

CHAPTER 18

WHAT CAN BE DONE? WHAT CAN ONE DO?

18.1 The need restated

To say it once again, our environmental crisis boils down to the fact that human enterprise has generated more entropy than the biosphere can dispose of. This excessive burden of entropy results mostly from excessive amounts of energy consumed in the production of economic goods. Extravagant production of goods is enabled by extravagant consumption, which is motivated in turn by a robust set of consumer values.

Put the other way around, if these values were not in force we would not consume such extravagant amounts of goods. If such amounts of goods were not consumed, they would not be produced in such extravagant quantities. If goods were not produced in such quantities, we would not use such prodigious amounts of energy. And if we did not use such amounts of energy, the biosphere would not be impacted with excessive amounts of entropy.

This sequence of dependencies, argued for at length in preceding chapters, points to one way of alleviating our environmental crisis. If our current set of consumer values were replaced by others more conducive to environmental health, the biosphere might have opportunity to heal itself. At very least, abandonment of these damaging values should keep the crisis from worsening. In any case, we have a clear and urgent need to free ourselves from the values of consumerism and to replace them with other values like those laid out in Chapter 17. This final chapter is concerned with practical ways in which value transformations of this sort might be accomplished.

18.2 Pitting marketing against itself

Three general approaches to the needed value transformations were mentioned at the end of Chapter 17. One focuses on action individuals can undertake on their own, like making oneself unavailable to commercial sponsors by unplugging the TV. Another approach

emphasizes actions taken in cooperation with like-minded persons, such as boycotting products like soda pop that cause appreciable environmental damage. We shall return to these approaches momentarily. But first let us look more carefully at the approach previously likened to ju-jitsu, which boils down to using the power of advertising to diminish its own influence.

Marketing specialists have become adept at manipulating the values individual people attach to particular commodities. The marketer's basic task is to induce potential customers to ascribe a higher value to the product than to the money required to buy it. Successful marketing leads people to act out those values by actually exchanging money for the product in question.

Marketing can be used in other arenas as well. Campaign managers use it to "sell" candidates to potential voters, colleges use it to attract potential students, and governments use it to gain backing for policy initiatives. In these cases, the products "sold" are the candidates, the colleges, and the policies, respectfully. Another possible application we want to consider is to employ marketing techniques in reshaping the system of values governing consumer behavior to make them environmentally more friendly. In this case, the product would be an altered system of social values.

From one perspective, there appears to be little new in this suggestion. Marketers are already in the business of shaping consumer values. In honing their skills over the years, they have learned that selling products is more than a matter of crafting seductive images. Successful marketing also requires a receptive audience of potential buyers who have been conditioned to respond to those images in the desired manner. Realizing this need, the advertising industry has undertaken to create a culture in which its ads will be effective.¹ The only novelty behind the present suggestion is the thought that advertising might help create an alternative culture in which its effectiveness is actually diminished.

One model for such an approach is the genre of informational ads purchased by nonprofit groups ostensibly operating in the public interest. Examples are ads in newspapers offering free medical screening and billboards showing pictures of missing persons. One can imagine

attractively formatted ads saying “Next time you’re thirsty drink water not soda pop,” or “Hamburgers from rain forests cause global warming.” Although it would be hard to convince commercial advertising agencies to take on such projects, for reasons we shall look at momentarily, it’s a fair bet that shopping areas saturated by ads like these would sell less junk food.

A more effective tactic might be to use entertainment media to make environmentally responsible behavior look “cool.” One paradigm that might be followed here is the use of the 1980s sitcom Cheers to promote the concept of “designated drivers.” After a designated-driver poster appeared on the bar during some 160 episodes over a four years period, drunken-driving fatalities in the viewing area fell 25%.² It would be interesting to speculate on the effects of a poster saying “Beer tastes better without air conditioning,” appearing week after week in the midst of a group of bar customers wearing sweaty T-shirts.

In thinking through the effect of approaches like these, however, we should bear in mind that designated-driver posters and missing-people billboards do not cut into business profits. Other outcomes would be likely in the case of efforts to enlist the aid of advertising in reducing the influence of consumer values, the very point of which would be to steer customers away from environmentally harmful businesses. If this started to happen, the businesses affected surely would seek out countermeasures to reverse the effect.

One means of response would be to initiate ads directly opposing those they found undercutting their profits. For example, a fast-food chain might mount a PR campaign proclaiming (truly or falsely) that since their beef is grown in the US it’s patriotic to eat their products. Another tactic, potentially more effective, would be to threaten retaliation against media organizations running ads contrary to the interests of the businesses affected.

Instructive in this regard is the experience of the Canadian-based Adbusters Media Foundation, specializing in what it calls anti-consumerist “culture jamming” (<http://en.wikipedia.org/wiki/Adbusters>). Its method is to produce “anti-ads” that mock well-

known commercials, with the intention of making viewers of real ads aware of how they are being manipulated. One example is an “uncommercial” in which Joe Camel becomes “Joe Chemo,” dying of cancer in a hospital bed hooked up with an array of life-support equipment. Other instances target ads by Calvin Klein, Chevron, and Absolut Vodka. The more these “anti-ads” caught on, it turned out, the more difficulty the Adbusters group experienced persuading networks to air them. As one network executive explained candidly, while he thought personally that a given Adbuster spot contained an important message, “we will never air that spot because we would have Revlon and Maybelline and Calvin Klein coming down our throats the very next day, and that’s where our bread and butter is.”³

A prima facie more successful attempt to turn marketing against itself is the Surgeon General’s warning appearing on cigarette packages since the 1960s, an early version of which said “Cigarette smoking may be hazardous to your health.” This message obviously is at odds with other design features intended to make the packages attractive to potential buyers. In the year or two after the warning was mandated by Congress in 1965, tobacco companies spent hundreds of millions of dollars in an attempt to maintain sales at previous levels. Within the next few years, nonetheless, per capita cigarette consumption began falling about 3.5% annually, and new starts were off by about 12% (<http://extras.journalnow.com/lostempire/tob7a.htm>). Although expensive PR campaigns have continued unabated, the tobacco industry has been on the defensive ever since.

