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STATE OF THE WORLD

Transforming Cultures

From Consumerism to Sustainability

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STATE OF THE WORLD

Transforming Cultures

From Consumerism to Sustainability

Advance Praise for *State of the World 2010*:

“If we continue to think of ourselves mostly as consumers, it’s going to be very hard to bring our environmental troubles under control. But it’s also going to be very hard to live the rounded and joyful lives that could be ours. This is a subversive volume in all the best ways!”

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“Worldwatch has taken on an ambitious agenda in this volume. No generation in history has achieved a cultural transformation as sweeping as the one called for here...it is hard not to be impressed with the book’s boldness.”

—**Muhammad Yunus**, founder of the *Grameen Bank*

“This year’s *State of the World* report is a cultural mindbomb exploding with devastating force. I hope it wakes a few people up.”

—**Kalle Lasn**, Editor of *Adbusters* magazine

Like a tsunami, consumerism has engulfed human cultures and Earth’s ecosystems. Left unaddressed, we risk global disaster. But if we channel this wave, intentionally transforming our cultures to center on sustainability, we will not only prevent catastrophe but may usher in an era of sustainability—one that allows all people to thrive while protecting, even restoring, Earth.

In this year’s *State of the World* report, 50+ renowned researchers and practitioners describe how we can harness the world’s leading institutions—education, the media, business, governments, traditions, and social movements—to reorient cultures toward sustainability.



full image



extreme close-up

Several million pounds of plastic enter the world’s oceans every hour, portrayed on the cover by the 2.4 million bits of plastic that make up *Gyre*, Chris Jordan’s 8- by 11-foot reincarnation of the famous 1820s woodblock print, *The Great Wave Off Kanagawa*, by the Japanese artist Katsushika Hokusai.

For discussion questions, additional essays, video presentations, and event calendar, visit blogs.worldwatch.org/transformingcultures.

Cover image: *Gyre* by Chris Jordan
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The Rise and Fall of Consumer Cultures

Erik Assadourian

In the 2009 documentary *The Age of Stupid*, a fictional historian who is possibly the last man on Earth looks at archival film footage from 2008 and contemplates the last years in which humanity could have saved itself from global ecological collapse. As he reflects on the lives of several individuals—an Indian businessman building a new low-cost airline, a British community group concerned about climate change but fighting a new wind turbine development in the area, a Nigerian student striving to live the American dream, and an American oilman who sees no contradiction between his work and his love of the outdoors—the historian wonders, “Why didn’t we save ourselves when we had the chance?” Were we just being stupid? Or was it that “on some level we weren’t sure that we were worth saving?” The answer has little to do with humans being stupid or self-destructive but everything to do with culture.¹

Human beings are embedded in cultural systems, are shaped and constrained by their cultures, and for the most part act only within the cultural realities of their lives. The cultural norms, symbols, values, and traditions a person grows up with become “natural.” Thus,

asking people who live in consumer cultures to curb consumption is akin to asking them to stop breathing—they can do it for a moment, but then, gasping, they will inhale again. Driving cars, flying in planes, having large homes, using air conditioning...these are not decadent choices but simply natural parts of life—at least according to the cultural norms present in a growing number of consumer cultures in the world. Yet while they seem natural to people who are part of those cultural realities, these patterns are neither sustainable nor innate manifestations of human nature. They have developed over several centuries and today are actively being reinforced and spread to millions of people in developing countries.

Preventing the collapse of human civilization requires nothing less than a wholesale transformation of dominant cultural patterns. This transformation would reject consumerism—the cultural orientation that leads people to find meaning, contentment, and acceptance through what they consume—as taboo and establish in its place a new cultural framework centered on sustainability. In the process, a revamped understanding of “natural” would emerge: it would mean individual

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and societal choices that cause minimal ecological damage or, better yet, that restore Earth's ecological systems to health. Such a shift—something more fundamental than the adoption of new technologies or government policies, which are often regarded as the key drivers of a shift to sustainable societies—would radically reshape the way people understand and act in the world.

Transforming cultures is of course no small task. It will require decades of effort in which cultural pioneers—those who can step out of their cultural realities enough to critically examine them—work tirelessly to redirect key culture-shaping institutions: education, business, government, and the media, as well as social movements and long-standing human traditions. Harnessing these drivers of cultural change will be critical if humanity is to survive and thrive for centuries and millennia to come and prove that we are, indeed, “worth saving.”

The Unsustainability of Current Consumption Patterns

In 2006, people around the world spent \$30.5 trillion on goods and services (in 2008 dollars). These expenditures included basic necessities like food and shelter, but as discretionary incomes rose, people spent more on consumer goods—from richer foods and larger homes to televisions, cars, computers, and air travel. In 2008 alone, people around the world purchased 68 million vehicles, 85 million refrigerators, 297 million computers, and 1.2 billion mobile (cell) phones.²

Consumption has grown dramatically over the past five decades, up 28 percent from the \$23.9 trillion spent in 1996 and up sixfold from the \$4.9 trillion spent in 1960 (in 2008 dollars). Some of this increase comes from the growth in population, but human numbers only grew by a factor of 2.2 between 1960 and 2006. Thus consumption expenditures per person still almost tripled.³

As consumption has risen, more fossil fuels, minerals, and metals have been mined from the earth, more trees have been cut down, and more land has been plowed to grow food (often to feed livestock as people at higher income levels started to eat more meat). Between 1950 and 2005, for example, metals production grew sixfold, oil consumption eightfold, and natural gas consumption 14-fold. In total, 60 billion tons of resources are now extracted annually—about 50 percent more than just 30 years ago. Today, the average European uses 43 kilograms of resources daily, and the average American uses 88 kilograms. All in all, the world extracts the equivalent of 112 Empire State Buildings from the earth every single day.⁴

The exploitation of these resources to maintain ever higher levels of consumption has put increasing pressure on Earth's systems and in the process has dramatically disrupted the ecological systems on which humanity and countless other species depend.

The Ecological Footprint Indicator, which compares humanity's ecological impact with the amount of productive land and sea area available to supply key ecosystem services, shows that humanity now uses the resources and services of 1.3 Earths. (See Figure 1.) In other words, people are using about a third more of Earth's capacity than is available, undermining the resilience of the very ecosystems on which humanity depends.⁵

In 2005 the Millennium Ecosystem Assessment (MA), a comprehensive review of scientific research that involved 1,360 experts from 95 countries, reinforced these findings. It found that some 60 percent of ecosystem services—climate regulation, the provision of fresh water, waste treatment, food from fisheries, and many other services—were being degraded or used unsustainably. The findings were so unsettling that the MA Board warned that “human activity is putting such strain on the natural functions of Earth that the ability of the planet's ecosys-

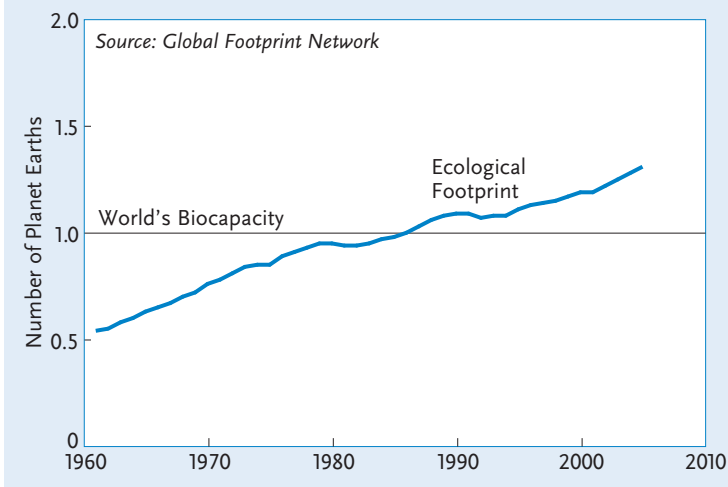
tems to sustain future generations can no longer be taken for granted.”⁶

The shifts in one particular ecosystem service—climate regulation—are especially disturbing. After remaining at stable levels for the past 1,000 years at about 280 parts per million, atmospheric concentrations of carbon dioxide (CO₂) are now at 385 parts per million, driven by a growing human population consuming ever more fossil fuels, eating more meat, and converting more land to agriculture and urban areas. The Intergovernmental Panel on Climate Change found that climate change due to human activities is causing major disruptions in Earth’s systems. If greenhouse gas emissions are not curbed, disastrous changes will occur in the next century.⁷

A May 2009 study that used the Integrated Global Systems Model of the Massachusetts Institute of Technology found that unless significant action is taken soon, median temperature increases would be 5.1 degrees Celsius by 2100, more than twice as much as the model had projected in 2003. A September 2009 study reinforced that finding, stating that business as usual would lead to a 4.5 degree Celsius increase by 2100, and that even if all countries stuck to their most ambitious proposals to reduce greenhouse gas emissions, temperatures would still go up by 3.5 degrees Celsius. In other words, policy alone will not be enough. A dramatic shift in the very design of human societies will be essential.⁸

These projected levels of temperature change mean the odds would be great that ocean levels would increase by two or more meters due to the partial melting of Greenland or Western Antarctica ice sheets, which in turn would cause massive coastal flooding and

Figure 1. Humanity’s Ecological Footprint, 1961–2005



potentially submerge entire island nations. The one sixth of the world who depend on glacier- or snowmelt-fed rivers for water would face extreme water scarcity. Vast swaths of the Amazon forest would become savanna, coral reefs would die, and many of the world’s most vulnerable fisheries would collapse. All of this would translate into major political and social disruptions—with environmental refugees projected to reach up to 1 billion by 2050.⁹

And climate change is just one of the many symptoms of excessive consumption levels. Air pollution, the average loss of 7 million hectares of forests per year, soil erosion, the annual production of over 100 million tons of hazardous waste, abusive labor practices driven by the desire to produce more and cheaper consumer goods, obesity, increasing time stress—the list could go on and on. All these problems are often treated separately, even as many of their roots trace back to current consumption patterns.¹⁰

In addition to being excessive overall, modern consumption levels are highly skewed, leading to disproportionate responsibility for modern environmental ills among the rich.

