

Reversal of Fortune

The formula for human well-being used to be simple: Make money, get happy. So why is the old axiom suddenly turning on us?
By Bill McKibben

Originally appeared in Mother Jones [March/April 2007 Issue](#)

For most of human history, the two birds More and Better roosted on the same branch. You could toss one stone and hope to hit them both. That's why the centuries since Adam Smith launched modern economics with his book *The Wealth of Nations* have been so single-mindedly devoted to the dogged pursuit of maximum economic production. Smith's core ideas—that individuals pursuing their own interests in a market society end up making each other richer; and that increasing efficiency, usually by increasing scale, is the key to increasing wealth—have indisputably worked. They've produced more More than he could ever have imagined. They've built the unprecedented prosperity and ease that distinguish the lives of most of the people reading these words. It is no wonder and no accident that Smith's ideas still dominate our politics, our outlook, even our personalities.

But the distinguishing feature of our moment is this: Better has flown a few trees over to make her nest. And that changes everything. Now, with the stone of your life or your society gripped in your hand, you have to choose. It's More or Better.

Which means, according to new research emerging from many quarters, that our continued devotion to growth above all is, on balance, making our lives worse, both collectively and individually. Growth no longer makes most people wealthier, but instead generates inequality and insecurity. Growth is bumping up against physical limits so profound—like climate change and peak oil—that trying to keep expanding the economy may be not just impossible but also dangerous. And perhaps most surprisingly, growth no longer makes us happier. Given our current dogma, that's as bizarre an idea as proposing that gravity pushes apples skyward. But then, even Newtonian physics eventually shifted to acknowledge Einstein's more complicated universe.

1. "We can do it if we believe it": FDR, LBJ, and the invention of growth

It was the great economist John Maynard Keynes who pointed out that until very recently, "there was no very great change in the standard of life of the average man living in the civilized centers of the earth." At the utmost, Keynes calculated, the standard of living roughly doubled between 2000 B.C. and the dawn of the 18th century—four millennia during which we basically didn't learn to do much of anything new. Before history began, we had already figured out fire, language, cattle, the wheel, the plow, the sail, the pot. We had banks and governments and mathematics and religion.

And then, something new finally did happen. In 1712, a British inventor named Thomas Newcomen created the first practical steam engine. Over the centuries that followed, fossil fuels helped create everything we consider normal and obvious about the modern world, from electricity to steel to fertilizer; now, a 100 percent jump in the standard of living could suddenly be accomplished in a few decades, not a few millennia.

In some ways, the invention of the idea of economic growth was almost as significant as the invention of fossil-fuel power. But it took a little longer to take hold. During the Depression, even FDR routinely spoke of America's economy as mature, with no further expansion anticipated. Then came World War II and the postwar boom—by the time Lyndon Johnson moved into the White House in 1963, he said things like: "I'm sick of all the people who talk about the things we can't do. Hell, we're the richest country in the world, the most powerful. We can do it all... We can do it if we believe it." He wasn't alone in thinking this way. From Moscow, Nikita Khrushchev thundered, "Growth of industrial and agricultural production is the battering ram with which we shall smash the capitalist system."

Yet the bad news was already apparent, if you cared to look. Burning rivers and smoggy cities demonstrated the dark side of industrial expansion. In 1972, a trio of MIT researchers released a series of computer forecasts they called "limits to growth," which showed that unbridled expansion would eventually deplete our resource base. A year later the British economist E.F. Schumacher wrote the best-selling *Small Is Beautiful*. (Soon after,

when Schumacher came to the United States on a speaking tour, Jimmy Carter actually received him at the White House—imagine the current president making time for any economist.) By 1979, the sociologist Amitai Etzioni reported to President Carter that only 30 percent of Americans were "pro-growth," 31 percent were "anti-growth," and 39 percent were "highly uncertain."

Such ambivalence, Etzioni predicted, "is too stressful for societies to endure," and Ronald Reagan proved his point. He convinced us it was "Morning in America"—out with limits, in with Trump. Today, mainstream liberals and conservatives compete mainly on the question of who can flog the economy harder. Larry Summers, who served as Bill Clinton's secretary of the treasury, at one point declared that the Clinton administration "cannot and will not accept any 'speed limit' on American economic growth. It is the task of economic policy to grow the economy as rapidly, sustainably, and inclusively as possible." It's the economy, stupid.

