**That’s trash!  What we’re throwing away**

**By Jody Petrow**

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One of my son’s favorite expressions is, “That’s trash!”  As in, a Lego set arrived from Amazon with missing pieces, and he said, “Amazon is such trash!”  He was watching a Minecraft tutorial on YouTube and he didn’t think the guy explained it very well, so he said, “This dude is trash!”  I promise I am not the only parent hearing that expression all the time now; it’s a thing, and coronavirus just means more hours of all of us being around our kids while they say it.

I think my son saying that all the time reflects the fact that in our age of plenty, we really do throw things away all the time.  My kids don’t think twice about calling literally everything around them garbage.  And that’s what I want to talk about--how much we are throwing away.  I can’t claim, by any stretch of the imagination, to be an expert on trash, but I have read a lot about it in the past year, and a lot of things that I learned surprised me and I wanted to share with them other people, especially UUs--because, you know, we care about the interconnected web of life around here!  Thanks to Jan Wilson and Christina Strong, I know that that is the 7th principle.  In terms of the sermon itself, I have to thank a former student of mine, Kat Woerner, who is studying sustainability at UNL and who works at the sustainability office there.  Some months ago she explained a lot of the economic issues around recycling to me, and she also gave me a lot of feedback on this sermon.  It’s significantly better as a result of her input.

I want to start by talking about why trash is a problem.  It has everything to do with how much of it we are producing.  The EPA says that the average American produces 4.5 pounds of trash a day.  That means that each person produces 1,704 pounds of trash a year, which is three times the global average.   Just imagine if you had to store that waste yourself, in your apartment or house or backyard, instead of in a landfill:  1704 pounds of trash, per person, every year.  That doesn’t include the things we send to be recycled--much of which is never recycled, as we will get to later--and it also doesn’t include construction debris, industrial waste, and other types of commercial waste.  Construction is only one of many places where we are producing large quantities of waste that we never see:  everything you buy or consume involves invisible waste.  For example, while 40% of the food produced in this country is wasted, consumers are only responsible for ¼ of that.  Another quarter of that waste happens on the farm, a quarter in transportation from the farm, and a quarter at the store. The US has 4% of the world’s population, but creates more than 30% of its trash.

Although it’s not a uniquely American problem, plastic waste is of particular concern, because it takes up to one thousand years to biodegrade.  Although we have only been mass-producing plastic for 60 years, we have produced 8.3 billion metric tons of plastic.  Plastic is light!  It takes a lot of plastic to weigh that much.  More than 75% of that plastic has become waste, and only 9% has been recycled.   That is a lot of plastic trash, very fast.

You may have heard of the Great Pacific Garbage Patch.  It’s a huge collection of trash gathered in one spot in the Pacific by ocean currents.  In 2018, the Great Pacific garbage patch was 3 times the size of France.  Here’s the thing:  it’s not the only garbage patch in the ocean.  It’s just the biggest of the five major garbage patches.  There are also many minor ones.  And the kicker:  most plastic in the ocean isn’t floating on top where you can see it.  It’s floating beneath the surface.  A recent study made headlines by arguing that at the current rate, by 2050 the oceans will have more plastic than fish.  According to Kat, some studies that include microplastic say they already do have more plastic than fish.