According to a study by Princeton ecologist Stephen Pacala, the world's richest 500 million people (roughly 7 percent of the world's population) are currently responsible for 50 percent of the world's carbon dioxide emissions, while the poorest 3 billion are responsible for just 6 percent. These numbers should not be surprising, for it is the rich who have the largest homes, drive cars, jet around the world, use large amounts of electricity, eat more meat and processed foods, and buy more stuff—all of which has significant ecological impact. Granted, higher incomes do not always equate with increased consumption, but where consumerism is the cultural norm, the odds of consuming more go up when people have more money, even for ecologically conscious consumers.¹¹

In 2006, the 65 high-income countries where consumerism is most dominant accounted for 78 percent of consumption expenditures but just 16 percent of world population. People in the United States alone spent \$9.7 trillion on consumption that year—about \$32,400 per person—accounting for 32 percent of global expenditures with only 5 percent of global population. It is these countries that most urgently need to redirect their consumption patterns, as the planet cannot handle such high levels of consumption.

Indeed, if everyone lived like Americans, Earth could sustain only 1.4 billion people. At slightly lower consumption levels, though still high, the planet could support 2.1 billion people. But even at middle-income levels—the equivalent of what people in Jordan and Thailand earn on average today—Earth can sustain fewer people than are alive today. (See Table 1.) These numbers convey a reality that few want to confront: in today's world of 6.8 billion, modern consumption patterns—even at relatively basic levels—are not sustainable.¹²

A 2009 analysis of consumption patterns across socioeconomic classes in India made this particularly clear. Consumer goods are broadly accessible in India today. Even at annual income levels of about \$2,500 per person in purchasing power parity (PPP), many households have access to basic lighting and a fan. As incomes reach about \$5,000 per year PPP, access to television becomes standard and access to hot water heaters grows. By \$8,000 a year PPP, most people have an array of consumer goods, from washing machines and DVD players to kitchen appliances and computers. As incomes rise further, air conditioning and air travel become common.¹³

Not surprisingly, the richest 1 percent of Indians (10 million people), who earn more than \$24,500 PPP a year, are now each respon-

Table 1. Sustainable World Population at Different Consumption Levels

Consumption Level	Per Capita Income, 2005 (GNI, PPP, 2008 dollars)	Biocapacity Used Per Person, 2005 (global hectares)	Sustainable Population at this Level (billion)
Low-income	1,230	1.0	13.6
Middle-income	5,100	2.2	6.2
High-income	35,690	6.4	2.1
United States	45,580	9.4	1.4
Global average	9,460	2.7	5.0

Source: See endnote 12.

sible for more than 5 tons of CO₂ emissions annually—still just a fifth of American per capita emissions but twice the average level of 2.5 tons per person needed to keep temperatures under 2 degrees Celsius. Even the 151 million Indians earning more than \$6,500 per person PPP are living above the threshold of 2.5 tons per person, while the 156 million Indians earning \$5,000 are nearing it, producing 2.2 tons per person.¹⁴

As the Ecological Footprint Indicator and Indian survey demonstrate, even at income levels that most observers would think of as subsistence—about \$5,000–6,000 PPP per person a year—people are already consuming at unsustainable levels. And today, more than a third of the world's people live above this threshold.¹⁵

The adoption of sustainable technologies should enable basic levels of consumption to remain ecologically viable. From Earth's perspective, however, the American or even the European way of life is simply not viable. A recent analysis found that in order to produce enough energy over the next 25 years to replace most of what is supplied by fossil fuels, the world would need to build 200 square meters of solar photovoltaic panels every second plus 100 square meters of solar thermal every second plus 24 3-megawatt wind turbines every hour nonstop for the next 25 years. All of this would take tremendous energy and materials—ironically frontloading carbon emissions just when they most need to be reduced—and expand humanity's total ecological impact significantly in the short term.¹⁶

Add to this the fact that population is projected to grow by another 2.3 billion by 2050 and even with effective strategies to curb growth will probably still grow by at least another 1.1 billion before peaking. Thus it becomes clear that while shifting technologies and stabilizing population will be essential in creating sustainable societies, neither will succeed without considerable changes in consumption patterns, including reducing and

even eliminating the use of certain goods, such as cars and airplanes, that have become important parts of life today for many. Habits that are firmly set—from where people live to what they eat—will all need to be altered and in many cases simplified or minimized. These, however, are not changes that people will want to make, as their current patterns are comfortable and feel “natural,” in large part because of sustained and methodical efforts to make them feel just that way.¹⁷

In considering how societies can be put on paths toward a sustainable future, it is important to recognize that human behaviors that are so central to modern cultural identities and economic systems are not choices that are fully in consumers' control. They are systematically reinforced by an increasingly dominant cultural paradigm: consumerism.

Consumerism Across Cultures

To understand what consumerism is, first it is necessary to understand what culture is. Culture is not simply the arts, or values, or belief systems. It is not a distinct institution functioning alongside economic or political systems. Rather, it is all of these elements—values, beliefs, customs, traditions, symbols, norms, and institutions—combining to create the overarching frames that shape how humans perceive reality. Because of individual cultural systems, one person can interpret an action as insulting that another would find friendly—such as making a “thumbs up” sign, which is an exceptionally vulgar gesture in some cultures. Culture leads some people to believe that social roles are designated by birth, determines where people's eyes focus when they talk to others, and even dictates what forms of sexual relationships (such as monogamy, polyandry, or polygamy) are acceptable.¹⁸

Cultures, as broader systems, arise out of the complex interactions of many different elements of social behaviors and guide humans at



Hegariz

Grub to go: Sago grubs, a gourmet delicacy in New Guinea.

an almost invisible level. They are, in the words of anthropologists Robert Welsch and Luis Vivanco, the sum of all “social processes that make the artificial (or human constructed) seem natural.” It is these social processes—from direct interaction with other people and with cultural artifacts or “stuff” to exposure to the media, laws, religions, and economic systems—that shape people’s realities.¹⁹

Most of what seems “natural” to people is actually cultural. Take eating, for example. All humans eat, but what, how, and even when they eat is determined by cultural systems. Few Europeans would eat insects because these creatures are intrinsically repulsive to them due to cultural conditioning, though many of them would eat shrimp or snails. Yet in other cultures, bugs are an important part of cuisine, and in some cases—like the Sago grub for the Korowai people of New Guinea—bugs are delicacies.²⁰

Ultimately, while human behavior is rooted in evolution and physiology, it is guided primarily by the cultural systems people are born into. As with all systems, there are dominant paradigms that guide cultures—shared ideas and assumptions that, over generations, are shaped and reinforced by leading cultural

actors and institutions and by the participants in the cultures themselves. Today the cultural paradigm that is dominant in many parts of the world and across many cultural systems is consumerism.²¹

British economist Paul Ekins describes consumerism as a cultural orientation in which “the possession and use of an increasing number and variety of goods and services is the principal cultural aspiration and the surest perceived route to personal happiness, social status, and national success.” Put more simply: consumerism is a cultural pattern that leads people to find meaning, contentment, and acceptance primarily through the consumption of goods and services. While this takes different forms in different cultures, consumerism leads people everywhere to associate high consumption levels with well-being and success. Ironically though, research shows that consuming more does not necessarily mean a better individual quality of life. (See Box 1.)²²

Consumerism has now so fully worked its way into human cultures that it is sometimes hard to even recognize it as a cultural construction. It simply seems to be natural. But in fact the elements of cultures—language and symbols, norms and traditions, values and institutions—have been profoundly transformed by consumerism in societies around the world. Indeed, “consumer” is now often used interchangeably with person in the 10 most commonly used languages of the world, and most likely in many more.²³

Consider symbols—what anthropologist Leslie White once described as “the origin and basis of human behavior.” In most countries today people are exposed to hundreds if not thousands of consumerist symbols every day. Logos, jingles, slogans, spokespersons, mascots—all these symbols of different brands routinely bombard people, influencing behavior even at unconscious levels. Many people today recognize these consumerist symbols more easily than they do common wildlife

Box 1. Do High Consumption Levels Improve Human Well-being?

Ultimately, whether high consumption levels make people better off is irrelevant if they lead to the degradation of Earth's systems, as ecological decline will undermine human well-being for the majority of society in the long term. But even assuming this threat were not looming, there is strong evidence that higher levels of consumption do not significantly increase the quality of life beyond a certain point, and they may even reduce it.

First, psychological evidence suggests that it is close relationships, a meaningful life, economic security, and health that contribute most to well-being. While there are marked improvements in happiness when people at low levels of income earn more (as their economic security improves and their range of opportunities grows), as incomes increase this extra earning power converts less effectively into increased happiness. In part, this may stem from people's tendency to habituate to the consumption level they are exposed to. Goods that were once perceived as luxuries can over time be seen as entitlements or even necessities.

By the 1960s, for instance, the Japanese already viewed a fan, a washing machine, and

electric rice cookers as essential goods for a satisfactory living standard. In due course, a car, an air conditioner, and a color television were added to the list of "essentials." And in the United States, 83 percent of people saw clothes dryers as a necessity in 2006. Even products around only a short time quickly become viewed as necessities. Half of Americans now think they must have a mobile phone, and one third of them see a high-speed Internet connection as essential.

