

If Products Could Tell Their Stories

Towards a model of sustainable design

NYU / ITP

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Course Overview: Is there lead in my nephew's toy? Does my new HDTV have a much greater impact on global warming than my old TV? When I finally recycle those old cell phones and computers that have been collecting dust in my closet, where will they be taken, and will anything or anyone be harmed as they are recycled?

Without answers to these questions that people are seeking, there are limits to the role consumption can play in our shift to a more sustainable economic model. As product developers, designers, tinkerers, and technologists, we have the means to uncover these answers, and communicate the backstories of the things that we make.

The objective of this course is to explore sustainable models, methods, and practices of both production and consumption. The class will explore an interaction design model proposed by Bruce Sterling's *Shaping Things*, in which he implores, "Designers must design, not just for objects or for people, but for the technosocial interactions that unite people and food and objects." Additional content will expose students to the relationship between production, consumption, and impacts to the earth's ecosystem and human health.

Students will be asked to investigate and communicate a product backstory an existing product. The final exercise of the course will involve the creation of a new product/service system concept that provides a framework for users to affect and modulate the environmental and social impacts throughout their relationship with that object. Class participation is required and group projects are encouraged.

Phase 1: If Products Could Tell Their Stories, To Whom Would They Speak?

1. Intro: Towards a Sustainable Model of Product Design

Discussion: Three concepts. Intro to Systems Thinking and Life Cycle Awareness, and intro to Sustainable systems development.

Project Prep: Review expectations for class project.

Readings: *Shaping Things*, Chapters 1-6, pp. 1-54.

Donella Meadows, *Leverage Points: Places to Intervene in a System*, 1999.

Download here: http://www.sustainabilityinstitute.org/pubs/Leverage_Points.pdf

Assignment due next class: Choose one product and review a published, peer-reviewed Life Cycle Assessment or Analysis, for discussion in the next class. What were the system boundaries chosen by the authors of the study? What life cycle stage had the greatest impact? Reference the study in your blog with a short description of the outcome.

2: Audience: Consumers

Discussion: Opportunities and limits to the “Vote with your wallet” theories of sustaining a consumer-led green movement. The use of anthropological inquiry to understand gaps between what consumers say they want and how they behave.

Project Prep: We will choose 2 potential product “types” for deeper analysis in the personal class project as part of this discussion.

Reading: *Shopping our Way to Safety*. Part II: Assembling a Personal Commodity Bubble for One’s Body, Chapters 3, 4, 5, pp. 97 – 168.

Assignment: Shop for a product or meal with someone that fits the following “personas” – a) a parent wanted to protect your 3 month old baby from toxins, b) a locavore who wants her meal to come from within a 100 mile radius of NY, or c) a self described greenie who wants every purchase they make to have the lowest environmental impact. As you make the effort to engage shopkeepers, retailers, manufacturers, and food sellers in conversation, what can you find out about how things are made? Blog about your findings.

Additionally, choose a product to analyze for the class project.

3: Audience: Community Members, Citizen Activists, NGOs, Workers

Discussion: You don't have to be inside of a company to affect what is made, and how things are made. We'll review a brief history of consumer protection activism, the role of NGOs, local community members, and citizen activists.

Project Prep: Students identify which products they will be analyzing for their class project.

Readings: *Shopping Our Way to Safety*. Part III: Consequences of Inverted Quarantine. Chapters 6, 7, and Conclusion, pp. 169-238.

Assignment: Start doing deep dive research into your chosen product to review, focused on product origin, and share your findings on your blog. Where is this product made? What were you not able to discover?

4: Audience: Government – Legislators and Regulatory Bodies

Discussion: US Political appetite for regulation in all forms is increasing, in response to product recalls of toys, pet food, and collateralized debt obligations. We will discuss the differing philosophy between recent politically conservative approaches to regulation and the European philosophy of the precautionary principle. We will also explore the history of regional vs. federal legislation as a platform for change.

Reading: *Exposed: The Toxic Chemistry of Everyday Products and What's at Stake for American Power*. Chapter 1: Soft Power, Hard Edge. Chapter 4: Two Houses of Risk, pp. 1-19, 67-82.