The only reason the Surgeon General’s warning remains on cigarette packages, however, is that its presence is required by federal law. Viewed in context, this is not a case of marketing being used successfully against itself but rather one of an industry being subjected to enforceable laws of disclosure. As matters stand, there are no corresponding laws requiring networks to run ads designed expressly to work contrary to the interests of their most lucrative clients.

To be sure, there is a fair chance that laws with this effect could be enacted if a majority of the voting public became convinced that they are needed. But this would not be likely to

happen until many of the values that would be supported by such laws had already become socially operative—values like contentment, simplicity, and moderation from the previous chapter. The upshot is that marketing techniques by themselves generally would not be effective instruments of value change.⁴ Other means must be relied upon to bring about the value changes in question.

18.3 How individuals relate to social values

The next few sections discuss things we might do as individuals to help bring value changes of the desired sort about. A value change occurs when one value yields its operative status to another. To prepare for this discussion, we need a more nuanced understanding of how individuals figure in the circumstances that make a social value operative.

As initially characterized in Chapter 15, being operative requires that a value be held in general esteem by members of the social group in question. Signs of such esteem are that members tend to conduct their affairs in accord with that value and tend to rely on other members of the group to do the same (section 15.3). A change in values thus would be a matter of the group's general esteem being transferred from one value to another.

This characterization, however, leaves it unclear how individual members of the group in question are involved in value change. One manner of clarification falls back on statistics. By way of illustration, suppose gratification were replaced by moderation as an operative value in a given social group. Even before moderation takes over, there likely would be a subset of the population that already held moderation in high esteem personally. And after the shift there still might be a subgroup of individuals who still attach a high value to pleasure-seeking. In line with the statistical approach, value change would be a shift from a majority that valued gratification but not moderation to a new majority that valued moderation but not gratification.

But this approach seems unrealistic, assuming as it does that individual members could value either moderation or gratification but not both together. Although the two values might

turn out to be exclusive in isolated cases, most individuals will probably value both gratification and moderation but in differing degrees. Personal values for most people, that is to say, are arranged in hierarchies. In some hierarchies, gratification ranks higher than moderation, and in others vice versa.

Personal value hierarchies come into play when the persons involved faces a choice between courses of action motivated by opposing values. Imagine the case of someone deciding whether to take a second helping of a very tasty dessert. If gratification outranks moderation in this person's value hierarchy, the nod will go to the second helping. But if moderation is the dominant value, the person will decide that one helping is enough. While the person in the latter case does not reject pleasure-seeking tout court, in this case the value of moderation holds sway.

Thinking of value change in this more nuanced way, moderation supercedes gratification as an operative social value when the personal value hierarchies of individual members shift from a majority ranking gratification over moderation to a majority with the opposite ranking. The value of gratification is socially operative when a preponderance of the population assigns more importance to gratification than to potentially competing values. And gratification yields to moderation when the demographic shifts to a preponderance ranking moderation higher instead.

This way of thinking adds clarity to the goal of achieving an environmentally-friendly set of social values. As matters stand, consumer society is marked by a preponderance of people who value gratification over moderation, who value acquisition over contentment, and so forth. The value change we want to bring about amounts to a transition from the status quo to a situation in which moderation is valued over gratification and contentment over acquisition. Put generally, the value shift we want to take place is a change from the status quo to a situation in which environmentally-friendly values hold sway over consumer values in the general estimation of most contemporary societies.

This way of thinking also provides a clear role for individuals like you and me to play. By way of analogy, consider the role played by individuals in a national election. No one individual, nor small group of individuals, can select a new president. But each of us can affect the tally by which the winner is chosen.

Likewise, while no individual can establish a set of environmentally-friendly values, each of us can add to the plurality by which such values would be rendered operative. With each person who shifts priorities toward a set of environmentally-responsible values, society is nudged a bit closer to a situation in which those values dominate. Let us look next at various forms in which our votes might be cast.

18.4 Taking individual action: downshifting

Downshifting is a voluntary reduction of one's material standard of living. People downshift for various reasons, including wanting to reduce stress, wanting a more balanced life, and wanting to spend more time with one's family. People can also downshift for the express purpose of reducing their consumption of material goods. According to a definition in Wikipedia, downshifting is "the act of moving from a lifestyle of greater consumption towards a lifestyle based on voluntary simplicity" (http://en.wikipedia.org/wiki/Simple_living).

A survey taken in 1995 of 800 American adults found that 28% of respondents had recently taken steps "to scale back their salaries and lifestyles to reflect a different set of priorities."⁵ Extrapolation from the sample suggests that several million Americans have made changes in their lives that resulted in less income but enabled them to spend more time in rewarding activities. On the survey, 87% of the downshiffters describe themselves as happy with the change. Two-thirds say they are happy with their current economic circumstances, only slightly fewer than the other respondents who did not make a change. About one-third say they not only are content with their circumstances but actually do not miss the income they gave up.

Given its emphasis on reducing consumption, downshifting is a clear-cut example of altering one's priorities to favor an environmentally-friendly set of values. As such, it illustrates one kind of step an individual might take toward making values like simplicity and contentment operative in current society. Other steps, though indirect, might also be effective.

One such takes advantage of the fact that people learn by example. A standard marketing technique is to display people engaged in activities the viewer might be led to imitate, such as eating certain snack foods and drinking certain beverages. The power of advertising, of course, depends upon its images reaching large numbers of people. Less powerful, but effective nonetheless, are examples individual people display to others they meet on an everyday basis.

