

Excerpts from: *Use Less Stuff*

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Chapter 1: Lessons From the Past (pp. 6 – 26)

Q: *What do all the previous civilizations that practiced recycling have in common?*

A: *They're extinct.*

Recycling is not a new phenomenon, as many grandparents and great-grandparents who participated in World War II scrap drives will tell you. But it turns out that the concept has been around much longer than even they realize. From the Sumerians who built the first-ever cities in the Near East 4,000 years ago to modern America, virtually every civilization that has ever existed has tried recycling as a way to save its resources, and ultimately itself, from disappearing.

But it hasn't worked once. Perversely, the reason is not because people didn't try hard enough. The fact is, they tried too hard! By focusing so heavily on recycling and not on the primary reasons that resource availability and environmental problems arose in the first place, societies have consistently missed the real opportunity to sustain natural resources and thus their own human and financial resources...

With the transition to agriculture that started about 10,000 years ago, our ancestors began settling down into permanent villages, towns, and later, cities. This more stationary life style allowed for the collection, storage, and refurbishment of spent items into once-again useful ones. Thus, a new technique was added to humanity's resource conservation arsenal—recycling...

Yes, contrary to popular belief, recycling is society's oldest profession. As soon as people stopped moving their camps at frequent intervals and settled down in permanent living quarters, there is archaeological evidence that some residents began specializing in reshaping broken tools into new ones. There are, in fact, clear remains in the archaeological record of workshops where broken or damaged metal was reforged into new tools or weapons; where broken pieces of pottery, called "potsherds" by archaeologists, were ground up and added as "temper" (the material that bonds the clay) in new pots; and even where carved pendants of exotic stones that had broken were recarved into smaller pendants...

While today we admire the majesty of Maya and Sumerian temples—even in ruins—it is also easy to see the engineered disasters that befell the local populations. Both civilizations—the Sumerian and the Classic Maya—recycled with gusto. They literally turned old buildings into new. The Sumerians flattened derelict structures to serve as foundations for new structures that were much higher. Sumerian holy words often supported religious observances literally, since broken clay tablets covered with religious texts were regularly used as foundation fill for temples and other structures. When it came to either temples or palaces, the Maya didn't raze a building that was being replaced. Instead, they just added a thick outer shell on top, thereby guaranteeing that the latest

temple or palace would be bigger than its predecessors. [How similar this is to our modern American habit of building ever larger houses, garages, malls, and roadway systems with each passing year.]

Both civilizations also recycled daily utensils and tools. The Sumerians had metallurgy and collected and reforged swords, plowshares, and pruning hooks. The Maya often worked broken or chipped stone tools into new shapes that had different uses...

[But while both civilizations put a very large focus on recycling, they also continued to commit vast resources to palaces, high end clothing, temples, roads, statues, plus huge investments in military buildups and activities.]

Have We Learned from the Lessons of the Past?

Few expressions are more familiar or widely accepted than “Those who don’t learn from the past are doomed to repeat it.” In fact, our society has spent more time and effort than any other on the face of the earth in studying past societies in order to learn about the problems they faced and the missteps they made that led to their downfall.

So what have we learned from all this history that can help us avoid a similar fate? Not that much, we’re afraid. Here we are, thousands of years later, passionately recycling, yet consuming with equal gusto!

Once again, we stand on the precipice, poised to make great technological and economic strides, while potentially destroying the environment on which, and from which, all our successes have been built. A look at the potential environmental catastrophes we face can show us why, if we don’t stop and rethink our priorities and strategies, the same results might ultimately befall our... [own civilization].

A handful of major issues have been singled out by scientists, environmentalists, policy planners, and the general public as the most serious environmental problems we currently face. These are the problems that seem most likely to lead to significant degradation, or even collapse, of our late-twentieth-century lifestyles of comfort and convenience, thanks to unwelcome and possibly unforeseen changes in global ecosystems. They are as follows:

Overpopulation

Global warming

Ozone depletion

Habitat destruction

Loss of biodiversity

Depletion of nonrenewable natural resources

Increased pollution and waste generation

These are huge problems compared to those faced in past societies. What’s more, these problems are global, rather than regional or local. Thus, unlike our hunting and gathering ancestors and their nomadic offspring, there’s nowhere left for us to run, since geographically speaking, we’re already there!