A high-consumption lifestyle can also have many side effects that do not improve well-being, from increased work stress and debt to more illness and a greater risk of death. Each year roughly half of all deaths worldwide are caused by cancers, cardiovascular and lung diseases, diabetes, and auto accidents. Many of these deaths are caused or at least largely influenced by individual consumption choices such as smoking, being sedentary, eating too few fruits and vegetables, and being overweight. Today 1.6 billion people around the world are overweight or obese, lowering their quality of life and shortening their lives, for the obese, by 3 to 10 years on average.

Source: See endnote 22.

species, birdsong, animal calls, or other elements of nature. One study in 2002 found that British children could identify more Pokémon characters (a brand of toy) than common wildlife species. And logos are recognized by children as young as two years old. One investigation of American two-year-olds found that although they could not identify the letter M, many could identify McDonald's M-shaped golden arches.²⁴

Cultural norms—how people spend their leisure time, how regularly they upgrade their wardrobes, even how they raise their children—are now increasingly oriented around purchasing goods or services. One norm of

particular interest is diet. It now seems natural to eat highly sweetened, highly processed foods. Children from a very early age are exposed to candy, sweetened cereals, and other unhealthy but highly profitable and highly advertised foods—a shift that has had a dramatic impact on global obesity rates. Today, fast-food vendors and soda machines are found even in schools, shaping children's dietary norms from a young age and in turn reinforcing and perpetuating these norms throughout societies. According to a study by the U.S. Centers for Disease Control and Prevention, nearly two thirds of U.S. school districts earn a percentage of the revenue from

vending machine sales, and a third receive financial awards from soda companies when a certain amount of their product is sold.²⁵

Traditions—the most ritualized and deeply rooted aspects of cultures—are also now shaped by consumerism. From weddings that cost an average \$22,000 in the United States to funeral norms that pressure grieving loved ones to purchase elaborate coffins, headstones, and other expensive symbolic goods, consumerism is deeply embedded in how people observe rituals. Choosing to celebrate rituals in a simple manner can be a difficult choice to make, whether because of norms, family pressure, or advertising influence.²⁶

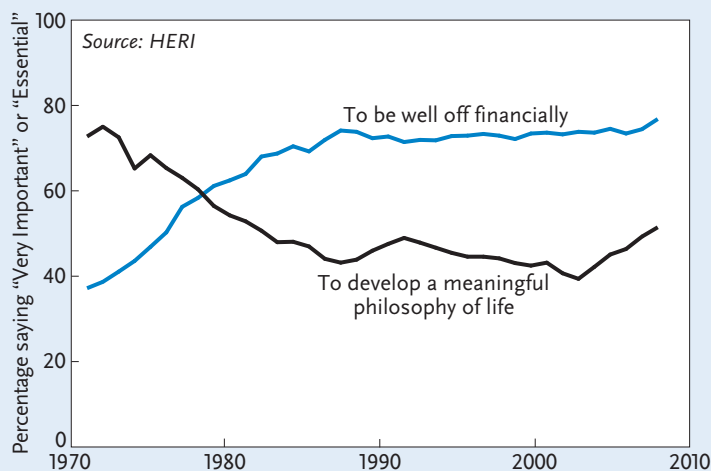
Christmas demonstrates this point well. While for Christians this day marks the birth of Jesus, for many people the holiday is more oriented around Santa Claus, gift giving, and feasting. A 2008 survey on Christmas spending in 18 countries found that individuals spent hundreds of dollars on gifts and hundreds more on socializing and food. In Ireland, the United Kingdom, and the United States—the three with the largest expenditures—individuals on

average spent \$942, \$721, and \$581 on gifts, respectively. Increasingly, even many non-Christians celebrate Christmas as a time to exchange gifts. In Japan, Christmas is a big holiday, even though only 2 percent of the population is Christian. As Reverend Billy of the tongue-in-cheek consumer education effort The Church of Stop Shopping notes: “We think we are consumers at Christmas time. No! We are being consumed at Christmastime.”²⁷

Consumerism is also affecting peoples’ values. The belief that more wealth and more material possessions are essential to achieving the good life has grown noticeably across many countries in the past several decades. One annual survey of first-year college students in the United States has investigated students’ life priorities for more than 35 years. Over this time the importance of being well-off financially has grown while the importance of developing a meaningful life philosophy has fallen. (See Figure 2.) And this is not just an American phenomenon. A study by psychologists Güliz Ger and Russell Belk found high levels of materialism in two thirds of the 12 countries they surveyed, including several transitional economies.²⁸

While consumerism is now found in nearly all cultures, it is not without consequences. On this finite planet, defining success and happiness through how much a person consumes is not sustainable. Moreover, it is abundantly clear that this cultural orientation did not just happen to appear as a byproduct of growing incomes. It was engineered over several centuries. Today, since consumerism has been internalized by many societies, it is self-perpetuating to some extent, yet institutions within society—

Figure 2. Aspirations of First-Year College Students in the United States, 1971–2008



including businesses, the media, governments, and educational facilities—continue to prop up this cultural orientation. These institutions also are actively working to expand markets around the world for new consumer goods and services. Understanding the role of these institutional drivers will be essential in order to cultivate new cultures of sustainability.

Institutional Roots of Consumerism

As long ago as the late 1600s, societal shifts in Europe began to lay the groundwork for the emergence of consumerism. Expanding populations and a fixed base of land, combined with a weakening of traditional sources of authority such as the church and community social structures, meant that a young person's customary path of social advancement—inheriting the family plot or apprenticing in a father's trade—could no longer be taken for granted. People sought new avenues for identity and self-fulfillment, and the acquisition and use of goods became popular substitutes.²⁹

Meanwhile, entrepreneurs were quick to capitalize on these shifts to stimulate purchase of their new wares, using new types of advertising, endorsements by prominent people, creation of shop displays, “loss-leaders” (selling a popular item at a loss as a way to pull customers into a store), creative financing options, even consumer research and the stoking of new fads. For example, one eighteenth-century British pottery manufacturer, Josiah Wedgwood, had salespeople drum up excitement for new pottery designs, creating demand for newer lines of products even from customers who already had a perfectly good, but now seemingly outdated, set of pottery.³⁰

Still, traditional social mores blocked the rapid advance of a consumerist mindset. Peasants with extra income traditionally would increase landholdings or support community works rather than buy new fashions or home furnishings—two of the earliest consumer

goods. Workers whose increased productivity resulted in greater pay tended to favor more leisure time rather than the wealth that a full day at increased pay might have brought them.³¹

But over time the emerging consumerist orientation was internalized by a growing share of the populace—with the continued help of merchants and traders—redefining what was understood as natural. The universe of “basic necessities” grew, so that by the French Revolution, Parisian workers were demanding candles, coffee, soap, and sugar as “goods of prime necessity” even though all but the candles had been luxury items less than 100 years earlier.³²

By the early 1900s, a consumerist orientation had become increasingly embedded in many of the dominant societal institutions of many cultures—from businesses and governments to the media and education. And in the latter half of the century, new innovations like television, sophisticated advertising techniques, transnational corporations, franchises, and the Internet helped institutions to spread consumerism across the planet.

Arguably, the strongest driver of this cultural shift has been business interests. On a diverse set of fronts, businesses found ways to coax more consumption out of people. Credit was liberalized, for instance, with installment payments, and the credit card was promoted heavily in the United States, which led to an almost 11-fold increase in consumer credit between 1945 and 1960. Products were designed to have short lives or to go out of style quickly (strategies called, respectively, physical and psychological obsolescence). And workers were encouraged to take pay raises rather than more time off, increasing their disposable incomes.³³

Perhaps the biggest business tool for stoking consumption is marketing. Global advertising expenditures hit \$643 billion in 2008, and in countries like China and India they are growing at 10 percent or more per year. In the United States, the average “consumer”



Cereal content: a comic book ad from 1964.

sees or hears hundreds of advertisements every day and from an early age learns to associate products with positive imagery and messages. Clearly, if advertising were not effective, businesses would not spend 1 percent of the gross world product to sell their wares, as they do. And they are right: studies have demonstrated that advertising indeed encourages certain behaviors and that children, who have difficulty distinguishing between advertising and content, are particularly susceptible. As one U.S. National Academy of Sciences panel found, “food and beverage marketing influences the preferences and purchase requests of children, influences consumption at least in the short term, is a likely contributor to less healthful diets, and may contribute to negative diet-related health outcomes and risks among children and youth.”³⁴

In addition to direct advertising, product placement—intentionally showing products in television programs or movies so that they are positively associated with characters—is a growing practice. Companies spent \$3.5 billion placing their products strategically in 2004 in the United States, four times the amount spent 15 years earlier. And, like advertising, product placements influence choices. Research has found, for example, a causal relationship between cigarette smoking in the movies and the initiation of this behavior in young adults in a “dose-response” manner, meaning that the more that teenagers are exposed to cigarette smoking in the movies, the more likely they are to start smoking.³⁵

Other clever marketing efforts are also increasingly common tools. In “word of mouth” marketing, people who are acting as unpaid “brand agents” push products on unsuspecting friends or acquaintances. In 2008, U.S. businesses spent \$1.5 billion on this kind of marketing, a number expected to grow to \$1.9 billion by 2010. One company, BzzAgent, currently has 600,000 of these brand agents volunteering in its network; they help to spread the good word about new products—from the latest fragrance or fashion accessory to the newest juice beverage or coffee drink—by talking about them to their friends, completing surveys, rating Web sites, writing blogs, and so on. In Tokyo, Sample Lab Ltd. recently brought this idea to a new level with a “marketing café” specifically created to expose consumers to samples of new products. Companies now even harness anthropologists to figure out what drives consumers’ choices, as Disney did in 2009 in order to better target male teens, one of their weaker customer bases.³⁶