The next several sections lay out a variety of practices individual people can engage in to help establish a set of environmentally sound social values. Engaging in these practices not only will set a good example for others, but also will help solidify the values they represent in a dominant position in one's own value hierarchy. The practices in question will be discussed under three headings: things done currently we should simply stop doing, things we must continue doing but should do in a different way, and things not done currently we should begin doing. The next section discusses things we simply should stop doing.

18.5 Setting individual examples: things to stop doing

(i) Stop buying things for yourself that you don't really need

Although needs of course vary from person to person, here are a few simple examples of what this restriction amounts to. Most people who have been around a few decades know that clothing styles change in a predictable manner. Most people also realize that changes in fashion are driven by needs of the manufacturers and retailers to keep merchandize moving, rather than by changing consumer needs. Unless required by external (e.g., work-related) circumstances to display the latest fashions, an ecologically minded person should make a point of wearing his or

her clothing through several seasons. Another possibility is to wear second-hand clothing. Buy new clothing only when really needed.

In a similar vein, many people buy a new car every year or so, even when their older vehicles are functioning adequately. People concerned with the environment should avoid this practice. Another example is the flood of electronic entertainment devices (iPods, iPhones, etc.) currently on the market for which no previous need existed. Although some of these might turn out to be genuinely useful, one should have a genuine need in mind before making such a purpose.

The point here is not to avoid purchasing things that are really needed, but rather to break out of the syndrome of recreational shopping. Instead of buying things for the sheer enjoyment of acquisition, one should learn to find satisfaction in remaining content with what one has already. To practice contentment in one's own consumption habits is a small step toward the replacement of acquisition by contentment as an operative social value.

(ii) Stop buying things for others that they don't really need

The intended upshot of the recommendation in this heading emphatically is not that we stop showing love and appreciation for other people by giving them gifts. The intent is that, when we choose gifts that are purchased in stores, we do our best to make sure they will be genuinely useful.

Although statistics on such matters are hard to come by, a reasonable guess is that at least one-third of the routine purchases we make in stores (cars and major appliances excepted) end up as presents to other people. This guess is supported by such facts as that retailers tend to make most of their profits during the Christmas season, that there are several holidays besides Christmas that feature gift-giving (Easter, Valentine's Day, Mother's Day, etc.), and that industries providing "ritual gifts" like flowers and greeting cards have become major players in many present-day economies.

Another reasonable guess is that stores specializing in gift items can be found in almost every shopping center, tourist site, and travel destination around the world, probably totaling in the tens of millions. And most of the items they sell are of little practical use. A result is that a substantial portion of our natural resources go into the production and distribution of objects that do little more than take up storage space, until they are discreetly transferred into the trash and hence to the landfill.

From an environmental perspective, a preferable course surely would be to give fewer useless gifts in the first place. This option places a burden on the would-be donor to limit purchases to items the recipient would be likely to find valuable, and when such items cannot be found to show affection in some other manner. Among many potential recipients, presumably, gifts made by the giver rather than bought at stores tend to be especially appreciated.

(iii) Stop making yourself available to mass-media solicitations

An overview was offered above of marketing techniques available to stimulate consumer spending (section 13.4). Most of these techniques involve media like newspapers, radio, television, and the Internet. Although yielding place recently to the Internet, television held sway during recent decades as the most effective advertising medium of all. To view commercial TV ipso facto is to expose oneself to solicitations by commercial sponsors. One positive contribution individuals can make toward dismantling consumer society is to make themselves unavailable to this source of solicitation.

A beginning step is to tune out ads whenever they appear on the screen. Like its close relative “channel surfing,” however, this tactic requires constant attention. Another shortcoming of this tactic is that it does not deal with ads incorporated into the featured programs themselves, as when a sponsor’s product is written into the script or a company’s logo is inscribed on a playing field.

A more definitive step, accordingly, would be to stop watching commercial TV entirely. Commercial TV is a control mechanism by which marketers manipulate potential consumers; and one effective way of disengaging from consumerism is to unplug the mechanism. This does not entail throwing your TV set out with the trash, or missing worthwhile programs that are genuinely educational. What it does entail is activating the screen only on carefully chosen occasions when you have more to gain than some corporate sponsor.

As far as the Internet is concerned, marketers are becoming increasingly sophisticated in capturing the viewer's attention with unwanted solicitations. No matter what one calls up on the screen, it is likely to be accompanied by flashing lights, bouncing balls, or dancing animations calculated to lure the viewer into some commercial scheme. Sometimes it is even necessary to restart one's computer to rid the screen of these intrusions. A partial remedy is to train oneself not to look at unexpected distractions. As with learning to ignore TV ads, the point is to make oneself unavailable to intrusive manipulation.

Compared with TV and the Internet, avoiding solicitation by newspaper ads is relatively easy. Ads for local businesses often come in colored sections that can be thrown out unopened. The same tactic often works for unwanted mailings. Who knows how many trees would be saved if people simply declined to bring printed advertisements into their homes.

18.6 Setting individual examples: things to do differently

The fundamental cause of the present environmental crisis is that people are consuming too much energy (Chapters 5, 6, and 7). People in industrial societies alone use far more energy than the biosphere can tolerate. Whatever else may be needed to resolve the crisis, it is imperative that we adopt individual lifestyles that are less energy intensive. We must learn to do ordinary things differently to consume less energy.

Given that over 90% of the energy we consume currently has fossil origins (section 6.8), this means we must learn to cut back substantially on our individual use of fossil fuel. Needless

to say, there are various things we do presently with fossil fuel that are essential to civilized life, including cooking our food, heating our living spaces, and getting ourselves from place to place. The challenge is to do these things in less energy-intensive ways, and to whatever extent possible in ways involving minimal use of machinery operated with fossil fuels.

(i) When possible, travel by means other than private car or truck

The main public alternatives to private vehicles are buses, trains, and airplanes. Although there are wide variations within each class, average energy consumption per passenger mile for trains and buses is three to five times less than for airplanes and private conveyances.⁶ In situations where one must be carried from place to place, going by bus or train is far more energy efficient.

