E-Waste… But Make It Fashion

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This research-creation project and accompanying reflection piece are a critical and creative response to two congruent media industries: fashion and electronics. The project – a series of accessories assembled from digital waste – was conceived during an exercise in analyzing media infrastructures led by Dr. Lai-Tze Fan, and explored through my role as a researcher in the Critical Media Lab at the University of Waterloo. It examines the biopolitical categories of being and non-being as they relate to cultural technologies and those who manufacture them, and frames amateur design as a means of hacking the architecture that upholds the "anthrobscene" (Parikka 2014).

It was in Cycle 8, Episode 2 of America's Next Top Model (2007) that Tyra Banks delivered a piece of iconic advice to the contestants: "…but make it fashion." Since then, the moment has inspired an endless stream of memes, suggesting that any subject matter–from emotional baggage (Song 2018), to activating a light switch (Steele 2019), to recent accounts of self-isolation in the wake of the COVID-19 pandemic (Fashion Accord 2020)–can become "fashion." It is in this spirit of transformation and elevation that I present the following research-creation project entitled E-waste…But Make It Fashion. Assembling a series of fashion objects from the remnants of electronic devices demonstrates our collective ability to acknowledge the by-products of exploitive consumerism but also the capacity to make them into something aesthetically expressive and condemning of those same habits.

Connecting Fashion and Electronics as Anthropocenic Media

Lev Manovich (2001), a leading digital culture theorist, describes "the 1990's rapid transformation of culture into e-culture, of computers into universal culture carriers, of media into new media" (32). This "computerization of culture" would not only lead to new cultural forms like video games and virtual reality simulators, but it would also redefine existing visual languages (Manovich 2001, 35). Understanding that fashion is a visual language encoded with fluctuating social meanings, as interpreted by Roland Barthes (1990) and Umberto Eco (2007, 59), and moreover, that clothing is a "cultural technology of industrial society" (Manovich 2001, 212), it is unsurprising that traditionally analog apparel is being computerised and converted into new media. In 2019, a virtual dress was auctioned on a cryptocurrency blockchain for $9500 USD (Yalcinkaya 2019). Digitizing clothing is seen as a natural step in transitioning towards sustainable, environmentally-friendly practices (Yalcinkaya 2019). Today, quick-response manufacturing means brands like Zara and Uniqlo can annually release 840 million garments worldwide with less than a two-week turnaround in production times (Chua 2019; Gustashaw 2017; Hansen 2012). A vast amount of that clothing is constructed from petroleum-derived, ecosystem-clogging synthetic fabrics and promptly returns to the earth, buried in landfills where it will indefinitely remain (Schlossberg 2019). With digital couture, there are no

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microfibers to flush into the oceans and no plastic remnants to become fossilised in once-stylish heaps of garbage. The Fabricant (2019) claim their digital dress is an item "that has never been physical." However, that is simply untrue.

During the Fall 2020 collective showcase of Fashion East, designer Gareth Wrighton debuted a graphic T-shirt, which stated in large, crayon-like lettering, "LAMPS IN VIDEO GAMES USE REAL ELECTRICITY" ("Look 49/60" 2020). Intended as commentary on "our gluttonous consumptive habits" (Mower 2020), the statement piece is a reminder of the material infrastructure which maintains objects that we otherwise accept as purely immaterial. It is often forgotten that digital networks correlate with physical locations. For example, Google processes our internet traffic through massive data centres located around the globe (Holt and Vonderau 2015, 73). These centres have astronomical energy needs: "a single data centre can require more power than a medium-sized town" (Holt and Vonderau 2015, 82). Media distribution is also materialised through "the resources, technologies, labour, and relations that are required to shape, energize, and sustain the distribution of audiovisual signal traffic on global, national, and local scales" (Parks and Starosielski 2015, 5). On this note, it is well documented that the fashion industry is reliant upon unethically obtained labour. The predominantly Asian workforce faces inhumane and abusive conditions to produce the clothes we wear, including extreme levels of gender-based violence at garments factories (Bhattacharjee 2018; Schlossberg 2019). Digital fashion may bypass this element of the supply chain, but the labour used to produce the technologies that virtual outfits are viewed upon is an equally exploitive business. Mining coltan–a mineral that is essential for cellphone manufacturing–relies upon child labour and has led to civil war in the Democratic Republic of Congo, a reminder of "the neocolonial arrangements of material and energy extraction across the globe" that sustains the production of digital gadgets (Parikka 2014, 10). Coltan is then distributed to companies like Foxconn, the largest manufacturer of electronics whose clients include major retailers like Apple and Amazon, which has faced a decade of criticism over the toxic working conditions of their factories ("Apple's Failed CSR Audit" 2018; Condliffe 2018).