While all these issues are the focus of concern, their current status and the rate of environmental degradation caused by them are the source of major debates. For example, few people would dispute that the effects of global warming would be catastrophic: both the East and West coasts of the United States would disappear under a flood of water released from melting polar caps, and weather patterns would change, with fertile plains becoming deserts... Yet many business leaders [say] ...there's not enough information available to indicate that global warming is occurring, leading them to promote the status quo. The problem with this strategy is... if we wait to make sure that the problem exists, when we are finally certain that it does, it will be far too late to do anything to stop it.

Frankly, we find this status quo attitude on the part of modern business leaders to be somewhat surprising... It's even more confounding when one assesses the situation by applying risk analysis, a favorite quantitative tool in the world of commerce.

Risk analysis looks at two major factors: a) the degree of risk, and b) its size or magnitude. A situation with a high degree of risk and a high level of magnitude is obviously a major concern. A situation with a low level of risk and a low magnitude is just the opposite, and a problem with high risk and low magnitude also fall in this "not to worry" category.

It's the last of the four possible scenarios that concerns us: low risk and high magnitude. Most business people tend to shrug off huge environmental concerns because they feel that the risk is low or that it has not yet been demonstrated to be high enough in their minds to warrant attention. And therein lies the problem: *many of the issues we're talking about are so huge that even a small level of probability should be enough to cause careful thought as well as corrective action.*

In situations involving a whole series of potentially severe problems enmeshed in mountains of debate and disagreement, it would seem logical to find an equal diversity in the number of promoted solutions. Ironically, there is little or no debate over the solution to environmental woes. Virtually everyone's first action of choice is—recycling. Is the recycling response aimed at the target's bull's-eye? Unfortunately, the answer is no. To understand why, we have to take a hard look at what recycling can and cannot do, within the context of solving our large global issues.

First, overpopulation. Obviously, no amount of recycling (except for possibly turning latex gloves into condoms) is going to slow the population growth rate...

What about global warming? Again, with a few hardly significant exceptions, the answer has to be no. The reason is that global warming is caused by one of the things we are not capable of recycling: energy. In fact, recycling may actually contribute to the increase in greenhouse gases and to a decrease in the supply of nonrenewable resources.

You're probably asking yourself, *how is this possible?* Like virtually everything else, recycling involves many processes—collection, transportation, cleaning, manufacture, storage, transport again, and sale—that use energy and generate pollutants just like manufacturing from virgin materials does. The most common denominator, of course, is the gasoline required to move goods around [and the energy used to process recyclables or virgin material into products]. ...Thus, the combination of using up nonrenewable resources and the damage caused by pollution can far outweigh the benefits of collecting, reprocessing, and transporting recyclables.

How about ozone depletion? Since it's widely accepted that the ozone hole was largely related to the use of CFC's and similar chemical compounds, recycling isn't going to change the picture. In fact, recycling of CFC's will

just produce a continued slow drain into the atmosphere. The best thing to do is... replace these substances with effective, but environmentally benign [harmless], substitutes [such as the HFC' s that have replaced CFC's in refrigeration units].

What about habitat destruction, loss of biodiversity, and depletion of nonrenewable resources? Recycling can make a difference, but in the long term it will not be enough. This is due to the fact that recycling merely delays the impacts of consumption; it does not decrease them. Recycling does, of course, expand the "use-life" of resources; but eventually they fall out of the recycle-production-consumption cycle, either because they are thrown into the garbage by mistake or carelessness or, more likely, because they degrade after being recycled and cannot be recycled again.

Paper, for example, can be recycled, on average, only three times before its fibers are too short and the ink residue too dense to continue to produce a functional recycled product. Recycling will keep each tree's fiber circulating longer; nevertheless, if consumption of paper products continues to increase (and there's no reason to think otherwise), the impact on the environment of cutting trees will also increase. More paper will be recycled, but more paper will also eventually drop out of the system, and more wood fiber will be procured. Thus, recycling will not stop or even simply diminish the various impacts on the environment created by consumption that aggravate global warming (such as emissions from gasoline burned in transportation), or ozone depletion (such as the release of volatile organic compounds [VOCs] in solvents used in industrial cleaning processes), or habitat destruction and loss of biodiversity (such as procuring resources or building new facilities).

OK, but what about increased pollution and waste generation? Recycling must have zeroed in on these problems, and pollution and waste generation are surely decreasing! While it's true that pollution has declined significantly, the changes have far more to do with successful pollution prevention than with recycling. (And as we just stated above, recycling pollutes as well.)

