Listen to this podcast about "How the Fashion Industry is Responding to Climate Change" (~35 min.)

Write a **350- to 500-word post**answering the following question:

Who do you think is responsible for fashion's contribution to climate change: consumers, textile companies or fashion labels?

- State your opinion at the outset of your post, and support your viewpoint with comments from the podcast and other articles you research online regarding fashion and climate change
- Add your short list of references (this podcast + 2 articles) *not included in word count*

To my understanding, they all share responsibility for the fashion industry's contribution to climate change because consumers are the ones who demand, textile companies produce the materials, and fashion labels design and make this harmful clothing. To solve this situation, consumers can make a difference by being more mindful of their purchases and choosing sustainable clothing options because 60% of the clothing stands for all textiles used in the past 15 years which has doubled clothing production and this growth is due to the popularity of fast fashion (Ellen MacArthur Foundation, 2019). According to Maxine Bedat in the podcast "We're buying clothes faster than we ever have before and getting rid of them just as fast" (Feather et al., 2019) meaning that consumers are encouraged by fast fashion high demand to purchase more clothing than they need and dispose of it quickly. This growth is due to the popularity of fast fashion, which involves creating new styles more quickly and offering more collections per year at lower prices. Therefore, by choosing sustainable clothing options and reducing their overall consumption, consumers can help reduce the industry's impact on the environment. Textiles companies and fashion labels are also responsible for producing the materials used in clothing without using recycled material and reducing water, and for not being able to adopt sustainable practices to reduce their carbon footprint. They both use a lot of resources like water, energy, and raw materials to make clothes (Kristiansson, 2019). For example, getting the materials to make cotton or polyester uses a lot of water and chemicals that are bad for the environment. The

process of making clothes, like dyeing and finishing, also pollutes the environment and adds to the problem of climate change (Kristiansson, 2019). Ultimately, it will require a collective effort from consumers, textile companies, and fashion labels to reduce the industry's impact on the environment. Consumers can make more sustainable choices by choosing to buy locally and from environmentally conscious brands. Textile companies can invest in more sustainable production methods, and fashion labels can prioritize sustainable materials and production methods. The fashion industry must recognize the environmental impact of its products and work together to create a more sustainable future. We can fix this problem of fashion and climate change as a collective by trying to buy clothes more thoughtfully and not waste so much; companies that make the fabrics and clothes can find better ways to do so, that do not include harming the environment; fashion labels that design and sell the clothes can think about sustainability and be more transparent about their practices; and an extreme solution would be to allow the government to make rules to ensure everyone is doing their part effectively and abiding by healthy environmental practices as Marc Bain from the podcast states.

References

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Feather, K., & Tham, M. (2019). The end of fast fashion? A new era of sustainability. Fashion Theory, 23(4), 487-502.

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Post 1-2 images of your finished work

- For dye projects, add an overall and a detail
- For upcycling, include before & after pictures of your garment
- Garments should be modeled or on a dress form

Write a short narrative (~500 words) addressing the following questions:

- What is the main problem with the textile industry and water pollution, and what parts of the world are most affected?
- How do the companies we reviewed (Colorifix, Tinctorum and Pili) each address the problem? Briefly summarize their processes in your own words (not quotes!), citing the company web site.
- How did your experience working with sustainable processes and materials impact your thoughts about the industry?
- What would YOU like to see changing in the industry, and how can you pursue this as a future professional?
- **RESPOND** to peer posts and comments in your thread (**Minimum:** Thread + 3 posts)
- References: Add all sites reviewed to your references, including dye tutorial or upcycling tutorials. Please list all site in full citation form, including the full link (do not embed links).

