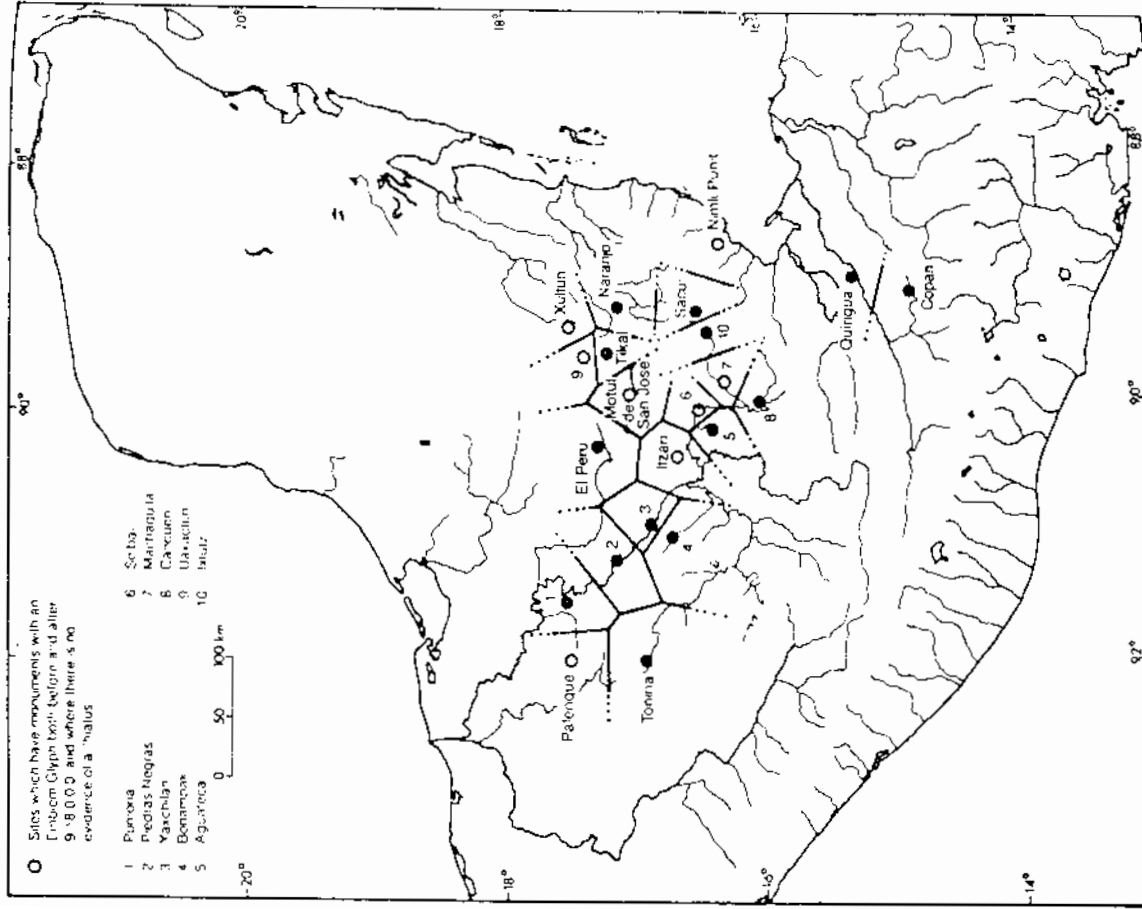


Figure 37-8
Map of Twenty-two Southern Lowland Polities at A.D. 790



Note: The maximum number of polities is attained. There is an explosion in new polities as the system becomes increasingly decentralized. Total disintegration follows.

Source: Mathews 1985.

FROM GENESIS TO GARBAGE: THE CONCEPTUAL ROOTS OF OUR SOLID WASTE CRISIS

William Vitek

The fact that New York State is in a garbage crisis is now old news. Around the state we hear of closing landfills, groundwater pollution, debates over incinerators, and the escalating costs of getting rid of the garbage. Many localities have resorted to exporting their garbage to other countries, states, and even countries; some experts support ocean dumping. But this is a crisis we could have predicted. Every New York State citizen produces on average 1 ton of garbage per year. New York State generates from 18 to 20 million tons of garbage a year, of which 81 percent is landfilled, 17 percent is incinerated, and 2 percent is shipped out of state. Three hundred and seventy thousand dry tons of sewage sludge are likewise produced annually in the state, of which 41 percent is dumped in the ocean, 27 percent is incinerated, 26 percent is landfilled, and 6 percent is composted.