2. Oil bingeing, Chinese cars, and the end of the easy fix

Except there are three small things. The first I'll mention mostly in passing: Even though the economy continues to grow, most of us are no longer getting wealthier. The average wage in the United States is less now, in real dollars, than it was 30 years ago. Even for those with college degrees, and although productivity was growing faster than it had for decades, between 2000 and 2004 earnings fell 5.2 percent when adjusted for inflation, according to the most recent data from White House economists. Much the same thing has happened across most of the globe. More than 60 countries around the world, in fact, have seen incomes per capita fall in the past decade.

For the second point, it's useful to remember what Thomas Newcomen was up to when he helped launch the Industrial Revolution—burning coal to pump water out of a coal mine. This revolution both depended on, and revolved around, fossil fuels. "Before coal," writes the economist Jeffrey Sachs, "economic production was limited by energy inputs, almost all of which depended on the production of biomass: food for humans and farm animals, and fuel wood for heating and certain industrial processes." That is, energy depended on how much you could grow. But fossil energy depended on how much had grown eons before—all those billions of tons of ancient biology squashed by the weight of time till they'd turned into strata and pools and seams of hydrocarbons, waiting for us to discover them.

To understand how valuable, and irreplaceable, that lake of fuel was, consider a few other forms of creating usable energy. Ethanol can perfectly well replace gasoline in a tank; like petroleum, it's a way of using biology to create energy, and right now it's a hot commodity, backed with billions of dollars of government subsidies. But ethanol relies on plants that grow anew each year, most often corn; by the time you've driven your tractor to tend the fields, and your truck to carry the crop to the refinery, and powered your refinery, the best-case "energy output-to-input ratio" is something like 1.34-to-1. You've spent 100 Btu of fossil energy to get 134 Btu. Perhaps that's worth doing, but as Kamyar Enshayan of the University of Northern Iowa points out, "it's not impressive" compared to the ratio for oil, which ranges from 30-to-1 to 200-to-1, depending on where you drill it. To go from our fossil-fuel world to a biomass world would be a little like leaving the Garden of Eden for the land where bread must be earned by "the sweat of your brow."

And east of Eden is precisely where we may be headed. As everyone knows, the past three years have seen a spate of reports and books and documentaries suggesting that humanity may have neared or passed its oil peak—that is, the point at which those pools of primeval plankton are half used up, where each new year brings us closer to the bottom of the barrel. The major oil companies report that they can't find enough new wells most years to offset the depletion in the old ones; rumors circulate that the giant Saudi fields are dwindling faster than expected; and, of course, all this is reflected in the cost of oil.

The doctrinaire economist's answer is that no particular commodity matters all that much, because if we run short of something, it will pay for someone to develop a substitute. In general this has proved true in the past: Run short of nice big sawlogs and someone invents plywood. But it's far from clear that the same precept applies to coal, oil, and natural gas. This time, there is no easy substitute: I like the solar panels on my roof, but

they're collecting diffuse daily energy, not using up eons of accumulated power. Fossil fuel was an exception to the rule, a one-time gift that underwrote a one-time binge of growth.

This brings us to the third point: If we do try to keep going, with the entire world aiming for an economy structured like America's, it won't be just oil that we'll run short of. Here are the numbers we have to contend with: Given current rates of growth in the Chinese economy, the 1.3 billion residents of that nation alone will, by 2031, be about as rich as we are. If they then eat meat, milk, and eggs at the rate that we do, calculates ecostatistician Lester Brown, they will consume 1,352 million tons of grain each year—equal to two-thirds of the world's entire 2004 grain harvest. They will use 99 million barrels of oil a day, 15 million more than the entire world consumes at present. They will use more steel than all the West combined, double the world's production of paper, and drive 1.1 billion cars—1.5 times as many as the current world total. And that's just China; by then, India will have a bigger population, and its economy is growing almost as fast. And then there's the rest of the world.

Trying to meet that kind of demand will stress the earth past its breaking point in an almost endless number of ways, but let's take just one. When Thomas Newcomen fired up his pump on that morning in 1712, the atmosphere contained 275 parts per million of carbon dioxide. We're now up to 380 parts per million, a level higher than the earth has seen for many millions of years, and climate change has only just begun. The median predictions of the world's climatologists—by no means the worst-case scenario—show that unless we take truly enormous steps to rein in our use of fossil fuels, we can expect average temperatures to rise another four or five degrees before the century is out, making the globe warmer than it's been since long before primates appeared. We might as well stop calling it earth and have a contest to pick some new name, because it will be a different planet. Humans have never done anything more profound, not even when we invented nuclear weapons.