Use APA guidelines for in-text citations and References. See guidelines for web sources here: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/reference_list_electronic_sources.html

One of the main issues with textile production and water pollution is the high volume of water used in the manufacturing process. It is estimated that it takes around 2,700 liters of water to produce a single cotton t-shirt, and this water is often contaminated with chemicals and dyes. This contaminated water is then discharged into rivers and other waterways, where it can have a devastating impact on aquatic ecosystems and the communities that rely on them as what is happening in Dhaka, Bangladesh. The textile industry is most concentrated in developing countries, particularly in Asia, where environmental regulations are often weak or not enforced. Countries such as China, Bangladesh, and India are among the largest producers of textiles in the world, and they are also among the most affected by water pollution from textile production. In these countries, the discharge of untreated wastewater from textile factories has had a significant impact on local water quality, with many rivers and other waterways becoming severely polluted. This pollution can have serious health impacts on local communities, including increased rates of cancer, birth defects, and other illnesses.

Colorifix, Tinctorium, and Pili are working to address water pollution because of the dying process by developing new methods of textile dyeing that are more sustainable and less harmful. Colorifix uses synthetic biology to create a new range of dyes. They have developed a process that uses microorganisms to produce dyes that can be used in textiles, without the need for toxic chemicals. According to the company website, the process is neat, productive, and green and has the potential to revolutionize the textile industry. Tictorium is addressing the problem of toxic textile dyeing. They use plant-based dyes and a closed-loop system to reduce water usage. Its website states that this process removes the necessity for harmful chemicals and reduces water consumption by up to 90% making it a much more sustainable and environmentally friendly alternative to traditional textile dyeing methods. Pili uses bacteria to create dyes that bond to natural fibers without the use of toxic chemicals. The company's website states that this process is 100% safe and breaks down naturally making it a much safer and more sustainable alternative to traditional textile dyeing methods. These companies are leading the way in this effort, and their innovative approaches have the potential to revolutionize the textile industry and help create a more sustainable future for all of us.

Working with these sustainable processes and materials made me feel a little bit guilty because I started to think about how much I have contributed to harm the environment but thank God I have had the opportunity to educate myself about this problem and I have started to counter the damage. For this module, I dyed a yard of fabric with paprika and the fabric did not hold the color. It did not work. So, I over-dyed the fabric with turmeric, and I got a beautiful, bright, and solid yellow piece. I used vinegar and salt as my mordants. I also have transformed a simple white t-shirt into a beautiful ruffle bottom ringer top with no sewing needed. For the materials, I only used a T-shirt, a pencil, a ruler, and scissors. To modify the appearance of the shirt, I started by measuring the length I wanted my t-shirt to be and cropped it out. Then, I cut two strips both

three inches wide with the left-over fabric to create the ruffles which were attached to the bottom of the t-shirt with a one-inch strip. The strip passed through tiny little holes I made to connect the top with the ruffles. Also, I modified the sleeves by making two V cuts that started at the top of the collarbone and ended at the shoulders giving the shape of a high neckline to the t-shirt. Lastly, I divided the sleeves into two pieces and tied them together to form a bow. This experience made me realize that when you create your own clothing, you have the opportunity to express your unique style, taste, personality, and creativity, but also we contribute to our environment because I never thought about how harmful was our planet to water pollution and labor exploitation due to the fashion industry and by creating our own clothing, we can help to address some of the negative impacts of the textile industry.

I would like to see all the companies around the world adopting techniques to avoid this harmful process of dying, taking care of their workers and the conditions they work in. I would also like to see encouragement by different brands towards consumers to buy clothes that are sustainable produce and ethically made. I know it can be difficult but not impossible and we need transparency and more education on this topic because this would help consumers make more informed decisions about what they buy and would also help to hold companies accountable for their environmental and social impact. As a future professional, I would like a career in the textile industry with a focus on sustainability and ethical practices like working for a company that prioritizes these values and that provides education and training in sustainable fashion or textile design, which would give me the skills and knowledge to create products that are both environmentally friendly and socially responsible.