Any of these marketing strategies, taken alone, stimulates interest in a single good or service. Together these diverse initiatives stimulate an overall culture of consumerism. As economist and marketing analyst Victor Lebow

explained in the *Journal of Retailing* over 50 years ago, “A specific advertising and promotional campaign, for a particular product at a particular time, has no automatic guarantee of success, yet it may contribute to the general pressure by which wants are stimulated and maintained. Thus its very failure may serve to fertilize this soil, as does so much else that seems to go down the drain.” Industries, even as they pursue limited agendas of expanding sales for their products, play a significant role in stimulating consumerism. And whether intentionally or not, they transform cultural norms in the process. (See Table 2.)³⁷

The media are a second major societal institution that plays a driving role in stimulating consumerism, and not just as a vehicle for marketing. The media are a powerful tool for transmitting cultural symbols, norms, customs, myths, and stories. As Duane Elgin, author and media activist, explains: “To control a society, you don’t need to control its courts, you don’t need to control its armies, all you need to do is control its stories. And it’s television and Madison Avenue that is telling us most of the stories most of the time to most of the people.”³⁸

Between television, movies, and increasingly the Internet, the media are a dominant form of leisure time activity. In 2006, some 83 percent of the world’s population had access to television and 21 percent had access to the Internet. (See Table 3.) In countries that belong to the Organisation for Economic Co-operation and Development, 95 percent of households have at least one television, and people watch about three to four hours a day on average. Add to this the two to three hours spent online each day, plus radio broadcasts, newspapers, magazines, and the 8 billion movie tickets sold in 2006 worldwide, and it becomes clear that media exposure consumes anywhere from a third to half of people’s waking day in large parts of the world.³⁹

During those hours, much of media output reinforces consumer norms and promotes

materialistic aspirations, whether directly by extolling the high-consumption lives of celebrities and the wealthy or more subtly through stories that reinforce the belief that happiness comes from being better off financially, from buying the newest consumer gadget or fashion accessory, and so on. There is clear evidence that media exposure has an impact on norms, values, and preferences. Social modeling studies have found connections between such exposure and violence, smoking, reproductive norms, and various unhealthy behaviors. One study found that for every additional hour of television people watched each week, they spent an additional \$208 a year on stuff (even though they had less time in a day to spend it).⁴⁰

Government is another institution that often reinforces the consumerist orientation. Promoting consumer behavior happens in myriad ways—perhaps most famously in 2001 when U.S. President George W. Bush, U.K. Prime Minister Tony Blair, and several other western leaders encouraged their citizens to go out and shop after the terrorist attacks of September 11th. But it also happens more systemically. Subsidies for particular industries—especially in the transportation and energy sectors, where cheap oil or electricity has ripple effects throughout the economy—also work to stoke consumption. And to the extent that manufacturers are not required to internalize the environmental and social costs of production—when pollution of air or water is unregulated, for example—the cost of goods is artificially low, stimulating their use. Between these subsidies and externalities, total support of polluting business interests was pegged at \$1.9 trillion in 2001.⁴¹

Some of these government actions are driven by “regulatory capture,” when special interests wield undue influence over regulators. In 2008, that influence could be observed in the United States through the \$3.9 billion spent on campaign donations by business

Table 2. How Industries Have Shifted Cultural Norms

Industry	Shift
Bottled water	This \$60-billion industry sold 241 billion liters of water in 2008, more than double the amount sold in 2000. Through its global advertising efforts, the industry has helped create the impression that bottled water is healthier, tastier, and more fashionable than publicly supplied water, even as studies have found some bottled water brands to be less safe than public tap water and to cost 240 to 10,000 times as much.
Fast food	Fast food is now a \$120-billion industry in the United States, with about 200,000 restaurants in operation. Among major restaurant chains, half are now hamburger joints. In the early 1900s, the hamburger was scorned in the United States as a dirty “food for the poor,” but by the 1960s the hamburger had become a loved meal. By spending an annual \$1.2 billion in advertising, promoting convenience and value, and providing play places for children, McDonald’s in particular has helped transform dietary norms. It now serves 58 million people every day in its 32,000 restaurants spread across 118 countries.
Disposable paper products	From paper towels and plates to diapers and facial tissue, the disposable paper product industry has cultivated the belief that these products provide convenience and hygiene. In China, the market for these goods hit \$14.6 billion in 2008, up 11 percent from the previous year. For many around the world, use of these products is today seen as a necessity, although this is a belief actively cultivated over many years by the industry. In China, when the disposable diaper industry entered the market it worked aggressively to make the use of “split-pants” taboo and instead to have disposable diapers be a symbol of affluence and sophistication.
Vehicles	Car companies are the second largest advertiser in the United States. They spent \$15.6 billion on ads in 2008 and actively pushed the image of cars as sexy, exciting, and liberating. Since the 1920s, car companies have played an aggressive role in shifting the American culture to be car-centric, lobbying for increased road support, supporting organizations that fought against regulating car usage, even buying up several public trolley systems and dismantling them. Today car companies everywhere continue to promote auto-centric societies. In 2008, they spent \$67 million on lobbying and \$19 million on campaign contributions in the United States alone.
Pet industry	Views of specific animal species are primarily determined by cultures. The pet industry, which earns \$42 billion globally each year on pet food alone, is a driving force in making it seem natural to view dogs, cats, and several other animals as friends and even members of the family. The “humanization” of these animals is a stated strategy of the industry and in 2005 was backed by over \$300 million in advertising in the United States. As these pets are increasingly humanized, consumers become more willing to spend greater sums on expensive foods, veterinary services, clothing, and toys. Pets, however, consume considerable ecological resources. For example, two pet German Shepherds use more resources in a year than the average Bangladeshi does.

Source: See endnote 37.

interests (71 percent of total contributions) and the \$2.8 billion spent by business interests to lobby policymakers (86 percent of total lobbying dollars).⁴²

A clear example of official stimulation of consumption came in the 1940s when governments started to actively promote consumption as a vehicle for development. For

Table 3. Media Access by Global Income Group, 2006

Income Group	Population (million)	Household Consumption Expenditure Per Capita (PPP 2008 dollars)	Households with Television (percent)	Internet Users (per 100 people)
World	6,538	5,360	83	21
High-income	1,053	21,350	98	59
Upper-middle-income	933	6,090	93	22
Lower-middle-income	3,619	1,770	80	11
Low-income	933	780	16	4

Source: See endnote 39.

example, the United States, which came out of World War II relatively unscathed, had mobilized a massive war-time economy—one that was poised to recede now that the war was over. Intentionally stimulating high levels of consumption was seen as a good solution to address this (especially with the memory of the Great Depression still raw). As Victor Lebow explained in 1955, “our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfactions, our ego satisfactions, in consumption.”⁴³

Today, this same attitude toward consumption has spread far beyond the United States and is the leading policy of many of the world’s governments. As the global economic recession accelerated in 2009, wealthy countries did not see this as an opportunity to shift to a sustainable “no-growth” economy—essential if they are to rein in carbon emissions, which is also on the global agenda—but instead primed national economies with \$2.8 trillion of new government stimulus packages, only a small percentage of which focused on green initiatives.⁴⁴

Finally, education plays a powerful role in cultivating consumerism. As with governments, in part this is because education seems

to be increasingly susceptible to business influence. Today schools accept classroom materials sponsored by business interests, like the “bias-balanced” energy education materials by groups representing oil companies in Canada. And *Channel One News*, a 12-minute daily “news” program with 2 minutes of commercials and some segments sponsored by products or companies, is now shown in 8,000 middle and high schools across the United States, exposing 6 million students—nearly a quarter of all American teens—to marketing and product placements with the tacit support of educators.⁴⁵

Perhaps the greatest critique of schools is that they represent a huge missed opportunity to combat consumerism and to educate students about its effects on people and the environment. Few schools teach media literacy to help students critically interpret marketing; few teach or model proper nutrition, even while providing access to unhealthy or unsustainable consumer products; and few teach a basic understanding of the ecological sciences—specifically that the human species is not unique but in fact just as dependent on a functioning Earth system for its survival as every other species. The lack of integration of this basic knowledge into the school curriculum, coupled with repeated exposure to con-

sumer goods and advertising and with leisure time focused in large part on television, helps reinforce the unrealistic idea that humans are separate from Earth and the illusion that perpetual increases in consumption are ecologically possible and even valuable.

Cultivating Cultures of Sustainability

Considering the social and ecological costs that come with consumerism, it makes sense to intentionally shift to a cultural paradigm where the norms, symbols, values, and traditions encourage just enough consumption to satisfy human well-being while directing more human energy toward practices that help to restore planetary well-being.