How does this tie in with economic growth? Clearly, getting rich means getting dirty—that's why, when I was in Beijing recently, I could stare straight at the sun (once I actually figured out where in the smoggy sky it was). But eventually, getting rich also means wanting the "luxury" of clean air and finding the technological means to achieve it. Which is why you can once again see the mountains around Los Angeles; why more of our rivers are swimmable every year. And economists have figured out clever ways to speed this renewal: Creating markets for trading pollution credits, for instance, helped cut those sulfur and nitrogen clouds more rapidly and cheaply than almost anyone had imagined.

But getting richer doesn't lead to producing less carbon dioxide in the same way that it does to less smog—in fact, so far it's mostly the reverse. Environmental destruction of the old-fashioned kind—dirty air, dirty water—results from something going wrong. You haven't bothered to stick the necessary filter on your pipes, and so the crud washes into the stream; a little regulation, and a little money, and the problem disappears. But the second, deeper form of environmental degradation comes from things operating exactly as they're supposed to, just too much so. Carbon dioxide is an inevitable byproduct of burning coal or gas or oil—not something going wrong. Researchers are struggling to figure out costly and complicated methods to trap some CO₂ and inject it into older ground mines—but for all practical purposes, the vast majority of the world's cars and factories and furnaces will keep belching more and more of it into the atmosphere as long as we burn more and more fossil fuels.

True, as companies and countries get richer, they can afford more efficient machinery that makes better use of fossil fuel, like the hybrid Honda Civic I drive. But if your appliances have gotten more efficient, there are also far more of them: The furnace is better than it used to be, but the average size of the house it heats has doubled since 1950. The 60-inch TV? The always-on cable modem? No need for you to do the math—the electric company does it for you, every month. Between 1990 and 2003, precisely the years in which we learned about the peril presented by global warming, the United States' annual carbon dioxide emissions increased by 16 percent. And the momentum to keep going in that direction is enormous. For most of us, growth has become synonymous with the economy's "health," which in turn seems far more palpable than the health of the planet. Think of the terms we use—the economy, whose temperature we take at every newscast via the Dow Jones average, is "ailing" or it's "on the mend." It's "slumping" or it's "in recovery." We cosset and succor its every

sniffle with enormous devotion, even as we more or less ignore the increasingly urgent fever that the globe is now running. The ecological economists have an enormous task ahead of them—a nearly insurmountable task, if it were "merely" the environment that is in peril. But here is where things get really interesting. It turns out that the economics of environmental destruction are closely linked to another set of leading indicators—ones that most humans happen to care a great deal about.

3. "It seems that well-being is a real phenomenon": Economists discover hedonics

Traditionally, happiness and satisfaction are the sort of notions that economists wave aside as poetic irrelevance, the kind of questions that occupy people with no head for numbers who had to major in liberal arts. An orthodox economist has a simple happiness formula: If you buy a Ford Expedition, then ipso facto a Ford Expedition is what makes you happy. That's all we need to know. The economist would call this idea "utility maximization," and in the words of the economic historian Gordon Bigelow, "the theory holds that every time a person buys something, sells something, quits a job, or invests, he is making a rational decision about what will...provide him 'maximum utility.' If you bought a Ginsu knife at 3 a.m. a neoclassical economist will tell you that, at that time, you calculated that this purchase would optimize your resources." The beauty of this principle lies in its simplicity. It is perhaps the central assumption of the world we live in: You can tell who I really am by what I buy.

Yet economists have long known that people's brains don't work quite the way the model suggests. When Bob Costanza, one of the fathers of ecological economics and now head of the Gund Institute at the University of Vermont, was first edging into economics in the early 1980s, he had a fellowship to study "social traps"—the nuclear arms race, say—in which "short-term behavior can get out of kilter with longer broad-term goals."

It didn't take long for Costanza to demonstrate, as others had before him, that, if you set up an auction in a certain way, people will end up bidding \$1.50 to take home a dollar. Other economists have shown that people give too much weight to "sunk costs"—that they're too willing to throw good money after bad, or that they value items more highly if they already own them than if they are considering acquiring them. Building on such insights, a school of "behavioral economics" has emerged in recent years and begun plumbing how we really behave.

The wonder is that it took so long. We all know in our own lives how irrationally we are capable of acting, and how unconnected those actions are to any real sense of joy. (I mean, there you are at 3 a.m. thinking about the Ginsu knife.) But until fairly recently, we had no alternatives to relying on Ginsu knife and Ford Expedition purchases as the sole measures of our satisfaction. How else would we know what made people happy?

