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## Term Project Summary

Fashion has been such a fundamental part of our human existence, no matter who we are or how much we pay attention to it. The problems associated with the fashion industry are numerous and extensive; their effects extend not only into the environmental realm but also into those of human rights, physical and mental health, economics, culture, creative ownership, etc. Consequently, people may often regard these problems as insurmountable, because what is an individual consumer to do to contest, much less actually change the inner workings of a global system that is inherently driven by profit and consumerism? The surprising answer is; the home is a good place to begin.

Consumer care, which includes the garment utilization phase processes of washing, drying, ironing, whitening, dry cleaning, softening, etc., is accountable for up to 82% of the energy consumption and 66% of solid waste emissions in the average garment's entire life span. [1] This is an indication that the flawed system of the fashion industry extends beyond the cotton fields, factories and retailers, and into our very own households. How could such a mundane chore have an environmental impact that eclipses that of the garment's industrial manufacturing phase? The answers to this question are found in the various conditions in which the clothes are laundered and treated. The central problem with consumer care is actually made up of the intersection of a variety of smaller problems; high energy consumption from elevating water temperature, laundry product toxicity, inefficient appliances, different recommended treatments for various fabric and garment types, counterproductive laundry habits, and an arbitrary, capricious cultural perspective on cleanliness. The list goes on, but these are the issues I sought to address in my project.

Water temperature is a major energy culprit in the laundry system. There is a great deal of evidence to prove that decreasing the water temperature for machine wash cycles would conserve a significant amount of energy and therefore money on utilities, without sacrificing the cleanliness quality. At the same time, it would generally reduce wear and tear on the fabrics. [2] Instructions on water temperature are very easily communicated on the care label because there are existing symbols for them already; I would simply use the 30°C cold wash symbol on all of the labels.

The standard laundry and clothing care products available on the market are generally rife with toxic chemicals that get released into the environment as a waste product. I created a care symbol specifying to "wash with organic cold water detergent" because in addition to being environmentally safe, the detergent needs to react efficiently enough with the cold water so that the consumer gets satisfactory results and refrains from using higher temperatures or toxic detergent. Furthermore, I used the existing symbol for non chlorine bleach [3]

Tumble drying is responsible for at least 60% of energy consumption in the use phase. [4] Completely eschewing machine drying in favor of line drying would be optimal, and so I am including the symbol in all the labels. If machine use is necessary, it is imperative that Energy Star certified washing machines and dryers be used, simply because of their significant water and energy conservation capabilities. Furthermore, It is very common for people to run wash cycles even though the machine is not fully loaded, which ends up being a waste of energy. As such, I created an icon that instructs consumers to wash full loads weighing 4kg total. [5]

Different materials, particularly novelty fabrics with appliques and treatments, often call for dry cleaning, which typically use toxic chemicals that are health hazards. As such, none of my care labels call for dry cleaning, but for the environmentally friendly alternative of wet cleaning. [Dombek Keith, Loker, 2011]

My care labels target ordinary clothing consumers worldwide who do their own laundry, whether they own and use washing machines in their households or go to a laundromat. Ideally, people who send out their laundry to have other people do it for them could also catch on and perhaps change their usual specifications on temperature and detergent type. This target audience is a diverse bunch, and they possess varied levels of concern and awareness for the environmental effects of fashion. Nevertheless, they trust the care labels to tell them what they can and cannot do to the garment, and will presumably refer to them at least once. This is my intended audience because in reality, they are the ones with the power to change things with their sheer number; even a slight modification in their daily habits could collectively make a great quantitative impact on the environment.

My intent is to normalize sustainable clothing care, to eliminate the notion that it involves a concerted effort or sacrifice and more to have consumers convinced that this is the best, or even the only way to do things. There are many opportunities to lower the environmental impact of the consumer care process, but it must be considered that not all of them are feasible for every consumer in their unique situations; it is unrealistic to assume, for example, that everyone has the time to hand wash, and the space to hang dry. That is why I suggest that the care options provided on the labels should be the most sustainable and the lesser, but still sustainable ones. One way in which I attempted to do this was by creating the “tumble dry in energy star certified dryer” symbol, which is underneath the “line dry” symbol suggesting a last resort if the latter is not possible. This is how I believe green initiatives should be marketed, as the bottom line standard, with room for improvement, so that those who are seeking the rewarding feeling of living an extraordinarily sustainable lifestyle can achieve it, but those who could not care less are still advised to comply.

Finally, I wrote the poetry on the care labels as a result of my subconscious desire to amend the impersonal, sterile nature that I perceive in normal care labels. Since so much of the problem I am trying to tackle through these labels is rooted in an arbitrary cultural perspective and adjustable habits, my view is that a human voice has to be involved in some way to effectively change this perspective. It is merely an added touch, however, because this project

was less about revolutionizing care labels and more of subverting the existing standard for them.