Most of the attention devoted to this crisis is focused on finding ways to dispose of our garbage more safely, and to reduce the amounts of garbage we create. That is, most of the solutions focus on the output, as if the crisis was only about where to put the garbage. Such solutions are, at best, short range because they address only the symptoms of the garbage crisis. Lurking among all of this garbage is a deeper crisis—a crisis of our linguistic and conceptual heritage. We Americans maintain a psychic and moral distance to the material we throw away. This distance is reflected in our habits toward garbage and in the words we use to describe it. In addition, we place far more objects into the category of garbage than do other nations—a cultural difference that indicates that the concept *garbage* is neither objective nor universal. The American conception of garbage is, like other American concepts and beliefs, defined and shaped by our deeply rooted Western heritage. Though we may be unaware of any direct connection to this Western heritage, it nevertheless helps form our moral and social fabric. Though we may never have studied the Western canon of great books, what they tell us about the world, and how to live, and how to achieve happiness, is transmitted through our common culture: through the media, through our customs and practices, and through the values our parents instill in us. This spiritual and philosophical heritage encourages a separation from nature. Our place in the great chain of being is somewhere below God and the angels but above the natural world. As a result, we rarely consider the importance of returning our organic waste

to the food chain. This heritage likewise views nature as a machine: simple, organized, and ultimately controllable. This naive view of nature has contributed to the problems of leaking landfills, toxic rivers, and contaminated water supplies. Our heritage supports a linear view of time where new is better than old, and where the old comes to an end, in most cases, as garbage. And it views economic health as a product of ever-expanding markets and increased consumption. Americans are led to believe that happiness depends on economic health and, therefore, that the more we consume the happier we will be. But we cannot consume without throwing away the old and making room for the new. Under the influence of this heritage, it should not be surprising that we create so much garbage and mingle it in landfills where it is rendered useless and hazardous.

If this analysis is correct, it indicates that our response to the solid waste crisis must go beyond technological solutions, the profit motive of private enterprise, the legislation of new laws, and the redistribution of one pile of garbage into many smaller piles. In fact, many of the responses are themselves a reflection of our heritage: dependence on new technologies or on the spirit of free enterprise, for example. These solutions allow us to ignore the real crisis. We need to connect this crisis to our heritage, explore and articulate alternative heritages, and connect new ways of thinking with new ways of acting not only at the back end of the crisis, the garbage end, but also at the front end, the consumption end.

PSYCHIC AND MORAL DISTANCE

When reflecting on our daily habits, it is obvious that we do not like garbage. Most of the time we are repulsed by it and avoid handling it. We put it in plastic bags which then go in plastic or metal cans. We reluctantly drag it to the curb, happy to let others handle it. But it is not until something is in the garbage can—or placed in the concept *garbage*—that we create a psychic distance to it. What was just in our hands, or on our plates, is untouchable once it is in the trash. The mere thought of going through the garbage to search for something valuable can make us accept its loss. It was national news when a couple went to their local landfill and picked through garbage for World Series tickets they had inadvertently thrown away. By placing something into the category *garbage* we place it out of sight, out of touch, and out of mind. We cease to think of the object anymore, whether about its intended function or the other uses it might have. It has become useless for no other reason than that we are no longer able to consider what other uses it might have. Once something is thrown away, we are incapable of asking ourselves why we have thrown it away. Those garbage cans under our sinks and in our garages are like black holes: Once something falls into them it can never escape. The problem of course is not in the cans, but in our heads.

We have a moral distance to garbage as well. Our solid waste vocabulary carries with it strongly negative moral connotations. The word "garbage" is a good example. If we identify something as a piece of garbage, we judge it negatively. When a person is treated like a piece of garbage, he or she is harmed in a morally significant way. The word "trash," when used as a verb, means to destroy something of value. Similarly

with the word "waste." We say, "Don't bother, it's a waste," and "Don't waste your food (or time)." "Refuse" also means to refuse, to turn away. To be "disposable" is to be worth very little, and easily replaced. Even the now out-of-vogue, but more accurate, word to describe where our garbage goes—"dump"—has negative moral connotations. We are judgmental when we tell someone that their apartment looks like a dump. We feel harmed when we are "dumped" by a significant other. Even the act of turning something into garbage by "throwing it away" means something different when we react to a person's decision by saying, "She threw it all away." Our descriptions of the food we dispose of have negative moral connotations as well. Food becomes "sour," "spoiled," "rotten," or "bad."