That's where things are now changing dramatically: Researchers from a wide variety of disciplines have started to figure out how to assess satisfaction, and economists have begun to explore the implications. In 2002 Princeton's Daniel Kahneman won the Nobel Prize in economics even though he is trained as a psychologist. In the book *Well-Being*, he and a pair of coauthors announce a new field called "hedonics," defined as "the study of what makes experiences and life pleasant or unpleasant.... It is also concerned with the whole range of circumstances, from the biological to the societal, that occasion suffering and enjoyment." If you are worried that there might be something altogether too airy about this, be reassured—Kahneman thinks like an economist. In the book's very first chapter, "Objective Happiness," he describes an experiment that compares "records of the pain reported by two patients undergoing colonoscopy," wherein every 60 seconds he insists they rate their pain on a scale of 1 to 10 and eventually forces them to make "a hypothetical choice between a repeat colonoscopy and a barium enema." Dismal science indeed.

As more scientists have turned their attention to the field, researchers have studied everything from "biases in recall of menstrual symptoms" to "fearlessness and courage in novice paratroopers." Subjects have had to choose between getting an "attractive candy bar" and learning the answers to geography questions; they've been made to wear devices that measured their blood pressure at regular intervals; their brains have been scanned. And by now that's been enough to convince most observers that saying "I'm happy" is more than just a subjective statement. In the words of the economist Richard Layard, "We now know that what people say about

how they feel corresponds closely to the actual levels of activity in different parts of the brain, which can be measured in standard scientific ways." Indeed, people who call themselves happy, or who have relatively high levels of electrical activity in the left prefrontal region of the brain, are also "more likely to be rated as happy by friends," "more likely to respond to requests for help," "less likely to be involved in disputes at work," and even "less likely to die prematurely." In other words, conceded one economist, "it seems that what the psychologists call subjective well-being is a real phenomenon. The various empirical measures of it have high consistency, reliability, and validity."

The idea that there is a state called happiness, and that we can dependably figure out what it feels like and how to measure it, is extremely subversive. It allows economists to start thinking about life in richer (indeed) terms, to stop asking "What did you buy?" and to start asking "Is your life good?" And if you can ask someone "Is your life good?" and count on the answer to mean something, then you'll be able to move to the real heart of the matter, the question haunting our moment on the earth: Is more better?

4. If we're so rich, how come we're so damn miserable?

In some sense, you could say that the years since World War II in America have been a loosely controlled experiment designed to answer this very question. The environmentalist Alan Durning found that in 1991 the average American family owned twice as many cars as it did in 1950, drove 2.5 times as far, used 21 times as much plastic, and traveled 25 times farther by air. Gross national product per capita tripled during that period. Our houses are bigger than ever and stuffed to the rafters with belongings (which is why the storage-locker industry has doubled in size in the past decade). We have all sorts of other new delights and powers—we can send email from our cars, watch 200 channels, consume food from every corner of the world. Some people have taken much more than their share, but on average, all of us in the West are living lives materially more abundant than most people a generation ago.

What's odd is, none of it appears to have made us happier. Throughout the postwar years, even as the gnp curve has steadily climbed, the "life satisfaction" index has stayed exactly the same. Since 1972, the National Opinion Research Center has surveyed Americans on the question: "Taking all things together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy?" (This must be a somewhat unsettling interview.) The "very happy" number peaked at 38 percent in the 1974 poll, amid oil shock and economic malaise; it now hovers right around 33 percent.

And it's not that we're simply recalibrating our sense of what happiness means—we are actively experiencing life as grimmer. In the winter of 2006 the National Opinion Research Center published data about "negative life events" comparing 1991 and 2004, two data points bracketing an economic boom. "The anticipation would have been that problems would have been down," the study's author said. Instead it showed a rise in problems—for instance, the percentage who reported breaking up with a steady partner almost doubled. As one reporter summarized the findings, "There's more misery in people's lives today."

This decline in the happiness index is not confined to the United States; as other nations have followed us into mass affluence, their experiences have begun to yield similar results. In the United Kingdom, real gross domestic product per capita grew two-thirds between 1973 and 2001, but people's satisfaction with their lives changed not one whit. Japan saw a fourfold increase in real income per capita between 1958 and 1986 without any reported increase in satisfaction. In one place after another, rates of alcoholism, suicide, and depression have gone up dramatically, even as we keep accumulating more stuff. Indeed, one report in 2000 found that the average American child reported higher levels of anxiety than the average child under psychiatric care in the 1950s—our new normal is the old disturbed.

If happiness was our goal, then the unbelievable amount of effort and resources expended in its pursuit since 1950 has been largely a waste. One study of life satisfaction and mental health by Emory University professor Corey Keyes found just 17 percent of Americans "flourishing," in mental health terms, and 26 percent either "languishing" or out-and-out depressed.

