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Programme of study: BA Graphic Design

Module Research in Practice (ADAD5004/C)

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Word count: 2525

Within contemporary society aesthetic beauty has become increasingly important with graphic design responsible in part for the advertising and promotion of the ideal beauty. This has resulted in a dependence on beauty being judged on external appearance and this has led to the rise of fast fashion. In this essay I'll examine the key words of environmental, virtual and pattern discussing the environmental impact fast fashion is having on the world, how this can be resolved and how it brings new pathways for designers. With fast fashion detrimentally impacting the environment I will investigate the rise of virtual fashion and how it's changing the fashion world, bringing about new creative pathways for designers. I will consider the history of patterns, the importance of patterns in branding and their evolution in the digital era. Finally, how they connect together and how graphic designers will be able to thrive and lead the push for a more sustainable earth in our fast-paced ever encroaching virtual world.

Environmental is defined as “connected with the natural conditions in which people, animals and plants live” (Oxford dictionary , 2024). The environment is the world that exists around us, ecosystems that have evolved around the globe all connected and working together to survive in harmony for billions of years. But humans have

arguably broken this connection and displaced the natural harmony for their own need for overconsumption. The fashion industry is responsible for 20% of all waste water created, with greenhouse gases released in the making process expected to grow by 50% by 2030 (Bailey et al., 2022) People need water to drink and survive but it's being used to create new trends for people to overconsume with the quantity of waste water being enough for five million people to survive, the UN reported (BBC report, 2021). There is a clear problem in this industry, and it is damaging our planet beyond repair.

Although the fast fashion industry is booming all over the planet, its consequences are becoming clear. But if you live in the global North you probably won't see the environmental impacts of overconsumption. Most of the clothing waste from richer countries is shipped and sold to poorer countries to deal with the problem. By doing this it hides the real impact the industry is having on the planet through dumping it in places they don't deem desirable. 70% of all clothes dumped in clothing bins in Europe and the United States see their final destination in Africa (Lijbaart, 2023). These imports hugely damage the local countries' textile industries, but most of these clothes aren't even fit to wear and are just dumped in landfills choking the ecosystems (Lijbaart, 2023). However, countries like Uganda and Rwanda have started to ban imports of used clothes to stop further damage to society.



Fig 1: *Second-hand clothes landfill on the coast.*

But consumers aren't all to blame, they're victims of fashion retailers' greed to keep us spending more and more by pushing micro trends over social media guilting us into buying more at the expense of the environment. Now thanks to the rise of social media fashion retailers are deliberately making the collection cycle twice as short by creating double the amount they release (Niinimäki et al., 2020). By doing this and using cheap materials and labour they can afford to throw away tonnes of clothes every year. In 2018 H&M had 4.8 billion USD worth of unsold clothes as an after-effect of the fast fashion industry trends, with many of these clothes never even recycled and ending up in landfill (Bailey et al., 2022).

One person who has been very vocal about the fast fashion industry's need to overproduce and greenwash their campaigns is Greta Thunberg. In 2021 Thunberg did an interview with Vogue Scandinavia in which she said "Many are making it look

as if the fashion industry are starting to take responsibility... But let's be clear this is rarely anything but pure greenwashing. You cannot mass produce fashion or consume 'sustainably' as the world is shaped today" (Elan, 2021). The fashion industry despite being responsible for vast amounts of landfill glosses over the issue by making it appear slightly more green. Increasing demand by consumers has increased the production of fast fashion and this has created a negative cycle of advertising, influencing and creating, with no participants in this cycle changing their methods.

Buying second-hand is becoming more desirable but if the vast majority of clothing is still being dumped elsewhere then the issue isn't being solved at all. The destruction of the planet will soon be irreversible but as the world moves more into the digital age with the emergence of virtual fashion increasing, new horizons are arguably opening up for designers to create fast fashion without the environmental impact it has today.

Pattern is defined as "a regular arrangement of lines, shapes and colours" (Oxford dictionary , 2024). Patterns are everywhere, from patterns in nature, showing us the synchronised form of the ecosystem, to the first known patterns created 77,000 years ago by early humans (Morriss-Kay, 2010). A pattern can show anything from a brand to a specific culture; the shapes, lines and colours used signal to people information about the brand, culture or time period, without using words. Pattern work is integral to any design and in the digital age, the need for patterns has expanded even more from those who make it to new uses for branding. 77,000 years ago, in the Blombos caves of South Africa, early humans decided to draw zig-zag patterns on an ochre block (Morriss-Kay, 2010), thus marking the first pattern ever documented (see Figure 2).