It is not difficult to feel the moral distance created by these words when used in other contexts. We create a similar moral distance when using these words to describe solid waste. Garbage is morally repulsive, and we want nothing to do with it. Our solid waste vocabulary justifies the condemnation of those objects we identify with it. Worse still, in using words with negative moral connotations, we place the objects described by them outside of our moral circle. When this occurs, we are free to ignore these objects or to treat them in any manner we choose. Like anyone or anything that lies outside of our moral circle, objects viewed as garbage lose their value and are easily mistreated. Natural resources, for example, are more easily misused and disposed of when identified with garbage, for example, old newspapers or discarded appliances.

To better see the negative moral connotations of solid waste in our language, we might consider other, less demeaning words we have for objects we discard. Words like "scraps" and "leftovers" describe objects that we are inclined to keep, at least for a time. Items found at garage and rummage sales, though often no different than items labeled as garbage, are treated differently by both the seller and the buyer. The word "rummage" does not create the same psychic and moral distance that the phrase "picking through garbage" does. That there are fewer terms like these in our vocabulary illustrates the moral distance we create between ourselves and our garbage. There is nothing special about the things we throw away that make them garbage as opposed to leftovers or scraps. It is simply a matter of what we label *garbage*.

THE INFLUENCE OF HERITAGE

Though our habits and our language point unequivocally to our dislike of those objects we identify as garbage, we must still explain why we have so much of it. Why is a conceptual category we find so unpleasant overflowing its bounds? The answer can be traced to our Western heritage. Specifically, our distance to those objects we identify as garbage is created, supported, and justified by our belief in (1) the great chain of being, (2) a linear conception of time, and (3) a mechanistic/technological view of nature. Our fondness for garbage, on the other hand, can be traced to an economic system that defines wealth, success, and happiness in terms of consumption.

It may be helpful at this point to categorize what we throw away with descriptive terms. In this way we can see more easily the connection between what we throw away—our habits—and what we believe about what we throw away—our heritage.

These categories are old, broken and single use. We may further divide old into organic old and inorganic old. There may be other ways to categorize our garbage, or more than three categories, but these categories do seem to capture much of what we put into the trash. What, then, do they tell us about our heritage?

Organic Old

The organic matter we consider garbage includes human waste, yard waste, and food. New York State produces 370 thousand dry tons of sludge every year. Some estimates put yard waste at 20 percent of the waste stream. And when it comes to throwing away food, we Americans are well known for our wasteful habits. Why is so much of our garbage made up of organic material? The obvious explanation is that much of this organic waste is made up of material we will not eat or cannot eat, but this answer does not address the question of why we call this material garbage and ignore its value to those creatures who can eat it or otherwise make good use of it. We label this material garbage because our Western heritage has blinded us to the fact that all organic material is valuable, that there is no garbage in nature; and that what we call organic garbage is biological energy, an energy far more valuable than fossil fuel.

Perhaps the strongest influence on this way of thinking is the Western view that humans are separate from the natural world. We see ourselves as located somewhere in the middle of the great chain of being, not quite gods since we have material bodies, but not quite natural since we have reason and an immortal soul. This separateness is found in both our religious and philosophical traditions. In Genesis there are two stories of creation. In the first story (Gen. 1:1-2:4), humans are made in God's image, the only creature to share a feature with God. In the second story (Gen. 2:5-3:24), humans are made from clay but become godlike when they steal the knowledge of good and evil for themselves. What follows from this knowledge, this likeness to God, is the mandate to control or dominate the rest of nature. Both versions of creation teach us that humans are uniquely different from the natural world, and that it is largely up to us how we will treat it.¹ In the Christian tradition, Jesus promises eternal life to humans only, and with this promise the earth becomes a staging ground to work out one's salvation. Jesus tells his followers to love God and each other, but there is no direct moral injunction to love or preserve the natural world. Christians are superior to nature, and their loving it or not is a matter of practicality.

