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TALKIN' TRASH

By William Rathje

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Surely you haven't forgotten the "garbage barge" that was pushed and pulled into history by the tugboat Break of Dawn in the spring of '87. For more than a month, we all followed the forlorn barge down the East Coast, around the Caribbean and back again as it searched for a final resting place for 3,000 tons of Long Island garbage. For many, plotting the floating trash's daily progress--or lack of it--became an obsession, as if they feared the wandering waste might end up in their neighborhood. Whatever their concerns, Americans found the odyssey so striking that it ignited a "garbage crisis."

And now it has been refueled again. This time, the objects of our attention are the trucks that are hauling refuse from the Bronx to Virginia, where politicians and citizens alike express outrage that, every day, some 3,000 tons of New York City's garbage are filling mega-landfills in their countryside. New York's Mayor Rudolph W. Giuliani has, of course, only made matters worse by suggesting that because of all the amenities the Big Apple offers, visitors shouldn't be surprised if some of the city's garbage follows them home.

What all this goes to show is that we have not learned the real lessons of that garbage crisis a decade ago. We are still trying to cure the disease by micro-managing its disposal. We certainly haven't realized how safe modern landfills are. And, despite the sound and fury of environmental watchdogs and some well-meaning efforts to recycle, there is practically no effort being directed at preventive medicine--at decreasing the amount of garbage we produce in the first place.

In other words, we are still missing the boat.

As director of the University of Arizona's Garbage Project, I have been encouraging my staff and students to study modern garbage--hands-on--for

some 25 years now, as if we were archaeologists itemizing the remains of Pompeii. All across the United States, we have painstakingly sorted through fresh refuse and dug up and examined trash that has been buried in landfills for decades. The intimacy of our approach has given us a unique perspective on garbage and its peregrinations.

We know that garbage has been traveling long distances for years. Once in a while, a story about it captures the public's attention. Shortly after following the voyages of the garbage barge, for example, the media latched onto the Khian Sea, a merchant ship loaded with incinerator ash from Philadelphia. It plied the seas to Southeast Asia where, like the garbage barge, it was not allowed to unload at any port. Nonetheless, it somehow returned to the United States--newly named and empty.

Traveling garbage is simply a fact of American life. Depressed rural areas are willing to accept garbage from crowded urban centers, and the urban centers are willing to pay for that privilege. Trucking companies are happy to haul garbage out in their 18-wheelers, and happy to haul produce or other commodities back in their trucks. In this way, the garbage of the crowded East Coast has been distributed to landfills nationwide, including many in rural areas of the Midwest. (The result is an archaeologist's nightmare, by the way: Imagine digging up the remains of lox and bagels, a weekday New York Times, and a number of used New York subway schedules in a landfill in rural Illinois or the picturesque reaches of Montana.)

But you don't have to have an archaeologist's sensibility to realize that one man's trash is another man's treasure. Today, in fact, there are many parts of our nation that are garbage-poor and trash-starved.. One of them is Virginia. Another is New Jersey, where I have actually heard officials say, "There's just not enough garbage."

That's because, in New Jersey, the garbage crisis has been turned on its head. The reasons behind this conundrum involve major components of politics, the law and economics, and are therefore convoluted or nonsensical. What happened is that the state government did its environmental duty at the beginning of the garbage crisis by mandating recycling and requiring every county to create local facilities to dispose of its own waste--no New Jersey garbage barges! The counties took this responsibility seriously; many built state-of-the-art,

environmentally friendly waste disposal facilities. The cost was high, but that was to be expected, and each county planned for servicing its debt based on the quantity of local garbage that it expected would be arriving for disposal. But the best-laid plans . . .

Meanwhile, in anticipation of a garbage glut, some areas of New York and Pennsylvania had found their new refuse facilities could handle more garbage than the local communities were producing. To bring in new business, they lowered their "tipping fee," and many of New Jersey's cities and private haulers found the prices too tempting to ignore. New Jersey counties then tried to keep the garbage at home by enforcing "flow controls," but in 1994 the Supreme Court ruled that such regulations interfered with interstate commerce. The result is that New Jersey counties have drastically lowered their fees to compete for garbage--and are continuing to have trouble servicing their debts. Yes, trash-starved!

That's also the story with the privately operated incinerators in Virginia--the nation's second largest importer of garbage at 3 million tons a year. The communities that sponsored them were up to their eyeballs in both debt and agreements to provide specified amounts of garbage to waste facilities or face stiff penalties. So, just like other waste-to-energy plants before them, the Virginia incinerators began taking in non-hazardous industrial waste from out of state. And, just as at other plants before, there turned out to be some toxic materials mixed in with the rest, and the result was employee discomfort and, perhaps, some inappropriate emissions.

Monitoring the in-state and out-of-state industrial wastes that arrive at incinerators is an important concern of mine, since the incinerators were designed primarily to handle local municipal wastes from homes, schools, small businesses and so on. And, as I understand it, Virginia's General Assembly is taking steps to improve its monitoring regimen--a move that seems prudent.

The other concern in Virginia is that disposal companies saw an opportunity to build and fill mega-landfills in rural areas--areas that wanted revenues from waste disposal to cut taxes and pay for schools and more--where large landowners were not making economic use of their holdings. But there's a major misunderstanding here, too.