Sadly, the supposition of reduced waste generation is also highly debatable. It is true, of course, that about 27 percent of the materials that would have been discarded are now collected separately for recycling. At the same time, however, we are throwing more and more nonrecyclables away. This is due to a perverse behavior pattern called "Parkinson's Law of Garbage." A derivative of Parkinson's Law, it states: *Garbage will expand to fill the space provided for it.*

Today, many communities have switched to automated garbage collection systems that require standard-size cans of a large size—usually 90-gallon drums. In place of the old standard galvanized-steel 40-gallon cans, the 90-gallon garbage mausoleums provide plenty of space for what was once destined for attics, basements, or storage sheds—such as many items that are considered "household hazardous wastes" (unused paints and pesticides, for example), used materials that might once have been donated to a charitable organization (old clothes, furniture, appliances, and so on), yard wastes that might otherwise have been composted, and even recyclables that might otherwise have been recycled.

The harsh reality is that regardless of recycling rates, we continue to dump at least as much as we have ever dumped—over 160 million tons annually; global warming continues to be a major threat, thanks to the continued production of huge amounts of carbon dioxide, nitrates, and sulfates; the ozone hole may not still be growing, but even so, it will not be back to its pre-1980 self for another hundred years or so; and "urban flight," combined with our constant creation of, and migration to, the artificially "natural" environments of suburbs, continues to destroy millions of acres of wildlife habitat.

All of this means that, like the residents of Ur and the Classic Maya before us, we have not matched our solutions to the most important problems we currently face.

Lessons for Us Today

One of the most significant conclusions of archaeology, validated by being taken together with a review of our current environmental status, is that all civilizations—from the earliest to us today—have primarily used recycling as a means to conserve resources and thus cope with their resource management woes and wastes. The disturbing fact is that all earlier civilizations now lie in ruins, and it seems certain that if we follow the path we are on without modification, our remains will soon lie beside them. As a result, it would seem prudent for us to examine two questions raised by the trajectories of ancient societies and our contemporary plight:

Why, at the same time we are recycling, do we feel the need to define success by wasting resources? This is really not such a difficult question to answer. The behavior of recycling and wasting at the same time is not logical, but it is all too human. We all do it. Have you ever driven miles to a recycling center in a gas-guzzling car to turn in a few cents' worth of newspapers? Or, how about discarding 5 pounds of mail-order catalogs on the same day you place 3 pounds of materials out by the curb in your recycling bin? When we do things like this as individuals, it seems understandable. When we do such things as whole societies, it seems crazy—but still all too human.

Why has recycling been the conservation method of choice throughout history? The most obvious reason is that people did not see the big picture clearly enough to determine where the most critical threat lay. Thus, the government of Ur did not comprehend their environmental degradation and resource waste problems and consequently followed policies that not only did not cure the difficulties but served to exacerbate them. The Classic Maya, as well, seem not only to have missed seeing the need to compete in trade by investing manpower and resources into new techniques and product designs, but also invested their available manpower and other resources primarily in nonproductive forms of warfare and conspicuous consumption.

Similarly today, we recycle with gusto as we discard 20 million tons of food a year, offer “no annual fee” credit cards to teenagers, and barrage homeowners to remortgage their houses in order to consume more things that will eventually become waste. Thus, although separated by vast gulfs of time and geography, each of these societies didn't—or don't—see their most pressing problems, concentrating instead on recycling and material displays of success—an illogical but familiar human foible.

So, finally, what *is* the real issue we must face?

It's Consumption, Pure and Simple!

The simple truth is that *all* of our major environmental concerns are either caused by, or contribute to, the ever-increasing consumption of goods and services. But rather than deal with the effects of too much shopping and purchasing, we've taken the time-honored path of shooting the messengers—the packaging, dirty disposable diapers, foam cups, and other discards that are signs of consumption but are not really consumption itself. And in so doing, we have focused only on the symptoms—too much waste and pollution—and not the underlying problem itself.

In this context, recycling is merely an aspirin, alleviating a rather large collective hangover. But just as aspirin does not prevent hangovers, recycling will not prevent overconsumption. In fact, by putting too

much faith in recycling, we are actually rewarding ourselves for overconsuming. Think about it. We feel good when we fill the recycling bin. In reality, we should feel good when there's no waste to put in it at all!

What can we do to stop ourselves from becoming the next Sumerians or classic Mayas? Maybe if we examine the common mistakes we all make as humans in a new light, we can find clues to creating workable solutions.