The Western philosophical tradition likewise supports the view that humans are superior to nature. Beginning with Plato, humans are identified as rational beings. Aristotle claims that all living beings possess a soul, but that the human soul is superior because of its rationality. This view is best known in the writings of Descartes, whose "I think, therefore I am" is a litmus test for existence that only adult human beings can pass. In this great chain of being, there exists an unambiguous hierarchy. Sacredness resides in the Deity, and the superiority of God's human creations resides in their rationality. Everything else is just nature. Such views make it possible to ignore and to destroy the natural world. They also partially explain why we rarely concern

ourselves with how other living beings might make use of, or might depend upon, the organic materials we cannot use.

This philosophical separateness from the natural world is bolstered by a real separateness from nature. Most Americans now live in cities or suburbs and are largely unaware of the rhythms of nature. But even a cursory acquaintance with the natural world makes it obvious that nature is cyclic. The health of any natural system depends upon the availability of waste from the living, as well as from dead and dying matter. Manure from farm animals helps return fertility to the soil; rotting leaves and trees create the humus out of which new saplings grow. Nature uses everything. The waste of one organism is energy to another. Unfortunately, the average city or suburb has very little nature in it, and so organic material has no place to go other than curbside and then to the landfill. But this does not have to be the case. Awareness and acceptance of our natural state, and of the need other organisms have for our organic waste, would begin to change the way we view this part of the waste stream.

A second culturally rooted belief that can explain our treatment of organic waste as garbage is that we are ignorant of complex biological processes. This ignorance is due in part to the operating metaphor of nature in the West: the machine. Machines are designed by human beings. These designs, though logical and quite ingenious, are usually confined to solving a single problem. Machines are characterized by their monotonous ability to do one thing well, and even the most complex machines are usually nothing more than an assembly of many simple machines. Once humans begin to make machines, it is a small step to the view that the Deity too is a machinist and nature His machine. William Paley's famous argument for the existence of God rests on the analogy between a watch and its designer and the earth and its designer. This mechanistic view of nature is found in the works of Francis Bacon and René Descartes. It is Bacon who says that unlocking the secrets of this grand machine requires a "diligent dissection and anatomy of the world." Descartes believes that animals are mere automatons, the inner workings of which can best be discovered by vivisection.

The mechanistic conception of nature is, at its best, symmetrical and simplistic, like the machines upon which it is modeled. At its worst, it is inaccurate and misleading. Nature is not a machine but rather a vast array of interconnecting organisms or perhaps, as Gaia theorists maintain, an organism itself. It cannot and ought not be reduced to a mere machine. Continuing to do so blinds us to the importance our organic materials have as energy to the land and to ourselves. With a machine metaphor, energy is either an abstract notion defined by physics, or the sort produced by technology: fossil fuel, electricity, nuclear power, and so on.² With an organism metaphor, energy includes all that is necessary for life, and this includes what we call organic waste. Such waste is just a form of biological energy that we cannot use efficiently or immediately. But other organisms can. This nonrenewable energy is more valuable than the machine energy of fossil fuels. When the oil dries up, the internal combustion engine becomes extinct, but without biological energy—the energy that is returned to nature through death and decay—the health of the planet is at risk. This risk is made worse when we replace biological energy with fossil fuel energy in the form of fertilizers, pesticides, and herbicides, the effect of which often is to kill the very organisms that can make use of biological energy.

Each one of the earth's creatures is driven by biological energy. Though this energy is complex and may elude our understanding and control, we do well to respect it and allow it to continue unimpeded. It is a mistake to treat nature as a machine only, and it is imprudent to block its energy cycles until we can understand them. Such imprudence is seen in American lawn-care practices. Every autumn millions of Americans take biological energy in the form of leaves and trap it in plastic bags for centuries. Every spring we buy fertilizers made from fossil fuels for our lawn and garden. Despite the innocuousness of these rituals, they are performed under the influence of the superiority syndrome and the machine metaphor. So long as we see ourselves as separate from and above nature, and make no effort to understand its complex cycles or to live within the confines of its rhythms, we will continue to throw away vast amounts of irretrievable energy, and mix it with toxic wastes in lined landfills, or trap it in plastic bags, or burn it, or dump it in the ocean.