5. Danes (and Mexicans, the Amish, and the Masai) just want to have fun

how is it, then, that we became so totally, and apparently wrongly, fixated on the idea that our main goal, as individuals and as nations, should be the accumulation of more wealth? The answer is interesting for what it says about human nature. Up to a certain point, more really does equal better. Imagine briefly your life as a poor person in a poor society—say, a peasant farmer in China. (China has one-fourth of the world's farmers, but one-fourteenth of its arable land; the average farm in the southern part of the country is about half an acre, or barely more than the standard lot for a new American home.) You likely have the benefits of a close and connected family, and a village environment where your place is clear. But you lack any modicum of security for when you get sick or old or your back simply gives out. Your diet is unvaried and nutritionally lacking; you're almost always cold in winter.

In a world like that, a boost in income delivers tangible benefits. In general, researchers report that money consistently buys happiness right up to about \$10,000 income per capita. That's a useful number to keep in the back of your head—it's like the freezing point of water, one of those random figures that just happens to define a crucial phenomenon on our planet. "As poor countries like India, Mexico, the Philippines, Brazil, and South Korea have experienced economic growth, there is some evidence that their average happiness has risen," the economist Layard reports. Past \$10,000 (per capita, mind you—that is, the average for each man, woman, and child), there's a complete scattering: When the Irish were making two-thirds as much as Americans they were reporting higher levels of satisfaction, as were the Swedes, the Danes, the Dutch. Mexicans score higher than the Japanese; the French are about as satisfied with their lives as the Venezuelans. In fact, once basic needs are met, the "satisfaction" data scrambles in mindbending ways. A sampling of Forbes magazine's "richest Americans" have identical happiness scores with Pennsylvania Amish, and are only a whisker above Swedes taken as a whole, not to mention the Masai. The "life satisfaction" of pavement dwellers—homeless people—in Calcutta is among the lowest recorded, but it almost doubles when they move into a slum, at which point they are basically as satisfied with their lives as a sample of college students drawn from 47 nations. And so on.

On the list of major mistakes we've made as a species, this one seems pretty high up. Our single-minded focus on increasing wealth has succeeded in driving the planet's ecological systems to the brink of failure, even as it's failed to make us happier. How did we screw up?

The answer is pretty obvious—we kept doing something past the point that it worked. Since happiness had increased with income in the past, we assumed it would inevitably do so in the future. We make these kinds of mistakes regularly: Two beers made me feel good, so ten will make me feel five times better. But this case was particularly extreme—in part because as a species, we've spent so much time simply trying to survive. As the researchers Ed Diener and Martin Seligman—both psychologists—observe, "At the time of Adam Smith, a concern with economic issues was understandably primary. Meeting simple human needs for food, shelter and clothing was not assured, and satisfying these needs moved in lockstep with better economics." Freeing people to build a more dynamic economy was radical and altruistic.

Consider Americans in 1820, two generations after Adam Smith. The average citizen earned, in current dollars, less than \$1,500 a year, which is somewhere near the current average for all of Africa. As the economist Deirdre McCloskey explains in a 2004 article in the magazine *Christian Century*, "Your great-great-great-grandmother had one dress for church and one for the week, if she were not in rags. Her children did not attend school, and probably could not read. She and her husband worked eighty hours a week for a diet of bread and milk—they were four inches shorter than you." Even in 1900, the average American lived in a house the size of today's typical garage. Is it any wonder that we built up considerable velocity trying to escape the gravitational pull of that kind of poverty? An object in motion stays in motion, and our economy—with the built-up individual expectations that drive it—is a mighty object indeed.

You could call it, I think, the Laurdlgalls Wilder effect. I grew up reading her books—*Little House on the Prairie*, *Little House in the Big Woods*—and my daughter grew up listening to me read them to her, and no doubt she will read them to her children. They are the ur-American story. And what do they tell? Of a life rich

in family, rich in connection to the natural world, rich in adventure—but materially deprived. That one dress, that same bland dinner. At Christmastime, a penny—a penny! And a stick of candy, and the awful deliberation about whether to stretch it out with tiny licks or devour it in an orgy of happy greed. A rag doll was the zenith of aspiration. My daughter likes dolls too, but her bedroom boasts a density of Beanie Babies that mimics the manic biodiversity of the deep rainforest. Another one? Really, so what? Its marginal utility, as an economist might say, is low. And so it is with all of us. We just haven't figured that out because the momentum of the past is still with us—we still imagine we're in that little house on the big prairie.