Chapter 2: How Did We Get Like This?(Pages 27-38)

Why do we humans always seem to shoot ourselves in the collective foot? Are we stupid? Unwilling or unable to learn from history and our past mistakes...?

To answer these questions, we must step back and take a long and pragmatic look at ourselves. We know from a wide variety of scientific studies that *Homo sapiens* is a highly social species that initially organized into small groups of hunter-gatherers. Humans continued living in this fairly nomadic condition for at least 2 million years.

It has been less than 10,000 years since we started congregating in towns, cities, and nations; discovered agriculture; codified laws; and developed commerce, literature, and fine arts. While this seems like a long time based upon our personal perspectives, it is absolutely meaningless from an evolutionary standpoint—merely 500 generations. This is not nearly enough time for us to have genetically evolved even a tiny bit from the hunter-gatherer societies created and continually reinforced by our first human ancestors over more than 100,000 generations!

Because we have only recently developed complex societies and cultures, we are still genetically programmed to think and act exactly as our ancestors did. Thus, we are literally not equipped with the mental hardware and software required to deal with the modern environments we have created, but instead are programmed to react as if we still lived a million years ago.

...Next time you're standing in front of a window, look outside and make a mental note of the first thing you see. Odds are, it will be something that's moving, like a car, rather than something that's stationary, like a tree. We're programmed to notice movement because a million years ago the ability to recognize and react to things that moved may have meant the difference between life and death—either by avoiding dangerous situations or finding and trapping the family's next meal.

...Deep down, then, we have been designed by the pressures of evolution to take quick and decisive action, as this was the best way to ensure survival in the hostile environments in which we initially found ourselves. The same type of "fight or flight" thinking has caused us to embrace expedient, simple solutions when faced with highly complex problems and crises today.

If we are to start making better decisions for the future, we must first understand the mental marching orders that we carry with us from the past. In so doing, we will better understand why we react the way we do and can take appropriate steps to avoid well-intentioned, but potentially costly and ineffective, actions.

...There is an entire field devoted to the study of the mental tricks we use to help make decisions. It's called *heuristics*, and it analyzes the little rules of thumb that seem to be hardwired into our heads. While these little biases may have been life saving when we wandered the savanna and the plains, they may actually be life threatening [to us] now...

Here are but a few of the many ways in which we are programmed to act, with an emphasis on those heuristics, or rules of thumb, we use when relating to issues concerning the environment:

We tend to see issues in black-and-white.

We humans like our decisions to be simple—either yes or no. Shades of gray tend to make us uncomfortable because they signal that an issue will be complex, might have more than one solution, and will require a frustratingly long time to resolve. We far prefer issues that can be seen in black-and-white terms...

This type of “either/or” thinking is a primary reason that we place so much emphasis on recycling. We have come to believe that doing it is “good” and not doing it is “bad.” Sadly, we have even made the very young feel as if the only morally responsible way to save resources is through recycling.

We confront issues only when they come to a boil, ignoring the causes and dealing instead with the effects.

...We are not very good at anticipating or preventing problems, but prefer to wait for them to happen and then try to remedy the results. We’d rather deal with issues on an after-the-fact basis, trying to reduce the effects of our actions instead of working to eliminate the underlying causes.

Our propensity to “remedy” and “mitigate,” rather than to “prevent” and “moderate,” can be seen in many important daily issues. We look for the next fad diet, no-fat snack, or weight-loss pill instead of eating properly and exercising. We take hangover cures instead of drinking moderately. We clamor for morning-after pills and quick divorces rather than use birth control or go for counseling. And we try to reduce waste primarily by recycling our newspapers and packaging, instead of recognizing that the products that come in the packages consume about twenty times more resources than do the packages themselves...

We are most concerned with issues when they are close to us in terms of time, space, and personal relationships.

We are not good at reacting to problems that will occur far in the future, are not in our own neighborhoods, or don’t directly affect ourselves or our families. It’s as though we have mental radar screens and are focused only on those blips that represent immediate danger to us...

This... explains why we have such a hard time understanding and dealing with an issue like global warming... [This] is also the reason for the NIMBY (Not In My Back Yard) effect: It’s ok to site a landfill or incinerator anywhere, as long as it doesn’t affect me or my family.

