Assignment Final Paper

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Thesis Studio Two

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Perishable Bodies:
A study of wearable technology through the eyes of an anorexic

by
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A thesis submitted to the faculty of Parsons The New School for Design, in partial fulfillment of the requirements for the degree of Master of Fine Arts in Design and Technology

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Table of Contents

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Lastly, this thesis is dedicated to that little voice in the back of my head telling me I am worthless, ugly, and unsuccessful. You, little voice, are not welcome here anymore.

Introduction

- - -

My thesis is exploring the skin as metaphor by designing a series of materials that are an interpretation of distorted body image and eating disorders to help me recover from my eating disorder. I developed these materials, which will cover the body as a second skin, through a combination of research on wearable technology, sustainable material, and distorted body image.

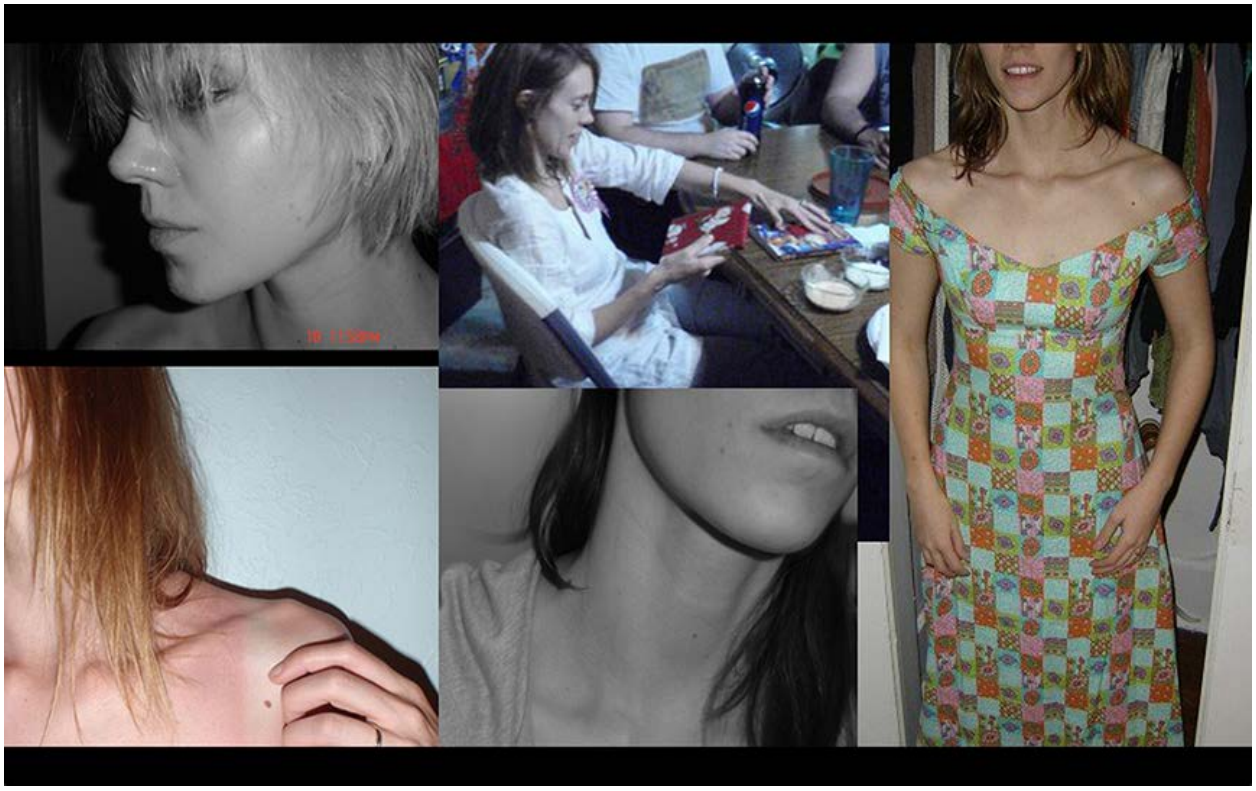

Figure 1.

Impetus

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Anorexia nervosa is characterized by emaciation, a relentless pursuit of thinness and unwillingness to maintain a normal or healthy weight, a distortion of body image and intense fear of gaining weight, a lack of menstruation among girls and women, and extremely disturbed eating behavior. Some people with anorexia lose weight by dieting and exercising excessively; others lose weight by self-induced vomiting, or misusing laxatives, diuretics or enemas. (Anorexia Nervosa and Associated Disorders)

Anorexia, to me, (Figure 1.) is not really about food and weight; it is more about other issues like depression, loneliness, insecurity, pressure to be perfect, or feeling out of control. Food and weight is more of a comfort, something I can control that, for me, escalated to a depletion of body image and self worth.