6. This year's model home: "Good for the dysfunctional family"

that great momentum has carried us away from something valuable, something priceless: It has allowed us to become (very nearly forced us to become) more thoroughly individualistic than we really wanted to be. We left behind hundreds of thousands of years of human community for the excitement, and the isolation, of "making something of ourselves," an idea that would not have made sense for 99.9 percent of human history. Adam Smith's insight was that the interests of each of our individual selves could add up, almost in spite of themselves, to social good—to longer lives, fuller tables, warmer houses. Suddenly the community was no longer necessary to provide these things; they would happen as if by magic. And they did happen. And in many ways it was good.

But this process of liberation seems to have come close to running its course. Study after study shows Americans spending less time with friends and family, either working longer hours, or hunched over their computers at night. And each year, as our population grows by 1 percent we manage to spread ourselves out over 6 to 8 percent more land. Simple mathematics says that we're less and less likely to bump into the other inhabitants of our neighborhood, or indeed of our own homes. As the Wall Street Journal reported recently, "Major builders and top architects are walling people off. They're touting one-person 'Internet alcoves,' locked-door 'away rooms,' and his-and-her offices on opposite ends of the house. The new floor plans offer so much seclusion, they're 'good for the dysfunctional family,' says Gopal Ahluwalia, director of research for the National Association of Home Builders." At the building industry's annual Las Vegas trade show, the "showcase 'Ultimate Family Home' hardly had a family room," noted the Journal. Instead, the boy's personal playroom had its own 42-inch plasma TV, and the girl's bedroom had a secret mirrored door leading to a "hideaway karaoke room." "We call this the ultimate home for families who don't want anything to do with one another," said Mike McGee, chief executive of Pardee Homes of Los Angeles, builder of the model.

This transition from individualism to hyper-individualism also made its presence felt in politics. In the 1980s, British prime minister Margaret Thatcher asked, "Who is society? There is no such thing. There are individual men and women, and there are families." Talk about everything solid melting into air—Thatcher's maxim would have spooked Adam Smith himself. The "public realm"—things like parks and schools and Social Security, the last reminders of the communities from which we came—is under steady and increasing attack. Instead of contributing to the shared risk of health insurance, Americans are encouraged to go it alone with "health savings accounts." Hell, even the nation's most collectivist institution, the U.S. military, until recently recruited under the slogan an "Army of One." No wonder the show that changed television more than any other in the past decade was *Survivor*, where the goal is to end up alone on the island, to manipulate and scheme until everyone is banished and leaves you by yourself with your money.

It's not so hard, then, to figure out why happiness has declined here even as wealth has grown. During the same decades when our lives grew busier and more isolated, we've gone from having three confidants on average to only two, and the number of people saying they have no one to discuss important matters with has nearly tripled. Between 1974 and 1994, the percentage of Americans who said they visited with their neighbors at least once a month fell from almost two-thirds to less than half, a number that has continued to fall in the past decade. We simply worked too many hours earning, we commuted too far to our too-isolated homes, and there was always the blue glow of the tube shining through the curtains.

7. New friend or new coffeemaker? Pick one

because traditional economists think of human beings primarily as individuals and not as members of a community, they miss out on a major part of the satisfaction index. Economists lay it out almost as a mathematical equation: Overall, "evidence shows that companionship...contributes more to well-being than does income," writes Robert E. Lane, a Yale political science professor who is the author of *The Loss of Happiness in Market Democracies*. But there is a notable difference between poor and wealthy countries: When people have lots of companionship but not much money, income "makes more of a contribution to subjective well-being." By contrast, "where money is relatively plentiful and companionship relatively scarce, companionship will add more to subjective well-being." If you are a poor person in China, you have plenty of friends and family around all the time—perhaps there are four other people living in your room. Adding a sixth doesn't make you happier. But adding enough money so that all five of you can eat some meat from time to time pleases you greatly. By contrast, if you live in a suburban American home, buying another coffeemaker adds very little to your quantity of happiness—trying to figure out where to store it, or wondering if you picked the perfect model, may in fact decrease your total pleasure. But a new friend, a new connection, is a big deal. We have a surplus of individualism and a deficit of companionship, and so the second becomes more valuable.

Indeed, we seem to be genetically wired for community. As biologist Edward O. Wilson found, most primates live in groups and get sad when they're separated—"an isolated individual will repeatedly pull a lever with no reward other than the glimpse of another monkey." Why do people so often look back on their college days as the best years of their lives? Because their classes were so fascinating? Or because in college, we live more closely and intensely with a community than most of us ever do before or after? Every measure of psychological health points to the same conclusion: People who "are married, who have good friends, and who are close to their families are happier than those who do not," says Swarthmore psychologist Barry Schwartz. "People who participate in religious communities are happier than those who are not." Which is striking, Schwartz adds, because social ties "actually decrease freedom of choice"—being a good friend involves sacrifice.