And of course this factor explains why we have taken to recycling. Having the local landfill overflow and shut down has a direct impact on us, in the sense that there will no longer be any place to put *our* garbage. Thus, recycling helps to solve a problem that seems more immediate and personally relevant than the truly big environmental issues of our time.

We only see what we want to see.

This bias is known as *selective perception*. It means that we interpret data to fit the perception we already have or the conclusion we’ve already drawn. When it comes to recycling, selective perception helps us magnify positive news so that our preconceived notions are confirmed and reinforced. Unfortunately, it also allows us to filter out those signals that indicate we may be asking more of recycling than it can possibly achieve.

We are all very confident in our own judgments.

We think we know things we really don't know and refuse to believe we're wrong, even in the face of overwhelming evidence. Research has shown that even when confronted with irrefutable evidence that their position is wrong, people cling tenaciously to their beliefs... When living in small bands or tribes, this approach may have been a very useful way to maintain one's status... but it can be very detrimental in a technological society where seemingly small errors in decision making may ultimately have staggering consequences for immense numbers of people.

Recycling suffers from this situation as well. Solid-waste experts will be among the first to admit that recycling is important, but it is not the primary way to ensure clean air and water or continued biodiversity, or to minimize the chances of global warming or continued destruction of the ozone layer. Yet society as a whole continues to believe that recycling will "save" the planet. This belief is constantly reinforced by governments, environmental groups, educators, and those trade associations that wrap themselves in the recycling mantle in order to appear "green."

The problem is that even as we recycle more and more, we also continue to increase the amount being thrown away. ...The recycling rate has grown from 7% in 1960 to about 27% today [1998], with the amount of solid waste recycled annually having jumped from 6 million to 56 million tons. [This sounds wonderful.] But the amount of stuff we don't recycle has jumped as well—from 82 million to 152 million tons of trash.

There is an important lesson hidden [here]... that we call the percentage paradox: *a higher recycling percentage does not necessarily mean less overall waste*. The reason is that we recycle pounds, not percentages. Remember, we recycled 27% of municipal solid waste (MSW) in 1998 versus 7% in 1960. Nevertheless, in 1995 we dumped 70 million more tons of MSW into landfills than we did in 1960. Yet environmentalists, trade associations, the government, and the media mention only the percentages, which are generally holding steady or increasing. This approach tends to paint a comfortable picture, since we feel better when we hear that recycling percentages are rising.

Unfortunately, this has lulled us into a false sense of security because garbage discards—the trash that ends up in landfills—have grown 40% faster than garbage that is "diverted" via... recycling programs...

We look for ways to maintain the status quo.

Oh, how we hate change! ...Social research, along with a relatively new branch of mathematics called game theory, have both shown that we strongly resist losing what we have, and that the more we have to lose, the less likely we are to change. This is a critical reason for our strong recycling ethic: *recycling allows us to keep consuming as much as we want to, since it deals only with our disposal habits, not our purchase behavior. In a perverse way, recycling rewards us for consuming: the more stuff we put in the recycling bin, the better we feel. In reality, we should be trying to minimize the amount of stuff we need to recycle by conserving resources in the first place!*

The good news is that game theory also predicts that the more we have to gain, the more likely we are to change.

What Do We Do Now? (Pages 61-77)

"An ounce of prevention is worth a pound of cure." —Benjamin Franklin

If we are to conserve resources and protect the environment, it should be obvious by now that we have to change both our attitudes and our behaviors. But how? [A number of possible approaches have been suggested.]

[Approach number one: legislation.] Many environmentalists and politicians believe that more legislation and regulation are the answer. We disagree: we think such steps would produce mixed results at best, and could actually back fire. For example, while Superfund legislation was designed to ensure cleanup of toxic-waste dumps, it has done little more than create slow-moving, very expensive litigation. Most of the benefit has accrued to attorneys, not to citizens or the environment.

Frankly, we Americans don't take very well to being told what we can and can't do. This is especially true when it comes to controversial and complex issues that have not yet come to a boil or created an immediate crisis that must be rallied around. We tend to react far more favorably and vigorously when we feel we have the freedom to act voluntarily and that our neighbors will behave similarly, in the best interests of all.

[Approach number two: fear.] [Sometimes] ...we are asked to change our behaviors in order to avoid the potential consequences of a doomsday scenario. This type of fear-based approach often falls flat... [There are a number of reasons for this.]

