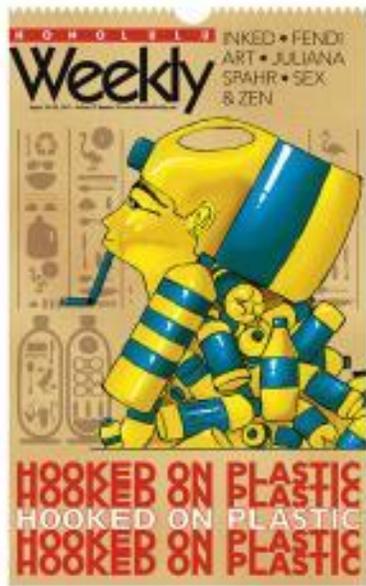


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Plastic Fantastic Love

In the age of plastic, how do we kick the habit?

BY STUART COLEMAN | AUG 24, 2011

Addiction is a slippery downward spiral that transforms substances we once enjoyed in moderation to something we can't seem to live without. Think cigarettes, alcohol and drugs. So for the sake of honesty, I'm going to come clean: "My name is Stuart, and I'm recovering from an addiction to single-use plastics."

Like every other kid growing up in the Age of Plastic, I didn't realize how pervasive this petro-chemical substance had become or how dangerous it is to the environment and my own health. But after binging on single-use bottles and bags for decades, Americans are finally waking up to the fact that we've been drowning in a pool of our own plastic waste. Think of the North Pacific Garbage Patch, where plastic debris outweighs plankton and kills countless marine creatures. Think of the waterways, the beaches and the landfills, where plastic pollution contaminates our lives and our environment.

"I didn't realize how plastic my world had become until I decided to go an entire day without touching anything plastic," writes Susan Freinkel in her new book *Plastic: A Toxic Love Story*. The experiment lasts less than a minute before the author realizes she can't avoid the stuff because it's everywhere. Look around: it's hard *not* to find some form of

plastic, from ABC bags to water bottles to Styrofoam containers from Zippy's. *Plastic* should be required reading for recovering plastic addicts because it offers hope and simple solutions for people looking for a cleaner, healthier lifestyle.

The Rise of Plastics

Starting with the pioneers of plastic engineering, Freinkel gives a fascinating history about the rise of plastics in the late 19th and early 20th century. She shows how the industry was intricately tied to the boom in oil and petro-chemical production. "The growing reliance on fossil fuels helped drive the growth of modern plastics industry," she says. Big oil companies began to use their waste products like ethylene as a raw material for plastic polymers. Now, the US produces and sells more than 100 billion pounds of plastics each year, making it the country's third largest manufacturing industry, behind cars and steel.

To her credit, Freinkel accurately points out the many useful and diverse forms of plastic, from common combs to clothing to sophisticated medical equipment. She shows how large companies like Dow, DuPont and ExxonMobil have become modern alchemists, transforming plastic polymers into any shape, texture or product we desire, just by adding certain chemicals. But many of these chemicals are toxic and barely regulated. Recent scientific studies and medical research show how dangerous and pervasive these additives are to our environment and health.

Used in everything from baby bottles to food packaging, plasticizing agents like phthalates, bisphenol A (BPA) and DEHP have become so common in consumer and industrial products that they are literally leaching into our lives. "The result is that at least 80 [percent] of Americans," Freinkel states, "now carry measurable traces of DEHP and other phthalates in their bodies." These chemicals have been proven to be endocrine disruptors that are passed down to our children like "hand-me-down poisons." They can even lead to asthma, attention deficit disorder, diabetes, cancer, heart disease, infertility, obesity and various hormonal disorders. Manufacturers produce half a billion pounds of these additives each year, earning them more than \$37 billion, while these chemicals drive up health care costs for the rest of us, especially in Hawaii.

"US regulators at both the Food and Drug Administration (FDA) and Environmental Protection Agency (EPA) have lagged behind the changing scientific understanding about chemical risks," writes Freinkel. "But there is a bigger problem: US law tends to treat chemicals as safe until proven otherwise." Of the 82,000 chemicals in use today, almost all are presumed innocent until proven guilty. What happened to the precautionary principle of "Do No Harm?" Big corporations should be responsible for proving that their products

are non-toxic. Yet many companies pass the buck onto the consumer, and that's why so many apartments, condos and homes in Hawaii have ceilings made out of asbestos, a known carcinogen.

