



## Plastic: A Toxic Love Story

*Susan Freinkel*

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Plastic built the modern world. Where would we be without bike helmets, baggies, toothbrushes, and pacemakers? But a century into our love affair with plastic, we're starting to realize it's not such a healthy relationship. Plastics draw on dwindling fossil fuels, leach harmful chemicals, litter landscapes, and destroy marine life. As journalist Susan Freinkel points out in this engaging and eye-opening book, we're nearing a crisis point. We've produced as much plastic in the past decade as we did in the entire twentieth century. We're drowning in the stuff, and we need to start making some hard choices.

Freinkel gives us the tools we need with a blend of lively anecdotes and analysis. She combs through scientific studies and economic data, reporting from China and across the United States to assess the real impact of plastic on our lives. She tells her story through eight familiar plastic objects: comb, chair, Frisbee, IV bag, disposable lighter, grocery bag, soda bottle, and credit card. Her conclusion: we cannot stay on our plastic-paved path. And we don't have to. *Plastic* points the way toward a new creative partnership with the material we love to hate but can't seem to live without.

## Plastic: A Toxic Love Story Details

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Author : Susan Freinkel

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## **From Reader Review Plastic: A Toxic Love Story for online ebook**

### **Miina Saarna says**

A very educational and eye-opening read. This book gives a great overview of the entire history of plastics, both the positive impact plastics have had on our daily lives as well as the more unpleasant sides. An excellent read, strongly recommend.

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### **Elsie Hulsizer says**

As a sailor I've been horrified by plastic litter on remote and otherwise pristine beaches of the coasts of British Columbia and Alaska. "Plastic: A Toxic Love Story" explains how the plastic got there and why it's so difficult to keep it away. This is a must read for anyone concerned about the environment.

Freinkel's book is packed with information on plastic: its history, chemistry, manufacturing, uses and disposal. Most of all the book tells how plastic has changed our lives -- from the first toy a baby plays with to the IV bag providing succor to the dying elderly. Plastic has not only provided us with things, it has changed our relationship to those things. Freinkel reminds us that we had to learn to throw plastic cups away. Plastic has turned us into the disposable society. It has pervaded our lives.

Plastic has also pervaded our environment. Traces of it are found in our blood, possibly causing early puberty in young girls and making other subtle changes. Plastic lighters, bottles, caps and other detritus bob around in the ocean for years. Plastic bags and cups skitter across the landscape and clog our storm sewers.

I was struck by the irony that plastic was developed as a way to use the byproducts of petroleum refining. What was once a waste became a useful product and is now a waste again.

Freinkel excels in her discussion of possible solutions to the physical, cultural and political barriers to solving the problem. She points out that although manufacturers promote recycling to help assuage our consciences when we buy plastic, recycling isn't easy. The plethora of different polymers, all requiring different recycling processes and the difficulty of separating the many products in the waste stream is a major problem. Then there's the cost of transporting the stuff to the recycler. I've always been proud of the recycling ethic in Seattle, my home town, but after reading "Plastic", I realize we can do that here because of location on the coast with inexpensive shipping to China. Farther inland, recycling is even more challenging.

The solution Freinkel pushes is Extended Producer Responsibility. We need to put the cost of disposal into the product.

"Plastic: A Toxic Love Story" is a fascinating book and a valuable resource for anyone interested in tackling this problem. Read it and act.

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### **Thomas Edmund says**

I've become a bit wary of books that look like this - after several environmentally focussed books that have left me negative about the future I don't really want any more.

Luckily as a first point Freinkel is very balanced and optimistic in her writing. Yes she touches on the environmental horrors of plastic and the pseudo-island(s) corrupting the worlds oceans, but she also presents the topic with hope and while not many explicit solutions, good directions and philosophies to adopt (although she does end the book on a pondering how much plastic will we consume in 2050)

In regards to content Freinkel's writing is a little heavy and I felt the prose lacked the verve and spark that many pop-science novelists possess. Nonetheless the content was well managed and did not swing on wild tangents or delve too deeply into personal stories as many non-fiction writers do.

I would have liked to hear more early plastic disaster stories and more balance in the examples. I felt like Freinkel cherry picked the organisations and places she would visit rather than trying to describe the world of plastic manufacturing as a whole. Although as mentioned earlier this is a balanced piece, that covers many viewpoints without vilifying anyone (although one of the plastic lovers is portrayed as a bit of a lunatic perhaps accurately.)