I have been dealing with my disorder for almost 15 years. I'm much better, meaning I eat at least once a day and maintain a weight between 115-120 lbs. At my worst, I weighed 108 lbs and would go three days in between meals. I do not remember being hungry during those three days. I do not remember ever being skinny. In my eyes, I have always looked the same: I could afford to lose a few pounds. I still have very bad days--I can't stand being in my own skin, food making me physically sick. On these days, it takes every ounce of willpower I have to walk out the door. My clothes do not cover up the imperfect parts; my fat is showing. I have even avoided subway cars or crowded stores so I will not be touched by a stranger because it is not a shoulder that bumps into my arm, it is a shoulder touching my revolting, under-arm fat.

I do not know how or why I developed this issue. I do not know why it continues, but I am at a point where I feel I can start doing something about it. I believe that something is this thesis project. I am not setting out to find a cure for the disorder or shove it in others' faces that they need to pity me and others. I want my project to be a positive solution to the issue, an exploratory art therapy project that discusses the body and skin as a metaphor.

Domains

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The concept of skin as metaphor for my project Perishable Bodies is meant to look at what we, as a society, put into our bodies, how we treat it, nurture it or not by: taking what goes in and pulling it back out; experimenting with textiles, recycled fibers, and food waste to create new material that can then be sewn into new clothing that covers the skin; fabricating a new garment with distorted aesthetical functions, something beautiful on the outside that may be really ugly on the inside for the wearer; exploring the distorted image of the body through the food we put in and the skin that encases it. Based on personal experience with distorted body image, these wearable pieces will provide an insight into

how people and the media deal with the body by making others aware of how serious these distorted images can be.

My research has been looking at the outer level of the body, the skin. Not only is the skin the largest organ on the body, it also defines who we are--our race, our signature features, our culture, our future. The skin protects, grows, stretches, burns, and wrinkles. It's massive in ratio to the rest if our bodies. The skin is the ultimate wearable technology. It can sense touch and temperature, and it sends data to our hard drive--our brain; further, skin is conductive, it can conduct power. It changes color by sending currents of energy to it, hot or cold, it's sensitivity can grown new forms of life, bacteria. Through research into computational clothing, skin can be the next wave of new technology, an extension of the body it already inhabits. Skin's purpose is to protect the body, and clothing protects the skin.

The Body

A distorted body image is typically an onset of an eating disorders, and depression is a side effect of these two factors. 17% of people with an eating disorder die (Hall, Ostroff). Images of what you should look like are everywhere. Even obesity, the reverse anorexia, affects as many children as adults, and there are probably as many fitblrs--eat clean, organic food and have a six pack, or you will not be cool--on Tumblr as porn. So it's no wonder people have issues with their image and food.

Ellie Krupnick and Rebecca Adams wrote about a project hosted by Pro Infirmis (Figure 2.), an organization for the disabled in December of 2013, sharing a video documenting the process of creating unique mannequins based off of the bodies of real people with physical disabilities. Some of the real models deal with spine malformations, paralysis, and amputation of more than one limb. Once the distorted mannequins were made, they were then placed in store windows of the main downtown street of Bahnhofstrasse, Zurich, in honor of International Day of Persons with Disabilities day. The message Pro Infirmis wished to share was "Because Who Is Perfect? Get Closer." In other words, every body form is special and important.

Figure 2.

The Skin

The aesthetic research for Perishable Bodies looked for artists who used the body as a focal point in their work and how they interpret the skin. Ariana Page Russell (Figure 3.) is a Brooklyn based artist with hypersensitive flesh. She purposely irritates her skin, then draws patterns, and photographs the skin. Russell takes "sacrificing yourself for your art" very seriously. She believes that the skin is a documentary of the human experience, exposing the scares, distortion, and beauty marks is literally a body of art. Images of her elegant red, welted skin demonstrates, to me, how the flesh can be transformed from something malformed to aesthetic pleasing.

Figure 3.

The sensitivity of the human flesh can now be simulated through a thinner-than-plastic wrap circuit. At the University of Tokyo, (Figure 4.) a research group is diligently working on creating a flexible electronic material that can be wrapped around the joints and bones of a robot to simulate skin

(Staedter.) At the University of California at San Diego, electrical engineers are busy working on temporary tattoo-like electronics that read brain waves when placed on the forehead (Someya).

Figure 4.

(Figure 4.) These institutions in Tokyo and California are developing ways to create flexible data sensors that can be infused with everyday clothing. These knowledgeable shirts and pants have the potential to not only keep us fashionable but sustainable. The skin covers our bodies (a T-shirt only covers half), but by knowing the needs of the body through the skin we can better understand how the human body works.

According to The National Museum of the American Indian, the 2010/2011 exhibit from, Hide: Skin as Material and Metaphor (Figure 5.) was a series of art pieces that reflected the culture of the American Indians. The exhibit offered an arrange of art from photography, textiles, and installations. What I found most interesting about the projects was how they talked about skin and the representation of color through culture. The exhibit talked about how "skin culture" spans all types of skin.

Figure 5.