Fig 2: *first known documented pattern.*

Although no claims are made by any means that this makes the Blombos cave people artists, it indicates their interest in 'graphical designs' says Chantal Tribolo from Bordeaux Montaigne University who studies early humans' symbolic behaviours. From that point on in history, humans have been obsessed with patterns to decorate all aspects of things from the body to wall art and cultural clothing. Patterns were used to tell stories and tales to connect communities.

Over time the usage of patterns has evolved but the meaning behind them has relatively stayed the same, to show the consumers a sense of familiarity and signify to them memories of what to expect. Patterns can be integral for branding such as the famous Adidas stripes. This simple design of just three white stripes represents to customers everything they need to know about the product without having to write the brand name on it. Arguably the most recognisable brand pattern design has to be the Louis Vuitton monogram pattern, created in 1896 by Georges Vuitton (Vintage,

2023). He designed the pattern to stop imitators from creating counterfeit products. The pattern was created to represent: innovative travel, experiencing different cultures, durability, solidity, and French luxury and authenticity (Vintage, 2023). This has arguably in turn made it one of the most counterfeited brands in the world. This shows how integral the pattern is to branding; People want to wear the pattern to be seen as affluent, which presents to the world this fact.

Although patterns are an integral part of every culture that doesn't mean the designs can be borrowed or used for commercial gain. In 2021 the Mexican minister for culture accused Zara of cultural appropriation (Marriott, 2021). Cultural appropriation is the act of taking or using things from a culture that is not your own, especially without showing or respecting the culture (Oxford Dictionary, 2024). Zara is accused of copying the pattern created and worn by the indigenous Mixteca community of San Juan Colorado in the creation of the dress. The Mexican minister later stated the pattern "reflects ancestral symbols related to the environment, history" (Marriott, 2021), practices of cultural appropriation are still very prevalent in today's society but there is no need for this damaging practice to continue in our modern age.

In this new digital age graphic designers have the technology and resources to create endless pattern designs at their fingertips, in ways that could never have been dreamt of before. The fashion industry doesn't need to look back to the past stealing from ancient cultures and hurting marginalised indigenous communities in the process. In this new era of humanity, the design world has the operativity to create countless creative firsts with programs such as Adobe Photoshop and InDesign. Graphic designers can create new exciting designs that push the creative industry into the future where no community or culture is affected, utilising available resources further signifying what new pattern designs can be achieved in this era

and showcasing the potential graphic designers have to create new patterns for brands and the fashion industry.

Virtual is defined as something “created by computer technology and appearing to exist but not existing in the physical world” (Cambridge dictionary, 2024). Virtual is not something that is based in the real world but rather created by computers. This means virtual products made by code cannot affect the real world; their entire existence doesn’t exist in the physical world. Because virtual products don’t have physical forms, it creates a unique and new way for designers to create endless products without real-world consequences.

In 2018 the Environmental Protection Agency reported that 17 million tons of textile waste ended up in landfills in the United States (ROADRUNNER, 2021). Greed for overconsumption and need to stay up-to-date with trends is arguably killing the planet and fast. But this issue can be solved without people having to change their shopping habits, with digitally made virtual fashion. The real and virtual worlds are becoming increasingly intertwined with people spending an average of 6 hours and 40 minutes a day online (Backlinko Team, 2024) with teens spending 43% of waking hours looking at a screen.



Fig 3: *Gucci Virtual 25*

With young people spending more time in the virtual world, fashion brands especially luxury brands are utilising this by creating virtual fashion lines for popular games such as Fortnite and Roblox and filters for VR headsets. Gucci is paving the way in the field by creating the Gucci Virtual 25 trainers seen in figure 1 (Hahn, 2021).

Gucci teamed up with AR fashion platform WANNA, which itself is an app for people to virtually try on digitally designed fashion. This app provides the opportunity for high-end fashion to become accessible to a wider variety of people as they do not have the excessive price tags attached to them. A pair of digital Gucci shoes on the WANNA app cost \$8.99 substantially less than a real pair; digital shoes can then be 'worn' in Fortnite or Roblox by purchasing them from the Gucci app for \$12.99 (Campbell, 2021).

