numbers, but the numbers are only reductions. The EPA, scientists, and environmental groups fight *amongst themselves* over these numbers. The problems are at a global scale and are necessarily intractable even if the numbers appear to be

manageable. They would remain intractable even if the numbers were worth fighting over.

An ancient Greek named Zeno of Elea came up with a series of paradoxes because, well, he was an ancient Greek philosopher who did that sort of thing. Zeno's paradoxes illustrate the absurdity of this reductive, diagrammatic approach to understanding the universe, although he was probably trying to prove something else. My favorite of these is the dichotomy paradox, which essentially states that in order to move from point A to point B (notice how we're already reducing experience to a series of points), I first need to be able to arrive at a point (!) halfway between the two. Before I can arrive at that halfway point (!), I first need to be able to arrive at a point (!) halfway between the halfway point (!) and where I'm now standing. That pattern follows to infinity, with ever-smaller halfway points, and a very confused traveler standing at point A, thinking, "Why the *hell* don't I just walk over there?" and then doing so. The last bit is my embellishment, but it's true that if the world were just a series of mathematical points, it seems like nothing would be able to move. Zeno is doing some deep Greek-thinking in here, but he's also tripping over his own thoughts. There really is no paradox except within the laboratory of the philosopher's mind (a common ailment). His mind was, as all our minds still are, incapable of sufficiently understanding everything that occurs in the universe, and so he divided experience into pieces and thereby reduced them like a good scientist would have done. He found a discrepancy in the lab, but the lab isn't reality and so things can move despite this paradox. I don't know the paradoxes well enough to tell if Zeno of Elea recognized this limitation, but it's a great example of the limitations of reductive thinking, and I suspect that the many thousands of moving objects all around him would have tipped him off. Thank you, Zeno. You may now roll back over.

***

Civilized people seem bent on understanding everything or fixing something "wrong" with the world: "Look what scientists have just noticed! And how horrible! We're not sure precisely why this is happening, but we're precisely sure that we need to step in…" Both math and science are held up as measures of progress by the civilized societies of the world, and I can only assume that this is progress toward that goal of understanding everything. These fields are linked closely together in theory and

practice, and they are both similarly excellent when it comes to solving problems at the human scale. Math is reliable if I need to figure out how many pots I need to make per day to supply the requests for my neighbors in the next five days or if I need a brain-bending logic puzzle. On the question of how much carbon dioxide the atmosphere can absorb before we should expect global mayhem, the math is decidedly lacking. I'll point you to the ever-changing numbers in the environmental news releases as proof.

Math and science are reductions of reality that humans can use to function, but beyond the human scale, all bets are off. Both need a buffer, some kind of margin for error that won't fling feces at a fan every time something goes awry. The industries of the world are trying to apply all the math and science they can move with a shovel to their activities. They've tried, oh my stars how they've tried, and we are awash in a sea of unintended consequences with still more industries arising to mitigate the consequences themselves. We've created many problems by burning coal for electricity, and now the wind and solar industries have arisen to address those problems, themselves creating industrial-scale problems the consequences of which we'll learn sooner or later. Some of them we know now: large-scale wind farms chop up an amazing number of birds, solar panels are environmentally costly to produce, and they both depend on globalized industries for their existence. I can't quote the source, but I know it was a particle physicist (they really are fun people.) who, when questioned about what goes on inside a particle accelerator, responded that "It's like throwing eggs at a wall and then examining the splatter to figure out what a chicken is." It's comforting that at least one of those within the field recognizes the limitations of their own practice, even if few others do. Industry proceeds apace.

Scientists are still trying to figure out a theory of everything, which would describe and predict all phenomena, linking together all that we know in one grand, all-encompassing, elegant, and universal declaration. This is what people love to do: take something infinitely complex and beyond understanding and break it up into something streamlined, clean, and aesthetically pleasing for humans to digest; take something and transform it completely, solely for the purpose of being understood by the human mind and thereby making actual understanding impossible. To use a mathematical example, it's like me looking at an

equation, seeing the variables *a* and *s,* spelling *ass* with them, and then proclaiming I've solved the equation.

I've solved the mystery of this theory and scientists should take note. Nobel committee, I hope you're reading. Look around you, and there it is: reality, the law, the linking of all phenomena, everywhere. Everything is out there and in here, happening right now, having happened in the past, and continuing long after I'm dead and gone. It's so blindingly simple, containing so many frustratingly complex and unintelligible interactions that I will never understand, and I'm okay with that.

2: The False Division

Only after the last tree has been cut down; only after the last river has been poisoned; only after the last fish has been caught; only then will you find that money cannot be eaten.
—Cree prophecy

To review a little, science and math both have qualities that make them innately useful to people, and it is also those same qualities that limit their usefulness. Neither of these properties is hard to understand by itself, but the implications of understanding them are significant and crucial to this examination. The False Division itself is also a bit like this. It's easy to point out both that there's a division and that it's false, but the consequences are a bottle of jagged little pills to swallow.

I'm not stating anything cryptic when I declare that most people believe in the superiority of the human race. Necessity dictates that civilized people think they're at the top of the food chain. To admit of any other reality throws the whole notion of civilization into question, and this isn't what good citizens do. We are supposed to believe in tops and bottoms, progress and regress, civilized and uncivilized. Well, that's the Division: there's the civilized world, regarded as superior to what is recognized as the uncivilized world. It's clean and apparent.

This separation goes much further than a simple dictionary-definition's difference between two opposites. It is a deep-seated ideology of civilization. To *civilize* is to enable what is generally considered to be a higher developmental state of culture, society, or morality. Industrialism is a vehicle for the process of civilizing (the verb), as distinct from civilization as a phenomenon (the noun), and it is taken to be the tool necessary to create civilization from some lower, uncivilized state.

The modern conception of *civilized* is, essentially, the United States of America and societies like it. But the idea of *civilized* is dependent upon notions of higher and lower, which are subjective thoughts about what constitutes a society on the path of progress. I'm going to be using *civilize* with this in mind. It is a word that means something to modern people, but I don't believe that most people understand all that is implicit within the definition of the word. We all need to agree on what makes for a higher developmental state of culture, society, or morality before I

can point to anything that fits such a description. It's important to remember that my definition of the word isn't the only one, which can be difficult.

Along with a certain amount of frustration, any attention paid to news media is likely to bring mention of the *developing*—uncivilized—world, the suggestion being that civilized societies are at the forefront of development, or are at least leading the way toward a future only they can see by virtue of being civilized. Everyone else must keep up, all the time striving for the progress championed by the *developed*—civilized—world, either voluntarily or through coercion by economics, never wanting to be reduced to a resource pile or factory for the civilized societies. I'm not sure how the process starts, but I know what it looks like: people starving while all their agricultural production is switched to cash crops for export; disastrous accidents caused by corner-cutting industries; poisoning of land in nations where environmental regulations are either nonexistent or favorable to industries; wars fought for resources. The division between civilized and uncivilized not only includes a separation between artifice and nature but also a separation between cultures, with results both predictable and evident.

At every turn where the civilized people of this world meet anything deemed uncivilized, the tendencies to exploit, develop, improve, protect, control, and homogenize all reveal themselves. *Civilized* and *uncivilized* are both entirely conceptual words. They are both ideas rather than physical attributes, both streamlined into the body of a society to more readily enable a particular construct of progress and development. Asking if something is civilized is different from asking if it is blue.

A civilized society views human development as if it were on a timeline. Toward the beginning of the line are uncivilized and primitive states of living, and modern industrialized societies are at the leading edge. The progression from uncivilized to civilized is viewed as necessary and good. Such a view displays complete ignorance of any human developmental models that aren't similarly structured. There is, in fact, no reason for assuming that such a linear progression is either of these things and no need for linear progression to exist at all. The line was drawn by civilized people and so we walk it, but this is not equivalent to the impossibility of other paths.

Civilized people act as they do because of what they *believe* about the world. If I believe that I am on the path to righteousness, progress, development, improvement, and so on, then any act I perform that keeps me on that path is justified: "If God be for us, who can be against us?" Instead of participating in the give-and-take of human survival in the world, my beliefs have provided me with the justification for my own superiority and privilege. It is the division of the world that provides this justification in the case of civilized people, and it is apparent in many societies.

The discussion of science and mathematics in Chapter 1 should suffice to show that this topic is outside the useful range of both. The influence of industrialism extends into every facet of civilized society, using science as a battle cry, and the results do not quantify or reduce neatly enough to be analyzed by scientific or mathematical principles. How, for instance, would you scientifically address the destruction of ancient American cultures? However, when questions arise in a civilized mind, a scientific framework of ideas is erected to answer the questions and press on a bit further until the next set of questions arise. It was in this manner that ancient American cultures were sacrificed on the altar of progress. The answers, being always negotiable, are therefore transitory and temporary, illusory beacons of permanence that spur us onward toward more questions, and so they never precisely answer the original inquiry with anything but further questions. This questioning process is underlain by the implicit assumptions that industry must exist as a tool for development, that it is desirable to pursue its aims, and that the way of progress and the way of civilization are the same. There is an implicit assumption that progress exists at all. The assimilation and destruction of ancient American cultures would be viewed as a necessary point on the timeline from uncivilized barbarism to that peak of human development, a modern, industrialized, and civilized society. The main idea of this view is an altogether subjective priority placed on a particular way of living rather than an inexorable behavior of humanity.

It is assumed that industry must exist because to admit of any other reality is to admit the futility of the civilized world that depends upon it, which is a costly and confusing admission at best. There needs to be that conceptual framework of superiority and righteousness in order to keep going. We must assume that it is

desirable to pursue the aims of industrial activity, thereby furthering the process of civilization. At some level, we must continue to feel that we are getting something in return for our actions and that it's significant enough for us to justify what we've sacrificed to get it (ends justifying means and all that). We need to believe that industrial activity is complementary to the goal of progress and therefore of civilization. This is almost a restatement of the ends-and-means assumption, but the notion of progress is the important difference. If I believe that a more civilized world is a better one and that industrialization is the tool I'll need to bring it about, then my concept of progress certainly appears to do the job of reassuring me about my actions. It is with this concept under my arm that I'll dive deeper into the False Division.

Progress

Progress is a tricky thing, not unlike right and wrong. It is a philosophical idea that is often mistaken for a physical fact. For example, the current notion of progress is that more advanced technology, more money, greater production, and ever-greater standards of living are all preferable to less of each item on this list. In a civilized society, more is progressively better than less. To move in the direction of *more* is to advance, to evolve, to develop and grow, to *civilize*. Even in the images and feelings conjured by these words we can see that this is true, assuming that the "we" I've just mentioned is a group of civilized people. Notice the difference between the words *advance* and *retreat*; *evolve* and *devolve*; *developed* and *undeveloped*; *grow* and *shrink*; *civilized* and *uncivilized*. There is a slippery cognitive difference that has worked its way into my brain, and I know I'm not alone.

If it's slippery, it is because it's completely arbitrary and subjective. No person needs complex technology, money, production, or ever-greater standards of living in order to be happy and healthy. Indeed, even happiness and health are not guaranteed to you by virtue of being alive. Within the civilized world, these facets of progress *are* ways to improve my life, but it's only because I live within that world. If I invent a game, create the rules for success in the game, and then assert that the rules for success in my game are the rules for success all over the world, my assertion is insane. If having purple pants gave me absolute power

over my fellow townspeople, then the pursuit of purple pants would factor into my notion of progress. Having advanced industrial technology doesn't matter at all if I no longer view industrial technology as superior to nonindustrial technology. Even the notion of *advanced* here implies that a laptop computer is a more developed form of technology than, say, a bone-handled throwing ax. In a society where nothing is produced, bought, and sold, I have no use for money or the industries of production. For a society whose conception of progress doesn't include the revelation of every mystery and the complete explication of the world, science has a different place. For a society whose conception of existence relies heavily upon immaterial things, all corporeal explanations come at a steep discount.

My standard of living can only be increased up to a point, after which further increases only serve to spoil me. Life can only be made *so* comfortable before it begins to have negative effects on humans. It is primarily the belief in a common idea of progress, no matter how that idea is contrived, that keeps people convinced of the propriety of their actions in a society, rather than—and often in spite of—physical reality. My purple pants will only continue to give me power if the townspeople continue to believe in the power of purple pants. So while the goal of modern industrialized science appears to be a complete explication of everything, the goal of industry appears to be the civilization of the world.

Remedials and Weeds

Examining the language of civilized people reveals how pervasive the Division has become. When talking about the uncivilized world, they use words like *control*, *exploit*, *develop*, *mitigate*, and *protect*, betraying their allegiance to it.

The lay of the dividing line isn't as important as the line's existence. It's not necessary to the discussion which things are on which side, but the act of dividing them is crucial. People can hardly agree on what constitutes civilized and uncivilized, so it's a moving target anyway. Civilized societies clearly believe this line to exist *somewhere* because industrial activity is pointless without a division: the rhetoric exists even if nobody can tell you what it means.

Remedial people rely on the same dividing line to take a humanity-as-protector stance. For the purposes of this book, *remedial* is a type of reaction to the activities of industry, characterized by intent to correct perceived errors and protect perceived vulnerabilities of the natural world. These are the environmentalists, activists, and "green" people. They are on one side of their line with the imperiled natural world on the other.

Civilized people are concerned with the wider world only while it provides what are referred to as resources, with the implicit assumption that things are only useful to the extent that they can be converted into products by industries. The world is to be used as a tool to advance the process of civilization and the march of progress. The notion appears to be that if it can't be civilized, it will be destroyed. Even conservation efforts are concerned with protecting natural *resources*. Although the conservationists may be using the word differently than the industrialists commonly use it, the language is as pervasive as the underlying belief that there is "our world", there is "the rest of it," and they remain separated.

The idea that something has value just by being itself is not widely accepted. The idea of a thing's inherent value is not as interesting or quantifiable as what we can turn it into or what we can get by using it. Weeds are a wonderful example. If we can't use it and we haven't cultivated it, a plant is a weed, though in every case the plant has a use to some living creature or another and often humans can use it if they know how. Many plants are only weeds through ignorance. Dandelions are excellent sources of nutrition and soil improvement. Thistles are similarly excellent at driving roots down into compacted soil and improving its tilth. Without understanding the value of plants, we spray them with herbicides, yank them unceremoniously out of the ground, seal them in plastic garbage sacks, and freak out when they go to seed before we can find and kill them. We believe that things only have a place if they serve a recognizable purpose. Being ignorant of their services is functionally equivalent to an absence of services. Serving purposes other than ours is heresy. Our treatment of weeds is insane, but it fits our worldview.

Without a separation between what is civilized and what is not, there is no basis for believing that industrial activity is anything but just another way of living. If I don't believe I am different, superior to, and more privileged than another thing, I

cannot justify exploiting it to pursue my own aims, and industrial activity is nothing if not an exploitative activity. I cannot objectify something as a resource and measure its value solely by its utility if I don't believe that I have a right to subjugate that thing. Thus, industrial activity is pointless without the separation: no longer a tool for the process of civilization, it would need to be activity for its own sake, but this is made impossible by the fact that it poisons things that are necessary for our survival, like soil, water, and air. We'd be making a choice between a fun hobby or surviving until tomorrow. No contest, really.

On the other hand, remedial activity relies upon a sense that the world is being destroyed by humans and that further intervention is required in order to stop the damage and protect the outside world from annihilation. Remedial people are therefore just as reliant upon the beliefs that their vision for the world is the correct one and that their actions are justified because they are progressive or proper. Without any division, their vision becomes one among many equally valid views and therefore just as questionable. A division provides the necessary conceptual separation and validation required to take action as a person who is different, superior, and more privileged: as a person who knows best. To act remedially is to believe oneself privy to a vision of the future. I must believe that my actions will actually protect or mitigate rather than make matters worse, and only the future can vindicate me. We frequently overestimate our abilities to predict and foresee.

***

Without an idea of separation, it is easier to see that every product of human existence on this planet, *everything* that is found here, necessarily has origins on Earth. I am including all the interstellar rocks, dust, etc. that have ever landed here, and all life forms that may have drifted across space only to take up a home on this planet. I suppose such things could be viewed as invaders, although I'm not sure how I'd argue that case, and I'll be dealing with native-versus-invasive logic soon enough.

This wonderfully inclusive statement transfers nicely to the scale of the universe, allowing for all the space rocks to be taken into the fold: for all practical purposes, everything in the universe has always been within the universe and not somewhere else. This gets philosophically tricky if I consider that some things may have an unknown ability to flip between the realms of

existence and anti-existence, swap universes, or what have you, but even considering that won't change the thrust of this argument, as fun as it might be. As it stands, the earth will serve as a more comprehensible and tidy package for this discussion, and so I'm going to use Earth-scale with the understanding that it doesn't stop there: if it's here in the universe, this is where it originated and where it belongs. Earth is home to everything that finds itself here, no matter the process it used to arrive. Call it the "home is where you hang your hat" idea. It's not important if the ultimate origin of this or that particular molecule was the inner core of a dying star or some interstellar nebula, because of the aforementioned universe scale. There is stuff on Earth of wildly varying origin and composition, but it is all here and probably in countless other places. Notice that this allows harmful things to exist as well. The virus that kills me has just as much claim to its existence as I do, even if it came from Mars. I'm at risk of stating the idiotically obvious, and yet some people cling to beliefs that attempt to destroy the indestructible logic of this.

For instance, humans, creatures of Earth, are given magical creation stories about how some mystical being has put them here and intends to take them away after death. Anything made by human hands and minds is viewed variously as different from the rest of existence and therefore either far superior and alien, or as dirty, reprehensible, and without redeeming merit. People believe that they are able to engage in the wholesale destruction of their surroundings without any harm coming to themselves and that they are able to harm themselves without any harm coming to their surroundings. These are all commonplace ideas, and yet they stand in stark opposition to my simple statement, that what's on this Earth was begotten of it.