The Material

The body is protected by the skin, and the skin is covered by material. This material comes in many shades, sizes and is used for many purposes. The evaluation of how we have used this outer skin has changed, going from keeping us warm in the winter to informing us when winter is coming.

Fashion designer turned biologist, Suzanne Lee says, “Spin me a thread. Align it in this direction. Make it hydrophobic. And while you’re at it, just form it around this 3D shape” (Lee). She uses bacterial-cellulose to create material that address ecological and sustainability issues (Figure 6.) Creating and growing your own clothing beings around notions of one’s own skin, how the skin can regrow itself and how bodies are naturally covered in bacteria. Lee’s research is leading the cause for sustainable fashion and repurposing clothing into something other than a cover for the skin.

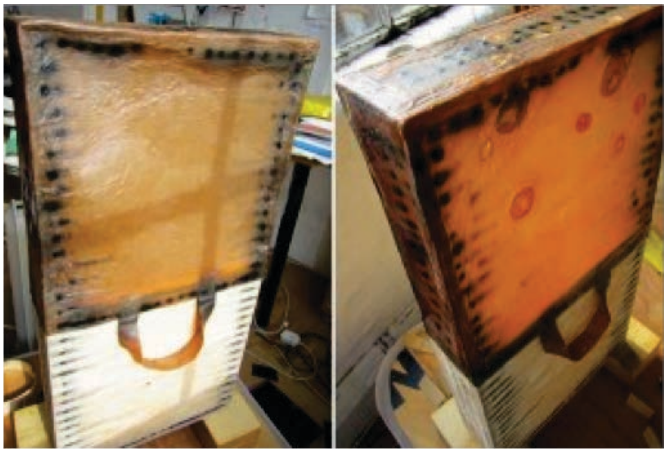

Figure 6.

Figure 7.

Amy Congdon’s Biological Atelier (Figure 7.) series of futuristics textiles play with biological materials that can manipulate the body: “adjust to your changing form and environment--futuristic fashion can be grown from the ultimate commodity.”

Meanwhile, Carole Collet BioLace (Figure 8.) challenges a synthetic biological approach to the future of living, smart textiles. Investigating the "Life Cycle" of plants, Collet's hypothesis a morphological way to control the root systems for food. "Imagine a tomato plant, which produces fruits in its branches whilst creating a lace with its roots. Such a multifunctional plant would contribute to both food and textile production simultaneously and represents the ultimate engineered hybrid" (Collet).

Figure 8.

Artist, scientist, and biologist are just some of the creative individuals looking at the body and the skin in new ways. Prof. Juan P Hinestroza, founder of the Hinestroza Research Group at Cornell University is exploring the interface between the technological fields of textile science and the emergence of nanotechnology. Hinestroza's research explores fashionable applications for nanotechnology and the use of nanoscale science to create smart textile clothing. Infusing technology with the body, becoming a new form of art, testing the limits of abstract expression through the body and life.

The Method

Hinestroza talks about fashionable applications of nanotechnology and the use of nanoscale science to create smart textile clothing. Textile science and fashion play an interesting part in classifying gender roles. Throughout the two years of my graduate studies, I was exposed to fashionable technology that showcased wearable art that were more feminine than masculine.

Research like Donna Haraway's "A Cyborg Manifesto Science, Technology, and Socialist-Feminism in the Late Twentieth Century" explores women as interfaces, then sets a "challenge to feminists to engage in a politics beyond naturalism and essentialism. She used the concept of the

cyborg to offer a political strategy for the seemingly disparate interests of socialism and feminism" (Dvorsky). Haraway writes,

> The cyborg is a condensed image of both imagination and material reality, the two, joined centres structuring any possibility of historical transformation. In the traditions of "Western" science and politics--the tradition of racist, male-dominant capitalism; the tradition of progress; the tradition of the appropriation of nature as resource for the productions of culture; the tradition of reproduction of the self from the reflections of the other--the relation between organism and machine has been a border war.

It is Haraway's use of the phase "Cyborg Feminism" that strikes a cord in engaging new technology: to not stay boxed up in standards that are set by corporation but embracing and pushing forward through the use of new media that define creative work not gender. It is this phase in the category of exceptional feminism, used in a new found cyborg status as a way to defend the work in the world, implementing new technology and new ideas in media art applications to arm conceptual ideas for projects to be stronger and stand on their own.

Sonia Cillari's Sensitive to Pleasure and Marina Abramovic's Art Must Be Beautiful, Artist Must Be Beautiful are just two of many other female art works that thrust you to the boards of the cyborg universe and the body. A cyborg is an organic body embedded with mechanical parts. In my studies, it is the smartphone in my pocket and the computer on my lap, connecting me to the world and delightfully downloading material through a click or two of my trackpad. My cybernetic parts provide pleasure in the form of a completed project or idea. This pleasure factor is what connects me to Cillari and Abramovic's art works. Both artists use pleasure as a component to talk about the painful and gratifying effects of being touched.

