Case Study for Waste:
Trash and Treasure

Brought to the public's attention in 1997 by Charles Moore, the Great Pacific Garbage Patch—the notorious swirl of plastic debris churning in the Pacific Ocean—symbolizes the problems with our consumer culture and the garbage it generates. Dramatic photos of Pacific seabirds, stomachs full of colorful plastic trash, underscore the impact of plastic waste on our planet.

For anyone concerned with the planet's well-being the prevalence of plastic trash raises some troubling questions: What does this plastic waste mean for environmental and human health? What can be done about it? Though the answers aren't easy, change must come—and quickly.

Our waste problem is in many ways a product of the plastic age and is very new. Through most of history humans were habitual recyclers, and we recovered, repaired, and reused all sorts of materials. What we couldn't recycle we burned for fuel. Food scraps even fed herds of pigs on the streets of American cities. The animals cleaned the streets and served as food for the urban poor until early 20th-century efforts to clean up the cities began. Waste was once a potential asset with myriad uses. It only became a problem when we began sending it to landfills.

Americans remained accomplished recyclers through the mid-20th century. The economic deprivation of the Great Depression and the conservation and rationing of World War II instilled several generations of Americans with an ethic of reuse.

The economic and material abundance following World War II fundamentally changed American approaches to waste. The United States won the war thanks in large part to its ability to produce *stuff*, and production of plastics exploded as part of this wartime industrial effort. Plastics substituted for metal, glass, natural rubber, wood, leather, and silk in everything from bayonet scabbards to components of the first atomic bomb. By the end of the war the United States was making 300% more plastic per year than it had at the beginning of the war. And production did not end with the war. Instead, machines originally built for wartime production shifted focus to create materials for domestic consumption.

Cheap oil and inexpensive plastics created a postwar economic boom and allowed Americans to rethink their previous habits of conservation and reuse. A new sort of product flooded the market: the *disposable* item. Disposable products arrived in a steady stream, from the ballpoint pen in 1952 to the grocery-store plastic bag in 1965, and disposability was celebrated as an easier, better way to live. A 1955 *Life* magazine article celebrated "disposable living." Featuring a photo of a happy family watching a cascade of disposable products, the article presented throwaways as a means of freedom. If they were not disposable, the pictured objects represented 40 hours of scrubbing to prepare them for reuse. But thanks to disposability, "no housewife need bother."

Americans became very good at throwing things away and quickly forgot their past tradition of reuse. Today, half of all plastic products are designed to be thrown away after a single use. This

ubiquitous, disposable packaging, much of it plastic, was virtually unknown before World War II. But the postwar consumer culture came wrapped in plastic. Cellophane gave food an aura of freshness, and merchants found that goods wrapped in plastic sold much better than unwrapped items. Plastic packaging does help to keep food from spoiling, but it also creates plastic waste that has to be disposed of after use.

In the 1960s scientists first noticed plastics in the ocean, our first glimpse of the problem of the Garbage Patch. At the same time, a growing American awareness of human-caused ecological and environmental problems led to concern over the growing abundance of plastic waste.

It was the plastics industry itself that offered recycling as a solution. In the 1980s the industry pushed municipalities to collect and process recyclable materials as part of their waste-management systems. Before this time very little recycling infrastructure existed, especially for plastics. In 1987 the Society of the Plastics Industry established the number-based recycling codes that identify types of plastics for sorting to help make recycling easier.

However, the industry-supported recycling system falls far short of addressing the plastic-waste problem. Very little plastic is actually collected for recycling, and recycled plastics are inferior in quality to newly manufactured plastics and have only a limited range of uses. These "downcycled" products don't reduce our need for virgin plastic, so they don't actually *reduce* plastic waste. To accomplish that, we would have to stop manufacturing plastic. In a famous *New York Times* article titled "Recycling Is Garbage," John Tierney even argued that recycling is a waste of time and money that serves only to assuage our guilt about consumption.[1]

Existing recycling systems also place the burden on consumers and local governments, giving producers no incentive to reduce production. An example from Europe offers an alternative. In 1991 Germany introduced "extended producer responsibility," which mandates that producers take responsibility for their products throughout their life cycle. This program has been successfully adopted by the European Union and has many advocates in the United States.

There are also innovators who believe we could solve the waste problem by recycling *better*. They want to collect and recycle a much larger percentage of discarded plastic than we do currently in a way that does not reduce the quality of the plastic once it has been recycled and reformulated. Some innovators also argue that plastics can be reduced back into petroleum-based fossil fuels and used for fuel. David Steiner, the CEO of Waste Management, the largest recycling and garbage-collection corporation in the United States, says that "someday we might pay customers for their trash, rather than the other way around."[2] Steiner estimates that there is $10 billion worth of "waste" locked in landfills. It is time for Americans to remember that what we consider waste is actually valuable material. Until we do, our plastic-waste problem will only continue to grow.

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[1] John Tierney, "Recycling Is Garbage," *New York Times*, June 30, 1996.

[2] Edward Humes, *Garbology: Our Dirty Love Affair with Trash* (New York: Avery, 2012), p. 84.