On the other end of the spectrum in 2021 Dolce & Gabbana collaborated with NFT (non-fungible token) marketplace brand UNXD. The collection of eight NFTs four of which had no physical counterpart, sold for 6 million dollars. The most expensive item, the Dodge crown, sold for 1.3 million dollars, making this collection by far the most expensive digital fashion collection ever sold. This historic sale is proof that fashion brands can still make huge sales from their luxury products in the virtual world. It doesn't matter whether the limited edition items are physical or not people need to collect them, proving that people care and value the virtual world just as much as the real world.

The virtual world has now lifted the barriers on how far our fashion identities could go, creating a whole world of new expressions and designs to be made. The CEO of the fashion tracking company, The Business of Fashion, Imran Amed interviewed

with NPR to talk about the future of the digital fashion world. Within the virtual and gaming world Amed argues “aesthetics in the gaming world are kind of limitless... might have a pair of sneakers with a pair of wings attached to them, or that look like a kaleidoscope that's constantly changing”(Pfeiffer, 2021). A new age for designers is beginning with endless possibilities to discover; dresses made from flowing water or shirts with flame embers flowing from them. He’s also quoted saying “screen wear is the new streetwear in its digital fashion mode” (Joy et al., 2022). Within contemporary society, young people are starting to value how their avatars look online or in the VR world just as much as in-person maybe even more. In the virtual world, you can wear anything and be anyone but virtual fashion doesn’t come without its challenges.

As the increasing demand to use the virtual world increases, so does the use of power to run huge amounts of hard drives to store all the data and servers. The environmental impact of this could set back climate change efforts but companies are making efforts to combat this. Genesis Mining, one of the leading NFT mining companies, has fully switched to 100% renewable energy (Marr, 2023). Despite the possible negative associations with environmental damage, the increasing role of virtual fashion is not only evolving the virtual world but also making changes that will have a lasting impact on landfill.

The world's environment today is arguably being destroyed by humans need to mass produce and over-consume products, with fast fashion being one of the most concerning elements contributing to environmental destruction. We now live in an era of digitalisation where we can create endless designs without any real-world environmental consequences. One particular part of our society often overlooked is Indigenous communities they are often the most hard hit by environmental effects as

well as victims of cultural appropriation, having their cultural patterns stolen for commercial benefit whilst having their ancestral lands destroyed by pollution.

Environmental, virtual and pattern at first thought don't have much in common, the environment is the natural world around us, and the virtual is the man-made digital world in cyberspace. With patterns being created traditionally in the physical world usually for clothes and branding. But these factors are why these words link together. Fast fashion is eroding the environment, but with new technologies, designers now have the creative opportunities to make digital clothing items which bear little to no consequences on the environment.

Graphic designers in my opinion are the key to helping the fast fashion industries stop their effects on the planet while still being able to create new patterns and garments. The relationship between these words can become positive. Virtual fashion not only saves the environment from overconsumption but opens the industry to graphic designers and the creative potential it brings with it. Communities such as indigenous peoples and the global south no longer need their homes destroyed by pollution or their cultures being stolen.

In this digital age graphic designers have the potential to help digitalise and create new creatively unique designs and patterns. Areas of study this could lead me down are creating a fully digital clothing line worn in the virtual world using VR headsets or filters highlighting the environmental impacts of fast fashion. With the collection not being bound by real-world physics showing with the help of graphic designers what potential can be unlocked in the fashion industry. With all this in mind will graphic designers be the key to ending the environmental impact of fast fashion?

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Figure list

Figure 1: Y., Dr. (2020) *Blombos Cave: Earliest known drawing by a human found in Africa Old of 73,000 years, African Heritage*. Available at: <https://afrolegends.com/2020/09/28/blombos-cave-earliest-known-drawing-by-a-human-found-in-africa-old-of-73000-years/> (Accessed: 03 May 2024).

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Figure 3: Hahn , J. (2021) *Gucci releases first virtual sneaker that can only be worn in ar*, *Dezeen*. Available at: <https://www.dezeen.com/2021/03/19/virtual-25-gucci-wanna-digital-sneaker/> (Accessed: 19 April 2024).