Hybrid cars and trucks, of course, are more fuel efficient than standard models. Some hybrids have the additional advantage of close to zero tailpipe emissions while operating at low speeds.⁷ But since hybrid buses are now in service with the same advantage, the advent of hybrid technology does not substantially affect the environmental benefits of buses over automobiles.⁸

When circumstances permit, however, the best alternative is to avoid motorized transportation entirely. The main options here are bicycling and walking. For short commutes, riding a bicycle can be even quicker than driving. On a bike path isolated from speeding traffic, a healthy person can travel 15 miles portal to portal in about an hour. Roughly the same time on the average is required for a commuter to leave the office, get to the parking garage, reach the highway, drive 15 miles in rush hour traffic, and finally arrive home to park the car. Over a ten year period, moreover, a bicycle costs roughly 50 times less than an average car to own and operate, and bicycles can last for several decades if properly maintained.

Bicycles are preferable to automobiles for various health-related reasons as well. More deaths and disabilities follow from the use of automobiles today than from any other non-natural cause, whereas with well maintained bike paths and proper equipment the use of bicycles is not

life-threatening. Given the exercise it provides, to the contrary, traveling by bicycle is downright healthy. And getting around by foot on a regular basis can be even healthier.

Whether by walking or biking, the main environmental benefit of moving about without motors is that it requires no direct expenditure of fossil fuel. According to one estimate, bicycle travel in the U.S. today saves about 700 million gallons of gasoline annually (<http://www.mvrideshare.net>). Individuals can contribute to favorable statistics like these by reducing their dependence on motorized transportation to the lowest level possible.

(ii) Choose forms of recreation that do not involve engines

There is a continuing controversy between conservationists and snowmobilers over access to public recreational areas. Snowmobiles are noisy, emit noxious fumes, kill vegetation, disrupt wildlife, and in addition are very dangerous to operate.⁹ From the perspectives both of the environment and of public health, it seems clear that the conservationists should prevail. Individuals who like to use skis for winter recreation should rely on the non-motorized version instead.

In the domain of water sports, similar reasons favor use of sailboats over motorboats and so-called “jet skis.” As far as winged sports are concerned, preference should go to sailplanes and hang gliders over motorized aircraft. An additional advantage of genuine skis, sailboats, and hang gliders, from an environmental perspective, is that they enhance one’s sense of dependency upon and cooperation with nature.

Other recreational activities that tends- to heighten one’s awareness of natural presence include river canoeing, trail hiking, horseback riding, and bird watching. Even watching pigeons in a park can be environmentally instructive if one thinks about how the birds have adapted to their human surroundings. A salutary effect of activities like these is that they help us to shift attention from ourselves to the world around us. By so doing, they help us break the hold of

consumer values like comfort, convenience, gratification, and acquisition (Chapter 16), all of which gain force when one is preoccupied with one's personal circumstances.

(iii) Live in spaces designed to conserve energy

Dwellings can be energy-efficient in various respects. Among the more obvious, buildings can be constructed to save energy by judicious use of materials (e.g., insulation), by appropriate design of interfaces (e.g., minimizing exposure of outside walls to chilling winds), and by arranging living areas according to energy needs (e.g., placing bathrooms and kitchens near water heaters). Particularly effective is an energy-conscious selection of methods for heating and cooling.

There are three general methods of using solar energy for space heating: passive, active, and photovoltaic. Passive methods involve exposing heat-retentive materials like water or masonry to solar radiation, and allowing the heat thus stored to be gradually released into the living space by radiation and convection. Active methods, so-called because they require outside energy to operate, involve absorption of solar radiation by liquids (water) or gases (air) which then are pumped into the living space where they released their stored heat. The photovoltaic method, in turn, employs arrays of collector cells made from semi-conducting materials that convert sunlight directly into electricity.

Advantages of the photovoltaic method are that the solar arrays can be located away from the space to be heated and that their electricity can be used for purposes other than heating. A disadvantage is that the collector arrays are expensive to manufacture (although their cost has been declining as the technology improves). An advantage of the active over the passive method is that the collectors (being relatively light) can be placed at any level of the structure, whereas passive collectors (being heavy) must rest on massive foundations. Among advantages of the passive over the active, on the other hand, are that its components are maintenance-free and that the system requires no outside energy to operate. Given the flexibility these several methods

provide, most dwellings in temperate climates can incorporate solar features that significantly reduce their dependence on fossil fuel.

An additional advantage of a passive installation is that the components used for solar collection during the winter can also provide cooling after a hot summer day. Heat from within the house is absorbed by the dense collector bodies and radiated outward by black-body radiation, the same process by which the earth's low-grade heat is returned to space (section 1.5). Because of the narrow range of room temperatures involved, however, this expedient usually will not provide adequate cooling just by itself.

Another alternative to air-conditioners that is effective in dry climates is evaporative cooling of air before it enters the living space.¹⁰ This is basically the same process as cooling the skin by perspiration. A disadvantage is that it can raise the humidity in a building and hence is not suitable for home use in humid climates. Yet another cooling method not subject to this limitation is building a substantial portion of a dwelling's living space underground, where ambient temperatures in the range of mid-50 degrees F (except in permafrost) prevail yearlong.

The most straightforward natural alternative to air-conditioning, however, is use of shade and ventilation. In climates with large shade trees (where evaporative cooling often is not practicable), an effective design for cooling combines a shaded roof with operable (opening) windows placed to allow evening breezes to circulate through the living space. Openings at upper levels of a structure enable hot air to escape as the evening cools, a process that can be aided by energy-efficient ceiling fans.

18.7 Setting individual examples: things to begin doing

The rallying point of environmental economists (section 12.2) is their advocacy of market prices that take environmental costs of production into account. Until this starts happening within the market itself, we can do something like it on an individual basis. What this boils down to is training ourselves to think of these "external" costs as part of the total price we pay

for the products involved. Products to be discussed in this section are those produced by agribusiness, those stemming from genetic engineering, and those transported long distances from point of production.