So I care about trash, but I don’t think that means that every idea for plastic reduction is equally good.  Some of that is that I value sustainability in my choices more highly than trash reduction, and those two things can come into conflict.  For example, my local trash company collects specific types of plastics in orange “energy bags” to reduce landfill trash.  Well, what they are doing is taking all that plastic to Kansas and burning it in an incinerator.  They claim that this is not the long-term plan for that plastic, and that they are developing a waste stream so that people can eventually recycle that waste.  I’m skeptical about that for a number of reasons.  One is economic: as I’ll get to later, it doesn’t currently make much economic sense for companies to make things with easily recyclable plastic, so it’s hard for me to imagine a future where companies are willing to spend more money and more time on a more complicated process when the recycled plastic they produce now doesn’t have much of a market.  Right now, Hefty probably makes some money marketing this program, because they are the ones making the special orange trash bags.  But incineration, as long as it as an allowed outcome, could continue to be more economically appealing than a complex recycling process.  Right now, the program is looking into putting another incinerator in in Omaha, and I think that provides evidence to support my skepticism.  If they were sincere in the goal of creating a waste stream for recycling, why would the growth of that waste stream mean a new incinerator instead of a recycling plant?  It’s important to note that incinerating plastic instead of landfilling it, while it does have some benefits, also has a lot of downsides.  The benefits of burning plastic are that it reduces landfill trash while producing energy.  However, the fire also produces more carbon than burning coal, in addition to producing toxic ash and emitting a chemical soup of dioxins, furans, and other chemicals:  these chemicals cause cancer, act as endocrine disruptors, and damage the nervous system.  While most environmentalists agree that burning plastic is really toxic, some environmentalists support this program because they hope it will lead to long-term improvements in recycling.  I’d personally rather send my plastics to a landfill. It seems like a slower way to release the poisons of degraded plastic into the world.

Another thing that muddies the picture is that plastic production often uses less resources than the production of natural materials.  For example, producing plastic grocery bags has a much lower carbon footprint than producing cotton grocery bags.  I’ve seen different numbers on this, but some people argue that cotton bags have a carbon footprint so much higher than plastic bags that you have to use them 327 times, replacing 327 plastic bags, before the carbon emissions equal out.  Because organic farming has a lower yield, it uses more resources, and you would have to use an organic cotton bag 500 times, replacing 500 plastic bags, to have a comparable carbon footprint.  For this reason, some people argue that the reusable polypropylene bags sold at grocers are the best approach.  I also saw one expert who argued that the most sustainable approach is to use the free plastic bags, reuse them until they fall apart, and then recycle them.  However, according to Kat, my former student, many of the stores that claim to recycle them don’t actually do it.  My brother-in-law actually worked at a grocery store where he was asked to carry the bag of plastic bags from the recycle bin to the dumpster.  Kat suggests asking the bagger or another grocery store worker for cardboard boxes from the back to carry groceries in; these boxes were going to get recycled anyway, and this gives them an extra use.

As the stories about the “energy bags” and the tossing of bags from the grocery recycling bin both demonstrate, the  most sustainable approach isn’t always recycling more; in many cases, it is using less and re-using more.  This is why the slogan “Reduce, reuse, recycle” begins with the word “reduce.”  For example, with bags--if you have some bags lying around that you got free somewhere and never used, or a backpack, or a cheap string bag, use THOSE for your groceries--there is no increased carbon cost to using something that has already been manufactured.  The idea of reducing also applies to other products, like clothes:  if you buy fewer, more durable clothes, or if you buy used clothes, you aren’t just throwing away fewer clothes, you are also consuming fewer resources in the production of those clothes.  I should mention that American clothes end up in the waste stream far more often than we realize.  Eighty-four percent of unwanted clothes end up in landfills. A lot of companies send returned clothes to the landfill.  So if you order a shirt on Amazon, try it on, and return it for free to get one that fits… Amazon doesn’t wash and resell the shirt you tried on.  They landfill it.  When my son said Amazon was trash, he had no idea how true that was!  Amazon isn’t the only company that landfills returned clothing; many companies do.  In addition, many companies send last season’s unsold clothes to the landfill.  They see throwing away those clothes as a way to protect the value of their brand, because it means no one will be able to buy their clothes cheaply.   When you buy new clothes that are so stylish that you can only wear them for a year or so, you aren’t just producing waste through the individual clothes you buy, but also through supporting a system with an enormous amount of built-in waste.

It’s not just at the corporate level that clothes often become trash, but at the individual level.  When you decide you don’t want an item of clothing any more, Goodwill is a much better option than a landfill, but it’s not a perfect option.  The market for used clothes there is limited.  In fact, the majority of clothes that get taken to Goodwill go unsold.  They then get shredded for furniture stuffing or shipped overseas.  At least, that had been happening.  A group of East African countries recently attempted to ban US imports of secondhand clothes.  They don’t want to have to literally wear our garbage.