In a 2006 interview, Catholic priest and ecological philosopher Thomas Berry noted that “we might summarize our present human situation by the simple statement: In the 20th century, the glory of the human has become the desolation of the Earth. And now, the desolation of the Earth is becoming the destiny of the human. From here on, the primary judgment of all human institutions, professions, and programs and activities will be determined by the extent to which they inhibit, ignore, or foster a mutually enhancing human-Earth relationship.” Berry made it clear that a tremendous shift is necessary in society’s institutions, in its very cultures, if humans are to thrive as a species long into the future. Institutions will have to be fundamentally oriented on sustainability.⁴⁶

How can this be done? In an analysis on places to intervene in a system, environmental scientist and systems analyst Donella Meadows explained that the most effective leverage point for changing a system is to change the paradigm of the system—that is to say, the shared ideas or basic assumptions around which the system functions. In the case of the consumerism paradigm, the assumptions that need

to change include that more stuff makes people happier, that perpetual growth is good, that humans are separate from nature, and that nature is a stock of resources to be exploited for human purposes.⁴⁷

Although paradigms are difficult to change and societies will resist efforts to do so, the result of such a change can be a dramatic transformation of the system. Yes, altering a system’s rules (with legislation, for instance) or its flow rates (with taxes or subsidies) can change a system too, but not as fundamentally. These will typically produce only incremental changes. Today more systemic change is needed.⁴⁸

Cultural systems vary widely, as noted earlier, and so too would sustainable cultures. Some may use norms, taboos, rituals, and other social tools to reinforce sustainable life choices; others may lean more on institutions, laws, and technologies. But regardless of which tools are used, and the specific result, there would be common themes across sustainable cultures. Just as a consumerism paradigm encourages people to define their well-being through their consumption patterns, a sustainability paradigm would work to find an alternative set of aspirations and reinforce this through cultural institutions and drivers.

Ecological restoration would be a leading theme. It should become “natural” to find value and meaning in life through how much a person helps restore the planet rather than how much that individual earns, how large a home is, or how many gadgets someone has.

Equity would also be a strong theme. As it is the richest who have some of the largest ecological impacts, and the very poorest who often by necessity are forced into unsustainable behaviors like deforestation in a search for fuelwood, more equitable distribution of resources within society could help to curb some of the worst ecological impacts. Recent research also shows that societies that are more equitable have less violence, better health, higher literacy levels, lower incarceration rates,

less obesity, and lower levels of teen pregnancy—all substantial bonus dividends that would come with cultivating this value.⁴⁹

More concretely, the role of consumption and the acceptability of different types of consumption could be altered culturally as well. Again, while the exact vision of this will vary across cultural systems, three simple goals should hold true universally.

First, consumption that actively undermines well-being needs to be actively discouraged. The examples in this category are many: consuming excessive processed and junk foods, tobacco use, disposable goods, and giant houses that lead to sprawl and car dependency and to such social ills as obesity, social isolation, long commutes, and increased resource use. Through strategies such as government regulation of choices available to consumers, social pressures, education, and social marketing, certain behaviors and consumption choices can be made taboo. At the same time, creating easy access to healthier alternatives is important—such as offering affordable, easily accessible fruits and vegetables to replace unhealthy foods.⁵⁰

Second, it will be important to replace the private consumption of goods with public consumption, the consumption of services, or even minimal or no consumption when possible. By increasing support of public parks, libraries, transit systems, and community gardens, much of the unsustainable consumption choices today could be replaced by sustainable alternatives—from borrowing books and traveling by bus instead of by car to growing food in shared gardens and spending time in parks.

The clearest example of this is transportation. Reorganizing infrastructure to support walkable neighborhoods and public transit could lead to a dramatic reduction in road transportation—which pollutes locally, contributes about 17 percent to total greenhouse gas emissions, and leads to 1.3 million deaths from accidents each year. The centrality of



Back for more: Factory farm freedom fighters from The Meatrix II.

cars is a cultural norm, not a natural fact—cultivated over decades by car interests. But this can once again be redirected, extracting cars from cities, as Masdar in Abu Dhabi, Curitiba in Brazil, Perth in Australia, and Hasselt in Belgium have already started to demonstrate. For example, the Hasselt city council, facing rapid growth in car usage and budget shortfalls, decided in the mid-1990s to bolster the city’s public transit system and make it free for all residents instead of building another expensive ring road. In the 10 years since then, bus ridership has jumped 10-fold, while traffic has lessened and city revenues have increased from an enlivened city center.⁵¹

Third, goods that do remain necessary should be designed to last a long time and be “cradle to cradle”—that is, products need to eliminate waste, use renewable resources, and be completely recyclable at the end of their useful lives. As Charles Moore, who has fol-

lowed the routes of plastic waste through oceans, explains, “Only we humans make waste that nature can’t digest,” a practice that will have to stop. The cultivation of both psychological and physical obsolescence will need to be discouraged so that, for example, a computer will stay functional, upgradable, and fashionable for a decade rather than a year. Rather than gaining praise from friends for owning the newest phone or camera, having an “old faithful” that has lasted a dozen years will be celebrated.⁵²

Having a vision of what values, norms, and behaviors should be seen as natural will be essential in guiding the reorientation of cultures toward sustainability. Of course, this cultural transformation will not be easy. Shifting cultural systems is a long process measured in decades, not years. Even consumerism, with sophisticated technological advances and many devoted resources, took centuries to become dominant. The shift to a culture of sustainability will depend on powerful networks of cultural pioneers who initiate, champion, and drive forward this new, urgently needed paradigm. (See Box 2.)⁵³

As the spread of consumerism also demonstrates, leading cultural institutions can be harnessed by specific actors and can play a central role in redirecting cultural norms—whether government, the media, or education.

The good news is that this process has already started, as discussed in the 25 articles that follow this chapter. Significant efforts are being undertaken to redirect societies’ cultural orientation by harnessing six powerful institutions: education, business, government, and the media, which have played such powerful roles in driving consumerism, plus social movements and sustainable traditions, both old and new.

In the realm of education, there are early signs that every aspect is being transformed—from preschool to the university, from the museum to the school lunch menu. The very

act of walking to and from school is being used to teach children to live sustainably, as “walking buses” in Italy, New Zealand, and elsewhere demonstrate. In Lecco, Italy, for example, 450 elementary school students walk with a “driver” and volunteering parents along 17 routes to 10 different schools each day. There are no school buses in the city. Since their creation in 2003, these “pedibuses” have prevented over 160,000 kilometers of driving and thus have reduced carbon emissions and other auto pollutants. Along with reducing the ecological impact of children’s commutes, the pedibuses teach road safety (in a supervised setting), provide exercise, and help children connect with nature on the way to school.⁵⁴

The basic role of business is also starting to be readdressed. Social enterprises are challenging the assumption that profit is the primary or even sole purpose of business. More businesses—from the Grameen Bank in Bangladesh to a restaurant chain in Thailand called Cabbages and Condoms—are putting their social missions front and center, helping people while being financially successful as well. New corporate charters—like the B Corporation (the B stands for Benefit)—are even being designed to ensure that businesses over time are legally bound to consider the well-being of Earth, workers, customers, and other stakeholders as they make business decisions.⁵⁵

In government, some innovative shifts are taking place. A long-standing government role known as “choice editing,” in which governments encourage good choices while discouraging bad ones, is being harnessed to reinforce sustainable choices—everything from questioning perverse subsidies to outright bans of unsustainable technologies like the incandescent lightbulb. And more than that, entire ideas are being reassessed, from security to law. New concepts like Earth jurisprudence, in which the Earth community has fundamental rights that human laws must incorporate, are starting to take hold. In September

Box 2. The Essential Role of Cultural Pioneers

Considering that consumerism is such a powerful force and that the majority of resources and wealth are still overwhelmingly being used to stimulate it, how realistic is it to think that the pattern can shift? James Davison Hunter's analysis of how cultures change is instructive. As Hunter, the Director of the Institute for Advanced Studies in Culture at the University of Virginia, explains, cultural change can best be understood not through the Great Man approach (whereby heroic individuals redirect the course of history), but through the Great Network approach. "The key actor in history is not individual genius but rather the network."

When networks come together, they can change history. But not always. Change depends on "overlapping networks of leaders" of similar orientation and with complementary resources (whether cultural clout, money, political power, or other assets) acting "in common purpose." Networks can spread many ideas, whether consumption patterns, habits, political views, or even a new cultural paradigm.

But as Hunter notes, as culture is driven by institutions, success will depend on pulling ideas of sustainability into the center of these institutions, not allowing them to remain on the periphery. This means that as individuals internalize new norms and values personally, they also need to actively spread these ideas along their networks. They need to bring these ideas directly to the center of leading human institutions—spreading them through all available vehicles—so that others adopt this orientation and use their own leadership capacities to spread it even further. Like brand

agents who now volunteer to surreptitiously promote the newest consumer product, individuals who recognize the dangerous ecological and social disruptions arising from unsustainable consumerism need to mobilize their networks to help spread a new paradigm. These networks, tapping whatever resources they have—financial, cultural, political, or familial—will play essential roles in pioneering a new cultural orientation.

The story of the documentary *The Age of Stupid* illustrates this point. The filmmakers raised funds from small investments by friends and supporters, and they marketed the film and organized 600 showings in over 60 countries by tapping into a global network of concerned individuals. They then channeled the momentum of the film to build a climate change campaign. This campaign, 10:10, encourages people to commit to reduce their carbon emissions by 10 percent in 2010 and to mobilize policymakers to do the same. By October 2009, some 900 businesses, 220 schools, 330 organizations, and 21,000 individuals had signed the 10:10 pledge.

And if all these networks of pioneers fail? As scientist James Lovelock notes, "Civilization in its present form hasn't got long." Consumerism—due to its ecological impossibility—cannot continue much longer. The more seeds sown by cultural pioneers now, the higher the probability that the political, social, and cultural vacuum created by the decline of consumerism will be filled with ideas of sustainability as opposed to other less humanistic ideologies.

Source: See endnote 53.