The strongest message of the book with Freinkel is to be commended for is trying to change the perception from plastic as a readily created, consumed and condemned product and a valuable resource that if used correctly could benefit the environment and us rather than being an uncomfortable product of convenience.

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### **Nicole says**

A great introduction to our world of buy, use, dump with an emphasis on plastic. Certainly influential in making a few life changes myself.

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### **Barbm1020 says**

An up-close and personal look at the plastics industry from the beginning until 2011 when the book was published. Some funny stuff, some scary stuff. Freinkel writes in a clear, factual and straightforward style that makes the information easy to understand. She has done her homework as the many pages of references in the back show, but the book is not a lecture, it's just documentation. I'm going to invest in a steel water bottle.

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### **Katie says**

I was afraid to read this because I thought I would walk away depressed and miserable about the toxic imprint plastic has made on my life. Fortunately, the author takes a much more balanced view of the subject. She discusses how plastic has become completely integrated into modern life- in good ways and bad. She does discuss some of the toxic effects of plastic, particularly BPA and PVC, but does not paint as much of a doomsday picture as many. It was rather a balanced discussion of whether we can amke peace with the fact of plastic in our lives by capturing the benefits of this amazing substance while also mitigating the negative affects. One thing in particular I appreciated is the continual theme that plastic has enabled a one-use only,

throw-away culture. Any discussion of better use of resources (including plastic) needs to cultivate more of a culture of reuse and products that are created for long-term use.

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## **Drew Schwartz says**

As a plastic distributor, I like to read books about the history of plastics. As a Colorado resident, and husband to a professional conservationist, I enjoy learning more about environmental issues. I got a chance to do both when I recently read the new book, Plastic; A Toxic Love Story by Susan Freinkel.

The author decided to spend a day without touching anything plastic. But she didn't make it too far. About 10 seconds, she estimates...since both the light switch and the toilet seat in the bathroom were made of plastic. So she changed the experiment into a list-making exercise and that day she wrote down 196 different plastic items that she touched. Of course, many of these items were non-durable items like plastic packaging. The next day she continued list-making with a similar tally of everything she touched that wasn't at least partially made of plastic. The non-plastic list only made it to 102 items.

This led to some reflection and a list of questions, which she attempts to answer in the book. Those questions include:

What is plastic?

Where does plastic come from?

How did we get so many plastic items in our lives without really trying?

What happens to plastics after we put them into a recycling bin?

Does plastic actually get recycled after it's picked up curbside?

How much of the plastic that the typical American discards is ending up in the ocean?

Should we stop using plastic shopping bags?

Is there a future for plastic in a sustainable world?

To explore the answers to these questions, the book is organized into separate chapters about eight common, everyday, relatively non-durable objects that are commonly made from plastic, including the comb, the stackable cafe chair, the Frisbee, the intravenous solution bag, the disposable lighter, the grocery bag, the soda pop bottle and the credit card.

Two of my favorite factoids in the book were:

In the 19th century plastics were actively promoted as a way to replace ivory from elephant tusks for use in billiard balls and to replace hair comb materials that were coming from hawksbill turtle shells.

The rapid growth of plastics after World War II had a lot to do with their utility as a way to use the ever-increasing stream of petroleum refining by-products.

Overall it thought that the Pro's of this book were:

It's a good historical overview of plastic

The author acknowledges the paradoxes of the plastic industry

There is a good chapter explaining what the recycling numbers on plastic products indicate and where they came from

And there's an excellent notes section at the back of the book

And I thought the Con's of this book were:

No durable plastic items were examined

No full-scale solutions for the paradoxes of our huge reliance on non-durable plastic products were identified or examined

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### **Kasey Jane says**

Freinkel follows the model of dissecting a topic by assigning iconic representatives to its components. Michael Pollan did this to great effect in *The Botany of Desire*, and [Plastic: A Toxic Love Story](#) shows that this structure is popular because it works.