But what can we do, you might ask? Ask government agencies like the FDA and EPA to demand tougher regulations, as do our European allies. "Guided by the precautionary principle, Europeans began limiting DEHP and other phthalates while American regulators continued debating the risks," Freinkel wryly observes. "In essence, European regulators are treating chemicals the way US regulators treat [pharmaceutical] drugs: they're presumed to be dangerous unless shown to be otherwise. American manufacturers are already selling products in European markets that have been reformulated to comply with the precautionary principle." Why can't they offer those same safe products to the people of Hawaii and across the country?

The Drastic Effects of Plastic

Along with serious health concerns, the author focuses her critical gaze on disposable plastics and the growing mountains of waste that end up overflowing our landfills and polluting our rivers and oceans. "We've learned to throw away so well that today half of all plastics produced go into single-use applications." We use things like water bottles, Styrofoam containers and grocery bags once and only for a short time, but they last in the environment for hundreds of years. How wasteful and short-sighted is that? Our addiction to plastics has clouded our judgment, making us crave immediate comfort and convenience over a healthier, more sustainable lifestyle in the long run.

Plastic pollution has also caused extensive environmental damage, especially in our oceans, where it kills all kinds of marine creatures through entanglement and ingestion. "Plastic debris has been identified as the cause of injury or death in 267 different species," Freinkel writes, "including 86 [percent] of all species of sea turtles 44 [percent] of all seabirds, and 43 [percent] of all marine mammals." Simply because many of these creatures die out of our sight, we would be out of our minds to allow this kind of pollution to continue killing them at such an alarming rate. Have you ever seen Chris Jordan's disturbing photos of the albatross carcasses filled with plastic debris?

In order to illustrate this ugly reality, local artist and writer Susan Scott has made beautiful yet poignant art out of the single-use plastic lighters and bottle caps she found inside the decaying bodies of albatrosses on Midway Island. Scott collaborated with the Surfrider Foundation to make a public service announcement (PSA) about the issue and worked with

other artists to organize an exhibit made from plastic marine pollution at the 5th International Marine Debris Conference in Honolulu in March of this year.

Plastics never biodegrade, but rather only break up into smaller and smaller pieces called micro-plastics. In the ocean, studies have shown that nurdles, or plastic pellets, act like sponges that attract heavy concentrations of harmful chemical pollutants like PCB, DDT, BPA and phthalates, making them 100,000 to a million times more toxic than surrounding waters or sediment. These polluted micro-plastics are often eaten and digested by bottom feeders and bigger fish, and the toxins are then magnified up the food chain, ultimately ending up in our seafood. So plastic pollution is an environmental and human health issue.

The Plastic Bag Wars

The plastic bag is the world's most common consumer item, as well as one of the most littered items, on Earth. Americans go through more than 100 billion bags per year—yet less than 5 percent are ever recycled. “The plastic bag has come to represent the collective sins of the age of plastic,” Freinkel observes in a recent *Rolling Stone* article. When confronted with this and any other problem, the American Chemistry Council (ACC), the powerful lobbyist of the plastics industry, always repeats its mantra that recycling is the ultimate solution. Yet they are not practicing what they preach. “Unlike the paper, steel and aluminum industries, the plastics industry has done little to support recycling, except when it's under political pressure, as in the current fight over plastic bags,” the author says. “Those materials [paper, steel and aluminum] are recycled at three to eight times the rates of plastics.”

“Though we believe that material recovery in the waste stream is important, plastic recycling is not the ultimate solution,” says Stiv Wilson, a journalist and ocean activist who worked with the Surfrider Foundation to help pass bag bans in the Pacific Northwest. “Industry, by their own admission, can't make a bag out of a bag. It takes 70 percent virgin plastic to create a new bag, which means all we're doing by plastic recycling is creating more, not less plastic in the world, while giving the average, good intentioned citizen the illusion of progress. This is precisely why industry pushes plastic recycling—it's a guaranteed increase in consumption, but it ultimately does nothing to reduce the amount of plastic garbage entering the ocean.”

Wilson should know. As the communications director for the 5 Gyres Institute, he and co-founders Dr. Marcus Eriksen and Anna Cummins have sailed on scientific expeditions across the world's oceans, sampling plastic debris along the way. “The 5 Gyres Institute is the first scientific research group to gather baseline data of plastic pollution in all five

major subtropical oceanic gyres,” Wilson says. Most people have heard about the Great Pacific Garbage Patch a few hundred miles northeast of the main Hawaiian Islands, but few people have seen first-hand the plastic pollution that is growing in the other gyres, located in the South Pacific, the North and South Atlantic and the Indian Ocean.