2008, Ecuador even incorporated this into its new constitution, declaring that "Nature or Mother Earth, where life is reproduced and exists, has the right to exist, persist, maintain and regenerate its vital cycles, structures, func-

tions and its evolutionary processes" and that "every person, community, and nation will be able to demand the recognition of nature's rights before public institutions."⁵⁶

Film, the arts, music, and other forms of

media are all starting to draw more attention to sustainability. Even a segment of the marketing community is mobilizing to use the knowledge of the industry to persuade people to live sustainably. These “social marketers” are creating ads, videos for the Internet, and campaigns to drive awareness about issues as diverse as the dangers of smoking, the importance of family planning, and the problems associated with factory farming. One social marketing campaign by Free Range Studios, *The Meatrix*, spoofed the global blockbuster movie *The Matrix* by following a group of farm animals as they rebel against factory farms and the ecological and social ills these operations cause. This generally unpalatable message, treated in a humorous way, spread virally across the Internet. It has reached an estimated 20 million viewers to date while costing only \$50,000, a tiny fraction of what a 30-second TV ad would have cost to reach an audience of the same size.⁵⁷

A host of social movements are starting to form that directly or indirectly tackle issues of sustainability. Hundreds of thousands of organizations are working, often quietly on their own and unknown to each other, on the many essential aspects of building sustainable cultures—such as social and environmental justice, corporate responsibility, restoration of ecosystems, and government reform. “This unnamed movement is the most diverse movement the world has ever seen,” explains environmentalist Paul Hawken. “The very word movement I think is too small to describe it.” Together these have the power to redirect the momentum of consumerism and provide a vision of a sustainable future that appeals to everyone. Efforts to promote working less

and living more simply, the Slow Food movement, Transition Towns, and ecovillages are all inspiring and empowering people to redirect both their own lives and broader society toward sustainability.⁵⁸

Finally, cultural traditions are starting to be reoriented toward sustainability. New eco-friendly ways to celebrate rituals are being established, for instance, and are becoming socially acceptable. Family size norms are starting to shift. Lost traditions like the wise guidance of elders are being rediscovered and used to support the shift to sustainability. And religious organizations are starting to use their mighty influence to tackle environmental issues—printing *Green Bibles*, encouraging their congregations to conserve energy, investing institution funds responsibly, and taking a stance against abuses of Creation, such as razing forests and blowing up mountaintops for coal.⁵⁹

Perhaps in a century or two, extensive efforts to pioneer a new cultural orientation will no longer be needed as people will have internalized many of these new ideas, seeing sustainability—rather than consumerism—as “natural.” Until then, networks of cultural pioneers will be needed to push institutions to proactively and intentionally accelerate this shift. Anthropologist Margaret Mead is often quoted as saying: “Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it’s the only thing that ever has.” With many interconnected citizens energized, organized, and committed to spreading a sustainable way of life, a new cultural paradigm can take hold—one that will allow humanity to live better lives today and long into the future.⁶⁰

The Rise and Fall of Consumer Cultures

1. *The Age of Stupid*, Franny Armstrong, Director, independently released, 20 March 2009.
2. World Bank, *World Development Indicators Online*, online database, at media.worldbank.org/secure/data/query.php, viewed 23 September 2009; vehicles from Michael Renner, “Global Auto Industry in Crisis,” *Vital Signs Online*, Worldwatch Institute, 21 May 2009; “Growing World Refrigerator Market,” *JARN Web Magazine*, December 2008; IDC, “PC Market Growth Evaporates in Fourth Quarter as Financial Crisis Hits Home, According to IDC,” press release (Framingham, MA: 14 January 2009); IDC, “Worldwide Mobile Phone Market Declines by 12.6% in Fourth Quarter, More Challenges to Come Says IDC,” press release (Framingham, MA: 4 February 2009).
3. World Bank, op. cit. note 2.
4. Gary Gardner and Payal Sampat, *Mind Over Matter: Recasting the Role of Materials in Our Lives*, Worldwatch Paper 144 (Washington, DC: Worldwatch Institute, December 1998); Michael Renner, “World Metals Production Surges,” *Vital Signs Online*, Worldwatch Institute, 3 September 2009; oil and natural gas from Janet Sawin and Ishani Mukherjee, “Fossil Fuel Use Up Again,” in Worldwatch Institute, *Vital Signs 2007–2008* (New York: W. W. Norton & Company, 2007); Sustainable Europe Research Institute, GLOBAL 2000, and Friends of the Earth Europe, *Overconsumption? Our Use of the World’s Natural Resources* (September 2009).
5. Ecofootprint and Figure 1 from Global Footprint Network, *The Ecological Footprint Atlas 2008* (Oakland, CA: rev. ed., 16 December 2008).
6. Millennium Ecosystem Assessment (MA), *Ecosystems and Human Well-Being: Synthesis* (Washington, DC: Island Press, 2005); MA, *Living Beyond Our Means: Natural Assets and Human Well-being: Statement from the Board* (Washington, DC: World Resources Institute, 2005), p. 2.
7. C. P. McMullen and J. Jabbour, *Climate Change Science Compendium 2009* (Nairobi: United Nations Environment Programme, 2009), pp. 5, 30; Alice McKeown and Gary Gardner, “Climate Change Reference Guide and Glossary,” in Worldwatch Institute, *State of the World 2009* (New York: W. W. Norton & Company, 2009), pp. 189–204; Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: Synthesis Report* (Geneva: 2007), p. 49.
8. Andrei Sokolov et al., “Probabilistic Forecast for 21st Century Climate Based on Uncertainties in Emissions (without Policy) and Climate Parameters,” *American Meteorological Society Journal of Climate*, October 2009, pp. 5,175–204; David Chandler, “Revised MIT Climate Model Sounds Alarm,” *TechTalk* (Massachusetts Institute of Technology), 20 May 2009; Juliet Eilperin, “New Analysis Brings Dire Forecast of 6.3-Degree Temperature Increase,” *Washington Post*, 25 September 2009; Elizabeth R. Sawin et al., “Current Emissions Reductions Proposals in the Lead-up to COP-15 Are Likely to Be Insufficient to Stabilize Atmospheric CO₂ Levels: Using C-ROADS—a Simple Computer Simulation of Climate Change—to Support Long-Term Climate Policy Development,” draft presented at the Climate Change—Global Risks, Challenges, and Decisions Conference, University of Copenhagen, Denmark, 10 March 2009.
9. Ice melt from Eilperin, op. cit. note 8; refugees from International Organization for Migration, “Migration, Climate Change, and the Environment,” *IOM Policy Brief* (Geneva: May 2009), p. 1; other problems from IPCC, op. cit. note 7.
10. Deforestation from Gary Gardner, “Deforestation Continues,” in Worldwatch Institute, *Vital Signs 2006–2007* (New York: W. W. Norton & Company, 2006), pp. 102–03; hazardous waste from Elaine Baker et al., *Vital Waste Graphics* (Basel Convention and GRID-Arendal, 2004), pp. 34–35; for a discussion of other trends, see, for example, Peter Dauvergne, *The Shadows of Consumption: Consequences for the Global Environment* (Cambridge, MA: The MIT Press, 2008), and Gary Gardner, Erik Assadourian, and Radhika Sarin, “The State of Consumption Today,” in Worldwatch Institute, *State of the World 2004* (New York: W. W. Norton & Company, 2004).
11. Stephen Pacala, “Equitable Solutions to Greenhouse Warming: On the Distribution of

Wealth, Emissions and Responsibility Within and Between Nations,” presentation at International Institute for Applied Systems Analysis Global Development Conference, Vienna, Austria, 15 November 2007; Horace Herring, “Rebound Effect,” in Cutler J. Cleveland, ed., *Encyclopedia of Earth* (Washington, DC: Environmental Information Coalition, National Council for Science and the Environment, rev. 18 November 2008).

12. U.S. data from World Bank, op. cit. note 2, in 2008 dollars. Table 1 from *ibid.*, and from Global Footprint Network, op. cit. note 5; 2009 population from United Nations Population Division, *World Population Prospects, 2008 Revision* (New York: 2009).

13. G. Ananthapadmanabhan, K. Srinivas, and Vinuta Gopal, *Hiding Behind the Poor* (Bangalore: Greenpeace India Society, October 2007).

14. *Ibid.*

15. *Ibid.*; Global Footprint Network, op. cit. note 5; a third from Matthew Bentley, *Sustainable Consumption: Ethics, National Indices and International Relations*, PhD dissertation, American Graduate School of International Relations and Diplomacy, Paris, 2003, updated and revised with data from World Bank, op. cit. note 2.

16. Worldwatch calculation based on Saul Griffith, “Climate Change Recalculated,” presentation at The Long Now Foundation, San Francisco, 16 January 2009; Saul Griffith, *The Game Plan: A Solution Framework for the Climate Challenge*, Slide Presentation, 13 March 2008, slides 140–47. Each of these three technologies would produce 4 terawatts of energy, producing 12 terawatts, which would replace all but 2–3 terawatts of fossil-fuel-based energy used today.

17. Population projection for 2050 from United Nations Population Division, op. cit. note 12.

18. Robert Welsch and Luis Vivanco, *Introduction to Cultural Anthropology* (McGraw-Hill Higher Education, forthcoming), Chapter 2, pp. 1–65 in draft edition.

19. *Ibid.*, p. 9, quotation from Robert Welsch,

Franklin Pierce University, discussion with author, 25 March 2009. I am indebted to Welsch and Vivanco for both this definition and the road map describing four key elements of culture.

20. Welsch and Vivanco, op. cit. note 18, p. 10; Gerrit J. van Enk and Lourens de Vries, *The Korowai of Irian Jaya: Their Language in Its Cultural Context* (New York: Oxford University Press, 1997).