In Cillari's installation Sensitive to Pleasure, she is the cyborg hooked up to electoral sensors outside of the enclosed booth. Viewers are invited inside the booth where another woman waits. You are asked to choose whether to inflict your own pleasure over another's pain, meaning that when you touch the woman inside the booth, and she feels the pleasure of your touch, the artist outside the booth feels pain from your touch. It raises the questions of whether you would knowingly cause suffering to one person by giving pleasure to another? You can't help but feel that you do have a choice whether you choose your own pleasure over another's pain.

On the other side of pleasure spectrum, in Abramovic's black and white video Art Must Be Beautiful, Artist Must Be Beautiful, a nude Abramovic sits in front of the camera lens combing her raven black hair repeating, "Art must be beautiful, artist must be beautiful." She runs the brush through her hair with tenderness and care one second and then switches to violent and aggressive strokes the next, afflicting pleasure and pain upon herself, all while repeating "the art must be beautiful." The juxtaposition of her brushing and the contesting sound of her voice provokes a robotic loop to demonstrate the use of pleasure as a demand for beauty in art.

She notes that Art Must Be Beautiful, Artist Must Be Beautiful is one example of how, in the early years of performance art, female artists used their own bodies to challenge the institution of art and the notion of beauty. Abramovic said in an interview that during the 1970s, "if the woman artist would apply make-up or put [on] nail polish, she would not have been considered serious enough." Through this performance, says Stokić, Marina comments on "the commodification of art and artist by critiquing conventions of and demands for female beauty in art and contemporary culture."

Forming the Context

The Age of Context is a recent publication on how consumers should embrace wearable technology, especially tech you can wear on your face. The book's authors, former Silicon Valley journalists Robert Scoble (a reporter of innovative technology) and Shel Israel (a freelance reporter for private business) set out to explain the next wave of human intervention of contextual computing and how it will change every facet of our lives.

They describe the Age of Context as the Perfect Storm: a mix of technologies (mobile, social media, data, sensors, and location base services) not weather conditions. The fusion of technology, data, sensors, the cloud network, and tracking, all roll up into one system or device you casually put on each day, like a watch or a pair of sunglasses. Their great example is the very slick and trending Google Glass, and how it is the first of its kind to combine all the element of the perfect storm. These Five Forces start with ability to be mobile, something you can wear or hold and take with you. Hands free, wearable devices are coming, if not already here. That social media--being able to communicate wherever you go, allowing technology to know where you are and where you want to go--is sourcing consumers data is where things get interesting. "It's not big data mountains that matters so much to people, it's those tiny little spoonfuls we extract whenever we search, chat, view, listen buys -- or do

anything else online (page 6).” The multi-purpose sensors and location-based applications concluded the secret ingredients for the perfect wearable device.

This is a commendable text for the new influx of technologies, data sourcing, and wearable devices. Not only is this book showing you, the consumer of these devices, how to use them, but how they are intended to be used for the benefits of future development. Digesting the fact that start up businesses want you to consume these products and allow them to invest in your data, getting the best deals, values, creating easier ways for consumerism to capitalize on an ideal market. The authors explain that this is why tech is cool, and why you should use tech, keeping in mind you have the right, if you can afford it, to use technology that is out there. And your data is your property and you should have the right to know who is using it and for what purpose.

Wearable technology is here.

Contextualizing Touch

“You can tell what a culture values by what it has in its bags and pockets,” is the opening sentence in Jon Agar’s book Constant Touch, an insightful history of the technology that brought us mobile phones. The value of society was based on what is in your pocket; it is the same today with just a slight variation, you are valued by what technology you wear. Agar begins his book by talking about the personal pocket watch as the first mobile technology. Only those who were most skillful could make them and only those who could afford them could keep the time. Watch owners could travel outside of the range of the hourly chime of the church bells, could be mobile and still know the time. Cellular phones did the same things for their owners--kept time but also allowed them to communicate with towns, cities, then states, and eventually across oceans.

As wearing technology transitioned from radio to the smartphone, wearable technology became a progression of battery-ran accessories. That began by creating a network of smart materials for shoes, shirts, and sensors for watches and glasses. These types of wearable computers monitored such outputs as your heart rate, how many steps you take, and breathing, all while recording your personal health and making you look stylish doing it. Smart clothing pursued healthier endeavors and a better understanding of the body, while the mobile phone simply gave users the possibility of communication anywhere they go.

The future development between wearables and mobile seems to be merging, allowing us to wear one device that keeps time, communicates for us, and understands our body--endless information colliding with wireless gadgets that function as a daily garnish to the body. Mobile phones and wearable computing have similar beginnings, advanced middles, and exciting future. We now have become so attached to our cell phones that it is no surprise that we want to wear them. As simple and trifling as the pocket watch has become, time is still important, and being able to keep time will always lead advanced technology.