If I believe that my origin and destination are other than Earth, I most certainly don't believe that I belong here, let alone that I came from here, and I'm more likely to treat this place like a rental property rather than my home. If I understand that humans are products of the earth, it makes no sense to suggest that we are wiser than, separate from, superior to, degenerate in comparison to, or unworthy of it. Our actions are the work of Earth-creatures like every other. I cannot conceptually isolate harm done to my surroundings from harm done to myself if I recognize the indelible connection between the two, and any such harm done to one will eventually show itself in the other.

By conceptualizing the big, wild Other as something to be exploited and manipulated, civilized people have cultivated an aversion to thinking about themselves as a part of that Other. We have been thoroughly conditioned to believe in both the False Division and the timeline of civilization. If I remove what separates me from everything else, I'm effectively exploiting and manipulating myself. Something called Nature is to be controlled and tamed in the divided view. Both industries and remedial people require this wild Other in order to function. They both hold the view that Nature cannot care for itself or it is reckless and irresponsible, requiring the intervention of humans to give that extra push toward a fully explained and civilized world, in the case of industries, and toward an imaginary utopia, in the case of the remedials. Each side has a view of order that they pursue. Each has a concept of correctitude that is foisted upon reality.

I don't mean to suggest that there are only two types of activity in the world, one called industrial and the other called remedial. There are clearly others. What I want to make plain is that these activities, though frequently at opposite ends of the political spectrum, are actually dependent upon the same contrived idea. Think of them as Democrats and Republicans, if you're a United States citizen, or just two parties that claim to serve different ideals while simultaneously acting in the interests of the same people. I'm sure there are parallels in any politicized country. In any case, they all depend upon the False Division as the basis of their worldview.

In contrast, many nonindustrial and uncivilized cultures recognize the inherent connection between humans and the rest of existence. Any account of the spirituality of the ancient American tribes contains evidence of this. Where those societies are still culturally intact to some degree, the people *still* believe this. It is an important example of humans living successfully without the False Division.

Remedial people then leap to assuming that because civilized societies are different or ignorant of the human connection to the rest of existence, then they're somehow abominable or tainted. There are those remedial people who tend to idolize uncivilized people, ascribing to them some privileged position in the development of humanity, downplaying the fact that we're all human beings. Civilized people are predominantly responsible for the eradication of cultures (species, habitats, etc.)

all across this planet. On that point only a fool would disagree with me, but it cannot be said that because something appears foolish or different that it is then worthy of our revulsion or, worse, that it is wrong. About all I can say is that I disagree with it or that I don't like it, which is fine.

Return now to my true-to-the-point-of-silliness statement that what's on Earth came from Earth, and apply it to civilization: *everything* about it originated right here on this planet, from the materials we manipulate and transform using our curious brains right down to the strange beliefs we maintain at the expense of all else. This isn't a defense of civilization, and I am not an apologist for it. I do, however, want people to stop denouncing civilization as some alien and *wrong* way of existing, as if the principles of right and wrong could even be applied to such a thing.

Stated another way, we are all natives of the universe and parts of this great existence engine. The results of human activity are the workings of a marvelous society of beings that conducts itself in a particular way. If I begin to talk about how wrong it is for people to be acting in some way, or that we need to be protecting something, or if I speak of progress, then I'm addressing my own values. This is a critical point because these words are evidence of values that arise from a worldview centered upon the division between something called *civilized* (and viewed as superior) and everything called *uncivilized*. This division is descriptively useful, but the values ascribed to its components belong to civilization itself and are not properties of the physical world. It is, in a word, false.

I can say that I want to exploit natural resources because I love machines, toys, metal, water pollution, topsoil loss, or believe in an idea of progress. But I cannot then make the leap stating that this is The Way to live and that life lived any other way is counter to the flow of existence. It sounds so silly, but this is precisely what civilized people do when they worship at the church of science. They honestly believe that industrialization holds the key to progress via science, which leads us down a path to The Truth. Recognition of any other reality admits the existence of a whole new timeline, and we're not on it (how unfortunate). How else can we explain the poisoning of the earth, upon which we all depend, in the process of manufacturing all our gadgetry and toys? Remember the interconnections of the world and the inability of science to understand them. This is action performed with little

thought at industrial scale, but since it is in the service of science on that sacred path, just about any action is justified. So we build factories and mine materials in order to manufacture all sorts of things, focusing our efforts and energy on new science that will support further industrial activity.

We do this, forgetting that none of it matters if we don't have food to eat, air to breathe, or water to drink. All the food in your local supermarket comes from plants, animals, or minerals, and if we poison those things to mine the metals in our gadgets, or because experiments suggest that we should dump lots of chemicals on our fields to make plants grow faster, or befoul the air with exhaust smoke from cars driven to our factories, then it's a crapshoot at best. This is happening everywhere in civilized societies because we believe we're progressing, led by science and enabled by industry. Crapshoot is actually an optimistic assessment.

Similarly, I can say that I want to protect the natural world and that I hate the activities of industries because I love trees, enjoy eating food from a tomato plant rather than an industrial plant, and prefer Earth's aesthetics without industrial modification, but I cannot then say that industry is wrong, that corporations are evil, or that a civilized life is an abomination of hell. The nature of the universe is such that pointless things are able to exist. Civilization can definitely be pointless, but it can't be wrong. It can be backward and suicidal, but then that just makes it self-limiting, not incorrect.

Acquitted of Murder

Many people decry civilization for killing the planet, and radical environmentalism frequently uses the language of planetary murder, but there's at least one contradiction buried within this declaration. Those with a more animistic view of the world, including many remedial people and proponents of the more holistic traditions in environmentalism, believe that even those things that science declares as lifeless (rocks, air, minerals, etc.) are imbued with a life force of their own and are in fact living in a way entirely different from what science declares to be alive. If something exists differently than I, for example it doesn't eat, talk, move, reproduce, or exist in any way I can completely

understand, I can't then say this thing is devoid of life. I will offer this: even science has acknowledged that matter is energy, vibrating slowly, meaning everything breaks down into the same stuff, and the difference between many things is merely a result of the frequencies of their vibrations. The upshot here is that a rock or a mountain is only marginally different from a person or a squirrel because all of these things have the life of energy within them, whether we understand that life more or less or relate to it more or less.

Look at our sister planet, Venus. Venus cannot be condemned for being uninhabitable by humans. It may not have any organic life that we know of, and it certainly can't support human life anywhere we have looked, but it doesn't follow from this that Venus is a dead, ugly, and defiled place. The primordial Earth is thought to have been much like our sister planet is now, gradually changing into a very different place. In an animistic worldview, and even by applying the ideas that matter and energy are equivalent, Venus would have a life force of its own. What about planets that can never support organic life? Our moon can be beautiful or abominable, but there it is, rocky and uninhabitable by humanity.

So how can we possibly be killing a planet? Civilization, left unchecked, may make this planet resemble its twin, Venus, but it will never kill it. We are now killing many of the organic life forms of the planet, humans included, and may in fact change Earth into something that no longer features those living things, but this planet will not be dead. Earth will simply be as Venus is, without trees, people, and birds, but it will not be dead. We may come out looking extremely goddamned stupid, but the planet will just go on being a planet.

I trust that the planetary-murder people actually understand that the planet would be fine, but they never say this. I'm as guilty as they are at times, throwing around words like destroy and annihilate in reference to the planet when I should really be applying those terms to humanity. We are killing ourselves, not the earth, imprecision be damned. I don't know whether such an argument carries any more weight than what's currently thrown about, but it definitely carries more truth.

This is another of my propaganda points for this book, and it will be repeated: we need to change the rhetoric surrounding our current situation to accurately reflect reality. We can't kill the

earth. It is a many-trillion-ton ball of *iron*. It's just like an old cast-iron pot, getting a lovely patina as it ages. Some crusty food bits may char and burn on its surface, but you just scrape those off and keep cooking. The burning, oily bits actually improve the pan in the long run. Even cast-iron pans outlive people, and so it is with Earth. It will survive us. We are merely killing ourselves. If suicide is desirable, then by all means we should continue. If I'm not the only one who finds this criminally dumb, then opening up the dialogue to include the ideas presented in this book is a wonderful place to start.

***

Organisms die, pieces of them die, systems shut down or change, orders arise and collapse into disorders, science tries to keep up with understanding it all, and the universe continues. This planet is one among countless others in the universe. Seven or eight others are in our solar system alone, depending on how we categorize Pluto. It is not special and neither is anything connected to it, unless I, you, or something else wants it to be special. The restoration of some idyllic time before people became "civilized" will never happen, extinction isn't reversible, and even our own continued habitation of this planet is an open issue. If our star eventually swells up and swallows Earth as our astronomers believe it will, this will become apparent to all those about to die here.

Humanity is just like all the other things here on this planet, developing in a niche that needed filling. If our species produces anything for this planet, it's a wealth of goods made from fossil fuels, ranging from plastics and medicines to machines and buildings. There is no other creature on this planet that is as skilled at and preoccupied with extracting fossil fuel material, transforming it, and redistributing it across the surface of Earth. We are, in so many words, seeding the world with artifice. I have no doubts that there are orders and reasons, disorders and non-reasons for which things happen that humans will never be able to explain, and that the planet will survive us. Perhaps in this light, we see that our actions as humans upon this planet serve to change Earth into something new.

Humans are agents for metamorphosis, and there can be no question that this is true, as we have already eradicated many species and are probably altering global climate. Humans are changing this world, whether we agree or disagree with the nature

of the changes, whether we understand the consequences and magnitude of them or not, and there's not a damned thing that can be done to stop it. This is happening, right now, outside my door, whether I want it to or not. It's not a stretch of the imagination to suppose that we have actually paved the way for a new Earth to develop upon our ashes. It's happened before: the very fossil fuels we're using to create our civilization are all straight from the graves of millions. Humanity's fossils may fuel the next iteration of existence on Earth in a few million years. This sounds, unfortunately, much like a myth of heaven and hell, with me imploring others to stop worrying that Earth is changing into an unlivable place because in the afterlife, or at least after our lives, there could be a paradise beyond imagination waiting. There are the notable differences that no human may be around to enjoy such a paradise, that it may not be paradise at all, and that I'm not giving us much control in the matter. The best and worst of us are going the same way in my story of global change.

Change is the operative word. Human activity cannot destroy Earth, but it can certainly change it. People have a very difficult time with that. Civilized people hate being reminded that their actions are changing the planet into a place where even they might be unable to live. Some people believe that the work of technology and science will spare us the worst of these changes. Many remedials can't bear the thought that the world is being changed into a place that doesn't look like the picture of paradise that they've painted. Anything less than that ideal place is no good for them. The civilized people are frightened by the fact that their way of life isn't going to last and that they will be forced into another, radically different—uncivilized—way of living. After being inculcated with the idea of their own superiority to uncivilized cultures all their lives, who can blame their fear? To address a more specific instance, the remedial people can't understand that the concept of biodiversity is a human concept, and as such it is as flawed as all the other human concepts. They can't understand that the apparently accelerating extinction rates and subsequent loss of whatever biodiversity is defined to be is nothing more than another instance of change and not a slippery slope toward fiery worldwide death. Each group in the debate is fighting from one side of the dividing line, but both believe that a division exists.

The division between civilized and uncivilized is useful as a taxonomic distinction (I need to use it to prove it exists, which is lamentable), but when used as a conceptual and philosophical construction to justify action, it is lacking. We, as human parts of the existence engine, are one with Earth but also one with the rest of existence whether we choose to acknowledge the fact or ignore it. As Earth goes, so do we. The direction and scope of the universe is beyond comprehension, and attempting to comprehend only results in confusion, as we so readily witness. The drawing of a dividing line between the civilized world and everything else suffers from the same limitations as science because it is born of scientific minds. We separate and divide to understand, eliminating any resemblance to the whole, and so our understanding is of something entirely different from what we assume it to be. We understand only our little invented microcosms.

It is blatantly obvious that the idea of a path to complete knowledge, paved by industrial activity, using science as justification for action and mediator to The Truth is a farce. The division of the world into the civilized—right—way and the uncivilized—wrong—way is a direct descendent of the scientific quest for complete knowledge. The faith that civilized people are placing in science and industry, following them as beacons and referring to them as oracles, is a disturbing and silly phenomenon.

And what, precisely, are we giving up if we return to a nonindustrial, uncivilized way of life? Our toys? Our gadgets? Our quality of life? It's really not that bad, folks. People have done it before and been healthy and happy. No, you're not going to be able to play video games, and you probably won't have electricity. What you will have is the peace of mind that you're not going to starve when the trucks stop delivering food, that you won't be forced out of your home when money runs out, and that you can take care of yourself, come what may. And you are comfortable with the reality that one day, you're going to die.

One way is the way of complexity, and the other of simplicity: complexity because of all the unnecessary layers of interactions required by people enmeshed in the fabric of civilization, and simplicity because of a more direct interface between humans and the life-giving Earth in uncivilized society. No, I cannot say which of these two is objectively better, but I can say with certainty that one of them can't continue. Our complex

civilization is founded on ideas that are not in accordance with the workings of the world as we know it, and it will collapse. We can collectively choose one or the other, or it will be forced upon us. This is not a matter of what we like or don't like, or a matter of right and wrong. This is a matter of what *will* happen and what *can't* happen.

3: On the Industrial

If Rube Goldberg had invented a civilization…

This will be a more in-depth look at the impacts of the False Division on the workings of industry within civilization, further illustrating their self-defeating nature. It is my duty to emphasize that there have already been many criticisms of civilization in this regard, such as those of William Morris who addressed this in 1885. Morris was largely inspired by anarchism, but sometimes there's little conceptual difference between being critical of a particular order and being critical of all order. Lewis Mumford has produced voluminous works on technology throughout the twentieth century and was probably as thorough as a person could be in describing what he saw. His *Technics and Civilization* is a good place to start if you're curious.

Critiques of industrialism probably go back even further than the Luddites, who were reacting to the Industrial Revolution in 1811. The actions of the Luddites have more in common with a labor dispute than a social critique, but the critique is easy to apply in hindsight. These people were enduring a wave of changes that were sweeping the civilized world as the mechanization of factories and labor began to gain momentum. If these people, living at the standards of the early nineteenth century, were already comfortable enough in their lives that they fought the new technology that brought the promise of even more comfortable lives, then what does this say about the drive for an ever-greater standard of living? The myth that civilization puts forward is that at any given day in the future, the standard of living will be better than today and that today the standard is better than any given day in the past. Clearly, not everyone agrees. I doubt there were ancient, roving antifire people who relieved themselves on the fire pits of their camps when people first figured out how to harness the flames. The first human to develop a bow and arrow probably didn't need to contend with furious mobs of arrow-breakers who could see that this weapon was going to create undesirable changes. Fire and the bow and arrow were both fairly objective improvements to the toolkit that enabled humans to live better lives. But the mechanical loom of the Luddites' time? Not so much.

It's not clear where we crossed the line from absolute improvement to unnecessary accoutrement, but it's clear we've crossed it. No person needs a personal computer or anything like it in order to live a happy and healthy life. So somewhere between fire and the PC we wandered off track. I'm being deliberately vague, but the idea is that the load of wonk believed by most civilized people, that these developments are necessary, is actually quite the opposite, and the belief itself is damaging not only to the intellect but to society as a whole.

Manufactured Demand

The product of science and industry is a civilization developing some form of knowledge and technology, and a notion of advancement toward a future goal. I've identified that goal as the revelation of every mystery, the complete knowledge of everything, and as unreachable. Every action performed by civilized people is not only oriented toward this goal, but it includes the desire to reach it, even if both the goal and the desire were artificially instilled in us. State of mind is a powerful tool, and it is the realm of manufactured demand: create a need by proposing both a shortcoming (the desire) and a solution (the goal) and hope that people will buy them both. In the broadest sense, the supposed shortcoming is that we do not know everything and that mysteries remain, with industrial development and scientific progress held up as solutions. We overwhelmingly agree to these terms as we increasingly give up our abilities to care for our own needs and begin to rely instead on the next widget designed to hold our attentions, with the justification being that as our products become more advanced or complex, so do we. Since complexity and advancement factor favorably in our conception of progress, they are desirable. Our transportation used to be a simple matter of moving our legs, and now we rely on automobiles and all they entail to move us from place to place. Even walking has become an activity that needs special equipment, shoes, to keep our feet from being shredded by the industrial environments in which we walk. Enter the desire for footwear, necessitated by the construction of such environments. This is not to say that uncivilized people never wore shoes but to illustrate that they were

never a requirement, socially or practically, outside of extreme environments.

Somewhere along the line, talking and oral history turned into reading and written history, and learning changed from a personal, kinesthetic experience into memorization and regurgitation for standardized tests and a certificate of completion. Even history itself is now the brainchild of civilization, and not having contented themselves with supplanting uncivilized societies, the civilized folks have written their accounts of the past for all future generations to read. Oral historians have all but disappeared. Our entertainment used to be homegrown and imaginative, with house rules and plenty of variation. We now plug into all kinds of devices that provide our entertainment, from personal audio devices, phones and video game consoles to an endless string of newly released books. This is the legacy of the False Division and civilization: a move away from all things self-sufficient and toward the service of invented needs.

That move from self-sufficiency to dependency is critical to understand. In a way, civilized societies are so in love with tools that there is a drive to make a tool for every task a human can perform: their belief is that people's hands are for manipulating tools, not materials. It separates people from their work, through the medium of the tool. Not that tools are bad things, but ask a craftswoman and she will tell you that the very best tools are those that are extensions of the human body, serving their purpose and flattering their user so brilliantly that they dissolve into the body of the person when used. Hands themselves are such tools, and most tools simply enhance a capability of the human body. In contrast, civilization tends to place ever-more layers of material between a person and the world upon which they depend: food and clothing from a store rather than grown and homemade; construction services by specialists rather than people building for themselves; learning commodified and supplied by an educational organization rather than life itself. People are separated from their needs by groups of specialists who provide these necessary services for a fee, and thus people become dependent upon these services by this act of separation. It is a physical manifestation of the False Division. The end point of this is a world in which people only have contact with a manufactured environment and our habitat is transformed into a tool used for living.