(i) Limit consumption to organically grown products

A major portion of the foods we eat today—meat, fruit, and vegetables—are produced by agribusiness on factory farms. Agribusiness uses mass-production techniques relying heavily on petroleum-based fertilizers and pesticides, and genetically modified seeds, all of which have environmentally harmful side-effects (sections 5.8, 8.3). Use of these techniques enables factory farms to produce food at lower financial cost (while maintaining large corporate profits) than can be managed by smaller operations (usually family farms) employing natural farming methods. In effect, factory-farming enterprises are appropriating environmental resources that they do not own to subsidize the products they put on the market, and in the process putting small farmers out of business.

Individual grocery shoppers can respond to these exploitative practices by refusing to make purchases that contribute to the profit agribusiness makes at the expense of the environment. One way of proceeding is to add the environmental subsidy (mentally) to the sticker price of factory-farm produce, and make one's purchasing decisions accordingly. While in most cases it is hard to assess these environmental subsidies in precise dollar values, a workable rule-of-thumb is that the environmental contribution is greater than the difference in sticker prices between factory-farm and naturally grown products. This estimating procedure is reasonable because the environmental subsidy will underwrite substantial profits for the agribusiness concerned, in addition to the difference in sticker prices itself.

The predictable upshot of this approach is that the biggest bargains in food shopping, all things considered, are likely to be found in the organic food section. An unfortunate limitation of the approach is that people struggling to make ends meet might not be able to participate.¹¹ To

the extent that one's means allow, however, staying away from mass-produced food will have the salutary effect both of avoiding complicity in the environmental outrages perpetrated by agribusiness and of declining to contribute to its corporate profits.

(ii) Exercise caution in buying genetically modified (GM) products

Previous discussion of GM techniques in this study concerned their use of pesticides (section 8.3) and their contribution to loss of biodiversity (section 5.8). Such techniques also have implications for public health. Avoiding GM products thus has the potential of contributing to both environmental and personal well-being.

A disconcerting aspect of the human health issue is that adverse effects of GM strains have been indicated but not conclusively demonstrated. Genetic effects can take several generations to become manifest, and responsible scientific opinion varies on how detrimental potential effects will turn out to be in the long run. Current facts of the matter are that GM food has been on the market since the mid-1990s, that about 75% of processed food sold in the U.S. now contains a GM ingredient, and that the long-term effects of this technology on human health remain largely unknown.¹² Reasons for thinking that some of these effect might be harmful include the following.

Safety testing of the Flavr Savr tomato (the first GM food) showed that it resulted in stomach lesions in laboratory rats.¹³ A similar result showed up with GM potatoes in 1998. These events tie in with results from an earlier experiment with a GM nutritional supplement that caused severe toxic reactions in more than one thousand people in Japan. Despite these warnings, the U.S. Food and Drug Administration (FDA) has no program for detecting or monitoring toxicity in GM food products.

There are also risks having to do with allergic reactions. In 1993 a Brazil-nut gene was artificially introduced into soybeans to improve their nutritional quality.¹⁴ Eating animals fed with this product was found to produce immunological reactions in humans with Brazil-nut

allergy. FDA scientists warned subsequently that new proteins produced in GM foods could also prove allergenic to human consumers,¹⁵ but so far the agency has no testing program in place to guard against this possibility.

Another sort of health risk is demonstrated by the recently discovered cross-species transfer of a gene from GM rape to bacteria in the guts of honey bees. Seed from the rape plant is used to make canola oil (so-called for its original production in Canada), and a gene induced into the plant for pesticide resistance found its way into bee guts as part of the pollination process. The perceived danger is that bacteria in the human intestinal tract might be similarly affected, causing unpredictable changes in our ability to digest food. This prospect becomes more alarming in view of the fact that the honey bee population in the U.S. currently is in precipitous decline, which some think might be due to the interaction of bees with GM plants.¹⁶

It might be decades before we fully understand the health risks of GM food. In the meanwhile, we should have the discretion to avoid it if we see fit. Discretion in such matters is impeded by the fact that seed companies and food processors thus far have been able to forestall governmental requirements that products with GM ingredients be labeled. Until disclosure laws to that effect are enacted, an interim precaution might be to avoid products with suspicious ingredients (e.g., soybeans, rapeseed) as much as possible.¹⁷

(iii) Buy locally

With or without GM ingredients, most of the food products offered in supermarkets are transported long distances from point of production. In her provocative essay “Lily’s Chickens,”¹⁸ biologist and novelist Barbara Kingsolver figures that the average food item set before the typical U.S. consumer travels 1,300 miles before it reaches the table. At a conservatively estimated 10 food items a day, this adds up to about 5 million miles per person per year, with all the toxic fumes, greenhouse gases, and other environmental degradation such mileage entails.

Another problem with shipping staple foods long distances is that large quantities must be involved to make the operation profitable for the shippers. In recent times, large-scale production generally has involved factory farms, which rely on distant (non-local) markets for their profitability in turn. This means that agribusiness and long-distance food transport go hand in hand. So add the deleterious effects of agribusiness to the environmental costs of food that travels thousands of miles to the ultimate consumer.

The obvious response on the part of an environmentally concerned individual is to buy food produced close to home whenever possible. Many towns and cities worldwide have farmers' markets where meat and produce can be bought directly from the producer. Buying locally grown products has other advantages as well. Most local produce is fresh when bought, which avoids need for refrigeration during conveyance. Furthermore, if you have doubts about locally grown food being organic or GM-ingredient free, you can ask the producer, enabling more control over the quality of food you put on the table.