Do we just think we're happier in communities? Is it merely some sentimental good-night-John-Boy affectation? No—our bodies react in measurable ways. According to research cited by Harvard professor Robert Putnam in his classic book *Bowling Alone*, if you do not belong to any group at present, joining a club or a society of some kind cuts in half the risk that you will die in the next year. Check this out: When researchers at Carnegie Mellon (somewhat disgustingly) dropped samples of cold virus directly into subjects' nostrils, those with rich social networks were four times less likely to get sick. An economy that produces only individualism undermines us in the most basic ways.

Here's another statistic worth keeping in mind: Consumers have 10 times as many conversations at farmers' markets as they do at supermarkets—an order of magnitude difference. By itself, that's hardly life-changing, but it points at something that could be: living in an economy where you are participant as well as consumer, where you have a sense of who's in your universe and how it fits together. At the same time, some studies show local agriculture using less energy (also by an order of magnitude) than the "it's always summer somewhere" system we operate on now. Those are big numbers, and it's worth thinking about what they suggest—especially since, between peak oil and climate change, there's no longer really a question that we'll have to wean ourselves of the current model.

So as a mental experiment, imagine how we might shift to a more sustainable kind of economy. You could use government policy to nudge the change—remove subsidies from agribusiness and use them instead to promote farmer-entrepreneurs; underwrite the cost of windmills with even a fraction of the money that's now going to protect oil flows. You could put tariffs on goods that travel long distances, shift highway spending to projects that make it easier to live near where you work (and, by cutting down on commutes, leave some time to see the kids). And, of course, you can exploit the Net to connect a lot of this highly localized stuff into something larger. By way of example, a few of us are coordinating the first nationwide global warming demonstration—but instead of marching on Washington, we're rallying in our local areas, and then fusing our efforts, via the website stepitup07.org, into a national message.

It's easy to dismiss such ideas as sentimental or nostalgic. In fact, economies can be localized as easily in cities and suburbs as rural villages (maybe more easily), and in ways that look as much to the future as the past, that rely more on the solar panel and the Internet than the white picket fence. In fact, given the trendlines for phenomena such as global warming and oil supply, what's nostalgic and sentimental is to keep doing what we're doing simply because it's familiar.

8. The oil-for-people paradox: Why small farms produce more food

to understand the importance of this last point, consider the book *American Mania* by the neuroscientist Peter Whybrow. Whybrow argues that many of us in this country are predisposed to a kind of dynamic individualism—our gene pool includes an inordinate number of people who risked everything to start over. This served us well in settling a continent and building our prosperity. But it never got completely out of control, says Whybrow, because "the marketplace has always had its natural constraints. For the first two centuries of the nation's existence, even the most insatiable American citizen was significantly leashed by the checks and balances inherent in a closely knit community, by geography, by the elements of weather, or, in some cases, by religious practice." You lived in a society—a habitat—that kept your impulses in some kind of check. But that changed in the past few decades as the economy nationalized and then globalized. As we met fewer actual neighbors in the course of a day, those checks and balances fell away. "Operating in a world of instant communication with minimal social tethers," Whybrow observes, "America's engines of commerce and desire became turbocharged."

Adam Smith himself had worried that too much envy and avarice would destroy "the empathic feeling and neighborly concerns that are essential to his economic model," says Whybrow, but he "took comfort in the fellowship and social constraint that he considered inherent in the tightly knit communities characteristic of the 18th century." Businesses were built on local capital investment, and "to be solicitous of one's neighbor was prudent insurance against future personal need." For the most part, people felt a little constrained about showing off wealth; indeed, until fairly recently in American history, someone who was making tons of money was often viewed with mixed emotions, at least if he wasn't giving back to the community. "For the rich," Whybrow notes, "the reward system would be balanced between the pleasure of self-gain and the civic pride of serving others. By these mechanisms the most powerful citizens would be limited in their greed."

Once economies grow past a certain point, however, "the behavioral contingencies essential to promoting social stability in a market-regulated society—close personal relationships, tightly knit communities, local capital investment, and so on—are quickly eroded." So re-localizing economies offers one possible way around the gross inequalities that have come to mark our societies. Instead of aiming for growth at all costs and hoping it will trickle down, we may be better off living in enough contact with each other for the affluent to once again feel some sense of responsibility for their neighbors. This doesn't mean relying on noblesse oblige; it means taking seriously the idea that people, and their politics, can be changed by their experiences. It's a hopeful sign that more and more local and state governments across the country have enacted "living wage" laws. It's harder to pretend that the people you see around you every day should live and die by the dictates of the market.