## Annotated Bibliography:

[1] Smith, G.g., and R.h. Barker. "Life Cycle Analysis of a Polyester Garment." *Resources, Conservation and Recycling* 14.3 4 (1995): 233 49.

This source is a study by the American Fiber Manufacturers Association of the life cycle inventory of a standard 100% polyester women's blouse. Beginning with the resin manufacturing process, the study encapsulates the fiber, fabric, dye, and apparel manufacturing processes, followed by the consumer use and disposal phases. The study then quantifies the energy use and emissions of each phase, ultimately revealing that the "use" phase of the life cycle has the greatest quantitative impact on the environment. Consequently, the study declares that changing consumer care habits would have the most significant effect in mitigating the environmental impact of clothing.

[2] Laitala, Kirsi, Casper Boks, and Ingun Grimstad Klepp. "Potential for Environmental Improvements in Laundering." *International Journal of Consumer Studies* 35.2 (2011): 254 64. *Wiley Online Library*. Web.

This study features data from laboratory experiments that tested the difference in effectiveness of laundering clothes under different circumstances, in order to determine where change to more sustainable practices without sacrificing cleanliness and convenience was possible. The study concludes that due to the availability of higher efficiency consumer care technologies, it is definitely possible to wash clothing in lower temperatures, use less detergent, and still achieve the same level of cleanliness. Furthermore, the garments wear and tear and propensity to shrink is generally reduced with these conditions, and line drying.

[3] Dombek Keith, Kathleen, and Loker, Suzanne. 101 114 Sustainable Clothing Care by Design in *Shaping Sustainable Fashion: Changing the Way We Make and Use Clothes*. London: Earthscan, 2011. Print.

This chapter of the book, containing a myriad of different methods of fashion sustainability, is specifically about clothing care. It provides facts and figures describing the current practices in place for laundering and garments, and their impacts on the environment. Many alternative solutions are discussed, as well as their pros and cons. Furthermore, it offers viable suggestions on sustainable clothing design that enables low impact clothing care without sacrificing aesthetic and affordability.

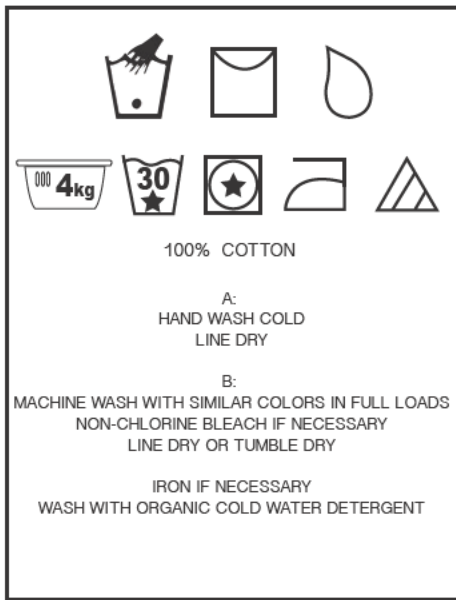
[4] Fletcher, Kate. 91 109 *Sustainable Fashion and Textiles Design Journeys*. London: Routledge, 2014. Print.

This book, which also addresses the design of sustainable products and systems within the fashion industry, discusses the use phase in depth in this chapter. It summarizes past studies of LCAs for garments that reveal the comparatively large environmental impact of the use phase. It details the problems and sustainable solutions to the consumer care process,

emphasizing that the problem at hand is as much a sociocultural one as it is an environmental one, and that an intersectionality of habitual changes is required to produce significant results.

[5] Thomas, Bernie, Matt Fishwick, James Joyce, and Anton VanSanten. *A Carbon Footprint for UK Clothing and Opportunities for Savings*. Tech. WRAP, 2012. Web. <<http://www.wrap.org.uk/sites/files/wrap/Appendix%20IV%20%20Carbon%20footprint%20report.pdf>>.