Project Concept

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In the Spring 2013 semester, I took Fashionable Technology taught by Sabine Seymour using the phrase "Skin as Metaphor" as a way of expressing the "body as the centerpiece to discuss the psychology of interactivity on the body, the historical background, the intertwining of technology, science, and fashion, and precedents in art and fashion" (from the course description of her class).

"Leftovers" is a fashion technology project I worked on last Spring. I was never really into the study of science. I found no need for it in my daily life, hobbies, and activities. Little did I know that science was all around me. It wasn't until college that I found myself taking an Earth Science class and getting exposed to the subject--learning how things are made, grow, mix, and survive on Earth. My main interest lay in biology--mineralogy and petrology, the studies of how thing grow. The idea of growing something to wear and giving it life is fascinating--growing and making material, creating a wearable installation, and learning new technology to add life to my work.

For my thesis project, I wanted to mimic life by using technology that is triggered by human interaction--growing you own material and simulating life through technology, working with environmentally friendly and organic materials. The key differences from my precedents is that I'll be making my own material and growing bacteria to create patterns, such as slime mold that I have to feed and kept alive, basically creating a living garment.

My research statement was meant to help me generate questions that would lead to the first paper prototype, which was due the next time the class met. I went into crisis mode: what am I doing, am I creative enough to even make this project, is this the true project I want to spend the next year working on? I doubted, questioned, researched, and drew, coming up dry and depressed. I avoided the

little voice in the back of my head who sounded like my husband telling me I already knew the subject and area I wanted to research. I have already begun working on and researching this topic, I just did not know it yet.

Then I took Sabine Seymour's Fashionable Technology class and worked on a project where I made/grew my own material out of recycled paper and leftover food. I created material that was very much skin-like, sewed it together (Frankenstein-like), and used nitinol wire (memory shape wire) to simulate breathing. I could have used anything to make the material, but I chose food. I could have dyed the material any color, but I left it a skin shade. However, I didn't realize until over the summer break that this project could be a metaphor for distorted body images, by taking what goes on inside the body and putting it outside.

I visited a small show for New York Fashion Week in the fall of 2013. The show exhibited work by Ricardo O'Nascimento and Ying Gao (Figure 9.). Both designers work with technology and fashion, but it was Gao's work that stood out. In her work she created a garment that was like a reverse porcupine. The tailor put pins that are protruding out in the dress. When you make a loud noise close to it, the dress, collapses in on itself making a distorted chime sound. At the same time, the pins move with the material, creating a bristling effect.

Figure 9.

Gao's work was super inspiring. Materials are meant to be touched and to feel comfortable, but

Gao's dress is hard, cold, sharp, and unwelcoming to touch. From this project, I began gathering other such precedents for my first thesis "desk" critique.

I combined precedents I had used from last semester but with new meaning. Hussein Chalayan's (Figure 10.) Transforming Dresses is a collection of beautiful garments worn by beautiful woman that transform from one dress into another. What I liked most about Chalayan's dresses is how the piece forms around the body then moves to transform its shape. I wanted my thesis to have that same transformative movement, but I am not so much about form as I am about the functionality. Meaning that Chalayan's dresses did not react to the movements of the models. The model would walk onto the catwalk, stop in the middle, allow the dress to change shape, and then continue walking off stage. For my thesis, I want the wearer or the person interacting with the garment to cause the change.

Figure 10.

When I presented these ideas to my desk critiques for my thesis project, I was flooded with comments and inspiration. Some of the standout comments were: How do you represent the wearer? Can the material and domain be like a mask, a body mask, meaning that a mask is meant to hide something? Can the garment hide the body or transform the wearer into someone else? You are what you eat, physically. The garment would represent how the wearer treats his or her body. The material would symbolize the skin color, the culture, the diet, and feel of the persons interacting with it. Does the material have a story and character? Is the garment a reactive membrane of the body? A new skin over the old, plastic, cosmetic, and prosthetic?

Methodology

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In Prototype one, I showed the material I made from my Fashionable Technology class from the Spring 2013 semester. The material was made from leftover moldy food and recycled paper. The concept for that project was about growing your own clothing.

The day the paper prototypes were due, I took in a sample of the material I made last semester. I recited my newest research statement, explained how the material was made, and why I wanted to continue working with it. The act of explaining the material recipe, allowing my classmates to touch and smell the material, was helpful in understanding how people would react to my material. At first they gently stroked the material, picking it up, shifting it back and forth, smelling and asking questions about how it was made. Why food? Why paper? Can you eat it?

The Process

The group I presented my prototype (Figure 10.) to gave me some food for thought. Had I looked into other materials that come from life-like leather? And could leather be interpreted by the meat of the animal and not the skin? Are there projects that are using edible paper used for cakes, pastries, and candies? Their questions made me start thinking about pulling the insides out and replacing the outside in. Their feedback stoked the fire of my curiosity, and I began researching these fields' new domain questions.

Figure 10. Prototype one of the finished material.