...instead of [fear based approaches] motivating us, we feel helpless in the face of such huge problems. We then feel either powerless to act or that our efforts will prove to be futile. The result is no action at all. The typical reaction to the issue of global warming fall in this... category. It is widely agreed that reduction of fossil-fuel usage is critical to minimizing carbon dioxide production. It is also widely known that automobiles are one of the biggest contributors to the problem. Yet each of us feels that our efforts don't count for much. Thus we continue to buy fuel-guzzling sport-utility vehicles.. and compound the problem by driving farther and farther each year.

Another reason that we are slow to take voluntary action is that we feel as if many environmentally related warnings have proven to be little more than fire drills... The effect of constant scares is that they produce quickly diminishing returns. After a while, the public starts to feel that environmentalists are crying "Wolf!" too often, with the result that all threats are discounted...

The value of a fear-based approach is further reduced by the fact that people generally don't believe they are the ones who will be negatively affected by a particular problem. For example, young people have yet to come face to face with their own mortality, leading them to take risks that ...people with more experience have learned to avoid... On the other hand, there is a tendency for older people to become set in their ways, which also reduces the odds that they will react rationally to risk.

Finally we must account for the fact that people don't easily make voluntary sacrifices if they don't think there is a significant personal reward for doing so... History has shown that revolutions occur because those who have nothing to lose are willing to fight for change, while those who have nothing to gain fight to keep things as they are...

If none of our more typical approaches work, what should we do?

Go with the Flow

Virtually everything in nature follows the path of least resistance... Human beings generally take the path of least resistance, too. This is obvious when you look at the typical American diet, filled with what's easiest and most pleasant for us to eat, rather than what is really best for us. The same can be said for sitting on the couch versus exercising, or saving money for tomorrow versus spending it today.

"Going with the flow" is also evident when it comes to social issues. The reason welfare reform now seems to be working is that we have finally made it easier for people to work than to receive benefits by not doing so. Thus, all things being equal, people do what's easiest. It is up to society to recognize this fact and design systems and programs that make the expected course of action the most rewarding among the various alternatives, both legal and illegal.

Based upon the way in which humans are both programmed and willing to act, we believe that positive change occurs when programs adhere to the following ... [seven] guidelines:

1. *Be positive and upbeat.* It is extremely important to provide solutions and not just problems. A doom-and-gloom approach just serves to discourage and decrease motivation.
2. *Make the issue personally relevant.* Our mental processes cause us to evaluate virtually all decisions by asking, "What's in it for me?" Make sure people understand the personal payoff they will gain by participating.
3. *Keep things simple.* We don't handle complexity very well. If programs must be long and complicated, break them down into easy-to-understand chunks, steps, or stages.
4. *Set and communicate a specific goal.* We work better when we have a target to shoot at. Give people a specific objective over a specific period of time. Paint a picture of the outcome so that people can "see" it in their minds and internalize it.
5. *Make the project fun...*
6. *Provide ongoing feedback and rewards.* It is important for people to feel that progress is being made and that they be applauded for their efforts...
7. *[Focus on changing behavior]*

Change Behavior, Not Attitudes (or Actions Speak Louder Than Words)

When groups embark on public information campaigns, their goal is usually to change people's attitudes, assuming that once opinions change, so, too, will behaviors. But savvy marketers have learned that while counterintuitive, the opposite is true! Sometimes it is easier first to change people's behaviors and hope that attitudes will follow suit.

...In a classic study at Yale University, a group of liberal students was asked to write an essay supporting a conservative candidate running for president. Students were given various amounts of money for doing so, and their attitudes regarding the candidate were measured before and after writing the essays. It turned out that once the essays had been written, opinions toward the candidate became more favorable in inverse proportion to the amount of money offered. Thus, those who were paid the least changed the most, and vice versa...

...We all see this at work every day. Manufacturers provide us with free trial sizes of new products because they know that if we try the product and like it, the odds that we will purchase it go way up...

Practice Source Reduction, or Using Less Stuff

As Benjamin Franklin once wrote, “An ounce of prevention is worth a pound of cure.” When applied to resource conservation, prevention is technically known as source reduction and occurs *before* something bad happens. A pound of cure describes recycling, which occurs *after* an event, in this case consumption has occurred.

To put it in today’s terms, imagine that you and a friend go to a bar together. You have two beers, your friend has eight. The next morning, you feel just fine, while your friend has to take a few aspirin to cure a hangover. Obviously, your choice was the better one, since it’s better to prevent problems than to have to figure out how to fix them. [Similarly, it is better to not smoke cigarettes in the first place than to have to try to figure out how to deal with cancer or emphysema afterwards as a result of smoking.] Using less stuff is like prevention. Overconsumption followed by aspirin is like recycling. Which strategy makes more sense? Costs less? Is less painful?