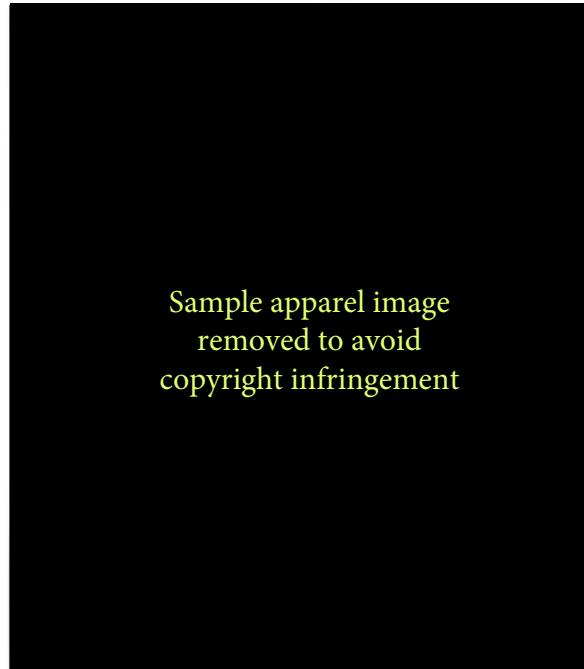
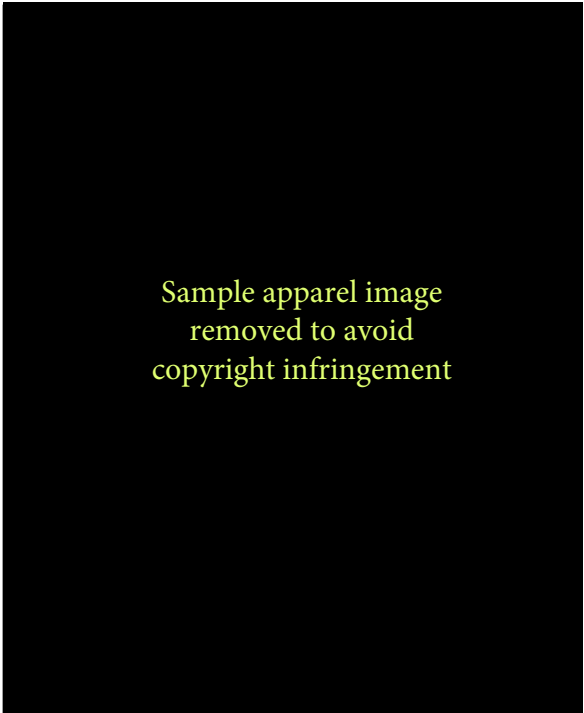
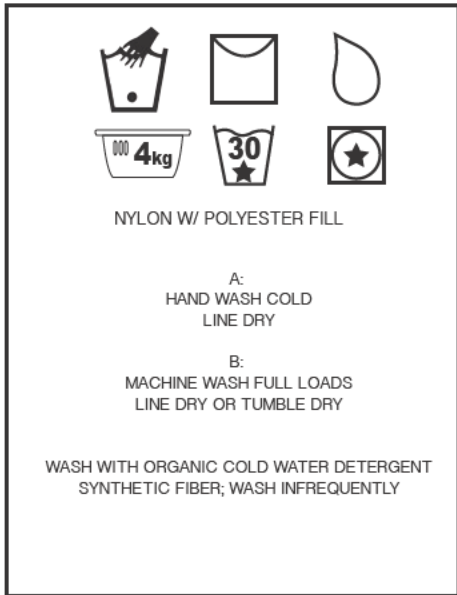
This report details the findings of an extensive experiment to quantify the carbon footprint of new and existing clothing of various fabric types in the UK. The section on the use phase in this specific study demonstrates that consumer care comes second to the fabric production phase in environmental impact, 26% as opposed to 33%. It also shows that cotton has by far the greatest washing and drying carbon footprint, considering it is the most consumed material. The report presents scenarios wherein less frequent washing, low wash temperatures, larger wash loads, and less dryer use are implemented, and concludes that a reduction of up to 6.5% of the carbon footprint would be possible.



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DEAR WEARER,

WASH ME LESS AND I'LL LOOK MY  
BEST FOR LONGER;  
I'LL RETAIN MY COLOR AND IN OLD  
AGE BE STRONGER  
YOU HATE DOING LAUNDRY BUT  
YOU'RE STILL SO DEVOUT,  
I'M CERTAINLY NOT GRUNGY AFTER  
ONE DAY OUT AND ABOUT.  
ANY STAINS, JUST GOOGLE HOW  
TO WIPE 'EM AWAY.  
HANG ME UP, CALL IT A DAY.  
EVER BEEN THROUGH THE DRYER?  
IT'S STRESSFUL, NOT MUCH FUN.  
WHY NOT JUST JOIN ME FOR A  
LITTLE TIME OUT IN THE SUN?



MACHINE WASH ONLY WITH FULL LOAD (4 KG)



TUMBLE DRY IN ENERGY STAR-CERTIFIED DRYER



MACHINE WASH IN ENERGY STAR-CERTIFIED WASHER



WASH USING ORGANIC COLD WATER-EFFICIENT DETERGENT