So how do we reduce the amount of single-use plastics in the environment and stop the flow of grocery bags into our waterways, beaches and oceans? It’s about changing behavior and the social norm by making single-use plastic and paper bags unacceptable. Responding to public demands to reduce pollution and waste, countries and cities across the globe have begun banning or imposing fees on all single-use plastic (SUP) bags. The message is simple: BYOB—bring your own (reusable) bag. In Ireland and Washington, DC, they charge a fee on single-use plastic bags, and reusable bags are now the new norm of what’s expected and acceptable.

In Hawaii, a coalition of groups helped pass bans on Kauai and Maui, and they’ve been fighting for the last four years for a statewide Bag Bill (SB 1363), which would impose a small offset fee on all single-use plastic and paper bags. Their coalition includes environmental organizations (Surfrider Foundation, Sierra Club, Kanu Hawaii, Kokua Hawaii Foundation, Plastic-Free Hawaii and many others), business groups and stores (Retail Merchants of Hawaii, Hawaii Food Industry Association, Safeway and Times Supermarkets), local schools and citizens who are all concerned about the spread of plastic pollution in Hawaii. As part of their Rise Above Plastics campaign, the Surfrider Foundation’s Hawaii Chapters have also been showing the popular and award-winning new documentary *Bag It* to schools and community groups across the Islands. The film uses humor, serious research and an inspiring story to help people deal with the plague of single-use plastics in the environment.

The Bag Bill

The Coalition was finally able to move their Bag Bill through all of the committees in the House and Senate last legislative session, only to find it stuck in the final Conference Committee during the last day of debate. But the good news is that the bill is still alive and gaining popular support. Coalition organizers are confident they can pass it next year early in the session in a move to reduce the plastic wastes, which make up about a third of overflowing, municipal landfills across the country.

This kind of pollution policy is part of a global grassroots movement to embrace solutions like zero-waste and extended producer responsibility (EPR). Building towards a strong conclusion, Freinkel embraces these ideas: “Zero-waste policies encourage people to

reduce consumption while also pushing industry to extend the lifespan of the things we use by designing and producing products that can more readily be reused, repaired, or recycled.” Like reusable bags. Taking this idea further, the author suggests that we shift the burden of disposal from consumers to the producers. “The basic concept of EPR is simple: make the producer responsible for a product’s entire life, not just while it is in use but also after it’s been used. As one EPR expert explained it: ‘you make it, you deal with it.’”

In the middle of his career, Ray Anderson, chief executive officer of the world’s largest carpet company, came to the gruesome awakening that he and his fellow corporate leaders were basically “plunderers of the planet.” So he changed his business model, reduced his environmental footprint, cut out the toxic plastics and chemicals in his carpets and became America’s most successful green business leader. By encouraging his clients to bring back their used carpets to his company, Anderson guaranteed their return business while also promoting recycling and a more sustainable and profitable business model. Although Anderson died on Aug. 9, his message about the benefits of EPR and zero-waste policies should reverberate throughout the business world and help revamp the government’s green jobs initiatives.

The first step in dealing with any kind of addiction is admitting that there’s a problem. But a number of local politicians, bureaucrats and corporate lobbyists are still in denial, refusing to deal with the growing amounts of plastic pollutants in our landfills, in our oceans and even in our bodies. Still, there are signs of hope and recovery. We are at the tipping point. And books like Freinkel’s *Plastic: A Toxic Love Story* and popular documentaries like *Bag It* are motivating people to get involved and demand policies that dramatically reduce plastic pollution.

If you’re recovering from your own addiction to single-use plastics, maybe it’s time to kick the habit and embrace a healthier lifestyle and cleaner environment.

[Full Disclosure: Stuart Coleman is employed by Surfrider Foundation]

Writer’s Note:

Along with the organizations mentioned in last week’s cover story who are currently working to pass the Bag Bill (SB 1368), I would like to acknowledge the work of those environmental groups who originally helped pass the bag ban on Maui. These groups include: Beach Environmental Awareness Campaign Hawaii; Malama Hawaii; Outdoor Circle Maui; Pacific Whale Foundation; Sierra Club Hawaii; and Heal the Bay (California).

Stuart Coleman