Each of her eight chapters is assigned to a common plastic item, from comb to credit card. Not only is the history of the item engagingly described -- who knew the politics of furniture design could be so fascinating? -- but each chapter also describes a deleterious effect linked with our increasingly plasticized world. Chapter Four: "Humans Are Just a Little Plastic Now" resonated the most with me: it described the miracle of the IV bag and PVC tubing, breakthroughs that have saved countless lives since World War II. But these godsent materials are now linked to long-term damage disruption in liver and endocrine function, begging the question "at what price victory?"

Overall, I found Freinkel's treatment of her subject even-handed. Mild-mannered "green" ideas were debunked as frequently as the American Chemistry Council's party line. I wish I could say that everything was wrapped up into some easy-to-learn lessons, but that wouldn't do justice to the complicated nature of plastic.

(view spoiler)

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### **Norma says**

This book follows the "life" story of several different common plastic items. Through these various stories, you get to see how plastic was invented, how they came up with ideas for some of the plastic items, the impact plastic is having on the planet, and the impact plastic is having on our bodies.

One of the things that I really liked about this book was that it wasn't the type of book where they shove their beliefs down your throat. Instead, Susan Freinkel treats the reader as an intelligent person who can make their own choices. She is merely imparting the research that she has found on plastics and our lives.

There were a few things that disturbed me though. I did not realize how many toxic chemicals are now residing in our bodies. I do wonder if it is all due to plastic or if our other harmful habits could be contributing to this.

This book will help you to become a more informed consumer.

In conjunction with the Wakela's World Disclosure Statement, I received a product in order to enable my

review. No other compensation has been received. My statements are an honest account of my experience with the brand. The opinions stated here are mine alone

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## **Beth Terry says**

In the beginning of 2009, I sat in an Oakland Cafe with San Francisco journalist Susan Freinkel, explaining my plastic-free life. She was working on a book about the story of plastic and wanted to hear my point of view, which of course I shared enthusiastically, even dragging her off the butcher shop with me and my stainless steel pot to buy plastic-free meat for my cats.

Now that her book *Plastic: A Toxic Love Story* has been released, I'm happy to give it a hearty recommendation. This is neither a dry environmental text nor alarmist rant. Telling the story of plastic through eight everyday plastic items — a comb, plastic chair, Frisbee, hospital IV bag, disposable lighter, grocery bag, soda bottle, and credit card — the book describes both the hopes and hazards of plastic in a conversational style that's hard to put down.

The title of the book is appropriate. In the first chapters, Freinkel's enthusiasm for her subject matches the excitement the inventors of plastics and plastic products must have felt in their quest to devise replacements for natural substances — often from endangered species — that were running out: ivory, tortoise shell, shellac, etc. The problem solvers who created our early synthetic polymers had no idea of the consequences their products would create for the future. They wanted to make life easier and better, and their stories are fascinating.

But of course, love affairs don't last forever, and one by one, Freinkel lists and elaborates on the problems with plastic. Believe me, she gets them all: made from fossil fuels, full of toxic chemicals (not just the polymers but the mystery additives, about which I am incessantly ranting), poisoning the oceans and harmful to wildlife, seldom actually recycled (mostly downcycled), and on and on. She takes us to China where most plastic products are produced and where most of our plastic recycling is done, noting the working conditions of the employees who labor for a fraction of what an American worker would be paid.

And we visit the Neonatal Unit of a hospital where premature babies are kept alive in plastic boxes with plastic tubing running through their bodies, plastic that saves their lives in the short-term only to have damaging effects from endocrine disrupting chemicals as their systems develop later on. What I loved? She not only tells us phthalates like DEHP in PVC are harmful, she explains exactly how they operate in the body in a way that any lay person like me can easily understand. The book is full of gems like that.

Freinkel goes on to explain the history of plastic bags and bottles, how they came to replace paper and glass, the grassroots efforts now being waged to either eliminate them, in the case of bags, or get manufacturers to take responsibility for their recycling, in the case of bottles, and the strategies used by the American Chemistry Council to defeat these efforts, strategies she compares to those employed by the tobacco industry.

But lest you think Susan Freinkel is an activist, keep in mind that she is a journalist reporting a story. In each section of the book she is careful to report various sides to the issues at hand. And she's not wholly anti-plastic. As she concluded in her New York Times op-ed last month, "In other words, plastics aren't necessarily bad for the environment; it's the way we tend to make and use them that's the problem." And while she decries toxic chemicals and the disposable mindset that leads to wasteful single-use disposable

packaging and products, she also recognizes the benefits of plastics when used in a responsible manner.