When looking at this example, it is important to remember that the hangover remedy [or cancer treatment] didn’t really solve the problem of heavy drinking [or smoking], but merely mitigated its short-term effects. Long term, your friend still runs the risk of severe medical problems, such as cirrhosis of the liver. Along these same lines, when you realize that consumption is the primary factor affecting the environment, you can more easily grasp the fact that recycling really *is* just like taking aspirin. It may make us feel a bit better today, but it still doesn’t get to the root of the truly important ecological problems facing tomorrow: habitat destruction, loss of biodiversity, greenhouse gas production, and environmental degradation. In fact, by allowing us to take our eyes off these problems, recycling might actually hinder our efforts to solve them!

A big part of the reason using less stuff is so powerful is that, unlike recycling, its effects are felt during the entire “cradle to grave” lifespan of the product—from the beginning to the end of the production/consumption/disposal chain. When you use less to start with, not only are fewer materials needed but less energy is used to create and transport those materials. And with less production and transportation come less pollution and greenhouse gas generation as well. Using less is thus vastly more effective than recycling, since the latter is employed primarily at the end of the cycle, long after initial production as well as after product transportation, storage, and use. [Researcher Paul Hawken has calculated that for every 100 pounds of product sitting on a retail shelf, an average of 3,200 pounds of waste that we never see is produced before it ever arrives in a store. This waste is not touched by our recycling efforts.]

When applied scientifically, this type of thinking can help us better understand the true sources and impacts of waste. Known as Life Cycle Analysis, this raw-material extraction to final disposal methodology can really open our eyes as to where the real waste occurs, and thus where the most effort in reducing it should be placed. Consider one of America’s favorite foods, the hamburger:

Let’s say that you have just finished having lunch at your favorite fast food place. You get up from the table and take the tray to the trash receptacle. As you open the little swinging door and watch the garbage glide into the waiting bin, you notice how high the wrappers, bags, boxes, and cups have piled. “What a waste,” you think. “Why can’t this place recycle some of this packaging?”

But in reality, how much of the waste and resources used for your lunch are represented by what you see in the trash? 60 percent? 70 percent? How about 1 percent! Approximately 99 percent of all the waste actually occurs before you even eat the burger! "How," you might ask, "is this possible?"

[There are many ingredients that go into that hamburger, but let's focus on the central one, the beef patty as the heart of the hamburger lunch. Beef actually starts] ...with grain, which is used for feed. After vast amounts of food [mostly corn and soy beans] and water are fed to cattle, it's off to the stockyard for sale... [It takes about 16 pounds of corn or soy beans and 2,500 gallons of water to make just one pound of meat. Next] ...cattle are slaughtered and rendered, with the beef being cut, packaged, cooled, shipped to warehouses in refrigerator cars and trucks. Every step in the process, especially refrigeration, is energy intensive. And don't forget all the animal wastes from feedlots that often go directly back into the environment, in bulk.

At the ware house, the meat is aged, ground into patties, boxed, frozen, and stored. It is then shipped in freezer trucks to restaurants where it's kept cold until ready to cook (with energy, of course). At this point, the bun, patty, condiments, and packaging all come together to bring you the final product.

We should also point out the resources needed to produce the wrappers and boxes themselves. Paper is processed from trees, using large amounts of water, chemicals, and nonrenewable resources. Plastic is processed from oil or natural gas, also utilizing nonrenewable resources. Both materials require energy to produce and ship, resulting in more carbon dioxide generation and air or water pollution. And of course, these materials are created using processes that produce solid waste as well.

By now, it should be very apparent that the resources used and waste generated at stages we don't see are far greater than those we do notice when confronting the restaurant's trash bin. There are pollutants and greenhouse gases created when energy is used for planting, harvesting, transporting, milling, and...[cooking]. There is also all the packaging used when shipping and purchasing seed, fertilizer [synthetic fertilizers are made from natural gas], pesticides [made from petroleum], fungicides [petroleum again], beef, buns, and condiments.