But what Goodwill is doing with our unwanted clothes is much, much better than what happens to our recyclables.  Here’s the problem:  many of the things that you put in your recycling bin do not get recycled.  Part of the problem is the market.  If you’ve ever wondered why the only way to recycle glass is to drive it to a center yourself, the answer isn’t just that broken glass contaminates the recycling stream.  It’s also that the new materials for glass are cheap, so it often doesn’t make sense for companies to use recycled glass instead of new glass.  The lack of a market for the recycled materials means companies are less willing to recycle them.  There are similar economic problems with all recycled materials, including plastic.  Recycled plastic is inferior to new plastic in many ways, and it costs about the same--so companies don’t have an incentive to use recycled plastic, especially if consumers aren’t demanding it or buying it.  Not only that, but your plastic water bottles don’t get recycled into new water bottles--the recycled plastic isn’t as clear and nice looking.  So plastic can only be recycled one or two times, because it is transformed into a new product--carpet, fabric, etc.--that may not be recyclable. At the most fundamental level, the problem is this; while consumers want their waste to be recycled, there is very little financial incentive for people to recycle it.  Recycling companies do make some money selling the things they are collecting--but not very much, rarely enough to cover their expenses.  That’s why they have to charge us, or our cities, to pick up our recyclables.

The other problem is that we put things in the recycling bin that can’t actually be recycled, or we put them in the bin in a condition that is not usable.  First, for a lot of plastics, like straws, grocery bags, clamshell containers, Styrofoam, and plastic utensils, while they are theoretically recyclable, recycling companies aren’t actually recycling them.  When people aren’t sure whether something is recyclable they often throw it into the bin and hope for the best--I’ve heard this called “Wishcycling”--but wishful thinking does not get your plastic recycled.  Many containers with numbers are only recyclable in certain localities, so you have to know what kinds of items your recycling system can accept.  Another problem is that people try to recycle things without cleaning them.  Not only does your unwashed plastic container not get recycled, but it probably spills food onto other items in the recycling process, spoiling otherwise perfectly good recyclables.  If you don’t rinse your container, or remove the label, or do whatever your recycling company says you need to do to put it in a recyclable condition, it’s not going to get cleaned and recycled--it’s going to get tossed and it could very well take the rest of the things in your bin with it.  For all of these things--non-recyclable plastic, unwashed plastic, and other contaminated recyclables--the odds are disturbingly good that when they get tossed, it will happen in such a way that they end up in the ocean.  So instead of you throwing it away and sending it to a landfill, your misguided attempt at recycling creates additional ocean pollution.

I know that sounds insane, so let me explain how that happens.  In 1992, US waste companies realized that China was shipping tons of goods to the United States, but the container ships that brought those goods were returning to China empty.  Someone had the brainstorm to send US recycling back on these ships to be sorted in China.  The shift to sending our recycling overseas had a lot to do with the shift to single-stream recycling--Chinese labor made it a lot cheaper to sort the recycling.  But much of the plastic we were sending was not good for recycling, as I have been describing--so those plastics were dumped, often washing down rivers to the ocean.  In 2018, China banned imports of dirty foreign garbage, causing real problems in the US recycling industry--it’s why some places and companies, including the high school where I work, were suddenly unable to find anyone to take their recycling.  Many of the companies that are still taking recycling are just sending it to underdeveloped countries with little regulation, where less desirable objects in the bin might be burned (that’s toxic!), put into open-air landfills, dumped in rivers, etc.  Depending on the source, only 2 to 9 percent of American plastic actually gets recycled.  If you’ve read that 90% of the plastic in the oceans comes from 10 rivers, 8 in Asia and 2 in Africa, and thought that meant Americans weren’t at fault for ocean plastic--you were wrong.  Ironically, our badly recycled plastic is part of the problem.