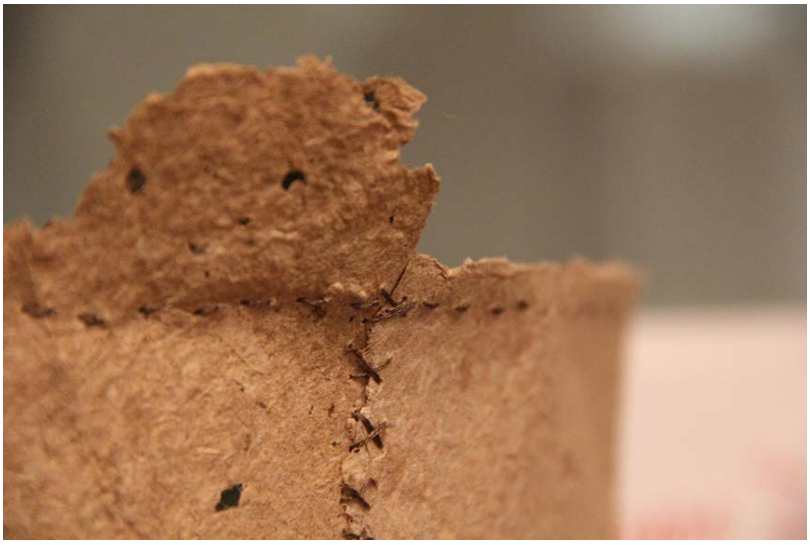

Figure 11.

Prototype one was sewn together and stretched around a wire base torso form (Figure 11).

Figure 12.

Prototype one showed the process of making the material (Figure 12), starting with a liquid base of yeast, sugar, and vinegar, then ripping up recycled paper, mixing it with the leftover food, and liquid to make the first material.

Figure 13. Cleaning the off the worms.

Prototype two (Figure 13) was a series of small experiments with material that was not moldy. I also wanted to try a new method for making my material. I tried to weave corn silk with blue jean fibers, hair, and newsprint paper. Through these experiments I unknowingly grew worms, freed them, and was accosted by the police because I looked suspicious.

During the midterm conferences, I was introduced to J. Morgan Puett (Figure 14.), an installation artist and fashion designer. Her work is a layering of minimalism and neo-modernism wrapped in a rustic, threadbare style of decay. The Amish-Dutch smock style garments inspire that long-ago notion of taking something old and making it new. The same ideas flow in my work, taking something that had one purpose and giving it another objective.

Figure 14.

The same goes with food. Food is meant to satisfy hunger and nurture our bodies to make us strong and healthy. In some cases food can be a person's undoing; too much of the wrong food can be unhealthy or no food at all can have the same harmful results. Taking food out of the body and layering it over the skin, much in the style of Puett's designs, and creating a distorted garment that functions as skin, is how I imagined my pieces.

I begin with a drawing, to better understand the aesthetic of my thesis project. How would this wearable piece look on the body? What are the textiles interpreting, and how do I incorporate food? I chose to start from the top of the body, simulating hair in a distorted way. When people with eating disorders do not take care of their hair, it can fall out and become brittle and harsh to the touch. I began collecting corn silk from the farmers market around my neighborhood. This silk would be my hair, weaving it together with other recycled fibers, experimenting with new methods to create material I can use. Corn is food staple; it is in almost everything we eat. It has a place of honor on our holiday table, it is featured in our history, and fuels our cars.

Influenced by Puett, I began piecing together my garment from an old shirt and blue jeans, not purposely meaning to mimic the daily attire of the farmers that grow the corn. But it worked to show the layer style I was envisioning. I presented this iteration to my peers, receiving positive feedback (Figures

15-19) but was encouraged to continue to experiment: dig deeper into my research, break down the steps of my process to turn food into clothing, and explain how I do that. Then I'd be able to address the skin as interface and the need to start working on research that looks deeper into the mental aesthetic of body image and eating disorders.

Figure 15. Prototype two

Figure 16. Prototype two

Figure 17. Prototype two

Figure 18. Prototype two

Figure 19. Prototype two, user testing.

Prototype three had me going back to the original recipe from my Fashionable Technology material, but this time I made the material while I made dinner (Figure 20-23). While making dinner for my family (a ground turkey, vegetable, tomato soup), I took the skin from the vegetables (tomato, potato, and onion) along with recycled fibers and paper to create new material. That, I found, had a lot more symbolism than I had intended for how it made the material stronger for the metaphor of skin. Because I hate eating but have a strong desire to feed my family, the food I should be eating is now what I am wearing. It was a moment of empowerment. I'm saying that I can use this "food" as a control material that can be morphed into somethings else that I put on the outside of the body as opposed to the inside (Figure 24-26).

Figure 20. Prototype three

Figure 21. Prototype three

Figure 22. Prototype three

Figure 23. Prototype three

Figure 24. Prototype four was experimenting with colors. Up until this point all the material had a flesh like hue, pale tan or light brown.