21. Donella Meadows, *Leverage Points: Places to Intervene in a System* (Hartland, VT: The Sustainability Institute, 1999), pp. 17–19.

22. Paul Ekins, “The Sustainable Consumer Society: A Contradiction in Terms?” *International Environmental Affairs*, fall 1991, pp. 243–58. Box 1 from the following: Gary Gardner and Erik Assadourian, “Rethinking the Good Life,” in Worldwatch Institute, *State of the World 2004*, op. cit. note 10; Daniel Kahneman, Presentation, Gallup Well-Being Forum, 2 October 2009 (note that positive affect stops increasing at higher incomes while life satisfaction levels have a logarithmic relationship, meaning it takes exponential increases in income to raise satisfaction ratings); Japan from Peter N. Stearns, *Consumerism in World History: The Global Transformation of Desire* (New York: Routledge, 2001), p. 97; United States from Rich Morin and Paul Taylor, *Luxury or Necessity? The Public Makes a U-Turn* (Washington, DC: Pew Research Center, 23 April 2009); deaths from World Health Organization (WHO), *Disease and Injury Regional Estimates for 2004*, at www.who.int/healthinfo/global_burden_disease/estimates_regional/en/index.html, and from WHO, *The World Health Report 2001* (Geneva: 2001), pp. 144–49; overweight and obese from WHO, “Obesity and Overweight,” Fact Sheet No. 311 (Geneva: September 2006); life span from “Moderate Obesity Takes Years Off Life Expectancy,” *Science Daily*, 20 March 2009.

23. Alan Thein Durning, *How Much Is Enough?* (New York: W. W. Norton & Company), p. 22; translations from translate.google.com, viewed 1 October 2009.

24. Leslie White as cited in Welsch and Vivanco, op. cit. note 18, p. 15; unconscious from Gráinne

- M. Fitzsimons, Tanya L. Chartrand, and Gavan J. Fitzsimons, "Automatic Effects of Brand Exposure on Motivated Behavior: How Apple Makes You 'Think Different'," *Journal of Consumer Research*, June 2008, pp. 21–35; Pokémon from Andrew Balmford et al., "Why Conservationists Should Heed Pokémon," *Science*, 29 March 2002, p. 2,367; "Branded for Life? Pitching Fast Food to Kids," *Today*, NBC, 18 August 2006; "Food Fight," *Date-line*, NBC, 18 August 2006.
25. Welsch and Vivanco, op. cit. note 18, pp. 18–20; Terrence P. O'Toole et al., "Nutrition Services and Foods and Beverages Available at School: Results from the School Health Policy and Programs Study 2006," *Journal of School Health*, October 2007, pp. 500–21.
26. Welsch and Vivanco, op. cit. note 18, pp. 20–21; The Wedding Report, "Market Summary: Average Spending," at www.theweddingreport.com; Mark Harris, *Grave Matters: A Journey Through the Modern Funeral Industry to a Natural Way of Burial* (New York: Scribner, 2007).
27. Spending from Deloitte, *Savvy Consumers Demand Seasonal Savings: Annual Christmas Spending Survey 2008* (Ireland: Deloitte, 2008), p. 11; Justin McCurry, "In the Bleak Midwinter, Japanese Regain Appetite for Christmas," *Guardian* (London), 24 December 2007; 2 percent from "Japan," in Central Intelligence Agency, *The World Factbook*, at www.cia.gov/library/publications/the-world-factbook/geos/ja.html#, updated 14 July 2009; Reverend Billy from *What Would Jesus Buy?* Director, Rob VanAlkemade, 16 November 2007.
28. Welsch and Vivanco, op. cit. note 18, pp. 16–18; materialism from Tim Kasser, *The High Price of Materialism* (Cambridge: The MIT Press, 2003); students and Figure 2 from J. H. Pryor et al., *The American Freshman: National Norms for Fall 2008* (Los Angeles: Higher Education Research Institute, UCLA, 2008); Güliz Ger and Russell W. Belk, "Cross-cultural Differences in Materialism," *Journal of Economic Psychology*, no. 17 (1996), pp. 55–77.
29. Stearns, op. cit. note 22, pp. 25–36.
30. *Ibid.*, pp. 15–24.
31. *Ibid.*, pp. 10, 34–35.
32. *Ibid.*, pp. 20–21.
33. Lizabeth Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America* (New York: Alfred A. Knopf, 2003), pp. 123–24; Gardner, Assadourian, and Sarin, op. cit. note 10, p. 15.
34. Robert Coen, "Insider's Report: Advertising Expenditures," paper presented by Universal McCann, December 2008; Thomas N. Robinson et al., "Effects of Reducing Television Viewing on Children's Requests for Toys: A Randomized Controlled Trial," *Journal of Developmental and Behavioral Pediatrics*, June 2001, p. 179; gross domestic product from International Monetary Fund, *World Economic Outlook Database*, April 2009; Gwen B Achenreiner and Deborah R. John; "A Meaning of Brand Names to Children: A Developmental Investigation," *Journal of Consumer Psychology*, vol. 13, no. 3 (2003), pp. 205–19; Institute of Medicine, *Food Marketing to Children and Youth: Threat or Opportunity?* (Washington, DC: National Academies Press, 2006), p. 8.
35. PQ Media, *Product Placement Spending in Media: Executive Summary* (Stamford, CT: March 2005); WHO, *Smoke-free Movies: From Evidence to Action* (Geneva: 2009), p. 4.
36. PQ Media, *Word-of-Mouth Marketing Forecast: 2009–2013: Spending Trends & Analysis* (Stamford, CT: July 2009); BzzAgent from Rob Walker, "The Hidden (in Plain Sight) Persuaders," *New York Times*, 5 December 2004, from BzzAgent, "The BzzAgent Word of Mouth Network," at about.bzzagent.com/word-of-mouth/network, and from BzzAgent, "Case Studies By Campaign Objective," at about.bzzagent.com/word-of-mouth/casestudy/case-browser; Miho Inada, "Tokyo Café Targets Trend Makers," *Wall Street Journal*, 24 August 2009; Brooks Barnes, "Disney Expert Uses Science to Draw Boy Viewers," *New York Times*, 14 April 2009.
37. Victor Lebow, "Price Competition in 1955," *Journal of Retailing*, spring 1955, p. 8. Table 2 from the following: Elizabeth Royte, *Bottlemania: How Water Went on Sale and Why We Bought It* (New

- York: Bloomsbury USA, 2008); 2008 data from John Rodwan, Jr., "Confronting Challenges: U.S. and International Bottled Water Developments and Statistics for 2008," *Bottled Water Reporter*, April/May 2009; 2000 data, safety, and price from Ling Li, "Bottled Water Consumption Jumps," in Worldwatch Institute, op. cit. note 4, pp. 102–03; fast-food data from First Research Industry Report, "Fast Food and Quickservice Restaurants," at www.hoovers.com/fast-food-and-quickservice-restaurants/—ID__269—/free-ind-fr-profile-basic.shtml, viewed 28 September 2009; history from Eric Schlosser, *Fast Food Nation* (New York: Houghton Mifflin Company, 2001), pp. 197–98, advertising from "Marketer Database from Abbott to Yum," *Ad Age*, at adage.com/marketertrees09, viewed 28 September 2009; restaurants from McDonald's Corporation, *2008 Annual Report* (Oak Brook, IL: 12 March 2009); Chinese paper industry from Magdalena Kondej, "Kimberly Clark Bucks the Trend and Aims High in China," *Euromonitor International*, 15 July 2009; David W. Chen, "Shanghai Journal; A New Policy of Containment, for Baby Bottoms," *New York Times*, 5 August 2003; automobile ads from "U.S. Ad Spend Trends: 2008," *Advertising Age*, 22 June 2009; history from Peter D. Norton, *Fighting Traffic: The Dawn of the Motor Age in the American City* (Cambridge: The MIT Press, 2008), especially pp. 95–99, and from Dauvergne, op. cit. note 10, especially pp. 40–42; Center for Responsive Politics, "Lobbying Automotive, Industry Profile, 2008," online database at www.opensecrets.org/lobby/industries.php?lname=M02&year=2008, viewed 30 September 2009; contributions from Center for Responsive Politics, "Automotive: Long-Term Contribution Trends," at www.opensecrets.org/industries/indus.php?ind=M02, viewed 30 September 2009; \$42 billion from Elizabeth Higgins, "Global Growth Trends: Sales in the Premium Segments Are Outpacing the Mid-Priced and Economy Segments," *Petfoodindustry.com*, 21 May 2007; humanization from PowerPoint presentation by Packaged Facts Pet Analyst David Lummis, *U.S. Pet Market Outlook 2009–2010: Surviving and Thriving in Challenging Times*, at www.packagedfacts.com/landing/petmarketoutlook.asp; advertising, which only includes supplies, not food, is from Packaged Facts, *Pet Supplies in the U.S.*, 7th ed. (Rockville, MD: August 2007), pp. 141–45; Robert Vale and Brenda Vale, *Time to Eat the Dog: The Real Guide to Sustainable Living* (London: Thames & Hudson, 2009), pp. 235–38.
- 38.** Duane Elgin, interview in *Consume This Movie*, Director Gene Brockhoff, Well Crafted Films, 2008.
- 39.** Television access from International Telecommunication Union's *World Telecommunication Development Report* database, as cited in World Bank, *World Development Indicators 2008* (Washington, DC: April 2008). Table 3 from the following: television and Internet from *ibid.*, population and expenditures from World Bank, op. cit. note 2; Organisation for Economic Co-operation and Development, *OECD Communications Outlook 2009* (Paris: 2009), pp. 189, 199; Internet usage from Cisco, *The Connected Consumer*, slide presentation, May 2008; Online Publishers Association, "Online Publishers Association Media Usage Study Shows the Web Now Rivals TV in Reach and Extends the Impact of All Media," press release (New York: 6 June 2006); 8 billion from WHO, op. cit. note 35, p. 3.
- 40.** Craig A. Anderson and Brad J. Bushman, "The Effects of Media Violence on Society," *Science*, 29 March 2002, pp. 2,377–79; Peter W. Vaughan, Alleyne Regis, and Edwin St. Catherine, "Effects of an Entertainment-Education Radio Soap Opera on Family Planning and HIV Prevention in St. Lucia," *International Family Planning Perspectives*, December 2000, pp. 148–57; Joan Montgomerie, "The Family Planning Soap Opera," *Peace Magazine*, October-December 2001, p. 27; WHO, op. cit. note 35; Juliet Schor, *The Overspent American: Why We Want What We Don't Need* (New York: HarperPerennial, 1999), pp. 75–83.
- 41.** Jill Vardy and Chris Wattie, "Shopping is Patriotic, Leaders Say," *National Post* (Canada), 28 September 2001; Andrew J. Bacevich, "He Told Us to Go Shopping. Now the Bill Is Due," *Washington Post*, 5 October 2008; Norman Myers and Jennifer Kent, *Perverse Subsidies: How Tax Dollars Can Undercut the Environment and the Economy* (Washington, DC: Island Press, 2001), p. 188.
- 42.** Political contributions from Center for Responsive Politics, "Business-Labor-Ideology Split in PAC & Individual Donations to Candidates and Parties," at www.opensecrets.org/bigpicture/blio