My favorite thing that I have read about plastic trash was the Scientific American article from which I took the reading for today, “More recycling won’t solve the plastic problem.”  The main take-away from that article, for me, was that solving the plastic problem is not about recycling more plastic, but about producing less, and that single-use plastic in particular is a destructive use of technology. He writes, “The real problem is that single-use plastic—the very idea of producing plastic items like grocery bags, which [we use for an average of 12 minutes](https://www.5gyres.org/plastic-bags/) but can persist in the environment for half a millennium—is an incredibly reckless abuse of technology.”  Later in the article, he tells a disturbing story about the origin of the Keep America Beautiful campaign.  It was founded in 1953 by corporations, including Philip Morris and several beverage companies.  In that year, Vermont had passed a law that outlawed the sale of beverages in non-refillable containers.  Basically, Vermont was trying to prevent the creation of single-use beverage containers, and force manufacturers to continue washing and refilling bottles.  But the manufacturers thought they could make more money if they didn’t have to do that, and the Keep America Beautiful campaign, in its first year, started working on stopping legislation like Vermont’s.  Other states didn’t pass similar laws, and when Vermont’s law expired 4 years later, legislators didn’t renew it.  Journalist Heather Rogers has called the Keep America Beautiful campaign the first corporate greenwashing front.  Essentially, corporations used that campaign to frame the disposal of plastic packaging as a consumer responsibility, not a corporate one, so that we would blame each other for littering instead of focusing on how much plastic corporations were producing unnecessarily.

Plastic is a big part of our waste problem, but it’s not the only part of our waste problem.  Another type of waste that we should be doing a better job with is food waste.  I think we all have an intuitive sense that composting is good, but it wasn’t until I started reading about this that I understood WHY we should be composting.  When food is sent to a landfill, it biodegrades anaerobically, which causes it to produce methane instead of carbon dioxide in the decomposition process.  Methane is 30 times more potent as a greenhouse gas than carbon dioxide, so methane from food scraps sent to landfills contribute s30 times more to global warming than carbon dioxide composted food scraps.  Some landfills trap and burn methane for energy, but they can only do that for slow-degrading waste.  Food waste decomposes very rapidly.  That means that it decomposes before the landfill can be capped and tapped for methane, and the methane from rotting food goes straight into the atmosphere undiverted.

Another problem with landfilling food waste is that you are sending soil nutrients to the landfill instead of composting them into something that can help plants grow.  Every organic product that we send to the landfill, including, but not limited to, food and lawn clippings, removes soil nutrients and sequesters them in the landfill.  By sequestering these nutrients in landfills, you limit the nutrients being returned to soil naturally, therefore increasing the need for chemical fertilizer and decreasing the availability of micronutrients.    In some communities, lawn clippings are half the trash, by weight, collected in trash pick-up during summer months.   The scale on which we landfill organic materials, and the duration of time over which we have done it is really disturbing. What happens to the quality of our soil after decades of this?  Landfilling food and organic waste is a problem for both climate change and soil nutrition.

One last thing:  let’s just acknowledge that coronavirus makes a lot of things harder.  On the one hand, it’s good that we’re not driving as much, but there are a lot of ways in which it has led to more trash.  For example, If everyone gets take-out instead of eating in, there are a lot more take-out containers.  Farmers are having to throw away a lot of food that would normally be purchased by restaurants.  Grocery stores won’t let you bring your own bags in anymore.  I had started letting them give me plastic bags again, but Kat suggested I should just bring the groceries to my car, unbagged, and bag them there.  Finally, we’re using a lot of masks.  The disposable ones are safer for doctors, and everyone wants them to have what is safer for them!  And it’s not just masks; there is a lot of disposable PPE.  All of these things have meant more trash.  I think both the amount of trash being produced and the shortages of PPE clearly raise the question:  why are we designing PPE to be disposable instead of reusable?