Inorganic Old

There is a second category of old. This category includes clothes, cars, furniture, and appliances. In many instances, the only characteristic that turns these objects into garbage is that they are old. They are still functional and very often in demand by those who frequent garage sales or who travel the streets on the night before garbage pick-up. Hence, much of this material is reused by others. We need only to visit a landfill to see these objects being buried with the rest of our garbage. In fact, these objects often pose a serious problem for waste management. The standard explanations given for why we throw away so many old things concern style, growing out of the old car or couch, or simply feeling it is time for something new. The underlying explanations can be traced to our Western conception of time, and our economic system.

Our Judeo-Christian heritage supports the view that time travels in a line: that it has a beginning, a middle, and an end.³ In Genesis, God begins his creation by forming the physical world out of formless wasteland. In the Book of Revelations, it is said that this natural world will come to an end and history will culminate in God's triumph and a creation of a new heaven and a new earth. Greek philosophers, including Plato, argue that the world of Ideas is timeless while the world of physical objects exists in a temporal realm of change and decay. Western philosophy's view of causality—that every effect has a prior cause—supports a linear view of time. Even modern science searches for the beginning of time and tries to predict how the world will end.

Influenced by these ideas, it is easy to see how Americans identify new objects as intrinsically better than old objects. In becoming old, an object reaches the end of its own linear time line. By disposing of an old object and purchasing a new object, a person can himself become renewed. It is no compliment in our culture to be called "old fashioned" or to be thought out of fashion. Few Americans would be caught wearing bell-bottom pants or Nehru jackets unless they become fashionable again. Like the movement of time itself, progress is the operating metaphor in deciding when to dispose of material objects.⁴ Newer cars are, by definition, better cars. Any new

product is considered to be an improvement over the product it is replacing, simply by its being new. What is old, then, comes to an end and is discarded as useless, if not harmful, to the person who owns it. Except for antiques and objects with sentimental value, old objects have only negative value.

The placing of old things into the concept *garbage* makes perfect sense in a culture where new is better than old and where everything comes to an end. But our linear conception of time is neither the only, nor necessarily the best, conception of time. In cultures where time travels in cycles rather than in a line, little or no garbage is created by old objects. Everything is used, and old objects take on value because they are old. Old objects connect their owner to an earlier time and to an earlier owner. In these cultures what is old becomes new; death and decay are connected to rebirth; and old objects are passed on to new generations in rituals of initiation. The wisdom of elders is honored and is given priority over the new ideas, technologies and artifacts that threaten the integrity of the culture by allowing the young to forget their roots to the past, and to forget that they too will travel in a time that brings them—through death—back to the beginning.

The second influence underlying the negative view of old objects is our economic system. Capitalism is the great machine behind much of our garbage today, specifically behind much of our old garbage. The tenets of capitalism are straightforward: Create and sell a product in order to produce a profit; accumulate profits (capital) through growth and expansion; and reinvest this capital into ventures that create and sell products at a profit. A successful capitalist venture requires both increased consumption and continuous expansion. Capitalism, then, defines economic health in terms of continuous growth. In a healthy capitalistic economy, increased sales mean increased profits for the stockholders and increased salaries for the workers. Overall increase in monetary wealth allows stockholders to reinvest their profits and workers to buy more goods and services.

It is not difficult to see the importance that the disposal of old objects as garbage has for the capitalistic conception of economic health and stability. If every American kept his or her car for ten years, there would be an economic crisis in America. Without seasonable fashions, garment manufacturers would go out of business. If we did not remodel our kitchens, carpenters and appliance manufacturers would be out of work. It is not long before this cycle becomes a vicious one: You need to work in order to buy goods that you must eventually throw away in order to keep someone else working so that he or she can buy goods that he or she must eventually throw away in order to keep you working. We secure economic happiness in this way, but the cost to our environmental well-being is high: leaking landfills near our water supplies, air pollution, and incinerator ash in our topsoil.