Perhaps a simpler way to state this is to say that civilized societies are parts of a greater Civilization of Manufacture. As quickly as a scientific mind can identify a problem, a factory can manufacture a widget as the solution, the factory itself only necessitated by the act of identifying problems. The world is a supply-side economics problem for these societies, and demand is never questioned enough. The obstacles to the functioning of civilization are always viewed as challenges to be overcome by clever application of logic, and they are nearly exclusively viewed as problems of supply. Oil is getting scarce these days, and true to fashion the problem is extraction (supply): how can we pull more oil out of the ground from wells already in place, and where can we explore and drill for more? There's little questioning of the demand for oil in the first place or of the wisdom of oil extraction itself. The demand for oil and the continued search for solutions to the invented need for more extraction are both taken to be immutable facts of life. Oil is the easiest target, but examples are everywhere in civilization. We are faced with questions that science cannot address because industry already uses science as justification for its activities.

Take transportation, for example. It's no secret to those of us who've grown up in automobile-centered cultures that traffic is getting worse. As more people decide to start driving, more vehicles enter the roadways to get wherever it is that they're going, and the result is a road system that always has less space today than it did the day before. The frailty of roadway networks is appalling. Accidents or wrong turns carry ripple effects that can last long past the original disturbance. Anyone who has endured miles of stop-and-go traffic only to see no evidence of any incident can attest to this. Increased roadway capacity is frequently examined as a solution to the problem, and this seems like bulletproof common sense: a certain quantity of vehicles requires a certain capacity, and if that capacity isn't enough, then increasing it should solve the problem. Except that this doesn't address the root of the problem, which is that there are so many vehicles to begin with. The scientific and mathematical answer is to add capacity, but that answer reduces the situation to numerical and empirical data, ignoring sociological and ethical concerns. Costly and time-consuming infrastructure projects are undertaken, increasing capacity to handle current and projected demands, and things improve only long enough to catch the attention of more

motorists, who subsequently flock to the newly-expanded roadway, increasing traffic, and creating another capacity problem. Highway expansion projects everywhere in the United States experience this phenomenon, a version of which is known as the Jevons Paradox. Buses and carpooling are often spotlighted as solutions, but they use vehicles that get caught in traffic just like every other. Trains and bikes fare a bit better in the long run, but bikes require people willing to ride them and trains operate on routes and schedules that won't be appealing to most people.

William Stanley Jevons, an English economist, observed in 1865 that efficiency improvements in coal use didn't reduce overall coal consumption. Rather, the implementation of these improvements actually served to *increase* overall use, counter to their intended effect. The highway-improvement project phenomena described above is one contemporary example, as is the widespread adoption of energy-efficient lighting devices serving to increase overall electric use.

Among the solutions to the transportation problem, I've never heard a public outcry for people to just stop moving around so much. The question, "Why can't we just walk everywhere we need to go?" isn't asked frequently enough to change anything. Why not brainstorm ideas for getting people to live without transportation devices? US cities in particular are positively vast, and newer areas are nearly always segregated by zoning ordinances so that it's rare to work less than one or two miles from home. Some of these design philosophies are slowly changing, but most aren't. The demand for transportation isn't questioned nearly so much as the supply of transportation infrastructure, and the solutions implemented are almost always modifications of the supply, rarely changes in the demand. The very mention of such changes in our demand for services in the US is met with derision as our society feels itself privileged enough to deserve such things as predicated by the False Division (not to mention our petty patriotism). This isn't an entirely bleak picture as many more people are beginning to realize how silly the situation has become and are building developments to be more pedestrian-friendly, or at least less transportation-centric. Unfortunately, the absurdity of our focus on supply is not limited to transportation, but it is easy to overcome in every case.

Reading, Writing, and Regurgitation

The development of written history and a culture of books is consistently hailed as an advancement of societies, and like most things discussed in this book, they have their places. They also have limitations. A written word needs a definition to function in language, and the limitations of that approach are revealed by the multiple definitions carried by most words, displaying an adaptation in response to the inadequacy of words when describing existence. There is a gradation of experience that a written description can't convey. The popularity of profanity is primarily due to its great utility. I can't remember the philosopher, but one (probably more) of them was so convinced that language was inadequate for describing experience that he didn't speak. He would walk around, pointing and gesticulating in order to interact. Come to think of it, I'm not sure whether he *actually* did this or proposed it as a (terrible) solution to the problem, but it's a fun example anyway. Along with books come armchair exploration and sight disorders. It becomes possible for people to get a summary of what it's like to do just about anything by doing nothing more than scanning a page held closely to their faces. One result of this widely-read intelligence and vicarious experience is a type of person who is rich in knowledge but deficient in ability.

The rise of the written word contributed to the development of a contemporary educational system based on books and tests. Collegiate degrees and certifications can be obtained by doing nothing but reading, remembering what's been read, and then paraphrasing the reading on a test. Degrees and certifications, being written and therefore viewed as superior in our culture, are what others look for to determine one's abilities. There are scant few opportunities for people to learn by doing with an attentive teacher, borrowing from what can best be described as the instructor's library of movement to develop and hone skills. A high school teacher summarized it perfectly: "A high school diploma says, 'I have a brain,' and a college degree says, 'I know how to use it.'" The written word is dominant, and in a world where occupations and livelihoods are increasingly performed entirely within the virtual world of information and data, experience with the motions of existence is not only harder to obtain but increasingly perceived as irrelevant to civilized lives.

Compare the written word with mathematical entities. Each is, essentially, an arbitrarily assigned symbol and sound for something in the wider world. It doesn't matter if I trade what is called *3* with what is called *1*, as long as the concepts of each are the same underneath the symbol and sound. If by saying *three*, I mean what people currently mean when they say *one*, there's no logical disagreement. I've only changed the name and symbol. Numbers and words are descriptions of reality, reductions of existence. *Blue* doesn't exist anywhere, and neither does *three*. There are things that appear blue to us, but there's nowhere I can go look at *blue*. Notice that it doesn't prevent me from using *blue* in a sentence and being understood, but this grammatical *blue* doesn't have any basis in physical reality. It's a reductive tool to help illustrate a point, which is precisely what mathematics is good at. Education based on books, language, and testing prepares people inadequately for the world in the same way that mathematics is inadequate to prepare a person to accurately throw a baseball, even if they know all the equations involved in calculating the trajectory of one. There will always be a difference between street-smart and book-smart.

Children are failing secondary schools and dropping out in large numbers, and it isn't because they're getting dumber. As education becomes standardized and operates at greater levels of remove from the rest of existence, students are becoming decreasingly facile with their bodies. Tests are designed to determine eligibility for funding rather than pupil proficiency. Boredom is an issue. All people appear to be gaining incredible amounts of education and intelligence and losing equally incredible amounts of ability to handle and manipulate themselves within the physical world, which is, like it or not, where people exist. The skills required to work in many of our service-industry jobs could be learned by just about anybody in a day's worth of instruction, so a diploma isn't required because of the abilities it confers. It's the certification that's required, not the skill. Highly skilled people don't necessarily come with a certificate, and those people who do happen to have one could be entirely inept.

The response to all supposed deficits in educational quality is predictable: people need more and better education (of the books-memorization-testing variety, of course), schools need more teachers, and no solution would be complete in civilized society without suggesting the need for better technology. It's

rarely suggested that the written word has divorced people from the experiences of existence and left them rich in theory and information, but poor when it comes to applying themselves to the workings of the world.

The written word is as reductive as math and science, and as such it has a place. A book can exercise the mind and imagination in ways that only books can. They are low-tech and easy to use. Literacy is an excellent survival tool for civilized people, enabling access to information and opportunities that are otherwise cryptically hidden. But the mass adoption of educational systems based on credentials and printed material is impoverishing generations of people. Learning has become a means toward a better grade rather than increased capability or skill. A certificate is not a skill. An accolade is not equivalent to ability. Any idiot can see this, and yet certificates and accolades are still the standards by which we judge the abilities of civilized people.

Fortunately, where people bother to learn practical skills, they are highly prized and many such skilled people are willing to take on an apprentice. This form of education will never die because it is innate and superior to the mass education we've established. Unless reading is the skill in question, people learn best by doing and not by reading. It's a good thing that the world is also well equipped to be a classroom for the skills that matter, and cheaply so. Learning to feed, clothe, house, and entertain oneself isn't an expensive venture. Recognizing the place of the written word in our own world is critical to growing a healthy understanding of the nature of human learning.

Life Through Lenses

What of entertainment? The drive to keep people enthused is amazing. It appears that people require an increasingly diverse array of things to keep their attentions, or at least to distract them. I'll wager that as the everyday lives of people have become less rewarding and more boring within a civilized framework, those people have subsequently required a little something extra to keep life interesting and fun. The wider world is actually a very interesting and diverse place full of things to occupy the busy minds of people. We should all stop to look at it some time, but the continual separation of people from their surroundings

necessitates the replacement of all that interest and diversity. In this way, our array of toys only serves to prove my point that the world is full of entertainment already, leading to a very difficult task of replacing it all when we separate ourselves from it. When you take away all the stimulation, something needs to be put back. It is also indicative of the differing nature of manufactured entertainment from that which we would encounter without its mediation. Additionally, entertainment as a means to escape from the unpleasant realities of our environment is frequently written as a prescription by the self-medicated to endure an increasingly irritating world.

Along with all else the False Division entails, entertainment has been separated from everyday living and then sold back to keep people from losing their minds living lives that really aren't fun. The rise of attention "disorders" in people should be coupled directly to this separation and is merely a recognition that the separation leads to dysfunctional behaviors in people. The minds of civilized people are becoming accustomed to this steady diet of industrial input, and they become nervous, jittery, and insecure when they don't have it. Taking a ride on the bus or train is really all the evidence needed to support this. People can't just watch the world go by their window: there must be audio devices providing a soundtrack, personal electronic communication toys enabling exchanges with their acquaintances, or books in front of them that are just far more interesting than anything that could possibly be happening outside the window. Trying to just sit quietly and enjoy the window's scenes is nearly impossible with so many people engaging in such activities.

The problems of boredom and entertainment are rarely viewed in terms of what can be changed in people's lives so that they no longer feel the need for all the stimulation/distraction. It is instead viewed as a problem in the supply of stimulating/distracting stuff or a problem in the individual that can be helped with the introduction of some fabricated medication. It is, in short, an addiction. The minds of civilized people are adapted to civilized lives, and with the removal of the infrastructure of civilization, there is no longer a massive stream of manufactured input for the individual to process.

Taking a city friend to the country or vice versa will show just how much difference there is in the stimulation requirements of each. The city person will get bored and uncomfortable very

quickly in a more rural setting, having become accustomed to all of the input provided by the industrial environment. The country person will be overloaded by all of the industrial input found in the city, and quickly become angry and miserable. These differences are adaptive, as people couldn't handle environments like cities without developing some amount of tolerance to all the input they receive and honing a selective attention ability that allows them to filter out what's irrelevant to them. Parents already know this. In time, people would probably all adapt, more or less, to the civilized world, but civilization operates with the idea that growth can be infinite within the confines of our Earth and there isn't enough time left to test the theory. As civilization collapses, people will simply need to adapt to less stimulation. I don't feel I need to back up the idea that people can be well suited to uncivilized life as modern uncivilized people do this quite well, few though they may be.

It's as if life is completely devoid of meaning in the civilized world unless viewed through a lens. The lens could be a transportation device that allows us to experience travel differently, or a book that allows us to take an interpreted journey without actually taking it, or an audio device that inserts some type of new sound experience into an already aural world. It might even be a literal camera lens that exists because of the idea that a camera will make the world an easier place to remember, more beautiful, and a part of a collection of events disconnected from their actual occurrence and taken out of context by a mechanical device.

Toys, stories, and all the things that entertain us also have the ability to transform our understanding of existence. It's much easier to learn about our character if the characters in a story are exaggerated versions of our own. Simulating life through play may open our minds to possibilities that conventional thinking may never have discovered. Art can expose interconnections in our world that are otherwise invisible. But our increasing dependence, our *addiction* to these things is pointless. It is a trait of our civilized era.

There's the idea that existence needs to be filtered and processed in order to be understood, certainly, but also in order to be enjoyed. Walking is viewed as a recreational activity or too slow to be practical. Illiterate people are looked down upon as uneducated or lower class. Folk music or musicians without

formal training are outsiders. If I go on vacation or do anything special without taking a picture of the event, people wonder if I'm having any fun or if I care. Of course, every single one of these lenses is not only unnecessary but demanded just the same in the civilized world owing to its incredible ability to manufacture products and demands. They are not actually lenses at all, but barriers to experience.

Barriers

It is on this idea of barriers that I'd like to focus a short, rational exploration. I'm going to examine living things and their nourishment, but there's a case to be made for its application to most of the subjects discussed so far, from transportation to entertainment and beyond:

1. **Living things require nourishment to live.** I'm taking human beings for living things, but I'm not going to restrict that definition. Animistic people who believe that rocks have life might be able to describe the things that nourish a rock, but nourishment is one thing standing between life and death for a living thing, whatever it means to be alive. I'll be talking predominantly about humans, but these propositions logically follow for any living thing. *Nourishment* is anything necessary for the life and growth of a living thing. For people, this includes air without which humans die in minutes, water without which humans die in days, and food without which we die in a slightly longer period of time. This does not imply that nourishment is the only thing that keeps humans alive even though nourishment is a requirement for continued life and growth, nor does it follow from this that a living thing will automatically live if nourishment is present. We all die eventually for some reason or another, and it doesn't need to be for lack of nourishment. Notice also that this says nothing of the quality of life afforded by a strictly "nourished" survival, and it doesn't need to. I'll get there.

2. **Therefore, any barrier between a living thing and its nourishment is a threat to its survival.** For this rationalization, I'm going to refer to any obstruction or impediment standing between a living thing and its nourishment as a *barrier*. Barriers can be actual or perceived, physical or emotional. If there is something keeping nourishment from a living thing, that impediment will eventually cause the death of the living thing if it cannot be overcome. A living thing can erect a barrier in front of itself. My getting on a bus with no food and a growling stomach is a threat to my survival, but I need to stay on that bus for a long time in order for this to be a problem, and I'll find a way off of that bus, believe me. Some barriers are easier to overcome, and some of them must consistently be surmounted on a regular basis. If I don't have the strength to move myself to where I can eat, that's a threat to my survival. If someone says, "Sir, I need to charge you fifty cents for that apple," that someone has placed an obstacle between me and my survival, just as surely as if there had been a wall erected around the apple orchard. A fifty-cent barrier can be overcome with a little currency or a little thievery, but it's still a barrier. The prices placed on nourishment are all barriers. Similarly, all of the prices placed on things are obstacles.

3. **The easier it is to overcome the barriers, the easier it is to survive.** This overcoming can be outright removal, circumvention, or some type of breach, but notice that there's an energy trade going on here. If I need 300 calories to break through the barriers, I need to be getting at least 300 calories from somewhere in order for my actions to be sustainable. A 301-calorie barrier with a 300-calorie input leaves me with an energy deficit. I used calories, but the situation is much more complicated than that, involving all sorts of factors like motivation, courage, cunning, and all sorts of media apart from calories. The bottom line is that if I'm not getting out at least as much as I'm putting in, I won't be able to sustain my activities forever.

   I'll define that medium of getting-out and putting-in as *energy*: a living thing's fuel to act and live,

consumed by acting and living, and replenished by nourishment. It follows logically, then, that the less energy I need to put forth to get my nourishment, the greater the energy surplus, and not only will my efforts be sustainable but they will tend to be accumulative. For example, if I need to put up the fifty cents for that apple, I'll need to acquire money somehow, which in the United States entails employment for remuneration as a legal option. That involves a significant portion of my time, and suddenly that fifty-cent barrier is already starting to look a little larger than I anticipated, and the energy required to eliminate it is starting to add up. I could steal the apple, but I need to have the wits and energy to not get caught because getting caught entails all sorts of interesting complications that, for most people I know, makes the employment option look pretty good by comparison. On the other hand, if I can—brace yourself for this—just walk up to an apple tree and get some food, there's really nothing easier aside from having the apple fed to me, or having it liquefied and injected into my stomach, or some other absurdity. It turns out that walking to the tree, possibly climbing it to get the apple I want, and in general the whole apple-getting activity is probably very beneficial to humans. The people who would dispute me on this probably also go to the gym or believe that exercise is important to regularly schedule into their lives. I don't really listen to them. It also turns out that the whole remuneration-getting activity of employment, selling your services and time for money, is probably very detrimental to humans. It's a form of free-range slavery required by a monetary society that comes with all the attendant dysfunctions you would expect in a society of slaves. If you don't feel like a slave, don't pay your taxes or report for work and see what happens.

4. **The easier it is to survive, the better will be the quality of life, up to a certain point.** Quality of life is a property that makes life sustainable for any particular living thing. Higher or better quality is perceived to be a good thing, and lower or worse is not. The easier it is for me to survive, the better my chances for being able to do it for a

long time without depleting myself and the more likely I am to view my life as a good thing. If I don't need to expend much energy to get my nourishment and I'm getting more energy in return from that nourishment for my efforts, then those accumulative tendencies mentioned in #3 will leave me with a surplus of energy to use for whatever I want. I can go play with my friends, lie in a hammock and work on storing that energy in some fat, or I can develop a craft that will help make my survival even easier or more comfortable. If I'm struggling just to get enough nourishment, there's nothing left over for me to do anything but concern myself with obtaining that which keeps me alive, and until the balance shifts in my favor, leaving me with a little more energy, I'm not going to be accomplishing much other than survival.