Another distribution system bringing producer and consumer together directly is known as Community-Supported Agriculture (CSA). In this arrangement, individual subscribers pay the farmer for a season's produce in advance and pick up their weekly allotment at a designated place and time. Because distribution costs are lower and financial risks are shared by subscribers, this system can make high quality (including organic) food available at prices competitive with what supermarkets charge for factory-farm produce. CSA systems have flourished in Europe and Japan since the 1960s, and more than a thousand are now operating in the U.S. and Canada (http://en.wikipedia.org/wiki/Community-supported_agriculture).

18.8 Joint action for value change

The present chapter is concerned with practical steps that might be taken to phase out the social values of consumerism, which are ecologically destructive, in favor of alternative values favorable to a sound environment. By definition, social values are things valued by an effective

plurality in a given society. Although individuals can influence the value orientations of other people by means of example, large-scale value-shifts of the sort required probably cannot be brought about exclusively by individual exercises like those discussed previously.

What more can we do as individuals to promote an effective shift to a set of environmentally friendly social values? The seemingly obvious answer is to pool our efforts with like-minded individuals, hoping that individual effort can be amplified by coordinated group action. In this final section we consider joint action (i) to support businesses that operate on an environmentally sound basis, (ii) to boycott businesses that exploit the environment, and (iii) to hold culpable businesses accountable for their environmental offenses.

(i) Promoting environmentally sound business operations

Co-op America is a group of individuals and businesses billing itself as a “leading non-profit educator on socially and environmentally responsible consumption and investing” (<http://www.coopamerica.org/cabn/about/>). Individual members, currently numbering about 60,000, receive the “National Green Pages” which lists cooperating businesses both geographically and by type of merchandise. Business members comprise the group’s Business Network, currently numbering about 2,500. To join groups like Co-op America is one way of supporting businesses operating on an environmentally aware basis.

Businesses are carefully screened before they join the Network. Becoming a member requires demonstrated concern for such matters as energy efficiency, waste reduction, reusable packaging, and low environmental impact, along with various social issues like Fair Trade and employee safety (<http://www.coopamerica.org/cabn/about/criteria.cfm>). Both environmentally and socially, it seems desirable to support enterprises whose business practices measure up to such standards.

No less desirable would be groups of potential buyers capable of influencing the kinds of goods that are brought to the market. In Chapter 13 a distinction was drawn between marketing

techniques aimed at maximizing profit and those keyed to genuine consumer needs (section 13.6). The banding together of buyers being recommended here would support businesses that supply things people really need.

Among commodities people really need today are household fixtures made to last (generally not from plastic), appliances that are easy to repair, and computer systems that remain useful for decades (like old-fashioned typewriters). The main reason merchandize like this is not available currently is that manufacturers make higher profits on products they currently put on the market in its place. Most merchandize available on today's mass markets tends to be tailor-made to turn a profit for the corporate supplier.

One way of bucking this trend is for large numbers of vocal people to speak in a unified voice in making their needs known. If hundreds of thousand of computer users, for example, were to identify themselves explicitly as potential buyers of a system that would not require upgrades for at least a decade, manufacturers presumably would respond in kind. Profits not forthcoming from frequent upgrades could be offset by large-volume sales not requiring expensive advertising.

The Internet, as we know, has enabled the compilation of massive lists of like-minded voters who can exercise considerable influence over political processes. In like fashion, it could also enable the compilation of large lists of potential buyers with shared interests in certain kinds of products. By taking the initiative away from marketers as they make these interests known, like-minded people can co-operate in bringing environmentally friendly values to bear in market transactions. The more successful they are in such endeavors, the more prevalent these values will become in society at large.

(ii) Boycotting businesses that exploit the environment

Economic boycotts in recent memory include Martin Luther King's call to black and white Americans in 1955 to stay off buses in Montgomery, Alabama, and Cesar Chavez's

boycotts in the 1960s of grapes and lettuce produced by large growers in Southern California.¹⁹ An effective boycott of General Electric products in the 1980s forced this company to withdraw in large part from the nuclear weapons industry.²⁰ Occurring at approximately the same time, a boycott against tuna caught by purse seine nets (which destroyed millions of dolphins) led to agreement by the world's largest tuna producers to conditions for displaying the "Dolphin Safe" label on their products.²¹

The time is ripe for organizing boycotts against corporations and industries causing massive damage to the biosphere. A pace-setter in this regard is a boycott against Exxon Mobil (Esso in Britain) launched recently by Greenpeace and Friends of the Earth.²² Within a year or so after the boycott began, more than a million motorists in Britain were participating and Esso sales had fallen by roughly 25%.²³ Boycotts are also ongoing (or recently have been) against Coca-Cola, for causing critical water shortages in India, and against Monsanto for the environmental effects of its herbicides (e.g., Roundup) and genetically engineered crops (soy and rape).²⁴

With the exception of the Exxon Mobil case, boycotts taken primarily for environmental reasons appear thus far not to have been particularly effective. Nonetheless, the Internet has untapped potential for mobilizing market forces worldwide in opposition to companies with poor environmental records.²⁵ A well-organized web site with details on major offenders would give groups of individuals considerable leverage over corporate polluters.²⁶

(iii) Holding culpable businesses accountable

Chapter 13 identifies desire for wealth as the driving force behind economic growth, and as hence responsible for the ecological destruction that growth produces. For reasons already examined (section 16.6, 17.6), wealth will be harder to dislodge from operative status than consumer values like comfort and acquisition. Although comfort, for example, could be replaced

by another commendatory value of comparable force (such as simplicity), replacement of wealth as an operative value might require a value with normative force instead.

A candidate for this role is the value of equity (section 17.6). Like other normative values, equity brings distinctions of right and wrong to bear. It thus provides a basis for both prescriptions and proscriptions, which accounts for its superior force.

In societies where equity is an operative value, people will be enjoined to treat each other fairly. Moreover, they will be prohibited from using resources for their own advantage that are needed for the livelihood of other creatures (section 17.6). This would translate into a prohibition against excessive wealth.