Capitalism encourages this interest in consumption by bombarding consumers with ads telling them that new is better than old. Products are always "new and improved," and advertisers emphasize that those with the newest fashions and cars are young, attractive, and successful. Consumers are told that new objects increase the value of old objects. A new kitchen or bathroom, a deck, a pool, or satellite dish will increase the value of any home but especially an older one. Every new fad is almost guaranteed success simply because it is new. Even the nightly news, where so many of these advertisements appear, is itself a kind of advertisement for capitalism. Nightly we hear

about activity on Wall Street, and weekly we hear economic reports. Implicit in this news is that a healthy economy is a purchasing economy. Lack of sales brings unemployment, and unemployment brings despair. Americans depend on a healthy economy for much of their happiness and success, but few of us see the irony in a news story about our national solid waste crisis followed by one that predicts healthy economic indicators for the coming quarter. We cannot have one story without the other. In capitalism, economic health is causally linked to an abundance of garbage and long-term environmental degradation.⁵

The category *old* is a term of negative value that is generated and justified by our economic system, our linear view of time, our relative ignorance of biological processes, and our supposed separation from, and domination over, nature. Given this heritage, it is no surprise that we have so much garbage in our culture. Our place in the cosmos and our conceptions of success and happiness depend paradoxically on our ability to create great mounds of material which we find unpleasant to look at or think about. The solution to the solid waste crisis will likewise depend upon a paradox: We must become more interested and connected to our garbage while at the same time producing less of it. This will require the more difficult tasks of taking stock of our heritage in terms of its effect on the solid waste crisis and admitting that the solution to the crisis begins in reevaluating and, perhaps, rejecting much of what we have been taught to believe about our place in the world and how to achieve happiness.

Broken

There was a time when most broken objects were also old objects that had served their function but could no longer be repaired. It is now commonplace for appliances, furniture, tools, and so on to break while relatively new. Unfortunately, these items are increasingly difficult to fix at home, or they are more expensive to fix than to replace, or they belong to people who have neither the interest nor the skills needed to fix them. The explanations for our inability to repair relatively new products, and their subsequent proliferation in our landfills, can be traced to aspects of our heritage.

First, if the products we buy do not last very long, it is usually because they are designed not to last very long. Such designs serve both to keep the cost down so that people will want to buy the product, and to create obsolescence, so that people will have to buy the product more frequently. In a capitalist economy, products cannot last too long.

Second, with some technologies, it has become cheaper to replace the product than to have it repaired. Assuming that this throw-away aspect of a product is not a necessary feature of its design—that the only way to have this product is to design it such that it cannot be repaired or repaired easily—then we must ask why this is so. It may be another way to create obsolescence, or it may be cheaper to manufacture a product that cannot be fixed easily. In either case it seems an unnecessary use of materials and energy to throw away something that is broken for no other reason than that it is cheaper to replace than to repair.

Third, there is a widespread ignorance of how to repair basic items around the home. Admittedly, many of these items have become too complex to repair, but many

of us do not know even the basics in general household repair. This ignorance can be explained partially by the professional life of the average American. We have become a society of specialists: We are teachers, health care workers, assembly-line workers, plumbers, engineers, or stockbrokers. We spend so much time training for these professions and traveling to and working at our jobs that we do not have the time, the energy, or the interest to learn other skills. The machine metaphor has even crept into our personal and professional lives. Like a machine, most of us are good at doing one thing well. If something outside of that expertise breaks, we either dispose of it or call in another specialist to fix it.

This ignorance can also be attributed to the loss of craft knowledge gained through tradition. In communities governed by cyclical time, family members pass on a body of craft knowledge to the young, a knowledge that often includes basic methods in building and repairing. You can still see this tradition on the family farm where cyclical time still governs the rhythms of daily life. By necessity, farm children acquire an array of skills that make them like their parents, the ultimate practitioners of recycling and reuse. Not surprisingly, there is very little garbage on the farm; when something breaks it is rarely discarded. By contrast the average suburban or city child knows little about how to repair something broken or how to make use of what cannot be fixed. In a community governed by linear time, they learn from their parents that if something breaks it should be repaired by others or thrown away. In most of these homes broken objects quickly find their way to the trash.

There is, finally, the issue of status. There is something demeaning in our culture about trying to repair what is broken. If you drive an old car around, it is because you cannot afford to buy a new one. If you do your own household repairs, it is because you cannot afford to have them done by someone else, or because you cannot afford to replace what is aging or broken. Those with disposable income have the luxury of replacing broken products with new ones.

Single Use

We now turn to the third and final category of garbage: single-use products. These products are the most recent addition to our landfills. Single-use products are designed for a very narrow function and generally can be used for nothing other than this function. They are generally made of plastic and come in two forms: packaging and disposable products. An empty mayonnaise jar, for example, can be used in a number of different ways once its primary purpose is achieved. But this is not the case with most plastic packaging. It has one use and one use only. The same is true with a disposable diaper: Once it is soiled, it has no other use. It has served its purpose and must now be discarded.