Looking for solutions, Freinkel explains technologies like bio-plastics and oxo-degradable plastics — you know, the ones with the mystery additives that cause them to break down. While she's more hopeful than I about the promises of bio-plastics like PHA made by bacteria inside plants, she's also very skeptical of most environmental claims and very aware of the fact that any kind of plastic is only as safe as the chemicals added to it. At the end of the section on "green" plastics she (thankfully) concludes:

"But the greening of Plasticville will require more than technological fixes. It also requires us to address the careless, and sometimes ravenous, habits of consumption that were enabled by the arrival of plastic and plastic money — a symbol for which there is surely no better symbol than the maxed-out credit card. It means grappling with what historian Jeffrey Meikle called our "inflationary culture," one in which we invest more of our psychological well-being in acquiring things while also considering them of such low value "as to encourage their displacement, their disposal, their quick and total consumption."

And then she asks:

"What would it be like to turn your back on that culture — or at least the part of it involving plastic?"

And that's where I come in... showing that it is possible to live with a lot less plastic. Sure, Freinkel portrays me as extreme. But then, I describe myself that way. I have never said I expect everyone else to live as radically as I do, but that I simply want to show what's possible. And Freinkel writes that taking the challenge to collect and examine her own plastic waste for a week helped her become more conscious of her shopping choices.

"Looking at the pile of trash I accumulated in a week — 123 items, which was probably more than Terry generated in a year [it wasn't!] — a few things became clear. One was how often my purchases were made on the basis of convenience. Do I really need to buy zucchini from Trader Joe's, where it comes nestled on a plastic tray, covered in plastic wrap, with little plastic stickers adorning every individual squash?"

*Plastic: A Toxic Love Story* is a fantastic read, well-researched, interesting, and informative. But it is not prescriptive. While it ends with a general call to action, it provides no recipe for action, either on the personal or collective level. And that's fine. Freinkel is a journalist, not an activist. That's where my book *Plastic-Free: How I Kicked the Plastic Habit and How You Can Too* comes in...in June 2012 (and available on Kindle now.)

Source: My Plastic-free Life (<http://s.tt/12tbK>)

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## Dhitri says

An absolute eye opener. As someone who calls herself eco-conscious, I am already aware of the dangers bit and pieces of plastic pose to our health and environment. But I must say I have been oblivious to the history and the science of plastic, and I also refused to think about plastic as a material upon which so much of mankind's modern convenience and, to some extent, survival depends. And to me, plastic is plastic, it is an evil embodiment that we need to strive to banish, starting with the plastic bag.

But I was wrong and, boy, I could not have been so wrong! Freinkel not only has opened my eye to the

myriad of complex processes and the sprawling and highly networked world of the plastic industry, but she has also made me realise that not all plastic is plastic (read: evil). By tracing the story of mankind's infatuation with plastic and, eventually, its distaste to it, Freinkel made very good points: That humans have forged a permanent relationship with plastic and that saving the planet does not require purging plastic, instead it requires changing our relationship to it.

This is a brilliant book, one of the best non fiction that I have ever read. For one, it is very well written. Freinkel, a seasoned science journo, masterfully breaks down entire plastic processing processes into chewable chunks for the average reader. She showcases her excellent research by packing her storyline with information, facts and figures from both sides of any plastic-related debate without suffocating the reader.

This book also showcases great storytelling which makes this a rare breed of popular non fiction. Freinkel took ordinary items such as the comb, the chair, the IV bag, the plastic bag and the credit card as an entry point to different aspects to the plastic story/debate, by revealing little known facts behind those items. I swear, I will never look at a plastic garden chair the same way again.

The icing on the cake is the fact that Freinkel is not writing this book to push a particular environmental agenda. She is presenting the story as such; her ambition is to draw a more or less complete picture that depicts our love and hate relationship, and in her words, toxic, with plastic. Sure enough, she has some aspired goals, and that is to educate people about choices. But it is harmless when compared to some of the environmental books out there, where readers walk away from it feeling guilty and judged. On the other hand, this one leaves readers feeling informed

Finally, Freinkel excellently dissected various cases of individual plastic purges, some rather extreme ones, and policy changes that have miserably failed or gloriously succeeded in altering that relationship. The success stories are inspiring, and in the failures we find lessons to be learned. On top of that the optimism infused in Freinkel's writing will surely leave readers empowered. There is hope that change is possible; that we can "detox" and make the relationship a sustainable one.