Many of the television and newspaper stories I've seen suggest that Virginia's landfills pose a serious environmental threat. One even notes that owners "had a free hand in building mega-landfills, as long as they met environmental standards." But from a garbologist's standpoint, just how free was that hand? There were very few details about the design of Virginia's new mega-landfills in the articles I've seen, so I made a few calls.

If the mega-fill in Charles City County, a poor rural community about a half-hour east of Richmond, is anything to go by, I wouldn't be worried about my home or family if I lived nearby. First, the landfill, which opened in 1990 before most of the others, has a double composite plastic 60-millimeter liner as well as a clay liner and drainage layers, all of which guard against leakage into the outside environment. There is also a system to collect leachate (fluids that reach the bottom of the landfill), and most of the trapped leachate is delivered to a sewage treatment plant nearby for cleaning. The landfill has methane wells regularly drilled to vent or collect methane gas for further use. In addition, the 289-acre landfill is surrounded by a 700-acre buffer. Finally, having spent 25 years in the waste arena, I was not surprised to learn that the landfill's manager, Lee Wilson, has a degree in civil engineering and decided to get into the waste business "to minimize the environmental impacts of our garbage." It may sound corny, but a lot of people in the waste industry believe in that.

All of this effort is designed to protect the immediate area outside the site from our cities' refuse--and they work. Take household waste. Today, hundreds of communities have "household hazardous waste" collection programs that allow people to drop off or place out for pickup unused paints and pesticides, used motor oil, batteries and so forth. They represent about two-thirds of 1 percent by weight of what households discard--and remember that the actual hazardous ingredients themselves are a significantly smaller part. This material, dispersed among a mass of soda cans, milk cartons, meat trays and cereal boxes, does not strike me as particularly dangerous when ensconced in a landfill built like Charles City County's.

In fact, I believe that the garbage sites in the United States are the safest waste disposal facilities in the history of the world. So what's

wrong with people making an honest dollar from disposing of garbage?

The primary objection is that nobody wants a landfill in his or her backyard. They have real concerns about traffic and noise and litter from trucks. But our waste has to go somewhere. And instead of worrying about where all the garbage goes, all of us--New Yorkers, Virginians and Arizonans alike--should be asking, "Where does all the garbage come from--and how can we decrease it?"

Ironically enough, one of the reasons we don't ask those questions is because of a misperception about recycling. Most people believe that recycling means saving resources and cutting down on garbage. And they are correct--to a point. But recycling itself does not save resources. It simply delays the exploitation of new resources. Paper--our most commonly recycled commodity--can only be recycled a few times until the fibers are too short for new products. Then it's back to cutting down trees. Further, recycling itself consumes considerable resources (collecting recyclables separately from garbage, transporting them, processing them, returning them to stores), and it generates considerable waste (the sludge of inks and other additives extracted from old paper before it can be made into new, for example). But the most frustrating and damaging element of recycling is that recyclers may feel that since they are doing the right thing for the environment by recycling, they have no compunctions about how much they consume. And the truth is that, even though we are recycling ever-greater quantities of materials, we are tossing out more and more garbage at the same time.

In fact, the Environmental Protection Agency (EPA) places recycling only third in its hierarchy of proper waste utilization. "Reuse," which comes in second, means making further use of items within the home (jam jars and empty margarine tubs become containers for leftovers) and not burdening the recycling or disposal systems. "Source reduction," number one, means preventive medicine--using less stuff by buying products and packaging that will generate less waste in the first place.

We need source reduction to win the hearts and minds of Americans in the same way recycling has. That's because of what I call Parkinson's Law of Garbage (garbage will expand to fill up the space available for its disposal). The Garbage Project first documented this behavior in Tucson when the city introduced mechanized pickup, and each household received

a standardized 90-gallon plastic bin--about twice the size of the galvanized can most people had used previously. In short order, the quantity of refuse each household discarded nearly doubled! The increase was not in everyday items--in food or packaging for household cleaners. It was in discretionary items such as old clothes that might have been resold or donated to charities, yard waste that might have been composted, household hazardous wastes that might have been taken to a community collection site, and even recyclables.

What's the answer? I like the "Seattle Solution"--what the EPA calls "Pay as You Throw." There, each household is given a small garbage container. If residents need larger containers, they can choose to pay for them. This cost-based strategy seems to be working: Seattle officials report a drop in the amount of garbage collected.

But Seattle and dozens of other cities that have installed similar programs are still in the minority. This is why I believe that we have missed the message of the garbage barge when we focus on traveling trash and where it ends up. Of course, no one wants to be a dumping ground for New York's garbage--or for Tucson's. But once it is produced, trash has to go someplace; and, in this day of heightened environmental protection, economies of scale select strongly for those mega-landfills. There is no fighting economics and history as they push us toward far fewer and far larger--but far safer--waste disposal sites. That is, unless we can decide upon some way to use less stuff.

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MORE DIRT:

* By 2000, the total amount of waste generated per U.S. resident per day will be 4.4 lbs., only slightly more than the 4.3 lbs. generated per capita per day in 1990.

* A typical employee working at a large federal office building generates 2.9 lbs. of garbage (before recycling) per day.

* A typical McDonald's restaurant serving 2,000 customers per day produces 238 lbs. of waste per day.

* Montana sends 93 percent of the waste it processes to landfills--a higher percentage than any other state. The remainder of the state's processed waste is recycled (5 percent) and incinerated (2 percent).

Source: EPA Municipal Waste Factbook