There is also an upper limit to quality of life, as evidenced by people who become spoiled or obese as their barriers become easier to overcome or even in overnourished plants that become very leafy without producing much fruit or seed and so are less likely to reproduce. Quality of life, as much as I hate to admit this, appears to follow the infamous bell curve, with ease of survival on the X-axis and quality of life on the Y-axis: quality of life will drastically improve as ease of survival is increased, but only up to a certain point, after which increased ease of survival begins to have a negative impact on quality of life. This is in no way a statistical evaluation of data, merely my own observations coupled with what other people suggest is the case. Data can't accurately represent such a phenomenon. However, consider what happens to any living thing if nourishment is easy to come by: they tend to become weak, distorted, and maladapted to everyday life, almost in precisely the same way undernourished living things become weak, distorted, and maladapted.

"Easy" is relative, my dear friends. Here in the United States, currency will overcome many barriers, and having more of it will make that overcoming much easier and improve the quality of life. There are many reasons for this, from the fact that money actually means something in the States to the fact that there are monetary

obstacles erected around pretty much everything here. In an uncivilized society with no currency, the only barriers to survival might be the growing and harvesting of one's own food or trading with the neighbors. Buried somewhere in here, near the apex of that bell curve, is the line between absolute improvement and unnecessary accoutrement. Crossing the line means you are less adapted to life now than before you stepped over it.

5. **If a living thing constructs an impenetrable barrier in front of itself, this is called suicide.** Barriers can be very dangerous. If I just don't have the energy to get out of bed in the morning because the energy required for me to keep going has taken away my quality of life, death starts to look pretty attractive. I don't really need to explicate all the barriers that can be constructed in this way; use your imagination. It is only vital to understand that the construction process need not be conscious. I don't need to understand why or how I'm building a barrier in front of myself, or even that it's happening at all, but if I build it such that even I can't overcome it, I've committed suicide just as certainly as if I'd shot myself in the face. If I dump lethal poison into the ground and then die from ingesting the water that it seeped into because I didn't realize the danger, I've committed suicide.

6. **If one living thing constructs an impenetrable barrier in front of another, the first has killed the second.** Again, use your creativity and notice that this barrier can be built unwittingly, just as in the case of suicide. I can ignorantly kill myself, and I can ignorantly kill other living things. In both #5 and here in #6, there is no culpability; there is just the undeniable fact that the barrier was constructed, causing the death of a living thing. There is no moral value placed on this. If I'm *trying* to kill something, then my success would be viewed as a good thing, and if I wasn't, then it's bad. Bullets can be very sturdy barriers.

7. **The greater the number of barriers, the more likely suicide and killing become.** Given a society with no barriers, there will be no suicide-by- nor killing-by-barrier. Given a society with one thousand barriers, it is likely that some of them have been constructed deliberately to commit suicide or to kill another living thing. Furthermore, it is also far more likely that some of the barriers constructed will result in accidental deaths. The likelihood becomes even greater if there are one million barriers. All other things being equal, then, if a human wishes for less killing and suicide, the impediments should be sought out and removed. The world is such that the removal of all barriers is impossible, but a world with as few barriers as possible is the most suitable world for living things.

8. **Barriers cannot be overcome by other barriers.** If I become an orchardist to supply my town with apples, I have placed myself between the apples and the town, and I have become a barrier. I'm a nice guy, so it's an easily-removed barrier, but it's nonetheless an impediment. People may find it easier and more convenient to deal with me than to walk through the orchard picking the apples that they want for themselves since I've done all that work for them and have laid the apples on tables in a store just off the road used to come to my orchard. Because they no longer gather from the trees themselves, they all have gym memberships now. I even let them sample the apples from other orchards to compare the tastes, and I can refer them to those orchards if they find something that they like in those samples. I do, however, require remuneration for my efforts, and that comes with all its attendant employment-for-compensation requirements, as I've discussed.

   No matter how hard I try, I can never remove the barriers that existed before I set up the orchard: apples still must be grown and harvested and people still need to get themselves to the apples, wherever I'm selling them. Bad growing conditions, from fungi to weather, still threaten the crop. I could perhaps build a hothouse to protect the apples from undesirable conditions, but then I am constructing more barriers: I would be dependent on the

> building industry to supply me with what I need to build the thing, the labor required to maintain the structure, and if that weren't enough, now the apples are inside a physical enclosure that I keep locked to prevent theft of my wonderful apples. There is some level of basic impediment that can never be removed because that's just the way life works on Earth. From this, it also logically follows that the removal of a barrier can never increase the total number of barriers for any living thing since the process of constructing a barrier is always additive, never subtractive.

Using this exploration, it becomes apparent that the agricultural industry constructs barriers, as opposed to the widely-held belief that it is in the business of providing nourishment. It's not only the agricultural industry, but it certainly qualifies. I'm not an orchard industry in the above example, but my small business is just as surely a barrier between the people of my town and the nourishment provided by the apples. If you don't pay me, you don't get apples from my orchard. The only thing standing between many people and their nourishment is an industry of production, distribution, and sale. Similarly, there are many people who only have an industry standing between them and responsibility for their own transportation or entertainment. Many people are perfectly fine with this arrangement. They should consider what will happen when those industries fail. They should also consider what those industries require from them in order to provide their industrial services.

These barriers can all be circumvented, but notice that these industries cannot be in the business of removing barriers if they're erecting them. If there were no apple industry, I would just go get my Macintoshes and Galas from a tree. As I've examined, there are other barriers to my eating apples, such as my proximity to trees that grow them, the productive capacity of the trees, the season, and so on, but the apple industry hasn't removed any of those barriers; it just involves itself with overcoming them and is itself a barrier that has been erected between me and the barriers to my eating apples. Said another way, I breach the barriers for apples by proxy, using the services of industries which receive compensation from me for those services.

Substitute "nourishment" every time I've typed "eating apples" if apples aren't considered nourishment.

Instead of me dealing personally with the barriers inherent in the act of eating apples, the apple industry is dealing with those and I'm confronting the barriers that the industry puts in my way when they do so. If there's a nasty hailstorm that wipes out the crop, I still have to deal with that because the industry hasn't removed that barrier, just added to it. When the industry has trucked in apples from East Nowhere after the storm, I still have apples, but this has impacts of its own.

On the subject of other industries beside those that produce food, a little adjustment to the above rational explication is all that's needed, but they fit right in. For instance, the sole purpose of automobiles is to move us around. Sure, they can be hobby cars or driven for pleasure, even created for artistic merit, but an automobile exists to move people. It hasn't changed the fact *that we need to be moved*, it has merely inserted itself into that process of moving as a tool for motion. By doing so, it has necessitated roadways and played an instrumental role in the sprawling of cities, both of which, conveniently enough, make auto ownership more appealing. (Another recurring theme in this book is that oftentimes actions aimed at making life easier only serve to enslave us to endless action.) A *barrier* in this case would be anything that stands between a human and its locomotion. Motion is a part of human life, and anything standing between us and the movement of our bodies is a threat to our health and happiness. People who sit down all day at work learn just how true this is. Immobilize yourself for a week if you don't feel that this is accurate. The car hasn't made this body motion any easier for us. We *sit* in a car to drive it. It has inserted itself between people and their ability to move themselves and in this case is a barrier between humans and locomotion. Our cars move very quickly, but we are immobilized while we're inside one.

On the subject of entertainment, do the toys we use to entertain ourselves actually make life more enjoyable, or do they merely add another requirement to the list of things we need before we start having fun? Anyone whose child has opened a toy, threw it aside, and had more fun playing with the box has living proof of the answer to this question.

This can be proven by reference to uncivilized societies that get plenty of nourishment without apple vendors, physical

activity without cars and gymnasiums, and entertainment without books or radios in their lives, and are healthier for it. Civilized people like to believe that industries help them to improve the qualities of their lives, but it's clear that at best industry is a barrier equivalent to those faced by nonindustrial societies, and at worst it kills via the barriers predicated by its existence. If people are starving because they can't afford to pay for the food, the food industry has killed them by erecting a barrier that they can't get through. If they then try to steal the food but are apprehended by the police and put in prison where they are fed, notice that theft takes on a whole new dimension for these people. Never mind that the food industry uses vehicles that make air more dangerous to breathe, chemicals that make water more hazardous to drink, and produces food of low nutritional quality, all of which are barriers for living things. It is enough to understand that the only accomplishment of the food industry in particular and industry in general is the construction of obstacles in all its activities, whether that be by fouling the sources of nourishment with substances harmful to life or by directly and accidentally killing living things via barrier construction.

These barriers are fairly easy to overcome. Planting a garden puts people in direct contact with their own nourishment, as does catching and storing rainwater for consumption, and composting wastes to be fed back to the garden so that the food grown there will be more nourishing. These are three great strategies for circumventing the food-industry barrier. In the case of transportation, I can get rid of my car and move my body whenever possible to ensure I'm healthy. For entertainment, I can make it a point to turn off the toys and just try to enjoy myself with what I have at hand via my imagination. I could do nothing at all. All of these actions represent a reversal of the tendency toward dependency.

The choice to undertake them is a question of values. Do I value my car or my health? Do I value my toys or my imagination and creativity? Do I value junk food or nourishing and delicious food? These are cultural choices that I'm not sure everyone is aware that they are making, but they are. Some people genuinely prefer sitting in a cubicle to physical work and driving a car to walking. Fine, but they must accept responsibility for their physical condition when they do this. Gadgetry is often preferred to imaginative play, but a lack of creativity will be the result.

Choosing an industrial food supply system means that I prefer a factory product to one grown outside of a production system, and I must accept personal responsibility for what happens as a result of that choice when the factories shut down and I'm starving.

***

Why, then, does industry exist? Its existence is taken for granted in a civilized society, and people believe that they are buying nourishment when they give money to the shopkeeper, but this is a mistake. It is not the nourishment that is purchased; it is the services of industry that are purchased when I fork over fifty cents for an apple, and that industry is the entire reason I need to pay. Industries run on currency, and they need a steady supply in order to function. We continue to pay them because industry depends on science and we believe that science is the gatekeeper to all knowledge. We believe, collectively, that civilization represents advancement from uncivilization, and we adapt to the manufactured world because we believe it is a superior form of living backed by the discoveries of science as interpreted by industry. Strip away the False Division, and this all falls flat.

Bigger and Better, More and More

Civilized society is part of a supply-side-focused civilization of manufacture dedicated to the service of invented needs. Removing any one of the three main points in this definition would result in a different society. If the focus of the society turned to demand, problems of scarcity would be met with a decrease or elimination of demands, resulting in the collapse of the manufacturing activities set up to meet them. If needs are actual instead of invented, the society turns to subsistence and manufacturing becomes unnecessary, as we see demonstrated in those few still-existing nonindustrial societies. Manufacturing falls apart in either case, but simply removing the manufacture of goods would also result in a society that perhaps thought all problems were supply-sided and that they needed all manner of goods and services but could not manufacture them. The result in this last case would be an extremely dissatisfied and frustrated culture, which is actually what we see in places where the propaganda and informatics of civilization have come ashore without the infrastructure. These are places where people understand what

they're "missing out" on. This is the most virulent plague experienced by the "developing" world. Civilized societies thrive on this sort of dissatisfaction because it increases demand for the manufactured goods necessary to establish businesses of supply. There is, therefore, yet another trait of civilized societies that appears to have arisen from their intermarriage with economics and is necessary for their continued existence.

Blame inflation, borrowing at interest, profit, greed…it doesn't matter, but the end result is that civilization requires ever-increasing amounts of everything to keep going. Within the reality we've created for ourselves, this drive for ever-more of everything makes sense. Not only does it make sense, but it actually *works*: population, production, and GDP are increasing, and everything within the civilized world is constantly growing year upon year, all according to plan. This is the realm of the economist, where increasing and stimulating an economy take precedence over all else. Without this increase, the invented needs are soon met by the prodigious manufacturing capabilities and people become satisfied. Without this increase, profits can no longer be made on borrowed money. Without this increase, nobody gets an annual raise. If people are satisfied with what they have, they won't work to acquire more, manufacturing shuts down, and that's the end of civilization as I've defined it. There is a constant demand for more stuff everywhere, and needs are invented to keep the machinery producing the endless stream of materials. Computer technology is an ideal example of this, where my fast and user-friendly computer is not only smeared by the advertising for the next new computer but is actually designed to fail so that the perceived need for the new one is more immediate even if I manage to block out the advertisements. Those things not expressly designed to fail are at least not designed with the extra care necessary to ensure longevity because it is assumed that by the time they fail, they will already be obsolete and require replacement. The goal that is placed before us must always be a carrot on a stick, and conveniently enough the goal that we need to technologically advance toward a full understanding of the universe will always be out of our reach. Thus a civilized society is part of a supply-side-focused civilization of manufacture dedicated to the service of an ever-increasing number of invented needs. Without any one of those four main points, the civilization cannot stand.

***

The supply-side focus arises directly from the scientific mind's insistence upon division and separation and the tendency of civilized people to view science as scripture. The problem is always *out there* in the uncivilized world, and something always needs to be done to correct the situation before things begin to get uncomfortable in our civilization. The supply-sided mind and the idea of infinite growth are both ignorant of the finite nature of existence. Nothing ever runs out or becomes scarce for civilization because of the belief in the advancement toward the elusive goal, be it in the form of electric cars as the solution to the oil problem or carbon sequestration as the solution to our rapidly shifting climate. Every action performed in service to the goal is labeled as progress because the reductive nature of science and the beliefs predicated by the False Division are obstacles between people and the results of their actions. They are not barriers between living things and nourishment, as in the case of the rationalization above, but between living things and living.

I can order something using the Internet and have it delivered to my doorstep, which is a really neat magic trick. I don't need to know anything other than that I want the thing and that I can afford it. It's the ultimate separation. If we tear apart the False Division, we can no longer distinguish between *out there* and *in here*, and what was perceived to be a problem existing *out there* actually winds up being a problem that's *here*. My decisions suddenly have a visible and logical consequence, and in a civilized world the consequence is typically in the form of increased support for a factory of one type or another. I bought my widget online, but now I realize that all of the industrial infrastructure required to get me that widget have been purchased with my money. If any of the industries connected to the purchase construct barriers, my patronage has intentionally or accidentally helped build them.

In addition, since all industrial activity is actually a trade, resource for product for money, all the resources necessary for the functioning of civilization come from somewhere that is changed by the extraction of those resources. Tear down the conceptual division between the civilized and the uncivilized, reunite them, and the place where everything comes from is *here.* This knowledge is nearly innate in uncivilized societies, which is why they've never adopted science-worship, industrial culture, or acknowledge any division between themselves and the rest of

existence. It is their belief that they are tenants working on borrowed time with hand-me-down tools and a blood pact between their people and the landlord. This ends up being correct for everybody whether we acknowledge it or not.

Invented needs and manufacture are also closely linked, standing and falling together. I can do no better than to point out that there are nonindustrial cultures existing today, and that they have happily existed in the past, to prove that all industrial activity has been in service of an invented need. If human beings actually needed industrialization, then we wouldn't be able to thrive without it. Though the histories written by civilized societies are obliged to make their own activities appear necessary, there are enough nonindustrial, uncivilized people left to prove that supposition questionable if not false, and my rational examination of nourishment should be sufficient to cast further doubt on the perceived need for industry. Every piece of industry is in the service of the elusive goal, not necessity, arising from the perceived solution to an equally-perceived problem as identified by the False Division. Manufacture, the slave of invented needs, exists to serve the desire for solutions to the problems as they are identified by science. Science is then in the business of blueprinting tools for the continuation of its own enterprise within an industrial framework, and the progress identified by civilization is an illusion created by the civilized people themselves.

***

Modern medicine is frequently held up as a marker-light of our scientific ingenuity and progress toward better living. Medicine in civilization is thoroughly embedded in the machinery of manufacture and science, to the point where all methods of human health care that don't require scientific knowledge or appear to defy it are ridiculed as pseudoscientific. It should be noted that modern medicine is almost completely dedicated to curing ills that are either directly related to the activities of science and industry or can at least be suspected of that relationship. Cancers and heart disease are on the rise, and there is a mounting suspicion, even among the scientific community, that the very actions of industry (based on science) are causing them, as explicated briefly in the first chapter.

Many people, myself included, distrust modern medicine for all but the most hack-and-slash procedures, like resetting a broken limb or suturing a wound. When it comes to the prevention

and treatment of more serious conditions affecting quality of life, modern medicine can't make the link between what people do outside the clinic and their conditions while seeking advice within it. It frequently preoccupies itself with prolonging life at all costs. Recall the limitations of science: to ask *How* and not *Why*; to reduce experience and embrace understanding in the lab at the expense of an understanding of the whole outside of it. The medical community is far more ready to administer insulin than it is to combat and shut down sugar processing facilities that supply the stuff of diabetes. The medical community's separation between what happens outside of the clinic and what takes place inside it shouldn't be surprising given the implications of the False Division.

Civilization is bent on improving itself at the cost of all else, with ever-increasing amounts of everything propelling us toward the goal. Existence doesn't work that way, because everything has limits. If the limits are exceeded, things change and living things die. It's not so much that my bias is toward nonindustrial, uncivilized society as that the actions and beliefs of civilization are so vacuous. Any culture that believes in a never-ending supply of anything, including and especially human ingenuity, is at odds with reality and immaturely insecure with itself. Civilized people are incredibly uncomfortable in the unmediated world and quick to become discouraged if there are no markers of progress or mention of some project or future goal.