These single-use products have quickly found a place in the waste stream. Some estimates claim that 33 percent of the waste stream is now composed of plastic packaging. Disposable diapers make up from 1 to 3 percent of the waste stream. Though there are no statistics for other disposable products in the waste stream, including pens, razors, and styrofoam cups, we need only to look at the brisk sales of these items to assess their impact on the waste stream. All of these products are

inefficient in their use of energy, and they are made from materials that are toxic to the environment. Why do we not realize this?

The answers should now begin to sound familiar. Why else would we pollute our environment with material that has no use in the natural world unless we are ignorant of the natural world and of our close connection to it? Our belief in the human species' innate superiority makes it easy to pollute the natural world with waste that cannot use. Second, disposable products are the ultimate in new over old. Every disposable diaper is new, and its use-span is remarkably short: new-to-old-to-garbage in the time it takes an infant to relieve itself. Once a diaper is soiled, it has no use. Third, disposable products, like disposable income, is a sign of status. These products are the ultimate products for those concerned with convenience and immediate gratification. Finally, single-use products encourage growth and consumption, in this instance the consumption of convenience. What better way to sell diapers, razors, pens, or cameras than to have consumers use them, dispose of them, and replace them?

SOLUTIONS

All three categories of garbage—old, broken, and single use—are too large. Together they create mountains of garbage. Having so much garbage with no place to put it is indeed a crisis, a crisis of heritage. We have so much actual garbage because our heritage grossly enlarges the concept of garbage. Any attempt at a solution, then, must confront this heritage head-on. We must be willing to admit that the problem is not simply a matter of having nowhere to put our garbage. The real problem is that we create too much of it to begin with.⁶ For this reason, we should be wary of many of the solutions currently being considered. Ocean dumping is just another way of putting garbage where we cannot see it and in an ecosystem we do not understand. Incineration is a technological, mechanistic solution. Like most technologies, its newness makes it appear better than traditional solutions. But like all technologies, it is double-edged. We achieve one solution only by creating another, often more intractable, problem. Placing the responsibility on government allows citizens to maintain their distance to a problem they are responsible for creating. And legislating solutions is never as effective as educating people to take responsibility for their actions. Even programs of reduction, reuse, and recycling will not be effective in the long run so long as people are allowed to ignore the root causes of the solid waste crisis.

The solution, then, begins with an awareness of the link between our garbage-producing habits and our conceptions of garbage. This link must inevitably make us aware of our Western heritage and how it has influenced our conceptions of garbage, justified our distance to garbage, and allowed us to unthinkingly dispose of it. What follows from this awareness is the discovery and articulation of alternative heritages. These include Asian heritages, native American heritages, and even alternatives within our own Western heritage. We can look to these traditions for alternative conceptions of time, economic well-being, spirituality, happiness, and wisdom.

Such traditions would replace our anthropocentric view of the earth with a biocentric view that connects us to the natural world and makes us a part of it. They would encourage a scientific approach to nature that is holistic and organic. They would offer cyclic conceptions of time where tradition is emphasized over progress and where old objects have as much value as new objects. Within such traditions, the wisdom of elders is as valuable as the knowledge of the young, and it is painstakingly transmitted to new generations. Within such traditions, the knowledge of control and progress is constrained by a wisdom that recognizes and accepts human limitations. It is a wisdom that can say no to new technology for the sake of technology, and that can accept old age, death, and decay as the harsh precursors to rebirth and transformation. These traditions would locate the spiritual world here on earth and define our relationship to the earth as a sacred one. They would offer a framework for a slow-growth economics where economic well-being is achieved without the need for constant consumption and constant disposal. Economic well-being would be defined, in the words of E. F. Schumacher, as optimal consumption, not maximal consumption.⁷ On this model we would consume what we need, not need to consume.