Figure 25. Prototype four used consistent colored food and tea base; beets, beans, tomatoes.

Figure 26. Prototype five and final

Making Mannequins

Throughout the process of making the material, it became apparent that in order for this project to have the effect I wanted, the food garment needed to be dressed on unique bodies. Devising a do-it-yourself method, I asked my peers if they would allow me to uses their form as my mannequins (Figure 27-37). Nine brave and wonderful classmates stepped forward to become my forms, allowing me to wrap them in tape and then dressing their forms in my food, becoming familiar with their body, their imperfect parts, the fine details, curves and their insecurities. The reaction to each new form made was different. The model would be surprised that their waist was that small or large, their back bowed, or their breasts where that round. Most had no idea what to expect when seeing their form separated from them--whether to hug themselves or push it away.

Figure 27.

Figure 28-30. Jorge Proaño, Kamilla Kielbowska and Marta Molina Gómez.

Figure 31-32. Making Mannequins: Clarisa Diaz and Or Leviteh.

Figure 33.

Figure 34.

Figure 35. The collection of forms.

Figure 36.

Figure 37.

This exploration in understanding the body texture and shape was, for me, a triumph over my body disorder. If my friends could stand in the middle of a public workspace, in front of other classmates and strangers, let me wrap tape around their body, exposing all their flaws and curves, then why could not I do the same. Why could I not except who I was, curves and fatty part included (Figure 38)?

Figure 38. Making Mannequins: Veronica Black.

Interviews

To try and understand the method and miscommunication going on in my head and how that relates to the body, I sought out specialists in the fields (Figure 39) of food and body. Lauren Pellerano Gomez, a graduate student in Fashion Studies at Parsons the New School for Design, for her thesis, is looking at the Punk fashion movement and how young people of that era used their clothing as a way of discovery of themselves.

Figure 39.

Hannah Knafo, a doctoral student in the clinical psychology program at the New School is performing interviews of mother and daughters in front of a mirror. Comparing their answers to questions about their appearance, self-worth and physiological assessments of their bodies. The current research in the realm of bodies and technology is small, but these students changed that size and fueled the drive for my work.

Knowing myself and the topics I wanted to cover for my thesis, I knew there would be a breaking point during this process--an event of crumbling, taking out my so-called failures on myself, and crippling what I wanted to achieve with this project. I gathered my courage and began seeing Lee Katz Maxwell, LCSW, a psychotherapist treating adults with anxiety, depression, eating disorders, parenting, and career transition issues. With Maxwell's help I became aware of triggers that set off my feelings of worthlessness and my misshapen appearance, and how these triggers targeted the reaction of what I put into my body.

It was Maxwell's advice and push to find a nutritionist to guide me in finding balance between my body and food. Jacqueline Podel, RD,CDE,CD-N specialist in nutritional counseling for wellness and medical conditions. Our first few consultation consisted of compiling a motto that would help me bandage the relationship I have with food and my body--the short sentence: "I have no time for no energy"--and creating shopping lists of familiar foods. Podel cited a few truths that my body image is always going to be in the head; I can never trust my self image. I have conditioned my brain that my

body is beyond change, and that I should find someone to be my eyes and speak to my brain to tell it I look good today.

Between Maxwell's uncovering my triggers and Podel's mottos and grocery list, I began to see changes. When I ate, my body reacted in a positive way: I slept better, I had fewer bad hair days, and my face and skin was clear and free of small imperfections. I could see these changes where as before they were unclear and hidden behind skepticism. Yet it was not until I took a week long break from my project and traveled to visit my elderly grandparents. My week with them consisted of enjoying their company, eating and watching TV. I did nothing that resemble exercise and ate three meals a day. By the time I left, I could feel the fat shifting around under my skin and the adamant hate of food and myself swallowed me up. The next visit to see Podel revealed, to my surprise, the massive weight I gained was really only two pounds. This was a profound moment for me, this proved that eating gives me energy and made me beautiful. Along with my daily activities of walking to the subway, up and down the stairs instead of taking the elevator, and weekly exercise, I could keep a healthy thin body. Food benefitted me.

For these past 15 years I never knew that, I never listened, it was not obvious. My view of this body was hidden and hard to see, but this project and my goal to conquer this disorder proved to me that I could be healthy and pursue projects that are designed for the body.

Conclusion

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Figure 40.

The mirror is not my friend, but I find myself seeking out the looking glass wherever I go (Figure 40). It is an obsession, a nervous twitch I must satisfy. It might be vanity that causes this mirror fixation, but it does not feel pleasurable. The reflexion is cruel, judging, and lying. My husband might say he can see my ribs taut under my skin, but my mirror doesn't show me that. It shows me ribs that are disproportionate and covered with fat. It is not until someone physically points to my ribs or spine do I see them protrude. I have a distorted body image, and the mirror reminds me everyday.