Civilization really does lose all logical reason for being this easily because it is predominantly the beliefs of its people that keep it going. It's just like religion: if I no longer need a god (or spiritual network of souls, or whatever), then I don't need to build a whole system of beliefs in service of one deity (or many, or whatever), and—poof—religion disappears. If anything required by civilization is examined in light of the fact that action is always a trade and there is no reason to separate what is civilized from what is not, every action becomes a choice between the goal of the action and the thing-that-would-be-traded. The goal, being a fictional creation, isn't even a choice but more like an option in a choose-your-own-adventure novel or another level in a video game. If I isolate my actions from their consequences, I become wholly ignorant of the effects of my actions and abdicate my responsibility for them in any case. In this way, any action is justified if it feeds my desire and I don't even need to think about

the results beyond my immediate experience. I've just stuck my head in the sand.

This is where we find ourselves today. We are choosing to know everything at the expense of edible food, breathable air, and drinkable water. We are choosing to know everything at the expense of our health, our creativity, and our self-sufficiency. Even if we're not aware that we're making this choice, it is being made. Barriers can be constructed unconsciously. If this is desired, so be it. If not, it's time to make a different choice.

***

Every action of a civilized society follows this pattern: make the trade, isolate the true effects of the trade, keep trading, keep separating, keep dividing, and keep mistaking barriers for breaching devices. This will work for a while, as we see, but it is also doomed to fail, which we are beginning to see. I don't want to give the impression that this is all intentional, as if some mega-corporation is deliberately keeping us from seeing the effects of our trading. Something like this is simply too complex to have been designed. Although many megacorporations and individuals *are* actually working to hide our trades (oil companies labeling themselves as conscientious and progressive entities working to clean up the world; auto manufacturers "saving" the Earth by manufacturing more cars; weapons developers claiming they're making the world a safer place for all people, except those on the other end of their weapons, of course; do I really need to go on?), mostly it's just an ingrained part of the way we as civilized people have been brought up to look at the world. If the False Division is broken down, there's nothing that anybody can do to keep me from seeing firsthand what I'm trading for my electricity and all the other products of industry. I'm a civilized person (all appearances to the contrary), but since I don't believe in the False Division (it is *false*, after all), I understand that anything I do to build barriers is total rubbish. If people *believe* that industry is actually making their lives better, they will continue to support it and will do so until they believe otherwise, hence this book.

It's important that more of us begin the process of examining our civilization and seeing it for what it is. Far from being the pinnacle of human achievement as advertised, it is a monument to naïveté. The fuse will burn, the firecracker will blow up, and the smoke will eventually clear. Someone may lose a finger. People who pursue scientific careers with the hope that

they are advancing humanity toward some goal would do well to consider what it is they are supporting, even if this support is only indirect. I'll go further: all people should consider their vocation and think about what participation in that line of work physically entails out in the wider world. You may be working on anticancer drugs, but if you're doing it using copious quantities of petrochemicals and electricity, it's a wash. The world has no use for motives, good or bad. Poisoned water kills the righteous and the misanthropic with equal speed.

Civilization rests on a foundation of foolishness and collapses with the application of logic or the actions of time. Make no mistake that it will collapse, and there will be a period of adjustment as civilized people adapt to living uncivilized lives. Ignoring this eventuality will, in my generation or sometime in the near future, mean the difference between being prepared for the adaptation or dying unprepared.

4: The Remedials

An ounce of prevention is worth approximately ten thousand people with picket signs, all screaming for change.

Activism and environmentalism are two examples of remedial responses to civilization, but they are not the only varieties, and there are shades of gray around them. Remedial people are spurred into action by the carelessness of industry, perceived injustices, and a need to protect. Environmentalism and all its many branches are completely unneeded in uncivilized societies, where there's really nothing to react to or remediate. An environmentalist-type mindset is already present within the minds of uncivilized people because nothing less than their own survival depends on the idea that humans and their surroundings are integral to one another. Every human's survival is equally dependent upon their surroundings, but in the civilized world, we've got that funny little conceptual buffer separating us from the results of our actions. Activism arises only where people are willing to act to effect change. These two remedial groups include the bulk of reactionary and preemptive activity with respect to civilized societies, and altering our views of civilization necessitates another look at these groups.

Environmentalism

Since it relies on science, it should be unsurprising that environmentalism is limited in the same ways. Most environmentalism is strictly scientific, using experimental data to arrive at conclusions about the world. Some branches are a bit more holistic in their approaches, but even then science is used to underpin their philosophies, or at least to take some of the quackiness out of them so that mainstream audiences will take them seriously. To understand what I mean, consider the scientific evidence presented in support of astrology. Although probably discredited beyond redemption, the idea that many phenomena cause aberrations in the magnetic field of Earth has long been held up as scientific validation for the principles of astrology. Variations in the field at the time of birth supposedly cause different traits in the baby. Not being a science, astrology really doesn't need magnetic data to function, but this data is often

pointed to in response to critical attempts to disprove it. This isn't a stab at holism, but it is a recognition of the lower status issued to nonscientific disciplines. If science is equated with The Truth, nonscience is accorded a somewhat less-prestigious status. The appeal to scientific evidence in support of environmental theory may make it more palatable to scientifically savvy people, but it also drains some credibility away from the theory, owing to the limitations of science I've been discussing. I'm not sure that there is a proper approach here since environmentalism is at least partially concerned with raising awareness. It wouldn't be my choice to exclusively use science toward that end, but then many environmentalists are also scientists.

The best approach for environmentalists is probably similar to what I've been suggesting regarding science in general. Use science where it is best suited to the task, but don't be afraid to branch out into other explanations using whatever methods are most appropriate. Spread the word about what science is good at and why. Explain where environmentalism excels and where it fails. My critique of civilization follows such a prescription by referring to the scientific idea that this world is finite. I contrast this with the nonscientific view that civilization ignores this fact, rendering it absurd. There might be a totally scientific method to arrive here, but any thorough critique of civilization is too deep and wide to reliably admit an exclusively scientific approach. I need some scientific data to prove that science is inadequate, and I need some nonscientific points to drive the conclusions home.

As a science, environmentalism doesn't translate from the laboratory to the extra-laboratory world in any but the most rudimentary way. Every new discovery made by environmentalists carries conclusions that never seem to plan for their own obsolescence. For example, the evil atmospheric compound as of this writing is carbon dioxide. Carbon sequestration, carbon footprints, carbon credit trading, and carbon emissions are all in style right now. This will continue until we learn more and then it may become obvious that carbon dioxide does something a little different than we originally thought. Our current conclusion is that carbon dioxide needs to be controlled, but this conclusion doesn't really allow room for the fact that we might turn out to be wrong. The limitations of technology and viewpoint render the data interesting at best and misleading or false at worst.

If a scientist takes a deep ice core sample for some atmospheric research, it will be dated and perhaps an air bubble frozen inside will be analyzed for its content. The scientist will then release the findings as a statement of fact about what the air from that period of time must have been like after completing the analysis. I say that the scientist has done nothing but determined that there are bubbles of air inside the ice core that's been taken and that those bubbles contain what the data shows, in addition to many other things that weren't being searched for.

I may have jumped the gun and attributed something to a scientist that proper protocol would preclude: it's likely that the scientist would only report what was found inside the core sample and the period of time it appears to be from. Perhaps properly conducted science does this frequently. The conclusions that I've added about the data might be drawn by the media or someone other than the scientist making the report, and I suspect that this also happens frequently. These conclusions use data that can only ever give a rough idea of an isolated and separated portion of existence and never a solid explanation of the whole. Is it possible that over time the composition of the air frozen in the ice could change? Does being frozen in ice dating back three million years necessarily mean that the air is from that same time period, or is there another mechanism at work? This recognition, that the information is malleable and easily misunderstood, is crucial to a proper understanding of scientific data and one that I rarely see expressed in the media reporting science stories or in the words of environmentalists who parrot the data points as proof of the state of the world.

These same problems beset many of environmentalism's strategies for remediation, which are typically technological fixes or ideas for them that require further scientific activity to apply, to mitigate the results of damaging activity rather than cut it off before it occurs. To their credit, some environmentalists are adjusting their focus to look at the demands people make and are encouraging them to change those demands in an effort to reduce the cleanup work. This book is, partially, an effort in that direction, so naturally I agree that it is worthwhile. However, this branch of environmentalism has been heavily co-opted by industries, who assert that simply altering consumption patterns or changing a habit or two can be a solution to what worries us. Enter the concept of "voting with your dollars." We are implored to put

our copious purchases into reusable bags, but we are by no means encouraged to examine why we're buying so much from so far away that a bag is needed to carry it all. We are told that taking the bus will reduce something called a carbon footprint, but we're never supposed to ask the question, "Why do I need to be transported everywhere in the first place?" The environmental groups that are aware of the behavioral changes needed to solve many of the problems faced by civilized people are typically branded as radicals for these beliefs, underpinning the bias in society toward maintaining business-as-usual at the expense of substantive changes. Telling people to buy different lightbulbs is one thing, but telling them that they should live with less artificial illumination is another. One requires a different purchase, but the other requires a shift in mindset and lifestyle. It turns out that if you make a habit of telling people that they're entitled to something, they're reluctant to give it up. It is because of this that environmentalism needs science for leverage, even if only to explicate the most rudimentary of relationships between people and their world. If I haven't already made it apparent, I agree that these scientific underpinnings can complement the broad holistic views, and a more multifaceted approach to wide-ranging issues is the best way to examine them.

***

The national park system of the United States, and I'm sure it happens in other countries, is viewed as a success for environmentalism's effort to preserve and conserve their idea of undisturbed and pristine natural areas for future generations to enjoy. This implies that the only way to keep our world from turning into something we hate is to seal parts of it off and maintain them as amusement parks for visiting people who can then go back to being fully civilized when they leave. It implies that our concepts of pristine and natural are representative of …well, what exactly *are* they representative of? I like to believe that we look to those beautifully gigantic oil paintings of western US landscapes for inspiration, but it's probably just indicative of another yarn we've spun representing a world without destruction, people, industry, or what have you. People take stabs at understanding, resulting in various theories of management for park lands, but the only thing being preserved in the parks is a belief in an idyllic state created in the minds of some well-meaning but misguided people who believe that existence can ever

match their visions. The establishment of the park system also physically and legally separates people from the park, perpetuating the False Division. There's a sense that people believe that the world is beautiful *just so* and it is spoiled and ugly when it doesn't meet our criteria. It's as if environmentalists are trying to build a model of the perfect Earth and they're not going to let their friends touch it for fear that it will get broken. Really, it's just a juvenile idealism coupled with a zealous pursuit of a utopian world.

Many of environmentalism's arguments also hinge on the belief that human activities are not just detrimental to the world but are also wrong. This ethical side of the belief system is as disturbing as its scientific side, implying that there is some absolute state of existence that is Right. Folks, morality and ethics are relative. I don't want to venture too far, but let's take a simple exercise to prove the point. Decide if my actions in the following two scenarios are wrong or right: (a) I killed my mother after she made me angry, or (b) I killed my mother to keep her from killing one thousand other people. What about this one: (c) I killed my mother to keep her from killing two other people. And these: (e) I did nothing to save polar bears and now they are extinct, or (f) I killed a polar bear for food to feed my family.

Is it wrong or right to kill? The answer isn't clear for killing, and yet this is the most popular example of morality and ethics I can think of. If it were clear, I couldn't argue reasonably for both sides of the above, but that is eminently possible. I would be justified in killing my mother if I knew she was about to kill one thousand other people, but in the case of my mother killing two other people, the answer isn't so clear. Those two people may mean less to me than my mother, murderer though she may be. She may mean more to me than one thousand others. If I did nothing to save polar bears but accidentally constructed impenetrable barriers in front of them, I've killed those bears, but is it right or wrong? If killing bears for food is wrong, as some activists and vegans maintain, then why is it allowed for me to kill plants to eat them? What about microscopic animal life that I can't even see? Using the "If it has a central nervous system then it is automatically worthy of respect and forget everything else" argument doesn't fly with me. All you've done is drawn a line in the sand. If the water is muddy here, it's just mud for every other moral question. Lexicographers and clergy have my deepest sympathy.

For an environmentalist to stand up and tell me that the rate of species extinction is off the chart and that I need to take action, my response is "Who made the chart?" We may be losing all manner of what we consider to be valuable things, but what are we gaining? The answer is that nobody knows and they never will because none of us can predict the future. There's always the possibility that my actions will make the situation worse. Let's return to Venus for clarity. Perhaps in a few million years' time, Venus will be a home to an unimaginable diversity of life, but what is it now except a rocky and molten spherical body? Choose which of the two following situations is right and which is wrong: (a) Venus is a rocky and molten wasteland, or (b) Earth is a rocky and molten wasteland. If there's a difference, it's due to our own opinions and values, not some absolute measure of planetary propriety.

It's impossible to identify right and wrong without introducing my own values. There's no harm in this, but I can't argue for right or wrong when what I'm actually conveying is preference. If everyone believed that right and wrong were synonyms for preferential terms, there wouldn't be any harm, but proclaiming that something *absolutely* ought to be one way or another is to suggest access to some ethereal repository of complete knowledge. If people believe that they have this access, that's fine but we don't have anything to say to each other on this matter. If something is considered a waste merely because it's of no use to me, then I have a very warped definition of waste.

The one argument that makes sense is the one that most environmentalists aren't making: *the rest of the world deserves our attention because our lives depend on it*. I don't need to consult scientific data or ethics to make the link between the material that's spewing out of a factory spillpipe and its effects upon the things that keep me alive and healthy. Remember that poisoned water will kill the moral and amoral among us equally quickly.

On the subject of toxicity in household products, I questioned a builder who specializes in natural and nontoxic materials for house construction, and he answered bluntly, "If I wouldn't drink it, I don't use it." The question was about paints and finishes, but it has many applications. I don't need a government regulating body to step in and make sure that industries are being responsible in their practices if I can see what

they're doing and judge for myself. If I can't drink from that spillpipe, I don't want it spilling into the world that produces what I eat, drink, and breathe. If I can't see the spillpipe, the factory is suspect. Environmentalists should be canvassing the country in an effort to get people to gather their own data with their own senses and police themselves, thus ending the need for environmentalism. In other words, the interests of environmentalists should be in ending their own involvement. All environmentalism really does is serve to remind people that someone ought to be responsible for the condition of our habitat, and it's best to leave that responsibility to specialists who operate out-of-sight and, frequently, out-of-mind.

Environmentalism perpetuates the belief that civilization is separate from everything else and that this great big everything else is in need of help and protection. It separates stewardship from would-be stewards. Environmentalists will cry foul at the atrocities committed against their picture of idyllic nature by power companies but then never take the extra step of imploring people to live without, or with less, electricity. That step can't be taken because there's a wonderfully robust barrier between the natural world and the human world for the environmentalists. They're watching the same game as the industries, but they're rooting for the other team. While civilized societies use the False Division to justify their actions as right, the environmentalists decry the actions of everyone else as wrong. Most civilized people believe in the primacy of civilization (logically enough), but environmentalists believe in the primacy of the uncivilized world. In essence, they are civilized people who hate themselves.

Wittgenstein's Ladder

Mainstream environmentalism even takes an industrial form, which is particularly perplexing. Take the proliferation of photovoltaic electricity technologies and wind power, via Wittgenstein, as an example of this. Ludwig Wittgenstein used the image of a ladder in his *Tractatus Logico-Philosophicus* to illustrate the process of coming to an understanding. Roughly paraphrasing, he describes it as climbing a ladder to reach a place and then kicking the ladder away once you get there. The ladder can be any kind of logical framework used to understand

something, but then once that thing is understood, the framework becomes unnecessary or silly and is no longer useful.

You don't really even need a twentieth-century analytic philosopher from Austria to understand this concept. You really just need training wheels. For a while, you put the training wheels on your bike until you figure out how to handle yourself on two wheels without them. Then, probably for the rest of your life, you will never need training wheels because you already have a physiological understanding of bicycle balance. Use the framework while you need it and then remove it when the lesson's been learned.

In the case of wind and solar technologies, environmental industries trumpet the technologies as a triumph of clean alternative power over dirty mainstream sources of electricity. Both of these alternatives depend upon the infrastructure they seek to replace but apparently with the understanding that the infrastructure will soon be supplanted by the new technology. However, the training wheels can't ever come off. Wind and solar power are still supported by incredibly complex steel, aluminum, electronics, and petrochemical industries that have no "clean" alternatives. Environmentalism takes this form frequently, substituting newer technology that is definitely more conscious of its own effects on the world but only at the level of the end user. The people living near the wind farms and solar installations see green technology at work replacing the older, browner ways. The people living next to the steel mills and bauxite smelters, in towns that manufacture or dispose of electronic components, and those unfortunate enough to have some exposure to the petrochemical industry will see no changes except perhaps for an uptick in business: more printed-circuit boards for our wind turbine generators and photovoltaic electricity arrays, more copper for wires, more aluminum and steel to support these structures, and more plastic parts to hold it all together.

There is a certain amount of effort that it will *always* take in order to use electricity, and if this sounds vaguely like the discussion of nourishment, it's because it is precisely the same principle. Harnessing wind, fire, water, light, lightning, or the atom will come with an energy input that will always need to be provided in order to get the electrical energy back out. It's fan-bloody-tastic that I don't need to spew coal smoke out of a factory stack to make electricity anymore, but the aluminum and steel

holding up those wind towers and solar arrays were made in dirty, smelly, polluting mills. The problem isn't that electricity is dirty, but that it is required at all. Windmills and solar panels haven't cleaned up electricity production. All they've done is change where the dirt's coming from. And as you can recall from Mr. Jevons, efficiency improvements only serve to increase total consumption, negating the improving effects.

It's a scientific answer to a question that can't be properly addressed by science due to those pesky buried assumptions. Environmentalism of this kind remediates selectively, choosing targets as it sees fit, but it often misses the mark. In the case of wind and solar power, we might be able to phase out coal, but we're still reliant on the petroleum industry to synthesize all the materials needed to make parts. This is also the absurdity of electric vehicles. The car may not burn gasoline to operate, but there are a ton of plastics and petrochemical products that go into its manufacture, not to mention all the replacement parts, lubricants, and other necessary bits for regular maintenance. Did we all forget that tires are made of oil-based rubber? It is this short-sighted application of solutions that causes me to question the wisdom of adopting such "green" technologies. The response might come back that these solutions are better than nothing, but I'll argue that they're worse. People who otherwise might notice problems with dirty power and automobiles are lulled into complacency by actions that do nothing to remove the source of the problems. A false sense of security is worse than no security.