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## **Care says**

Rarely is there a book which says five stars right from the beginning and never veers from that ranking. This book from Susan Freinkel is absolutely such a work. It is first rate popular science, brimming with copious research but never stooping to that great folly of many non-fiction writers: "I researched this subject to death and by golly every detail is going to be shoe-horned in somewhere!" Quite on the contrary, facts flow seamlessly through an easy-going chronicle of the topic.

In the course of chapters titled after and loosely based around common plastic items Ms. Freinkel walks her reader through plastic's design history (the ubiquitous green stacking chair), BPA controversy (IV bags and tubing), cultural history (Frisbee), environmental impact (T-shirt bags), and indestructibility (disposable lighters), among other objects and issues. Coverage of the chemistry involved in the manufacturing of various plastics is especially well done-easily accessible to any reader of popular science with just the right balance of detail and narrative flow.

A book of this nature could clearly become a platform for virulent environmentalism, and it is apparent that the author cares deeply about the environmental impact of plastic. However, she gives balanced press to a plethora of individuals from organizations as diverse as grassroots activists lobbying for bottle taxes to the

owner of a Chinese plastic factory. It becomes clear that the issue is many-sided and complicated by many factors.

Plastics play a huge role in our modern world. This book is a short run through the tide they have become. Without a doubt there will be much here that will surprise and enlighten, and you think twice about just about every object that you encounter throughout your average day. If you read one popular science book this year, choose this one for its sheer relevance.

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### **Danielle says**

I received this book as an e-galley from NetGalley. After reading it I now know more about plastic than I ever thought possible. This is not necessarily a bad thing, I just had no idea how much there was to know about plastic. Freinkel looks at plastic through the lens of ordinary plastic things we encounter each day with each chapter devoted to a specific plastic object: comb, chair, Frisbee, IV bag, disposable lighter, grocery bag, soda bottle, and credit card. Each chapter delves into the specific type of plastic involved in making the item, the history of the item itself and its production, and the larger implications. Although she definitely touches on the environmental impact of plastic the book is not a flat out plastic is entirely evil stop using it now type screed. It is a very well researched book that is designed to make you think about plastic and its uses for good or ill. It definitely opened my eyes to just how much plastic exists in my life. With all the information about the types and manufacturing of plastic it is pretty science heavy, but is still very readable. It's just not a light read.

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### **Amy L. Campbell says**

Note: Free review copy provided by Netgalley.

Freinkel does an excellent job of compressing the problems and promises of plastics into a book far more readily digestible than plastic compounds will ever be. The voice of the book changes from chapter to chapter as we are first presented with the inception and introduction of plastic into our society. The chapter about combs reads remarkably like Bill Bryson's "At Home", without quite so much wandering from the original topic. The chapter on plastic chairs presents some of the ingenuity plastic allows while reminding us of the limitations of what is both functional and practical to use and produce. This is quickly followed by issues in the medical field which are both promising and dire as we are shown the advances plastics have made in life saving technology, while possibly contributing to later health problems, and what the medical profession is trying to do about it.

Perhaps the most hopeful or at least my favorite chapters in the book are regarding plastic bags and recycling. It includes a reminder of how unnecessary most plastic packaging is, information about how other countries are recycling (something US is not very successful at, and what steps we can take to improve our personal and national carbon footprint.

Freinkel stresses the importance of plastic in our lives, while still advocating for a reduction in the areas where it doesn't matter and better solutions where it does. While there are some dire portions of the book, she leaves us with a mostly positive message without coming off as too preachy or judgmental. Consumers ought to be aware of the world we live in, and this provides a balanced and even outlook.

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**Lamberto Raygoza says**

From baby bottles all the way to our daily water bottles plastic has become a part of the human race. In the story "Plastic: A Toxic Love Story" by Susan Freinkel the narrator paid close attention to the everyday plastic objects which have become a part of our daily lives. Today 90% of children's toys are made of plastic and toys aren't even a quarter of what plastics are used for. The issue at hand is that plastic is non-degradable it will live long past our human lives. If we keep using plastic to get us through our daily lives then we will pollute our environment to state of it to be non inhabitable.

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