Assignment: The government is changing quickly before our eyes. For the product you've chosen to analyze, research which government agencies have an effect over the system of how the product is created: FDA, EPA, CDC, FTC... Are states and local governments regulating this product, or do they have plans to? Share your findings on your blog.

5: Business: CEOs, Product Managers, Purchasing Managers, Designers, Marketers, Clients

Discussion: Who affects the decision making power within a for profit organization, from top level executives to designers to marketers to product managers. We will also review core tenets of the environmental business movement – from Natural Capitalism to the Triple Bottom Line.

Assignment: Prepare for midpoint project review.

6. Mid Point Project Review

Discussion Phase 1: Students will create a 5 minute pitch of the project storytelling idea, either as a quick write-up, a sketch, or other formats. The purpose of this class is to expand on the ideas, suggest enhancements, and provide constructive criticism.

Discussion Phase 2: We will also initiate the process of Life Cycle Awareness through a workshop session, to define known system boundaries, and identify the constraints and opportunities for people who want to offer sustainable/social impact innovation.

Reading: *Shaping Things*, Chapters 7-12, pp. 55-94.

Assignment: Conduct further research on the product's environmental and social impacts based on the Life Cycle Awareness findings. What are the biggest impacts? Which impacts are the most likely to be improved? Share your findings on your blog.

PHASE II: If Products Could Tell Their Stories, What Would They Say?

7. Environmental Impacts. Ecological Damage- focus on Energy Emissions.

Discussion: There is an emerging and influential group of tech investors, entrepreneurs, policy makers, and global leaders who believe that the most important lever of change is the PPM of carbon into the atmosphere. We will explore the relevancy of prioritizing energy emissions in our understanding of sustainability.

Reading: *Shaping Things*, Chapters 13-18, pp. 95-145.

Assignment: How does the product you are analyzing impact carbon emissions? Share your findings.

8. Environmental Impacts. Human Health Impacts.

Discussion: One of the primary motivators to consumer behavior change, and NGO action, has been a focus on toxic ingredients and the desire to protect one's personal health from human health impacts. We will identify the full life cycle implications of product development, including damage to the health of workers, and people that live in communities close to factories and recycling/disposal centers across the world.

Reading: *Cradle to Cradle*. Introduction, Chapters 1-2. Pp. 3-67.

Assignment: Identify the human health impacts of your product/service system, and develop alternative strategies to reduce this impact, and communicate these impacts. Share your findings.

9: Environmental Impacts. Resource Depletion, BioDiversity

Discussion: The impact of environmental degradation on the earth's resources and species gets the least attention from mainstream media, regulators, and business innovators. We will review the potential environmental impacts for those stakeholders without a voice, from the biodiversity of species to the global water supply.

Reading: *Cradle to Cradle*, Chapters 4-5, pp. 92-156.

Assignment: Identify the resource depletion and biodiversity impacts of your product/service system, and develop alternative strategies to reduce this impact, and communicate these impacts.

10: Social and Economic Impacts: Workers, Cultural Diversity, and Fair Trade, and Investment.

Discussion: One of the weaknesses of the LCA method is that they omit the social impacts throughout the product development process, because the impact to workers and local community members, beyond human health, is hard to quantify. We will discuss a framework for exploring the social sustainability of product/service systems.

Reading: *Cradle to Cradle*, Chapters 6, pp. 157-186

Assignment: Develop final project presentations.

11: Final Project Presentations

12: Final Project Presentations

Selected course readings:

Meadows, Donella (1999) *Leverage Points: Places to Intervene in a System*. The Sustainability Institute.

http://www.sustainabilityinstitute.org/pubs/Leverage_Points.pdf

McDonough, Michael *Cradle to Cradle, Remaking the Way We Make Things*. North Point Press, 2002.

Sterling, Bruce, *Shaping Things*, MIT Press, 2005.

Shapiro, Mark, *Exposed: The Toxic Chemistry of Everyday Products*, Chelsea Green Publishing, 2007.

Szasz, Andrew, *Shopping our Way to Safety*, University of Minnesota Press, 2008.