Activism

The pattern emerging should be familiar by now. It involves acting on a set of beliefs that are based on data obtained scientifically, at a remove from reality. When taken out of the laboratory and implemented in the uncontrollable world outside, the data takes on a new life. If anything, remedialism is predominantly concerned with maintaining peace of mind, saying, "By all means continue to live your lives as you do, but be comforted by the [insert new technology here] that now supplies you with [insert commodity] instead of [insert older-and-probably-once-considered-environmentally-safe and now discredited form of technology]." Remember when hydroelectric power was

considered green technology before we started learning that the surest way to kill most of the riverine animals was to build a dam? Remember when nuclear energy was considered green before we started learning that nuclear waste is nearly impossible to make safe? Not all remedials act so gullible and forgetful, and there are forward-thinking and wise people working to put an end to this charade. There are not nearly enough of them to change the fact that environmentalism ably serves industry by providing more devices to manufacture that contain all of the same old drawbacks but less of the guilt. (It's Civilization Lite…now with less heavy lifting for your conscience.)

An activist would tell me that guilt is cheap anyway and feelings of doubt about the legitimacy of anything are useless until they are backed up by actions. Activists at least tend to be less reactionary than other remedials, often guided by their own ideals and beliefs, but their actions are always a scattergun tactic that ignores, just as science does, that one thing can't be changed all by itself. There are always unintended consequences.

Activists should know this because much of their work is created by the unintended consequences of others' work. Further, all activist philosophies, strategies, and tactics have action as their linchpins. Still further, the activist will go out and take action anyway with the full knowledge that this will undoubtedly have unintended consequences, since activists are fallible people just like the rest of us. They're civilized people too, and so it's a curious trait that makes an appearance in the mind of activists. They believe that their way is the right way, ignore the opinions of anyone who doesn't see things their way, and force the change down the throats of people who have their own views of what is appropriate. Remedialism is used as a moral tool by the activists just as industrialism is used as a tool by civilization on its quest for progress.

There are activists working to bring civilization down as I type this. They've seen the evidence, thought long and hard, and many of them have extracted brilliant works from their considerations. Anarchist and radical literature are full of excellent observations and proposals. To them, the civilized societies of the world need to be stopped before the planet becomes uninhabitable, and most activists are very lucid about the fact that their actions aren't based on some holier-than-thou ethics, but simple logic: something is happening, I don't like it, and I'm going to stop it. As

frustrating as it is, this approach ignores the thinking that caused the problem in the first place.

Civilization will disappear, and soon. It requires infinite growth in our finite world. Thus, bringing down civilization only requires that we wait for it to happen. The activists will become enraged, claiming this to be an excuse for inaction and go do their thing to bring it down. Suppose for a moment that in their efforts to bring down industrial civilization activists actually make things *worse*. If we all want a livable place, what if their actions lead to global warfare? Is that more livable? What if nuclear weapons are deployed during the war? What if we can avoid all the nastiest bits of these scenarios by just waiting for the end?

Doesn't activism seem like precisely the sort of thinking that led us to war with Iraq the second time, where we entered a tattered country only to redeploy many years later, leaving a completely dysfunctional husk? Troops entered the country thinking they were going to do some good. I have no question that the motives of their commanders were the highest motives produced by humanity: to liberate people from a murderous dictator, establish the rights owed to all people, and restore peace and security to a war-torn state. The soldiers wanted to kill the bad guys. In doing this, the country was made worse and the sand soaked with innocent blood. None of the problems the troops set out to address were substantively solved at all, and more problems exist in Iraq as of the date of their departure than existed when they first put their boots in the sand. Is it really so difficult to imagine that you might not be doing anyone any favors when you set out with a just cause? The road to hell is paved with good intentions—that's a cliché for a reason.

It's not difficult to imagine a world where the actions of people actually do the reverse of what they intend because *we live in that world*. An activist doesn't know what he or she is doing any more than a scientist, even if activists are more fun to watch. It's on this subject that activists and I need to agree to disagree. I can't prove that their actions will make matters worse in the long run because I'm not clairvoyant, but neither can they prove that what they're doing is going to make things better until after they've done it.

Native and Invasive

The debate over native and invasive species is particularly indicative of this odd trait of civilized people to apply fixes to "problems" that only cause more confusion and chaos than existed before these "problems" were identified. Here in the United States, there are many species that get the invasive label. They have displayed the tendency to succeed in a variety of environments, adapting themselves superbly to the local conditions. These species have become much better survivors than the species already present in these environments, to the point that the indigenous species face exile or extinction.

First, I want to point out the hilarious irony that civilization itself is, by this definition, an invasive thing that has a tendency to succeed in a variety of environments, adapt itself to local conditions, and survive far more dependably in the short term than the uncivilized populations already present in these environments. There are many people of uncountable cultures who decry it for this very thing.

Second, a popular method of dealing with the invasion is to introduce yet another species that limits the ability of the first to thrive in the new environment. We call this a *biological control*, but it's just another example of how we like to take action, not knowing what will happen when this control is released and blissfully unaware of the potential problems created by the control itself. Lots of acting, not a lot of thinking: the hallmark of science, in this case acting in the name of remedialism. The biological control is selected for its ability to thrive in a particular environment after all, so there is absolutely no guarantee that the biological control won't just become the next name on the invasive species list. It's as if the Iroquois called the British to fight the Pilgrims.

Third, how could anything on Earth, or even in the universe, be an invader? If anything, *different* is appropriate, but dividing things into what is native and what is invasive, exotic, or what have you is an illustration of the xenophobia present in civilized societies: "Oh, my! This thing came from some other geographic place, and it's doing better than these other things that were already here! This invader must be stopped!" By this logic, every plant that sets seed, only to have those seeds deposited,

sprout, and grow in any area other than the precise spot where its parent plant was growing is an invader. What is the threshold for invasiveness and where is the boundary that must be crossed before a thing is considered invasive? We wind up contriving an answer that sounds remarkably like the arbitrary and ignorant central-nervous-system defense parroted by vegans. These species live on Earth like all the others on the planet and are simply doing what other species, even and especially humans, do when they arrive in a place they can survive: they thrive. Even ancient tribal Americans did what they could to help the odd, different people who landed on the shores where they lived instead of killing them and initiating a program of biological control. At least, that's what they did until the oddballs started killing tribespeople.

So what is going on here? Why the big stink about who was here first and what is invading where? When we talk about invasive species, it's nearly always referring to species that were introduced to a new place by human activity: kudzu in the southeast US, tamarisk in Colorado, European starlings all over the country, humans who have moved for whatever reason to someplace other than where they were born, and on and on. This is a bizarre manifestation of remedial thinking. What would the difference be if a seed blew across the oceans only to land somewhere it could thrive and out-survive the species already there or if the seed was a hitchhiker in the boot of a conquistador? People are agents of change, as sure as is the wind, the sea, or a flock of geese. It is completely illogical to consider humans as anything else, and yet that is precisely the consideration made by people everywhere, namely the civilized. Somehow the human-created, the *artificial* idea to do something, whether that be the decision to bring a favorite plant from home overseas or the decision to become wealthy at all costs and sail a boat around the world, is viewed as an altogether different category of thing than, say, an owl's decision to eat a vole when it is hungry.

I can hear the activists screaming, "How can you sit there and type such crap?! You're legitimizing the European extermination of Native, yes *Native*, Americans! Are we supposed to just sit and do nothing? I can't imagine having to face my descendants in our dirty, nigh-uninhabitable world when they ask me why I didn't do anything. We need to do something to stop this, and you're not helping." I love answering my own questions.

I am not legitimizing the European takeover of the Americas any more than I'm legitimizing similar events anywhere else, but this event needs to be seen in a context of holism, not ethnocentrism on the behalf of either Europeans or ancient tribal Americans. And why in the world can't we just start calling them Americans? If it's because the United States has co-opted the term for its citizens, then how about North, South, or Middle Americans as befits their locations? Or how about this: call them Iroquois, Sioux, Apache, and Cheyenne, also known as their actual names. Think about it: a name that confers a geographical or cultural identity rather than some prior ownership or national identity. We could just call US citizens *Statists*, but *Pilgrims* would be more accurate.

The Americas don't belong to a Cheyenne any more than they belong to a Spaniard because the concept of ownership is just silly. Something is not mine just because I say it is or interact with it in a certain way. It wasn't even so much European people that landed in the Americas as it was the mindset of civilization, and to blame people for what they believe is just missing the target. Europeans are natives of this planet just like the Cheyenne are, even if we view the methods of one as underhanded, deceptive, and childish. Civilization is incongruous, but it originates, to paraphrase Nietzsche, from the same stinking excremental miasma from which all other human undertakings emerge. The human intellect created civilization, and different humans created the philosophies and practices of ancient tribes. The civilized mindset is different and wrought changes upon the earth. If nothing ever changed on this planet, then it would just be a giant, stagnant ball of stuff. Since things move and travel, we have plants and animals all over the earth, and humans are animals too. I don't need to live in South America to know how to grow a tomato. I can pick apples even though I don't live in Western Asia, where they're thought to have originated. I can pet a guinea pig despite not living on whatever planet they're from. Populations grow, shrink, are born, and die, and they don't always do it in the same place or in the same way, thankfully.

Notice that under my view, no, I don't believe that the ancient Americans have some grandfathered prior-right to the place I now live. I also don't condone conquest in the pursuit of profit, greed, exploration, or whatever. Christopher Columbus might not have been a wanker, but there were a few of them

roaming the Americas, killing people for profit. Is this wrong? No, it's not wrong, but I don't have to like it. If someone, tribal or otherwise, came up to me today and told me to go back home, I'd have to ask that person to be more specific. I was born in North America, like it or not, and this *is* my home. My ancestors arrived here hundreds of years ago. I'm a Native American. I can't account for what Columbus did, but I can account for what I do now on the land of my birth.

If I had my way, we wouldn't be sitting around doing nothing, but we'd all be doing a lot less. We definitely wouldn't be activists. My choice of actions would look much more like what the ancients believed was proper than what civilized society does today, but the fact remains that I can't have my way and neither can anyone else. What happens on Earth and all throughout the universe is determined by the sum total of everything. There are no people powerful enough, no nations large enough, no continents populated enough that their ideas will be implemented by the rest of the world. Even Gandhi, as intelligent as he was and as many followers as he had, couldn't unite India because the world doesn't bow to one man or even to one man backed by an entire country. As I write this, there is India, there is Pakistan, and they still want to kill each other, Gandhi be damned. The world of today is not Gandhi's world; it is the world of modern Indians and Pakistanis.

It Is Unwritten

Gandhi may have been thinking of the future when he tried to do what he did, but the future was not his to mold. Acting on the belief that our doings will benefit future generations is a kind gesture but one that is also quite misguided, as shown by his example. We are assuming that our ways of thinking today will have any relevance in the future. In all but the most general cases, we are applying our current-day thinking to a world that doesn't exist. Those general cases include the assumption that future humans will need food, air, water, a place to sleep, etc. But acting to tear down a civilization or trying to unite a country? We can *never* know that what we are doing won't be more detrimental than doing nothing. The connection between the annihilation of civilization and a better life for humans in the future is one that we

draw ourselves, today. From the perspective of a future person, it may turn out that it would have obviously been better had we just pulled up a chair.

This is so frustratingly contradictory that I barely know how to explain it. On the one hand, I admit that stripping the land of its topsoil will definitely impact the ability of future humans to feed themselves, and we can reasonably expect people to need food in the future. On the other hand, I admit the very realistic possibility that reducing the population of the earth today, say, by mass starvation owing to the destruction of soil, may act as a necessary control toward a future that has far fewer humans. In the shorter term, it may spur people to look for new ways of feeding themselves that are superior to agriculture.

We have a futile need to control, and the limitations of human insight are humbling. We can only do so much. Most of what occurs in the world is beyond our influence and understanding, being the result of endless interconnections. We can play our games, plan a strategy, and implement tactics, but with one roll of the dice, everything can change. Some people enjoy those odds, but others play without realizing they're gambling.

***

The knowledge that civilization is doomed to failure should comfort people who find this difficult to accept. Even if the European arrival in the Americas is viewed as a murderous invasion, their industrial practices and their civilization will be gone soon, and a return to uncivilized life as lived for thousands of years prior to their arrival will become necessary. Where industries once thrived, life at human scale will take root once again, and the world will continue to spin. It will be ever-changing, but ever-Earth. What will we be left with when that finally happens? Does it matter? Life will change and people will do what they need to do to survive. We may not survive at all or we may thrive, but it is almost completely beyond our control one way or the other.

Having to explain to our ancestors why we didn't do something to prevent the atrocities of the world is a tale often told to us by remedials, childish and ignorant every time. By this logic, I should go ask tribal people why they didn't stop the march of civilization and keep all this from happening in the first place. Why didn't they stop Columbus and nip this thing in the bud?

Their answer might be that they tried, but more than likely they were born into this place just like the rest of us, without a choice in the matter on the society in which they found themselves. Even if they tried, they failed, which is functionally the same as not trying but without the guilt, and guilt's cheap. So that can be our answer: we tried and found ourselves just a little overmatched in our battle against all of civilization.

I'm using the same logic that's at the heart of racism and bigotry if I try to hold someone accountable for anything they weren't given any choice about just because I dislike it. I'm not responsible for civilization any more than any of my readers are. Does anyone honestly believe that ancient tribal Americans knew what would happen to their cultures once the Europeans arrived? Supposing they would have successfully resisted, is there anyone who believes that the Europeans wouldn't have come back eventually? What many of these people want is a world that doesn't have *any* Europeans in it, past or present, which is beyond insane. *This* world, remember *this* one? The only world we have? *This* world features civilization, Europeans, genocide, Americans, Buddhist monks, genuinely kind-hearted people, scoundrels, tomatoes, guinea pigs, and poison ivy. It also has kudzu, everywhere.

My answer to the little prat who would dare ask me why I didn't do anything to stop this is that I worked with what I was given and though the state of the world wasn't what I wanted it to be when I arrived in it, I made the best of it and tried to do what I thought was best for my life and the people I cared about. The world isn't the result of my actions alone, and though I may be living a zero-carbon life in a tepee, practicing the ways of my ancestors, it hasn't meant a thing because I'm not the only person who lives here.

My answer to the activist who asks me if I'm going to help is, no, I'm not going to help you. I refuse to carry a picket sign or start blowing things up in the name of someone's ideals. I won't even lobby for changes in public offices. I won't do these things because of the unintended consequences that always result from such actions. It is impossible for anyone to be certain that their actions aren't working against them in the long run. I don't believe that early civilized people acted under the assumption that they were making things worse, and yet I believe that they did, in fact, make things worse. I can't blame them for that, but I will try

to live a life in accordance with what I believe about the world, and that will need to be sufficient because it's all any of us can really do. I'm glad there are people out there who are activists and environmentalists, remedials and loud-mouths who try to get their views out into the wider world, but I'm especially glad that I don't need to be one of them.

There is the looming inconsistency that this book could be considered activist, although *in*-activist is probably more appropriate. Even there, it sounds like I'm trying to get people to do nothing, which isn't the case. I believe that it's enough for people to identify with what they're doing, fully aware that their actions might have the opposite effect from what they intend. I want people to come to terms with the unpredictability, the *looming inconsistency* of the universe and accept that sometimes the best course of action will be to do absolutely nothing.

Pain Is an Excellent Motivator

A further, more psychological investigation into the nature of civilization's crash might be beneficial here. It is my observation, although I'm sure it's not mine alone, that sometimes people need to be hit over the head with something in order to learn. US citizens are a bulletproof example. For parents, this is also especially true. Taking off the training wheels so that a child can fall a few times is often the best way to teach bike-riding. People are wired such that if we never make our own mistakes, the lessons don't usually stick with us. This goes back to my criticism of mainstream, accredited education for not being kinesthetic or active enough to really facilitate valuable, experiential learning. If failure is an alphanumeric grade, there's little impact. If it's a burn that will scar, the lesson will be learned. Writing an essay about pottery is one thing, and coiling a pot is another.

I can listen to an explanation of how to ride a bike without falling, but it won't make much sense until I try to ride. Failure is a time-tested instructor. It's not that we can't learn to do anything without toeing the line of catastrophe, as we see demonstrated by people who don't die while learning life-threatening activities. But the best of those people will have had very close brushes with death, and they know *precisely* where that line is drawn for them.

We may not need to do it wrong to learn it, but we definitely need to do it.

Now examine the spectacular failure of industrial civilization in this light. If we cushion the fall, making sure that alternative energy sources are available, strong communities are grown, and a necessary support network for people is constructed so that the failure is quiet and easy, will people learn anything? An even more pressing question with respect to activism: if we knock civilization down, tear it apart, and destroy it because it is idiotic and sentenced to burn anyway, what lesson will people learn? It is my belief that the average person will reason that if it weren't for some crazy, zealous activists, there would still be a civilization, and that it should be rebuilt. The cause of its failure may be remembered as the work of radicals rather than the natural end to the life cycle of a foolish enterprise, regardless of the veracity of either.

If civilization is left to crash naturally, wouldn't this set a powerful example for people not to undertake such a thing ever again? Wouldn't this be powerful enough to pass on to your descendants so that when they ask what took place to leave the world looking as it does or when that little ankle-biter asks why we didn't do anything to stop this, we can answer that something like civilization is so powerful and dangerous that it cannot be stopped? I don't believe that it can be stopped, except by itself. It is self-limiting. To believe that we can bring down such a thing is to grant far too much capability to people who are simply dissatisfied with the civilized world.