Coming to Parsons I found myself being drawn to the body as an interface and wanting to design for it, but how could a person who hates her body design for the body? I realized I had to accept my body before I could design for others, choosing food as my media in order to create a healthier relationship with it and journeying through this process to discover new meaning and purpose for my second skin. Seeking therapy and nutrition has helped me to better understand myself and how I want to design for wearable technology, constructing purpose and data through my materials and not sensors or wires. In the end, I now have a healthier relationship myself, an enlightened understanding of how we design for the body, and how wearable technology is evolving with smart textiles and sustainable materials.

Bibliography

Agar, Jon. “Constant Touch: A Global History of the Mobile Phone.” Icon Books. 12 November 2013.

Anorexia Nervosa and Associated Disorders. “About page,” http://www.anad.org/ (accessed December 17, 2013).

Chalayan, Hussein. “Transforming Dresses." 29 Aug. 2007.

Collet, Carole. “BioLace: An Exploration of the Potential of Synthetic Biology and Living Technology for Future Textiles.” Published. Auckland University of Technology. “Studies in Material Thinking.” http://www.materialthinking.org/. April 2007. http://www.youtube.com/watch?v=tJD2xlVcgRI.

Congdon, Amy. “Biological Atelier: Poisso-Crystal Collar.” BIOLOGICAL ATELIER : SS 2082 'EXTINCT' COLLECTION. http://www.amycongdon.com/.

Dvorsky, George. “25 years later: Donna Haraway's "A Cyborg Manifesto," Sentient Developments. http://www.sentientdevelopments.com/2010/10/25-years-later-donna-haraways-cyborg.html. Last modified 17 October 2010.

Gao, Ying. "INCERTITUDES." 2004. http://yinggao.ca/eng/.

Hall, Lindsey and Monika Ostroff. *Anorexia Nervosa: A Guide to Recovery.* Carlsbad: Gurze Books, 1999.

Haraway, Donna. "A Cyborg Manifesto: Science, Technology, and Socialst-Feminism in the Late Twentieth Century," The European Graduate School. http://www.egs.edu/faculty/donna-haraway/articles/donna-haraway-a-cyborg-manifesto/. last modified 2012.

Hinestroza, Juan P. The Textiles Nanotechnology Laboratory at the College of Human Ecology of Cornell University. http://nanotextiles.human.cornell.edu/.

Kim, Hannah. “Listening to Marina Abramović: Art Must Be Beautiful, Artist Must Be Beautiful,” MoMA.http://www.moma.org/explore/inside_out/2010/04/06/listening-to-marina-abramovic-art-must-be-beautiful-artist-must-be-beautiful. Steim.org, accessed 17 May 2013.

Krupnick, Ellie and Adams, Rebecca. “'Disabled' Mannequins Remind Us That Beautiful Doesn't

Mean 'Perfect' (VIDEO).” The Huffington Post. http://www.huffingtonpost.com/2013/12/03/disabled-mannequins-video_n_4379586.html#next_slideshow. Dec. 03, 2013.

Lee, Suzanne. “BioCouture.” May 2011. http://www.ted.com/speakers/suzanne_lee.html.

Norman, Don. “The Paradox of Wearable Technologies.” MIT Technology Review. Web. http://www.technologyreview.com/news/517346/the-paradox-of-wearable-technologies/. 24 July 2013.

Puett, J Morgan. “Old, 19th-century, wild, crusty farm…transformed into a new ‘art complex(ity),” ESCÁPIST(S), June 13, 2013. http://escap1sts.wordpress.com/2013/06/13/j-morgan-puett/

Russell, Ariana Page. “*!!!!!* ,” 2005. http://www.arianapagerussell.com/.

Scoble, Robert and Israel, Shel. “Age of Context: Mobile, Sensors, Data and the Future of Privacy.” Patrick Brewster Press. 2014.

Seymour, Sabine. *Functional Aesthetics: Visions in Fashionable Technology*. New York: Springer Wien New York, 2010.

Seymour, Sabine. *Fashionable Technology: The Intersection of Design, Fashion, Science, and Technology*. New York: Springer Wien New York, 2009.

Someya, Takao. "Bionic Skin for a Cyborg You." Spectrum IEEE. Web.http://spectrum.ieee.org/biomedical/bionics/bionic-skin-for-a-cyborg-you. 26 Aug 2013.

Staedter, Tracy. “Electronic Telekinesis from Temporary Tattoo.” Discovery News. Web. http://news.discovery.com/tech/biotechnology/electronic-telekinesis-from-temporary-tattoo-130219.htm. 19 Feb 2013.

Studio for Steim, “Sonia Cillari’s ‘Sensitive to Pleasure’ wins 1st Prize at VIDA 13.0.” http://steim.org/2011/01/sonia-cillaris-sensitive-to-pleasure-wins-1st-prize-at-vida-13-0/. Steim.org, accessed 17 May 2013.

The National Museum of the American Indian. “Hide: Skin as Material and Metaphor.” 6 Mar. 2010. http://nmai.si.edu/exhibitions/hide/.