Paprika:

Turmeric

T-shirt

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Regan, H. (2020, September 29). Asian rivers are turning black. and our colorful closets are to blame. CNN. https://www.cnn.com/style/article/dyeing-pollution-fashion-intl-hnk-dst-sept/index.html

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READ: Excerpt from Chapter One of Sarah Kettley, *Designing with Smart Textiles.* Using the definitions in Kettley's classification for "Passive Smart, Active Smart, and Very Smart" textiles, **identify 1 example from each category based on the readings** provided in the review list.

Consider the following in your post and replies:

- Classify the textile/garments in the following order: Passive, Active or Very Smart (1 example of each type)
- Briefly explain in your own words how the technology functions, the main components, and why you think this should be categorized as either passive, active, or very smart. (You may quote, but keep these brief and cite quoted materials in text and in the references.)
- Add your opinion: Do you think the design of the garment integrates fully with the technology? Would you wear/buy any of these examples?

Passive smart textiles are fabrics that can detect different types of stimuli in the environment. They do not need a power source to operate, but they can send information to a processor or work without needing to be controlled which can then analyze the data providing feedback to the user. I believe the Dome dress of Iris Van Herpen is categorized as passive smart textile because it does not need a switch to operate it. This dress features a unique dome-like structure around the shoulders and upper body and its design provides several benefits, including increased ventilation and mobility, as well as a striking and distinctive aesthetic. The dress is often made from lightweight and breathable fabrics, which further enhances its functionality. I do not think this dress integrates fully with technology because it does not incorporate any electronic components or sensors, but it is an example of how designers are using innovative shapes and designs to create clothing that is both functional and fashionable. I do not think I would wear this dress, but I do believe it is still an innovative piece of clothing.

Active smart textiles are fabrics that can sense and respond to changes in the environment. They are made by integrating electronic components into the fabric such as sensors, actuators, and microcontrollers which allow the textile to react. They require a power source to operate and can actively change their properties in response to stimuli. An example of this category is fabric LiFi which is a new technology that allows data to be transmitted wirelessly through fabric using light waves (Chandler, 2017). LiFi is like Wi-Fi but uses light instead of radio waves to transmit data. It involves embedding LED lights into the fabric and modulating the light to transmit data. The light waves can then be received by a photodetector on the other end, which converts the light waves back into data. I believe fabric LiFi can be classified as active smart because it requires a power source to operate and can actively transmit data wirelessly through fabric using light waves. In my opinion, this fabric integrates with technology because it uses smartphones, tablets, and laptops that work with adapters that act as a bridge between the LiFi fabric and the electronic device, allowing data to be transmitted wirelessly through the fabric. I would buy and wear it if the fabrics end up being comfortable.

Very smart technology refers to technologies that are highly advanced and sophisticated, often incorporating artificial intelligence, machine learning, advanced sensors, and data analytics. These technologies are designed to be highly interactive and responsive, able to detect and respond to user input and environmental conditions in real-time like creating garments that are not only aesthetically pleasing but also highly functional and interactive which can perform a wide range of functions, such as monitoring the wearer's vital signs, adjusting the temperature of the garment based on the wearer's body temperature, and even communicating with other devices

and systems. For example, the Adidas GMR Play Connected would be considered a very smart technology in textiles. The product combines a wearable sensor and a mobile app to track the user's soccer skills and provide personalized feedback and challenges. The sensor can be placed inside a special insole that can be inserted into any soccer shoe, making it easy to use and customize. The sensor uses advanced motion sensors and machine learning algorithms to analyze athletes' movements and provide insights on their speed, distance, and power, as well as tips on how to improve their skills which are reasons why I strongly believe that this product integrates fully with technology. I would not wear or buy this product right now because I am not looking to improve my performance, but If I would it be an athlete, I would definitely get it.

References

Chandler, D. L. (2017, June 19). *AFFOA launches state-of-the-art facility for prototyping advanced fabrics*. MIT News | Massachusetts Institute of Technology. https://news.mit.edu/2017/affoa-launches-state-art-facility-protoyping-advanced-fabrics-0619

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