Right around this time, an obvious question is doubtless occurring to you. Is it foolish to propose that a modern global economy of 6 (soon to be 9) billion people should rely on more localized economies? To put it more bluntly, since for most people "the economy" is just a fancy way of saying "What's for dinner?" and "Am I having any?," doesn't our survival depend on economies that function on a massive scale—such as highly industrialized agriculture? Turns out the answer is no—and the reasons why offer a template for rethinking the rest of the economy as well.

We assume, because it makes a certain kind of intuitive sense, that industrialized farming is the most productive farming. A vast Midwestern field filled with high-tech equipment ought to produce more food than someone with a hoe in a small garden. Yet the opposite is true. If you are after getting the greatest yield from the land, then smaller farms in fact produce more food.

If you are one guy on a tractor responsible for thousands of acres, you grow your corn and that's all you can do—make pass after pass with the gargantuan machine across a sea of crop. But if you're working 10 acres, then you have time to really know the land, and to make it work harder. You can intercrop all kinds of plants—their roots will go to different depths, or they'll thrive in each other's shade, or they'll make use of different nutrients in the soil. You can also walk your fields, over and over, noticing. According to the government's most recent agricultural census, smaller farms produce far more food per acre, whether you measure in tons, calories, or dollars. In the process, they use land, water, and oil much more efficiently; if they have animals, the manure is a gift, not a threat to public health. To feed the world, we may actually need lots more small farms.

But if this is true, then why do we have large farms? Why the relentless consolidation? There are many reasons, including the way farm subsidies have been structured, the easier access to bank loans (and politicians) for the big guys, and the convenience for food-processing companies of dealing with a few big suppliers. But the basic reason is this: We substituted oil for people. Tractors and synthetic fertilizer instead of farmers and animals. Could we take away the fossil fuel, put people back on the land in larger numbers, and have enough to eat?

The best data to answer that question comes from an English agronomist named Jules Pretty, who has studied nearly 300 sustainable agriculture projects in 57 countries around the world. They might not pass the U.S. standards for organic certification, but they're all what he calls "low-input." Pretty found that over the past decade, almost 12 million farmers had begun using sustainable practices on about 90 million acres. Even more remarkably, sustainable agriculture increased food production by 79 percent per acre. These were not tiny isolated demonstration farms—Pretty studied 14 projects where 146,000 farmers across a broad swath of the developing world were raising potatoes, sweet potatoes, and cassava, and he found that practices such as cover-cropping and fighting pests with natural adversaries had increased production 150 percent—17 tons per household. With 4.5 million small Asian grain farmers, average yields rose 73 percent. When Indonesian rice farmers got rid of pesticides, their yields stayed the same but their costs fell sharply.

"I acknowledge," says Pretty, "that all this may sound too good to be true for those who would disbelieve these advances. Many still believe that food production and nature must be separated, that 'agroecological' approaches offer only marginal opportunities to increase food production, and that industrialized approaches represent the best, and perhaps only, way forward. However, prevailing views have changed substantially in just the last decade."

And they will change just as profoundly in the decades to come across a wide range of other commodities. Already I've seen dozens of people and communities working on regional-scale sustainable timber projects, on building energy networks that work like the Internet by connecting solar rooftops and backyard windmills in robust mini-grids. That such things can begin to emerge even in the face of the political power of our reigning economic model is remarkable; as we confront significant change in the climate, they could speed along the same kind of learning curve as Pretty's rice farmers and wheat growers. And they would not only use less energy; they'd create more community. They'd start to reverse the very trends I've been describing, and in so doing rebuild the kind of scale at which Adam Smith's economics would help instead of hurt.

In the 20th century, two completely different models of how to run an economy battled for supremacy. Ours won, and not only because it produced more goods than socialized state economies. It also produced far more freedom, far less horror. But now that victory is starting to look Pyrrhic; in our overheated and underhappy state, we need some new ideas.

We've gone too far down the road we're traveling. The time has come to search the map, to strike off in new directions. Inertia is a powerful force; marriages and corporations and nations continue in motion until something big diverts them. But in our new world we have much to fear, and also much to desire, and together they can set us on a new, more promising course.

Want to see how the "satisfaction index" has changed over your lifetime? Find some of the data mentioned in this article—and a few other numbers that will surprise you—at: motherjones.com/happine