Obviously, the results of our mini Life Cycle Analysis are an eye-opener for most people. Doing this type of work shows us that the true way to reduce waste is to eat the special sauce, lettuce, cheese, pickles, onions on the sesame seed bun and skip the beef. (Sorry, McDonald's, but we couldn't resist.) The reason [to skip the beef] is that each link in the food chain—from plants to animals to humans—increases resource use by a factor of 10. In other words, it takes 10 pounds of grain [corn, oats, wheat] to produce 1 pound of meat! [Note: This is an average for all types of meat.] This means that a more vegetarian lifestyle could save up to 90 percent of food resources and reduce an equal amount of waste. So next time you head for a fast-food place and are feeling concern for the environment, skip the burger and belly up to the salad bar... [or have a bean burrito].

Another one of the benefits of using less stuff is that it save lots of money, since what doesn't get produced doesn't [have to] get paid for. And there are not disposal or environmental cleanup costs to deal with if nothing is created. On the other hand, continuing our current usage of resources and then recycling can cost a great deal of money. The citizens of Ann Arbor, Michigan, for example, were rather surprised to discover that it is far more expensive to recycle trash than to throw it away. A recent bidding war for the town's recycling program brought to light the fact that it cost about 1.8 million to maintain the program, yet the materials collected for recycling produced only about \$100,000 in revenues to offset that cost. The town decided to recycle anyway, because it felt it was the right thing to do. That's fine with us. If towns feel there is a moral value to recycling and they can afford to do so, more power to them. But the next time someone tells you that "there's gold in them thar garbage hills," you might want to remind him or her that while gold is going for \$300 an ounce, recyclables, on average, are selling for a penny a pound.

[Additionally, using less stuff doesn't just save governments money, it saves *you* money. The less stuff you buy, the less money you spend. The less money you spend, the less you need to work long hours at a job you hate in order to earn that money. That's a powerful personal incentive to use less stuff.]

Here's How We Can Do It

Getting people to recycle is fairly simple. People aren't asked to change what [they buy] or how they buy things, merely to change how they throw things away. Thus, it's to feel good about putting empty containers into blue or green bins, taking the bins to the curb, and watching the stuff being picked up diverted from the landfill.

But how do you get people excited about buying and using less stuff, which [may even seem] un-American...? The answer is to hit people where it counts—in their wallets and in their hearts. The secret to getting lots of people to use less is to remind them that not buying what they don't need, and shopping more efficiently, saves the modern world's two scarcest resources: time and money.

Do saving time and money pass the acid test by fitting in with the six points previously mentioned? We certainly think so: [the proposal is positive, simple to understand, lends itself to the establishment of clear goals, is enjoyable since it benefits our lives at the personal level, and it's easy to measure the progress we are making.]

Appendix:

Do You Know Some Basic Environmental Facts?

Compiled and edited by Dale Lugenbehl, 2010

1. **“Consider the oil we eat.** In 1945 the average farm produced 2,500 calories of food for every calorie of energy employed by the farm. By 1975 that ratio had become 1:1. Today, thanks to fertilizers, pesticides, herbicides, farm machinery, refrigeration, and trucking, we use 2,000 calories of energy to produce each calorie of the food consumed by 6 or 7 billion people. [Our desire to have whatever we want to eat regardless of season also contributes to this high energy usage—fruit from Mexico, nuts from Spain, olive oil from Italy, etc.]” ---Albert Bates, *The Post-Petroleum Survival Guide and Cookbook*, New Society Publishers (Canada), 2006, pp. 65-66.
2. **“...every bushel of industrial corn requires** the equivalent of between a quarter and a third of a gallon of oil to grow it—or around 50 gallons of oil per acre of corn. (Some estimates are much higher.) Put another way, it takes more than a calorie of fossil fuel energy to produce a calorie of food [this is for growing the food only—not all the other things required to get it to your plate]...” (pages 45-6) “Today it takes between 7 and 10 calories of fossil fuel energy to deliver 1 calorie of food energy to an American plate.” (Page 183) ---Michael Pollan, *The Omnivore's Dilemma*, Penguin Press, 2006.
3. **“The problem is that even as we recycle more and more, we also continue to increase the amount being thrown away.** ...the recycling rate has grown from 7% in 1960 to about 27% today [1998], with the

amount of solid waste recycled annually having jumped from 6 million to 56 million tons. But the amount of stuff we don't recycle has jumped as well—from 82 million to 152 million tons of trash." ---Robert Lilienfeld and William Rathje, *Use Less Stuff*, Fawcett Books, The Ballantine Publishing Group (New York), 1998, pp. 36-7.