.php?cycle=2008, viewed 30 September 2009; lobbying dollars is a Worldwatch calculation based on Center for Responsive Politics, “Lobbying Database,” at www.opensecrets.org/lobby/index.php, viewed 30 September 2009.

43. Cohen, op. cit. note 33; Lebow, op. cit. note 37, p. 7.

44. Nick Robins, Robert Clover, and Charanjit Singh, *A Climate for Recovery: The Colour of Stimulus Goes Green* (London: HSBC Global Research, 25 February 2009).

45. Inside Education, at www.insideeducation.ca/index.html; Division 2 materials including “The Petroleum Poster Kit,” at www.insideeducation.ca/class/div2.html, and Alberta Forest Products Association, “Teaching Materials,” at www.albertaforestproducts.ca/resources/teaching_materials.aspx; Channel One News, “Frequently Asked Questions,” updated 10 June 2009, at www.channelone.com/about/faq/.

46. Berry quote from interview with Caroline Webb, 2006, video at www.earth-community.org/images/BerryIV_Subtitles.mov.

47. Meadows, op. cit. note 21.

48. Ibid.

49. Richard Wilkinson and Kate Pickett, *The Spirit Level: Why More Equal Societies Almost Always Do Better* (London: Penguin Group, 2009).

50. Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon & Schuster, 2000); Andrew Plantinga and Stephanie Bernell, “The Association Between Urban Sprawl and Obesity: Is It a Two-Way Street?” *Journal of Regional Science*, December 2007, pp. 857–79; Oregon State University, “Study Links Obesity, Urban Sprawl,” *ScienceDaily*, 10 September 2005; Ohio State University, “Study Shows Urban Sprawl Continues to Gobble Up Land,” *ScienceDaily*, 24 December 2007.

51. S. Kahn Ribeiro et al., “Transport and Its Infrastructure,” in IPCC, *Climate Change 2007: Mitigation. Contribution of Working Group III to the*

Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge, U.K.: Cambridge University Press, 2007); accidents from WHO, *Disease and Injury Estimates*, op. cit. note 22; Hasselt from Roz Paterson, “Free Transport in Action,” *Free Public Transport*, at www.freepublictransport.org/index.php?option=com_content&view=article&id=5&Itemid=5; Cees van Goeverden et al., “Subsidies in Public Transport,” *European Transport*, no. 32 (2006), pp. 5–25.

52. William McDonough and Michael Braungart, *Cradle to Cradle: Remaking the Way We Make Things* (New York: North Point Press, 2002); Charles Moore, “Captain Charles Moore on the Seas of Plastic,” *TED Talk*, Long Beach, CA, February 2009.

53. Box 2 from the following: James Davison Hunter, “To Change the World,” *The Trinity Forum Briefing*, vol. 3, no. 2 (McLean, VA: 2002); for discussion of power of networks, see Nicholas A. Christakis and James H. Fowler, *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives* (New York: Little, Brown and Company, 2009); showings of *The Age of Stupid* from ageofstupid.net; 10:10 from www.1010uk.org, viewed 1 October 2009; Creel Commission, “Interview with James Lovelock,” 8 August 2005, at www.creelcommission.com/interviews.php?action=show&cid=3&title=James+Lovelock&date=08-08-2005.

54. “Schools Stepping Up for Active Travel with Feet First,” *Environz Magazine*, March 2009; Elisabeth Rosenthal, “Students Give Up Wheels for Their Own Two Feet,” *New York Times*, 26 March 2009.

55. See Johanna Mair and Kate Ganly, “Social Entrepreneurs: Innovating Toward Sustainability,” in this volume; “B Corporations,” at www.bcorporation.net.

56. See Michael Maniates, “Editing Out Unsustainable Behavior,” in this volume; Asamblea Constituyente, *Constitución del Ecuador*, chapter 7, article 71, at www.asambleaconstituyente.gov.ec/documentos/constitucion_de_bolsillo.pdf, p. 52.

57. Sustainable Table and Free Range Studios,

The Matrix, 2003; Jonah Sachs, creative director, Free Range Studios, e-mail to author, 5 August 2009; Claire Atkinson, “Desperate Housewives’ Keeps Sunday Rates Competitive,” *Advertising Age*, 21 September 2006; Stuart Elliott, “THE MEDIA BUSINESS: ADVERTISING; Prices for Commercials Already Vary Widely as the Season, with 38 New Series, Is Barely Under Way,” *New York Times*, 2 October 2002.

58. Paul Hawken, *Blessed Unrest* (New York: Penguin Group, 2007); Paul Hawken, “Biology, Resistance, and Restoration: Sustainability as an Infinite Game,” presentation at Bioneers Conference, October 2006.

59. See Gary Gardner, “Engaging Religions to Shape Worldviews,” in this volume; activism from *Renewal*, Producers Marty Ostrow and Terry Kay Rockefeller, Fine Cut Productions LLC, 2007.

60. Barbara K. Rodes and Rice Odell, comp., *A Dictionary of Environmental Quotations* (New York: Simon & Schuster, 1992), p. 26.

Traditions Old and New

1. “People,” in Central Intelligence Agency, *The World Factbook*, at www.cia.gov/library/publications/the-world-factbook/geos/xx.html.

2. United Nations Population Division, *World Population Prospects, 2008 Revision* (New York: 2009); Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: The Penguin Group, 2005), pp. 79–119, 286–93.

Engaging Religions in Building a Sustainable Culture

1. Stephen Scharper, “Faiths May Hold the Key to Green China,” *Toronto Star*, 7 July 2009; Mary Evelyn Tucker, “Pan Yue’s Vision for Ecological Civilization,” blog, *Sustainable China*, at www.sustainablechina.info/2008/12/08/a-meeting-with-pan-yue.

2. “Third Taoist Ecology Forum Opens in Jurong, Jiangsu—And This One is Country-wide,” at www.arcworld.org/news.asp?pageID=273; Mark Leon Goldberg, “Taoism—‘The Way’ for Climate

Action in China?” *UN Dispatch*, at www.undispatch.com/archives/2008/11/taoism_-_guidi.php.

3. Alliance of Religions and Conservation (ARC) and the U.N. Development Programme, *Guide to Creating Your Seven-Year Plan* (Bath, U.K.: ARC, August 2008).

4. “People,” in Central Intelligence Agency, *The World Factbook*, at www.cia.gov/library/publications/the-world-factbook/geos/xx.html; John A. Grim, series co-ed., *Indigenous Traditions and Ecology: The Interbeing of Cosmology and Community* (Cambridge, MA: Harvard University Center for the Study of World Religions, 2001).

5. World Values Survey, at www.worldvaluesurvey.org, viewed 4 August 2009.

6. Faith in Public Life and Public Religion Research, “Key Religious Groups Want Government to Address Climate Change and Its Impact on World’s Poor,” at www.faithinpubliclife.org/tools/polls/climate-change; Public Religion Research, “Climate Change & Poverty Survey, 20-27 March, 2009,” e-mail to author, 16 July 2009.

7. Courses are from a survey done by Worldwatch Institute, August 2009; Parliament from Mary Evelyn Tucker, Yale University, e-mail to author, 23 August 2009. Table 4 from the following: Mary Evelyn Tucker and John Grim, series eds., *Religions of the World and Ecology*, book series (Cambridge, MA: Center for the Study of World Religions at Harvard University, 1998–2003); Bron Taylor, ed., *Encyclopedia of Religion and Nature* (London: Continuum, 2008); Willis Jenkins, ed., *The Spirit of Sustainability*, a project of the Forum on Religion and Ecology at Yale University (Great Barrington, MA: Berkshire, forthcoming); *The Green Bible* (New York: HarperOne, 2008); *Journal for the Study of Religion, Nature and Culture*, at www.religionandnature.com/journal; *Worldviews: Global Religions, Culture, and Ecology*, at www.brill.nl/m_catalogue_sub6_id9007.htm.

8. Religion, Science and the Environment, at www.rsesymposia.org.

9. Ibid.