For my part, there are already plenty of examples and lessons out there right now that I fully understand how dangerous and powerful civilization is. It is *because* I understand this that I don't believe we can stop it voluntarily. That's no reason to quit trying to destroy it if that's what fits my fancy. But, for most people, it would be beneficial to have a worldwide example to point to when asked why civilization is so disastrous: "*There*. See all that poison? See what this world has become? It wasn't always like this, and civilization is the reason. Our impoverishment is a result of the actions of this hopeless and futile system. This is why it must forever lie in its own grave."

And what of smaller lessons? The aforementioned topsoil loss might lead to an agricultural catastrophe, but it could be the impetus for different thinking. If agriculture isn't regenerative, if it

is an inherently subtractive way to make food, then how can people eat without destroying what keeps them alive? The answers may not be sought if agriculture never fails. If the world's economy never grinds to a halt when we run out of oil, then we won't have a powerful lesson on diversification and dependency. If we keep cushioning the blows, we may never get hit hard enough to notice any impact.

This is the power of attitudes and mindset. I don't suppose that anyone else is going to participate in anything like the Nazi extermination of Jewish people due to the strength of the example. It was such a painful and gruesome reminder of the horrible things people are capable of that it will probably remain a part of human lore for as long as people can relate to it. People may crucify me for typing this, but those Jews were not slaughtered in vain. Without the deaths of those people, the world might never have had an opportunity to learn to what lengths people can go in the pursuit of power and ideals. It is the most potent example that sanity is relative and that otherwise healthy, functional humans can be included in machinations that they would otherwise consider unthinkable if only they are led to believe in their own superiority. I hate that such a thing needed to happen, and I don't enjoy the possibility that people may need such terrible examples in order to pay attention, but the history of the world and the record of human actions suggest that it's true.

What I hate to consider even more is that after the collapse of civilization, people might have been so spared the horror of its collapse that they would consider rebuilding it.

***

There are countless groups of people with radically varying views on what is right, what is wrong, and what constitutes a world worth living in. They all take actions whose consequences they don't understand, and the result is what we see before us. I don't have to like it, but I do need to accept it because I can't change it. The changes are coming regardless. This isn't defeatist, it isn't an excuse to use up all the fossil fuels to continue the pursuits of civilization, and it isn't a reason to never get out of my bed and die there. If anything, this is a chance to examine how those who seem to be so affronted by the state of things that they push and pull and yell and scream about how dissatisfied they are with everything are also the ones who suffer the most when their actions actually have consequences. The industrial capitalists who

rape and exploit in order that they may have their technologies certainly have those technological toys, but they've sacrificed the humanity that makes others feel anything other than envy or revulsion toward them. The workers in the capitalists' factories get their pay for whatever it is that they buy, but they sacrifice their health and well-being in their service. People can sit and debate the responsibilities for these actions all their lives (and many people do; they're called lawyers), but the fact remains that the actions are performed and the consequences occur. They cannot be undone, compensated for, or otherwise changed without causing more consequences in an unending chain of confusion.

My choices, your choices, and the sum total of all choices have consequences beyond understanding. We, as one species of many, can neither individually nor collectively influence the direction of existence on this planet or anywhere else with anything resembling precision. If I somehow were able to begin a movement that would reverse all the effects of civilization and created a utopia on Earth, you'd better believe that there would be a comet headed this way that would make its own impression about utopia and turn the earth into a molten ball of iron and nickel. I don't know how I can make the point any more clearly than this.

5: Contrarian Humility

It is usually far more expedient and interesting to devise and use phrases of your own making than to try to quote someone who never knew you, never lived your life, and probably never said anything with you in mind.

Another of my propaganda points is to rediscover humility, promote a fair examination of our world, and to scramble our brains a little, enabling a different understanding of things. Just the few investigations I've undertaken have interesting consequences if they're taken seriously, even as simple thought experiments. If I have a wish, it's to have successfully spurred some readers in this direction, but even if my thoughts have prodded them in the opposite direction, I'll consider that a success. Independent, intelligent decisions are what I'm after, and while my personal path led me through humility with a contrarian twist, not everyone's path will.

I say *humility* not because of some virtuous pursuit but because there is an apparent flood of arrogance and superiority everywhere in the United States and also in the policies and rhetoric of other civilized societies. This arrogance shows itself in our environmental practices, as I've examined, and in the rhetoric of our leaders who believe our course to be the One True Course. The logic behind the False Division is that of superiority and dominance. The rhetoric isn't confined to leaders; it appears to have trickled down the levels of society so that we now have people everywhere believing in the dominance of the human species. In this country, it's found in the false patriotism of the people who wave our flag and proclaim the righteousness of our government without understanding what they support. There aren't nearly enough people considering that our civilized way of life might be counterintuitive and empty.

Homo Civilis

In the US we like to give people the chance to voice their opinions and dissent, even if we never intend to change course on the basis of any of it. Other places don't even provide the illusion that the opinions of the people matter, censoring them entirely. So

picture any industrial-scale project at all, with scores of protesting people, and I'm sure you have enough fingers to count how many times such a project was successfully stopped. Despite worldwide protests involving hundreds of thousands of people, the second Iraq war was, at best, only slowed. We had our reasons for invading, and they held water for us, so how could anyone reasonably be opposed to it? This isn't a rant about the futility of protest but rather an indictment of arrogant civilized societies.

It is nearly always the case that the will of civilization is simply imposed and most opposition only delays or complicates its actions. If sufficiently potent opposition is raised to stop a contested act, it's a rare feat indeed. If it's a choice between the functioning of an industry and the will of the people, the industry will be chosen every time (although just who it is that does the choosing is beyond me), and it will fall upon the people to fight for what they believe in. Industrial activity is considered the default, but I'll be damned if I can explain why that is. The previous chapters should be enough to show that industry is just another way of living, certainly not evil, but just as certainly not the go-to choice. It is often counterproductive.

The primary advantage of civilization is that its members believe that it drives us down the path of progress. If we strip away the arrogance and certainty of civilized society, the society itself and the idea of progress both look foolish. If we no longer believe that humans are the privileged bearers of sacred information that guides us on the One True Path, then the desire to divert the world down that path disintegrates. By stripping away the certainty that our ways of living are the right ones, we begin to accept the ways of other people, many of whom choose very different lives.

It takes a more humble mind to recognize this. Since we are animals, humans do as animals do. There is no categorical difference between an anthill and a human city, merely a difference in form. Both are the built environments of the animals that inhabit them, and yet a human development is accorded a nearly sacred status in the hearts and minds of people because so much of our lives are bound up in it. Humans can't live in anthills, and so naturally we feel that our cities and villages are of primary importance and maintaining them even at the expense of many anthills is always worth it to us. Fair enough.

But as is shown by uncivilized societies, our survival doesn't depend on the products of civilization, like cities and industries. Our quality of life, that shining gem proclaimed as the great advantage of cities and civilization, can only be increased up to a point, after which we become less and less suited to life. Civilization pursues the infinite increase of itself through an ever-increasing standard for quality of life, but people have thrived and continue to thrive where there is no civilization as we know it.

Civilization's tendency to function at the expense of the things that support it highlights its superfluous nature. It requires soil for food but actively destroys that soil through industrial agriculture and mining for minerals. It requires fresh water and air, and both are similarly fouled by its own activity. When the universe is viewed as a raw resource whose only use is to be run through a production process to transform it into something recognized as useable to humans, these actions can be performed without second thought. This is the context in which civilization operates.

While humans don't need civilizations to live, civilized humans obviously do. I'll name a separate species for them: *homo civilis*. It reminds me of the Neanderthals, who were still human but unique enough that they went extinct when their way of life no longer fit the conditions. Homo civilis needs fossil fuels for its nourishment and has done very well for itself by devising methods to use them. Although once they run out, the species is in trouble. Without them, homo civilis is ill-equipped to provide food, clothing, and shelter for itself and will either be forced to radically adapt or die.

Civilization as Organism

It's not that civilized societies are wrong, or that they ought to be stopped, or that we should actively support their opponents. Remember that this is just another way of living. It arose naturally, as do all ways. The history of Earth is full of evolutionary dead ends like homo civilis. What is crucial, however, is a mindset that allows us to view civilization as one choice among many and to view its flaws as we would view those of other choices. It's important that we can see its dead-end status. The world is what it is and not something else. We cannot,

individually or collectively, change it so that civilization doesn't exist. This is the world we've all been born into, and it is up to us to make decisions that are best for each of us. For many people, those decisions will support and perpetuate a civilized way of life, and that isn't something terrible or warped; it is an adaptation to an environment. Civilized people are (or at least one of them is) becoming increasingly aware that the activities of their societies are self-defeating and largely if not entirely pointless. This is an indication that civilization has natural control mechanisms just as any living system does, and the attitudes and beliefs of its members are the most powerful controls available.

If the comparison of a civilization to a living system is particularly jarring, consider the similarities between them:

1. **Both are, at bottom, primarily concerned with reproduction.** Any living thing is preoccupied with ensuring that its existence continues, whatever that looks like. Animals bear young, plants set seed, and some microscopic life divides in two. Looking at civilization, there is certainly the tendency to spread and grow, and new civilized societies are still being born. Because of civilization's need for infinite growth, it expands and reproduces itself endlessly to feed that need. Without reproduction, both face extinction. There will never be any more dinosaurs and there will never be any more Aztecs because this is so. Similarly, the extinction of some species occurs owing to the fact that they are just not suited to current conditions. The dinosaurs couldn't live in the world created by a collision with a comet, and the Aztecs couldn't survive a world where they were exposed to Europeans. Homo civilis won't survive a world without fossil fuels. Extinction is a natural process without which we would be buried in useless and ill-adapted life forms. The fact that we side with one life form or another has no bearing on the existence and utility of the process.

2. **Both of them spread to the limits of their endurance or their environments, whichever is effective enough to stop the spreading.** If an animal finds itself in new territory, where food and water are scarce, it might be able to survive, but it probably will not prosper or expand its

territory. If a civilization, especially one as resource-hungry as industrial-scale production requires, finds itself short of resources, operations will slow and shut down. If the will of the people in a civilization is not in favor of expansion, or if they are just too tired to keep working, the civilization will not be able to spread any further. Civilization has a range, just like a plant or animal. Its range can be fought for but not interminably. The important issue is that endurance and environment are but two factors limiting the spread, and without such factors the spreading would continue forever.

3. **Both are born, pass through several stages of life, and die.** New civilizations are small, and they make many mistakes, enduring many growing pains. In the US, we needed to fight to attain our independent status, battle each other legislatively and militarily after that independence was won, and we continue to debate and argue with each other, not necessarily coming to war, but certainly making the process painful. The birthing process is probably the most dangerous part of the life of a civilized society, and if it survives into maturity, it has a reasonable chance of being successful in adulthood. The death of civilized societies has occurred before and will occur anywhere they exist. It's shown in the graveyards of Athens and the Aztec and Mayan ruins of the Americas, and signs of disease and decline can be found from Chernobyl to the killing sands of Iraq. The term "developing country" is an implicit recognition, on some level, of the life cycle of these societies, even though it usually carries with it the assumption that to be developed (adult) is better than to be developing (child). Being human creations, civilized societies probably mirror human life more closely than, say, a fungus, but the resemblance to all life is quite striking.

4. **Neither of them can be divorced from their surroundings and expected to survive.** I've probably beaten this point to death by now, but cutting off a living thing from its source of life is a death sentence. In the civilized world, we attribute life to a water faucet or a

grocery store, but this is a grave mistake. It's an adaptation required by homo civilis in its habitat. It's analogous to a cat believing that nourishment comes from a can filled with tuna and then wandering the forest searching for tuna-can trees, starving to death next to a river full of edible fish. Misidentification of the source of my life will work for a while, and there are people out there who honestly believe that food comes from a supermarket. But remove the store and there will be some very confused people. This may not be apparent right now, but stores are *not* going to last forever, and even now the realization that the sources of life are different from industrial products will bear fruit. For someone who spends an entire lifetime in Manhattan or never eating anything right from the plant, animal, and mineral sources, this doesn't even look like a misidentification. Some people still don't get the connection.

5. **Both living systems and civilizations are supported by the actions of many things, working together.** The human body is filled with microscopic life. The actions of these life forms serve to keep us alive. Even single-celled organisms have structures inside them that perform functions necessary to their lives. I'm not sure how far this reduction goes, but recalling the scientific investigations into subatomic particles, it seems that it goes beyond our capacity to observe. The people in a civilized society function as the smaller organisms in the larger body, without which it would die. Since I am a member of that society, I am a part of its life. Some members are actively involved in disrupting its ability to live, like murderers and anarchists, analogous to the viruses and illnesses that threaten the lives of living things. Some members are uniquely adapted to life inside the civilization, like television stars and computer programmers or the aforementioned people who live their whole lives immersed in the manufactured world, and when the body dies, those members will struggle for their own survival. These are the most prominent examples of homo civilis. Still other members are involved at a lower level of remove from the source of the society's life: gardeners,

hunters, and carpenters, for example. These people will be far more likely to adapt to life when the society dies, just as some of the microbiological life inside a human body would spread to the soil and the surrounding environment where a corpse is buried. The specialists of the human body, such as eyeballs, capillaries, and hair, will no longer serve any function without that body and will decompose with it.

We are servants of our own civilization, some of us inextricably and symbiotically linked to it, as in the cases of the television people and computer programmers. We are employed, some of us literally, by an interest in maintaining the health of that civilization, and it in turn, to the extent that it can be said to have an interest in anything, has an interest in helping humans survive. To repeat, the survival of the human species isn't dependent upon the survival of any civilization, but every civilization depends upon humans for its survival. I lack the perspective to see whether civilized societies themselves are smaller units integral to the survival of a larger entity, but I suspect that they are. Earth is probably similarly related to the solar system, the galaxy, the local group of galaxies, and on up the hierarchy, and there is no way to gain the perspective required to ascertain this with any certainty. There is also, then, no way to prove it false, which should promote humility. We must learn to be comfortable with not knowing. It is my experience that the world mimics patterns at all scale levels, and the organization of living bodies may be one of those repeated patterns found in single-celled organisms and star systems alike.

***

Just as humans look into ways to improve their own health, we would all do well to see what it is that improves the health of a society. Since civilized societies depend on their members for their lives, it would seem that anything making healthier people would also make a healthier society. Natural questions to be asking in this situation include:

1. Are industrial practices making society healthier?
2. What does it mean for a society to be healthy in the first place?
3. Is any society capable of living a healthy life?
4. Does a healthy society follow necessarily from healthy members of that society?
5. Are any of these questions practical to ask, or is this just philosophical masturbation?

The answer to the first question should be painfully obvious from the rest of the discussions in this book, but I'm assuming a standard of health that other people might not share. This leads me to the second question: a healthy society is one that tends to enrich and regenerate itself simultaneously with its surroundings. If either one of these, the society or its surroundings, is sacrificed for the enrichment and regeneration of the other, the arrangement is unhealthy and cannot continue indefinitely. If a society is depleting itself in order to further the enrichment and regeneration of its surroundings, it will expend all its energy toward that end very quickly. This might be an example of a highly environmentalist society, one similar to the dream of many remedials today, where many resources are used developing technologies that protect the natural world. The reverse, which is very similar to our present situation, is a society that enriches and regenerates itself while depleting its surroundings. Since it cannot divorce itself from its surroundings without dying, this is also an unhealthy society. Notice that in either case, there still must be a conceptual separation between two worlds. The False Division leads to unhealthy behaviors. It is only through mutual enrichment and regeneration that societies can share in the health of their surroundings, and it follows logically from this that perhaps this is the only way that humans can reasonably ensure their own survival. It is impossible in the presence of the False Division.

In light of this, it seems that the answer to the third question is yes, a society is capable of being healthy. If its members realize the interconnection between themselves and everything else, I see no reason why it couldn't enrich and regenerate itself simultaneously with its surroundings. If the pieces are seen as a whole, anything that depletes one or the other is pointless and repulsive to those who can see this. I suspect that

many uncivilized societies live this way. Putting aside for a moment the notion that machines could in fact be living systems, it's been said that a key difference between machines and living systems is that living systems have some ability to self-repair. Cultivating this ability would naturally benefit the health of all parties involved. Research into the development of simple machines whose actions tend to improve their own functioning is an exciting prospect. Rather than using a transportation device that tends to break down into toxic junk over time, why not a contraption that improves its surroundings and the health of its users as it is being used and cultivates further improvement when it is time for it to be cast aside? Aren't human feet just such an elegant solution to transportation in the first place? And just what, exactly, is the human body but a living machine?

The relationship between the health of the members and the health of the society also logically appears to be real. If a society can't exist without members, then the healthier they are, the better its chances for survival. A healthy human life can then be inserted into our definition of health above: a healthy human is one that tends to enrich and regenerate itself simultaneously with its surroundings. This displays another repeated pattern. Being dependent upon its surroundings, human life obviously benefits when those surroundings promote human health. They are actually portions of a whole. This recognition will serve to self-police the actions of people, and ignorance of this connection promotes pointless actions.

Clearly it makes sense to discuss such things, and it lends support to the idea that the conceptual division of the world is false. The recognition of the False Division provides a much more supportive framework for understanding that humans are utterly and indivisibly dependent upon their surroundings for their survival. Anything that serves to make that understanding easier is a good thing in my book.

Death

Just as people prepare for the death of a loved one, just as much of life is spent coming to terms with death, the members of a society ought to be considering not just its health but also its mortality. The citizens of the United States seem content to

consider it immortal. As the society matures and its structure begins to show its age, perhaps it will become more commonplace to think about its inevitable death. Even the healthiest of civilized societies will die eventually. In many respects, death is about a total loss of control to forces we don't understand. The realization that we, as civilized people, will be powerless to control the decline and death of our parent body is a mark of maturity and perspective that requires humility.