For equity to be operative as a social value would require sanctions to be imposed for inequitable behavior (section 15.6). In case of inequities involving wealth, appropriate sanctions would be economic in nature. One way of helping establish equity as an operative social value, accordingly, is to set up penalties for the unjust use of environmental resources.

In lieu of legal sanctions (unlikely in today's business climate), one way of penalizing offending businesses is to impose large-scale boycotts like those we have been considering. For such boycotts to be effective as intended, however, they must be conducted in a way that makes clear why the organizations in question are being penalized. This suggests another thing that might be done by a group of like-minded people working together.

It was suggested previously that boycotts could be organized on web sites providing detailed information on major corporate offenders. Suppose these details included not only information about the organization's environmental offenses but also disclosure of its attempts to divert public attention from those offenses. Suppose there was also information about specific policies and practices that lead to environmental damage, along with descriptions of what the organization does with profits resulting from such policies and practices. Suppose, in short, that the company's environmental profile were spelled out in relevant detail, in a form easily accessible to public view.

Full disclosure of details like this would constitute incriminating evidence of an organization's environmental transgressions. The bad publicity resulting could be enough of a penalty to induce the business to abide by the norm of equity in its subsequent dealings. In addition to its usefulness in organizing effective boycotts, a web site containing such information would provide incentive for corrective changes in the way the business operates.

One can even imagine a comprehensive environment web site devoted (i) to promoting environmentally sound businesses, (ii) to facilitating effective boycotts of offending businesses, and (iii) to making business practices of the latter open to public view. Organizing and operating a web site like this obviously would take a great deal of work. But it is yet one more thing that could be done by individuals working together to help alleviate our ongoing environmental crisis.

18.9 Not fare well, but fare forward (T.S. Eliot, "The Dry Salvages")

We have laid out the nature of our environmental crisis. We have traced out its origins in the excessive amounts of energy consumed by industrial society. We have seen how those excesses go hand in hand with economic growth, and how economic growth is driven by desire for wealth. We have also seen reason to believe that excesses of growth and consumption can be curtailed only by a massive shift in social values – a shift from our present set of consumer values to a set compatible with ecological health.

In this final chapter, we have considered a number of practical steps that might be taken to help bring a massive value shift of this sort about. In one way or another, these steps all involve significant changes in our daily routines. Some, if successful, would involve individual sacrifice, and some would involve extensive changes in personal life-style.

If personal changes like these are undertaken by large numbers of people, however, our ailing biosphere might have a fighting chance to heal itself. Self-healing is the only antidote to the self-destruction that currently threatens human tenure on earth.

Notes

1. As described in Affluenza: The All-Consuming Epidemic, by John de Graaf, David Wann, and Thomas H. Naylor (Berrett-Koehler Publishers, Inc., San Francisco, 2002), marketing is a “public relations industry that creates and perpetuates our commercial culture” (p. 156). A similar observation is made in the similarly titled book, Affluenza: When Too Much Is Never Enough (Allen & Unwin, Crows Nest, Australia, 2005), by Clive Hamilton and Richard Dennis, who say that for advertising to be effective it “must sell not only products but also a very particular kind of world view—one where happiness can be bought, where problems can be solved by a product, and where having more things is the measure of success” (p. 40). In his Global Problems and the Culture of Capitalism, Richard H. Robbins summarizes the transformation of advertising during the 20th century by saying that the goal of advertisers “was to aggressively shape consumer desires and create value in commodities by imbuing them with the power to transform the consumer into a more desirable person” (p. 15).
2. This is from a story in Time magazine (April 23, 2007) discussing an initiative by the Harvard School of Public Health to get Hollywood executives to eliminate smoking from movies. Harvard has been joined in this effort by the American Medical Association and by the attorneys general of 41 states.
3. Affluenza: The All-Consuming Epidemic, p. 211. When the group brought this lack of media access to the Canadian courts, the ruling was that its “anti-ads” are political and that the only political commercials the networks must accept are those of candidates in political campaigns (ibid).
4. This despite the fact that the advertising industry’s treatment of environmental issues has shifted radically during the past few years. With a major boost from Al Gore’s celebrated documentary An Inconvenient Truth (2006), public awareness of climate change has brought about a surge in demand for products with low environmental impact. Companies with

environmentally problematic records (including energy producers and automobile manufacturers) have been scrambling to establish “green” images, and the advertising industry has been quick in developing skills enabling it to lead the way. A sign of how far the pendulum has swung was the appearance of Al Gore himself as featured speaker at the advertising industry’s annual international conference in late June, 2007, at Cannes (site of the international film festival where Gore’s documentary had starred a few weeks earlier). Advertising’s interest in things green is not to sell fewer products (quite the contrary), but rather to sell more products with green labels. It has no interest at all in reducing the influence of standard consumer values. A concurrent manifestation of “green going mainstream” was the launching of MTV’s “public service advertising campaign” Switch, aimed at promoting “environmentally friendly lifestyle choices among youth . . . to reduce the carbon emissions that contribute to climate change” (<http://www.mtvswitch.org>). According to the blurb, the tenor of the campaign is to ask young people “to make little changes in the way you consume” (like using energy efficient light bulbs and unplugging mobile chargers), changes so small “you won’t even notice them” (<http://www.nytimes.com/2007/06/18/business/media/18green.html>). MTV will benefit from this campaign, but the environment itself probably will not.

5. Unless otherwise noted, material in this section comes from the 1995 survey of American values and priorities conducted by the Harwood Group and reported in <http://www.lisd.ca/consume/harwood.html>. This survey consisted of telephone conversations with 800 randomly chosen adults, and had a margin of error of plus or minus 4%.

6. From the web site of the UN Department of Economic and Social Affairs (<http://www.un.org/esa/sustdev/sdissues/consumption/cpl224m4.htm>).