We need also to articulate these and other cultural alternatives, to become fluent in them, and to use them as a new foundation for the habits of conservation, coexistence, wisdom, and tradition. The solution to the garbage crisis culminates in making these habits part of our daily lives. It requires of each one of us that we take action to change the way we think about and produce garbage. This new habits-heritage connection will serve to reinforce one another. Our new heritage will justify our new habits, and our new habits will give meaning to our new heritage. The result of this process will be a redefining and narrowing of our conception of garbage, culminating in a marked decrease in the amount of it we create. The solid waste crisis will begin to abate only when we are prepared to consider real and lasting change: a change of habits, a change of thinking, and a change of values. Such change is admittedly slow and not seriously considered until there is a crisis. The good news is the crisis is upon us. What better time to turn this crisis into a challenge, a challenge to change our Western ways of thinking and acting for the good of the earth and ourselves.

NOTES

Special thanks to Maria Vitek, Jan Wojcik, and Robert Baker for their helpful suggestions. Versions of this chapter were presented at the St. Lawrence County Staff Development Day, Union College, and Hofstra University.

1. There is, at best, ambiguity in the Genesis story regarding how humans should treat the earth. There is an interpretive tradition that sees in Genesis a mandate for stewardship. Unfortunately, the Hebrew word *krvsh'ulah* is translated unambiguously as "dominate." But even with this ambiguity, it is clear from the story that humans are different from the natural world and are given control of it. One need only read Native American literature to see that neither the human/nature dichotomy nor the mandate to dominate the earth are necessary features of creation myths. See, for example, Trebbe

Johnson, "The Four Sacred Mountains of the Navajos," *Parabola* 13 (November 1988): 40-47.

2. We should not forget that fossil fuel is a kind of organic energy, although it is doubtful that anyone would willingly choose to lock up our organic energy for the gas-guzzlers of the 21st century rather than putting this energy to the more immediate use of our own well-being and survival.

3. This point was made by Lynn White in his article, "The Historical Roots of our Ecologic Crisis," *Science* 155 (1967): 1203-7. Both the title and the methodology of this chapter allude to White's influence on the author.

4. See Robert Nisbet's *History of the Idea of Progress* (New York: Basic Books, 1980).

5. The amount of garbage at the production end of capitalism is a correlate of the tenets of capitalism: Profit depends upon the ability to meet demand and to create a product at the lowest possible cost. Both of these factors tend to create large waste streams at the production end. Unfortunately, it is still often cheaper to dispose of waste material than to reuse it. Apologists of the status quo should find little solace in the positive comparison of capitalism to Eastern European economies and the great environmental damage they have caused. True economic alternatives to the solid waste crisis lie beyond either of these systems of consumption.

6. Thanks to Jan Ludwig for raising the issue of whether we can reduce our production of garbage to zero or whether garbage is a necessary feature of life on earth. I explore some possible answers in an unpublished paper titled "The Metaphysics of Garbage."

7. E. F. Schumacher, *Small Is Beautiful* (New York: Harper & Row, 1973).

PERSONAL CHOICES AND ENVIRONMENTAL IMPACTS

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Like a cougar in the forested hills of a natural wilderness, like a jackrabbit running across a virgin, snow-covered meadow, man leaves his unmistakable tracks on the world. The impacts of humanity upon the natural world have become easy to read: polluted waters and streams, disappearing farm and forest lands, bloated landfills, darkened blankets of poisonous gases. These are the accumulated effects of individual actions, of tracks not as visible, but of no less importance.

With a world population in excess of 5 billion, the efforts of any one individual personally to improve the degraded world environment by reducing his or her personal "tracks" may seem inconsequential at best and self-depriving at worst. It is neither. Upon closer examination, it can be seen that any effort to restore the environment will be futile without individual effort to control the cause of the problem: us. It is time that we stop pointing our fingers at industries, governmental agencies, and the like. We must point our finger at the person in the mirror. This is not to say we should judge and condemn the face staring back at us in the mirror tomorrow morning, for guilt and fear are debilitating emotions that cripple human commitment and hinder positive action. Rather we should examine our life-styles and seek to rectify our misdeeds. We cannot waste our time with guilt and apologies: We do not have the time. We need to start working on cleaning up our own lives. It serves us very little to spend billions of dollars cleaning up toxic waste sites if our lives are contributing to the creation of new ones. Each and every one of us must clean up his or her own "toxic waste dumps." Most of the harm inflicted on the planet by us in the past was done out of ignorance, but today we are armed with the knowledge of our impacts. From now on any harm done to the planet will be due not to ignorance but to our lack of will. To see what we did wrong in the past simply requires observation; to predict what will go wrong in the future simply requires inference; to do what is necessary today simply requires wisdom.