All life arrives, sooner or later, at death. Death appears to be a necessary requirement for life as well. It is one of many truly circular relationships without beginning or end. The necessity of death is perhaps not as clear, but consider that Earth is well-equipped to decompose and recycle the bodies of the living and that this process is vital to the continued health of living things. I see this evidence everywhere there is soil, which is a substance formed by the decomposition of many organic and inorganic materials. Note that even if rocks are considered living, their deaths would be the process of erosion and weathering that disintegrates their stony flesh into tiny particles of minerals that are a necessary component in soil and are required to deliver many nutrients to the plants that grow there. This supports the view that even things not considered living by modern science do indeed have something we can recognize as a life cycle, perhaps only obliquely recognized by the sciences as the rock cycle, nutrient cycle, or water cycle. We must learn to understand that although something may not be living in any way humans can directly relate to, there is something to be said for ascribing a life cycle of some sort to them. There's no harm in adopting a conceptual framework in order to understand something, even if the framework isn't reality and even if the framework isn't useful for anything else. Wittgenstein did it.

The deaths of these rocks and other living things are clearly depended upon by the living as sources of their lives. There may be living things that never die, but most of them certainly seem to. Living appears to be an energy-demanding process that may produce many things during its course, but the end result is that its energy is expended and death arrives, returning all it has accumulated to the source of its life. A world in which nothing ever died would quickly run out of birthing space, adding a new perspective to the idea that human activity is killing the planet. If death is required in order to bring new life, as appears to be the

case, then the idea of death as this final, horrible, empty event needs to be forgotten in favor of the view that not only is death necessary and nourishing, but is also a new life for the as-yet unborn. It is certainly frightening because our survival depends upon death being scary. Otherwise we'd all just walk off cliffs to our deaths to see what it was like.

One of the ideas in astronomy explains that many of the elements on Earth were not produced in our solar system. The only identified source for the heavier elements is the extreme temperatures and pressures created by the last collapse of a dying star. Not just any dying star but one much larger than our own Sun. Since we find these elements here, the very atoms that make up our solar system are believed to have once been part of another solar system, and these elements may have composed the bodies of other living things. Call it a myth of science if you will, but I call it food for thought.

***

To address another interesting consequence of these meanderings, consider humanity as a virus. This view is alive in the popular culture of the United States and is implicitly believed by everyone who asserts that humanity is killing the planet. It may not be humanity in general, with some particular subset of humans receiving the damning attention, but the argument is the same whether I talk about all humans, civilization alone, one particular industry, or even one person. The idea is that the target is a sickness that will kill its host body if it survives long enough. There is a sick revulsion and horror surrounding death in the US with an equally prevalent fascination with it that is common with taboos. The best way to get a person interested in something is to tell them not to be interested in it.

Death is natural and necessary, and while it may be disgusting, painful, or frightening, life shares these traits. They are two sides of a coin. Just as the death of a person returns the body to the source of life, the death of a civilization returns the stuff of civilization back to the source of its life, setting the stage for whatever may come next. Earth itself has a life cycle, and someday it will die. Who are we to say when and on what terms the Earth will meet its end?

***

This has all been an attempt to inspire creative thought about our world, in the guise of a thought experiment. If we can

view the world with different eyes, recognizing the acts of humanity as the acts of an Earth creature similar to every other, a shift in attitude is required. After all, our attitudes toward the world, toward the entire universe, are at the heart of our actions and problems. It has never been the *difficulty* of sensible actions that keeps them from being done but the *attitudes* of the people faced with doing them. Reusable grocery bags have never been more difficult to use than disposable plastic bags, and as a stalwart user of them, I can testify that they are superior to their wispy, stretchy cousins. It was the attitudes of shoppers who didn't want to carry their bags with them to the store, didn't feel like bagging their own groceries, or otherwise thought it was shabby to be seen carrying a fistful of cloth around town. Thankfully, these attitudes are changing, but there are grocery-cart-loads of other issues that people don't seem prepared to address because they lack the proper attitude. I will reiterate that these attitudes can be changed, and easily.

Contrarianism

While I'm on the subject of sustainable alternatives like cloth bags, I'd like to discuss that sticky word, *sustainable*. It has been co-opted by industries as a buzzword that is supposed to convey a sense of ecological rightness to their activities, but it is also a wonderful word to convey the nature of something that can be done indefinitely. More intelligent people than I have turned me on to using *regenerative* when describing a process that not only can be carried out indefinitely but also tends to improve what it touches. Remember that the health of people and civilization both seem to rely on improving *with* their surroundings. When industries say *sustainable*, they generally want to sell the idea that something is beneficial to that perceived Other, the environment. In practice, it just refers to something spun as less harmful to humans than what that industry has been producing in the past. I don't think it can be done, but if industries ever co-opt the word regenerative, we're in trouble. Fortunately, it doesn't make sense to refer to a cloth shopping bag as a regenerative replacement to the plastic shopping bag or to solar power as a regenerative alternative to coal power. Maybe they could embed vegetable seeds in the fabric of the shopping bag and encourage people to

throw it on their lawns to biodegrade into gardens. (I should be careful what I wish for.) Replacing *sustainable* with *regenerative* is actually a reliable method to separate green-washed marketing from reality, at any rate.

I was talking to my partner Sabrina about being duped into believing something really dumb, or something that seemed like it was a good idea at the time, and later turned sour. I gave the examples of automobiles and car culture. It's blatantly obvious that the rise of the auto in the US has wrought changes on the country, most of which are either undesirable or useless. Take, for instance, the fact that automobiles obliterated trolleys in cities, but today we're scrambling to buy up rights-of-way to build modern streetcar systems. I can't remember the first place I've heard this, but it's been said that if an extraterrestrial visited the United States, it would be forgiven for believing that cars lived here, not people. Every town is laid out for the convenience of autos, often at the expense of people on foot. They are often laid out at the expense of people, period. Anyone who has tried to walk across a freeway or ride a bicycle knows what I'm talking about. The pollution, danger, and financial burden caused by our addiction to the automobile is an example of an unnecessary idea going too far in our society, especially when better alternatives that are now being sought out existed before autos. The growing awareness of car-culture's drawbacks is another example of a powerful, embedded check on the growth of civilization.

Even if you don't agree that autos are something we were silly enough to accept, I'm sure you can come up with something similar. The question for Sabrina was, "What are we buying into today?" Since they're typically so intertwined with our culture, my reasoning is that these funny little examples of pointlessness are difficult to detect, and there must be something we're falling for. Not being able to see the forest for the trees and all that. I'm not going to sit here and berate our ancestors for diving into car culture because they couldn't have known what was going to happen. But something must be captivating us today, irrevocably transforming our lives, and probably not for the better. It's something that we'll be able to see and recognize in the relatively near future. At first, I figured on electronic accessories like cell phones and MP3 players, but that's even a bit too superficial. Sabrina's guess was computers, and the light went on.

Here we are, inviting computers into our lives on some very flimsy evidence that on the whole, they are improving how we live. If this weren't true, people wouldn't use them, or at least that's how the argument goes. I can speculate on the reasons for this just like I can speculate on the reasons we'll look back in fifty years or so and wonder why we ever thought they were so special. But if my attitude changes from one of blind acceptance to incisive investigation and clear-headed awareness, I realize that there's a good chance I'm being fooled or that I'm fooling myself. This type of thinking isn't some privilege of the gifted geniuses of the world. It's really just a matter of being a contrarian. If something is parroted over and again in society, or simply assumed implicitly, just take that thing and assert its opposite to see if it makes any sense. My brief examination of autos in the US is eclipsed by a collection of literature on the subject that will have you rooting for both sides of the automobile issue and sitting on the fence in between them when you get tired. In the case for computers, I present this book's final list:

1. **Computers increase my workload.** A computer is not, and never has been, a labor-saving device. It is a device that allows you to push some tasks off onto the machine while you go do other things. The word *multitasking* was born in the computer age, and it's assumed that the machine will do the work our brains can't devote to something when our attention is divided. As a result I'm focusing on more things at work at the same time, dividing my attention endlessly, with the result that no individual thing usually gets the attention I'd like to give it and my inbox still doesn't empty out.

2. **Computers require time and money to maintain, which more than outweigh the time and money I save by using them.** Between paying for Internet service, the machine itself, and dealing with problems caused either by me or a defective computer, I'm out a bit of money and time. Since most employers require an e-mail address and I don't live near enough to a public computer to make that work, I still use one. I haven't given up entirely on implementing a plan for a computer-free household just yet. How bourgeois does that sound?

3. **Computers require many polluting industrial processes to produce, and their disposal concentrates many forms of toxic waste that cannot be recycled or made nontoxic.** The buzzword is e-waste, but it's a recognition that computer technology requires many substances that cause harm. Not only do we need to seek out and concentrate these toxins to make the computers but when the machines are worn out, there's often no way to reuse the parts, which further concentrates the toxins in dumps. People can't be healthy where this waste is left to rot.

4. **People might be watching less television, but I guarantee that those same people are making up their screen time on at least one computer.** Television has been implicated in the proliferation of a sedentary lifestyle that doesn't fit well with a creature built to move. Some computer technology can be moved with but usually at a cost: I can run with an MP3 player and not be aware of immediate dangers and walk and talk on a cell phone with the same hazards. I've even seen people walking around working with laptop computers and electronic reading devices, both of which come with all sorts of problems from falling into a ditch to being mugged by someone who wants your gear. Being incredibly annoying to everyone around you is also a hazard. The upshot is that computers are the new televisions, with enough advantages and disadvantages that they break even.

5. **The immediacy of information is leading to lazy research and people with no mental stamina.** Research work can be done by sitting in one place, in front of a computer. Every inquiry that pops into my head can be answered instantaneously by a quick search, every entertainment desire met promptly with media. With these two forces, people no longer need to sit quietly with their own reflections or arrive at answers through long, drawn out, and convoluted thought processes. Without such mental acrobatics, people get better at the aforementioned

multitasking, but their ability to focus and create original insights gets much worse. The brain still needs exercise.

I love to use the example of Masanobu Fukuoka, a Japanese farmer whose methods of natural farming were quite contrarian and who inspires me to find simpler methods to do everything. His methods of "do-nothing" farming worked in concert with the forces around him, in complete contrast to the methods of industrial and tillage agriculture in practice while he was alive and that continue to this day. His question was not, "What can I do to make my fields grow better?" but rather, "What can I *stop* doing to make my fields grow better?" In brief, he started with the insight that all the efforts of humanity to improve upon nature were misguided attempts to change something that needed no improvements. All these ideas, more of his philosophy, and an account of his farming practices appear in one of his books, *The One-Straw Revolution*.

So, in a classic poise of contrarian questioning, I ask, "What can we *stop* doing?" It certainly appears as though the activities of industry are on the chopping block as there's really no significant benefit to continuing them. Deeper than that, though, are the attitudes that are informing those activities. What drives us to want industry in the first place? If we can't answer that question, we shouldn't be taking it for granted that a civilized world is necessary. Further, what else are our attitudes driving us toward, making us feel, or blinding us to? An examination of our attitudes can reveal the origins of many stupid decisions but also allows insight into the unnecessarily complicated lives that many of us live. Time devoted to discovering the things we don't need to be doing should be a routine and healthy examination in the lives of homo civilis. This type of thinking probably has benefits for all people.

Tolerance

Perhaps it's not a question of *need* at all, but *want*. I'm reminded of this every time I see obviously skilled people dedicating themselves to industrial tasks with relish. Some people thoroughly enjoy doing industrial work. The love of machines and mechanical things is pervasive in the civilized world, and I'd

wager that even uncivilized people might find certain industrial technologies utterly captivating. If you'll pardon the hippie in me, some of us are just in touch with the machine spirit. I don't find any inconsistency in wanting something even if that something is detrimental, as we so often see exemplified by addiction in humans. Sometimes it seems that our definition of *detrimental* needs revision.

The fact is that many people *want* civilization, as much as I enjoy bashing it. I can poke logical holes in it, show how pointless it is that we do something that actually turns out to be against us, and explain that what appears to be a benefit is actually making things more complicated and difficult. I can explain that if it were up to me, I would have chosen a very different way of living, but no one person has ever been able to choose for the rest of the world. I can do all of these things and many more, but people still find benefits in living this way. Many people genuinely enjoy their cars, televisions, computers, and air-conditioning. Many people have become supremely adapted to the civilized world, all its complications, stresses, and maladies. And why not? Is it not, after all, an altogether natural and human way of living? Anyone who disagrees with this either has a very bizarre definition of natural or believes in separating humans from everything else, which is impossible. They have at least not been convinced by the bulk of this book.

Some would argue that since I am speaking from a position of privilege, as a civilized human, my arguments for the acceptance of civilization look like an excuse to maintain business-as-usual. These people believe that civilization is privileged and are victims of the separate-therefore-superior-to mindset that plagues the civilized world. I am speaking from a position of intimate knowledge about civilization as someone who wishes it would go away, as it will in due course. My compulsions lead me to do my small bit to hinder its progress and spread, but I do not believe for one minute in my own superiority to other people because of what I do. A book written by a starving uncivilized person would be a very different read, and this is precisely the point I want to make.

The lesson is one of humility, to be sure, but also of tolerance. I don't have to like something, but if I run around screaming about how much I don't like it and actively involve myself and others in eliminating it from the world, that makes me

a bit of an ass. Further, all racism, bigotry, genocide, exploitation, slavery, proselytizing, ethnic cleansing, and subjugation have intolerance at their roots. This is a case where the cure is worse than the disease. The intolerance that drives people to act is inferior to a tolerant attitude that refuses to act. Failure to tolerate the actions of others, though I may disagree with them, is an act of arrogance so strong that it disallows all but my own thoughts, my own views, and my own actions from the realm of possibility. It's a bold-faced statement proclaiming, "I know the best way to live! If you don't agree with me and take the action warranted by my point of view, you're all just wrong."

What, then, are we to do? Are we to allow people to go on acting like imbeciles? Should we stand by while people hold guns to their own heads? Should we do nothing? Should we save and protect what we can when we see something unjust or disagreeable? The answer in every case is a difficult-to-swallow *Yes*. People must be allowed to fail, living things must be allowed to die, birth and death, integration and disintegration…all of them have their places. All of them must be allowed to happen.

No, I will emphatically change that to:

We can do nothing to change the fact that they will happen. We live in a world, at least, and most likely an entire universe, that requires them to happen. It is impossible to impose one person's will on society, one country's will on the globe, one planet's will on the universe. What appears to be chaos in a human mind must remain mysterious forever. We must accept that there are some things we will never know. We must accept that the world has no need of our ideas, our philosophies, or even of humans. As far as we know, Earth has existed without humans before, and it may do so again. Acceptance of the world as it is belongs only to a humble, tolerant mind. With this mindset, certain ways of living will become impossible, and certain ways of thinking exclude living a life that runs counter to them. If we approach this expecting to change the world, we are misguided. If we approach this with the attitude of superiority, we are misguided. Only by recognizing that we can be wrong, that we need to accept things that are different, and that we can never know The Truth will we ever be able to live healthy lives in the places we call *Home*.

Epilogue

"So I've just read through this whole thing and you leave me with 'the world is what it is, and you can't do anything about it'?"

Not exactly. I never really liked Cub Scouts, but their motto was "Be prepared." Or maybe that was the Boy Scout motto. Either way, the words are as simple and useful now as they were then.

Prepare yourself for what's coming, whatever that looks like for you. This might be the time for you to go buy an abandoned missile silo and stock it full of provisions. It might be time to devote an hour every day to meditation, strengthening your mind to adapt to the new trials that await you. Now might be the time to program that computer virus you've been waiting to unleash on every networked Windows-operated computer in existence. You can keep doing as you've been doing, making sure your family is happy and healthy, well fed in a comfortable home, however you accomplish that. This could also be a good time to sit back and just let the world take its course.

This isn't really a self-help book, but you should be ready to help yourself, and I can't tell anybody how to do that. But be prepared. Make sure that your mind is ready to accept what happens when true things become false. Don't count on your retirement money being available to you, ever. In fact, don't ever plan on retiring. Get ready to be served flavorful candy twirls of terror and color. Adjust your life so that it can be lived indefinitely, but know that it won't. Embrace the reality of life becoming death and death becoming life, and make compost in honor of this. Make peace with contradiction. Understand that the tragically comic reality of human existence may be that we are biologically programmed to live at our own expense.

It sounds like I'm preaching about the second coming, but it's a sermon on adaptation. Too many times we attempt to change the situation in which we find ourselves to suit us. That situation is complex and beyond understanding, and I hope that this concept is becoming familiar to you. It is also most likely a situation that is beyond your capacity to influence it. Being prepared is a spirit of adaptation that implores us to be ready to change *ourselves* to fit our situations, not the other way around. In most cases, we're all powerless to control the events around us, which is frightening and

discouraging but true. A better use of our time, rather than fearing and fretting, is forgetting. Forget what we wanted the world to be, and accept what it has become. Change yourself to fit your world, be prepared for it to change again, and get ready to be wrong.

Or don't.

Other Readings with a Similar Message

Berry, Wendell. *The Way of Ignorance and Other Essays by Wendell Berry*. Berkeley, CA: Shoemaker & Hoard, 2005.

Fukuoka, Masanobu. *The One-Straw Revolution*. New York: The New York Review of Books, 1978.

Jensen, Derrick. *Endgame*. New York: Seven Stories Press, 2006.

Lao Tzu. *Tao Te Ching*. Translated by Stephen Mitchell. London: Frances Lincoln Limited, 1999.

Mitchell, Stephen. *The Second Book of the Tao*. New York: Penguin, 2009.

Orlov, Dmitry. *Reinventing Collapse: The Soviet Experience and American Prospects*. Gabriola Island, BC, Canada: New Society Publishers, 2011.