7. Most hybrids shut off their internal combustion engines at stoplights, thus avoiding emissions when stopped. But several models cannot run on an electric mode alone, which means that they emit pollutants when starting up. Another compromising factor is that most hybrid trucks and SUVs use their electric motors to boost power without substantial improvement in gas mileage.

In this case the only distinct environmental benefit is low (or nonexistent) emissions at stoplights.

8. Hybrid buses operating in Seattle each use about 3 thousand less gallons of fuel annually than the standard buses they replaced. It has been estimated that if the nine largest US cities used hybrid buses exclusively, they would save 40 million gallons of fuel per year

(<http://autos.msn.com/advice/article.aspx?contentid=4022529>). This is a greater fuel savings than that accomplished by one-half million smaller hybrid vehicles.

9. Statistics compiled by the U.S. Park Service showed that during the winters of 1995-98, 67% of traffic accidents in Yellowstone Park involved snowmobiles, despite their being outnumbered 20 to 1 among motorized vehicles in local use during that period

(<http://www.bluewaternet.org>).

10. Evaporative coolers (also called “swamp coolers”) were used in ancient Egypt (<http://websites.com/2006/05/23/daily-life-ancient-egypt>) and are still used extensively in low-humidity areas like Iran (http://en.wikipedia.org/wiki/evaporative_cooler). They are also used under more humid conditions in industrial plants and in buildings containing large numbers of livestock. Wherever used, they require ample supplies of fresh water.

11. The simple fact that factory-farmed food is usually cheaper (because of the environmental subsidy) means that poor people often think they have no other choice. A further transgression of agribusiness is that it puts low-income people in a position like this of having no other choice than to buy food likely to be contaminated by pesticides, growth hormones, and the like.

12. The first commercially grown GM food product was the Flavr Savr tomato, which was released in the U.S. without special labeling in 1996. By 2006, GM strains comprised 89% of the U.S. soybean crop, 83% of cotton (a major source of cooking oil), and 61% of corn production. Sweet potatoes and rice also come in GM varieties. Other countries with significant GM food production are Argentina, Canada, Brazil, and China. These data come from http://en.wikipedia.org/wiki/Genetically_modified_food, which lists other relevant references.

13. Material in this paragraph comes from http://en.wikipedia.org/wiki/GM_food_controversy, http://www.biotech-info.net/different_perspective.html, and *Fatal Harvest*, Andrew Kimbrell (ed.) (Island Press, Washington, D.C., 2002), pp. 211.
14. See http://en.wikipedia.org/wiki/GM_food_controversy.
15. Kimbrell (ed.), loc. cit.
16. Other environmental contaminants are under suspicion as well, including pesticides and heavy-metal factory emissions. See <http://www.sierraclub.org/biotech/references.asp>, and <http://www.proliberty.com/observer/20070508.htm>.
17. Until recently, an organic label certified absence of GM ingredients. But as demand for organic food increases, resistance to GM components has been eroding. New standards in the European Union (as of 2009) will allow 0.9% GM content under the organic label (<http://www.organicfoodee.com/news/2007/06/gmcontamination.html>).
18. In *Small Wonder*, by Barbara Kingsolver (HarperCollins, New York, 2002).
19. The results of Dr. King's boycott are prominent in recent U.S. history. Comparably important for migrant farm workers (mostly Mexican), the actions of Cesar Chavez and his United Farm Workers led to an estimated 17 million Americans refusing to buy grapes (<http://usliberals.about.com/od/patriotactcivilrights/a/CesarChavez.htm>).
20. According to its sponsors, this boycott was actively supported by 3 million consumers and had cost the company 60 millions dollars in lost sales by 1900 (<http://multinationalmonitor.org/hyper/issues/1989/01/behind-the-lines.html>), and <http://multinationalmonitor.org/hyper/issues/1990/06/lines.html>).
21. See <http://www.eurocbc.org/page322.html>.
22. Exxon Mobil was singled out particularly among oil companies because of its active role in opposing U.S. participation in the Kyoto protocol for climate change (<http://news.bbc.uk/1/hi/business/1318360.stm>).

23. See <<http://www.greenpeace.org.uk/media/press-releases/esso-pays-for-global-warming-sabatoge-as-consumers-turn-their-their-backs>>.
24. For Coca-Cola, see <<http://ww.indiaresource.org>>; for Monsanto, <<http://www.geocities.com/arthurtesia/peoplespeak.html>>.
25. Inasmuch as the manufacture (and eventual disposal) of computers is a major source of pollution, the Internet itself is not free of environmental problems.
26. A suitable model might be the Ethical Consumer's boycott list (http://www.ethicalconsumer.org/boycotts/_list.htm).
27. Numerous environmental blogs, and blogs on blogs, already exist (e.g., <<http://gristmill.org>> and <http://www.network-centricadvocacy.net/2004/07/finding_the_env.html>). These could be accessed through a general web site of the sort suggested above.
28. The Internet enters the scene once again as a proven means of raising large amounts of money through many small contributions. Use of the Internet for present purposes depends upon its remaining neutral among its users. Political neutrality is compromised by the fact that the U.S. has control of all 13 root name servers that direct Internet traffic to the right locations (Wired News, July 1, 2005). Three of these servers have military connections (http://en.wikipedia.org/wiki/Root_nameserver). In 2005, Secretary General Kofi Annan initiated a failed attempt to bring the Internet under U.N. control (<http://www.washingtonpost.com/wp-dyn/content/article/2005/11/04/AR2005110401431.html>). Commercial neutrality is threatened by on-going attempts of communication giants including AT&T, Verizon, Comcast, and Time Warner, who already dominate 98 percent of the broadband-access market (<http://www.savetheinternet.com/=faq>), to charge for Internet use. By in effect taking over ownership of Internet services, these giant corporations would be able to put smaller competitors out of business. They also would be able to block non-profit web services, like those proposed above, that might be viewed as antithetical to their interests.