So what can you do about all this, if you are someone who cares about the interconnected web of life?  I think the best answers combine responsible individual choices with legislative action.  Individually, the most important thing we can do is to consume less!  Ask yourself if you really need something before you purchase it.  The slogan “reduce, re-use, recycle,” begins with reduce because it is the most important of the three.  People have added other “r”s to the slogan in recent years, too.  For example, refuse: say no to plastic grocery bags or straws.  Or repair, restore, refurbish:  fix up your older car or appliance instead of getting a new one.   Another R is rot, or compost.  Taylor Eman told me about a local composting company, Soil dynamics, that the church could partner with to compost our materials and/or become a drop site for community members wanting to compost.  Re-use:  Buy things used, or buy high-quality things and keep using them for a long time.  Craigslist, Facebook marketplace, and Goodwill are as good for the earth as they are for your wallet.  But you can also re-use smaller things, like writing lists on junk mail envelopes instead of buying notepads. Or one that I’ve been aspiring to--a lot of food I buy comes in bags with Ziploc-style seals, and I have this unrealized goal of washing them and re-using them instead of buying Ziploc bags.  Another thing you can do is to make a point of buying products made from recycled materials, because it helps create a market demand for the things in your recycling bin.  Recycle things yourself, but make sure that you do so correctly, only putting things in your bin that your recycling service can recycle, and making sure that you clean them first.

The primary purpose of making these choices is to reduce your own impact, but we all know that our individual impact is dwarfed by collective choices.  So the good news is that you can also help impact collective choices, through something known as behavioral contagion.  Behavioral contagion is basically the social science way of saying that people are sheeple.  The more we see others do something, the more we do it ourselves.  The more times restaurant patrons notice their neighbors bringing in Tupperwares so that they can take their leftovers home without a disposable container, the more likely they are to start bringing their own containers to the restaurant for their leftovers.  According to Robert Frank, a professor of management and economics at Cornell University, behavioral contagion has successfully increased environmental choices like installing solar panels, and is a reason why we should keep making environmental choices even when we feel like our individual actions are dwarfed by those of others:  our actions are actually influencing those of others.   Some people I saw on Facebook recently demonstrated this idea perfectly; one of my friends asked if people were wearing masks, and some of her friends responded that they were now, because when they went to the store everyone else was, and they felt weird until they got one.

But the impact we can have through our individual choices and even through behavioral contagion is dwarfed by the impact we can have through legislation.  At the city and county level, improving recycling programs, charging people for the amount of trash that they produce, and instituting city-wide composting programs can all help the trash problem.  One of the benefits of composting at the city level instead of individually, by the way, is that we do have the technology to make compostable plastics, but they only compost properly in the high temperatures of an industrial-scale composting operation.  In Seattle, restaurants provide compostable packaging and utensils for take-out, and the city conducts large-scale composting that allows them to biodegrade.  If I were to buy compostable plastic utensils here, I wouldn’t be able to compost them at home, so my options would be to put them in the orange bag to be burned in the Kansas incinerator or to put them in the landfill, where they would biodegrade anaerobically and produce methane.  We need a citywide composting operation for compostable plastic to make sense.

In addition, a legislative solution that has been shown to significantly increase recycling is to require deposits on recyclables.  This creates a motivation for people to recycle them properly, as well as an incentive for other people to pick up the ones that have been missed.  In states that have bottle deposits, 60% of containers are recycled--compared with 24% in states that don’t.  Another idea is to tax single use plastic.  Finally, we can push manufacturers to take responsibility for designing products and packaging to minimize waste.  If the production of single-use plastics is one of the worst choices we are making in terms of trash, then the reduction or elimination of single-use plastic from the manufacturing side is one of the most important changes we can make as a society.

So I want to come back to the big picture now.  I’ve been talking about what we are throwing away in a couple of senses.  Most obviously, I’m talking about the literal things that we put in the bin and discard--about the tons and tons of waste that we pump into the world around us constantly, thoughtlessly, habitually.  But in another sense, I’m talking about what that does to us and our planet.  When we throw away plastic, we are also throwing away the purity of our oceans, our rivers, and our groundwater, which plastic visibly defaces and invisibly pollutes with leached chemicals.  When we throw away organics, we are also throwing away our hopes for a planet that will not overheat and the future productivity of our soil.  When we continue producing and using single-use plastics, we throw away the beauty and sanctity of the earth our children will inhabit.  In sum, don’t think trash is the worst thing that we are throwing away.