The nonchalant acceptance of cycles of planned obsolescence underlines a disregard for the depleted health of the labourers involved in creating the products we crave. For consumers, fashionable outfits and electronics alike are treated as indicators of social relevancy, and the ability to purchase the latest objects is a matter of projecting one's class status (Slade 2007, 50). Once these items are replaced by newer, cooler models, the outmoded versions are viewed as "dysfunctional" and discarded to avoid the "embarrassment" of being behind (Slade 2007, 50). Just as with garment waste, electronic waste (e-waste) continues to live on in the geologic record despite being rendered obsolete by consumer culture (Gabrys 2011, 5; Parikka 2014, 36 and 39). Textile and techno-fossils survive as evidence of human activity on earth, proof of what Jussi Parikka (2014) names the *anthrobscene*. Derived from "the Anthropocene," the anthrobscene is an epoch characterized by "the unsustainable, politically dubious, and ethically suspicious practices that maintain technological culture and its corporate networks" (Parikka 2014, 10). The resulting media objects–new and old–make visible *geontopower*, defined by Elizabeth Povinelli et al. (2017, 171) as the philosophical maintenance of a binary between life/being (*bios*) and nonlife (*geos*). These biopolitical categories are also raised by Jane Bennett in *Vibrant Matter* (2010), a poetic exploration of thing-power and bending the boundaries between what is considered animate and inanimate. Perhaps cultural technologies like clothing or cellphones are not initially viewed as animate objects because they lack a heartbeat and mammalian touch–but does that mean they do not follow bio processes of birth, reproduction, and death? Anthropocenic media infrastructures assign a lifespan to the non-

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living through cycles of fashion and planned obsolescence, revealing their vitality. On the reverse, those charged with constructing cultural technologies are treated as expendable and are dispossessed of their beinghood. Human life becomes geological and coded in terms of value rather than humanity–another Anthropocenic condition (Yusoff 2018, 4). I sought to disrupt the philosophical and materially generative processes shared by the fashion and electronic industries, and to hack the built-to-break architecture of the *anthrobscene*.

Conceptualizing and Creating E-Waste Accessories

Jennifer Gabrys (2011), a sociologist whose research centers around environments and communication technologies, examines the life and death of electronics as well as the significant generation of e-waste built into our social patterns in *Digital Rubbish: A Natural History of Electronics*. In her observations, she notes that e-waste is often "suspended" in peripheral sites like closets and warehouses rather than being eliminated immediately (Gabrys 2011, 89). This debris can be reused and repurposed after it has "died." Resurrected media which bend the circuits of disposal are called "zombie media" by Hertz and Parikka (2012). They cite Marcel Duchamp and Nam June Paik as artists who famously give everyday consumer objects new life through repurposing and reimagining their configurations (Hertz and Parikka 2012, 426). "Digital solutionism," or the tendency to celebrate digitization as the answer to achieving environmental sustainability, praises the immateriality of digital media while neglecting to account for the material harms caused by digital media infrastructures, including social and ecological injustice (Kuntsman and Rattle 2019, 569 and 578). Unsatisfied with the idea of uploading runways as the ultimate solution for the fashion industry and concerned for the future of the existing obsolete devices that I possessed, I decided to use zombie media as my intervention.

I began by calling upon my community to search peripheral sites for materials. I was met with an overwhelming response: laptops, keyboards, USB sticks, and more, left to gather dust and cat hair (of which there was plenty) in the forgotten corners of homes and offices. Gabrys (2011, 8) takes a "fragmentary approach" and works with "the machine in pieces" to chart the multi-layered, multi-spatial record of its vitality–and so I decided to do the same, literally fragmenting the devices gifted to me with hammers, screwdrivers, and various other tools to examine their insides, piece by piece.

I must caution that breaking apart electronics should not be done haphazardly. Gabrys (2011) notes that plastic casing is a vital component of an electronic body (8), but toxic minerals are lurking within (142). While politically and ethically situating her own research-creation project, titled *e-Waste Peep Show; or, on Seeing and not Wanting to be Seen (EWPS)*, Lai-Tze Fan (2021) describes the potential harms of e-waste recycling if devices are not disassembled using careful, but costly, precautions (2021). Accordingly, much of the work of dismantling old devices is "outsourced to poor labourers in parts of East, Southeast, and South Asia–a veritable network of unseen hands in invisible spaces" (Fan 2021). Thanks to capitalist social arrangements, labourers are afforded less animacy, or the quality of *bios*, or being, than the toxic materials they work with (Chen 2012, 15-16). A division is created between desirable consumers, who are typically attributed as white and middle- or upper-class, and the disposable, invisible, poor, and/or racialized labourers (Chen 2012, 174). The rhetorical construction of non-humanness is a racial matter exploited by existing media infrastructures. Choosing to intervene prevented some e-waste from being sent to these recycling facilities to be handled by unseen labourers and instead relied upon my own labour as a white, Canadian

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woman to take apart and reconfigure my medium. However, it also required that I be conscious of my own health by wearing protective gear and ensuring I was in a well-ventilated workspace–choices I am afforded according to structures of privilege. The components I selected for my project were picked based on visual appeal as well as an assessment of risk.

Once I had mechanical innards strewn all over the place, I had to decide what to do with them. Ying Gao, a Montréal-based fashion designer and professor, combines tech and textiles in her robotized clothing projects. Using sensory technologies, Gao creates garments that react to environmental stimuli, such as the gaze or vocal patterns of the viewer (*Incertitudes* 2013; *Neutralité* 2016). Gao's collections embody the biopolitical tensions that define Anthropocenic new media as they seem to blink and breathe, symptoms of vitality in the broadest sense, despite not blinking or breathing for any life-sustaining purposes. Inspired by the paradox of animate inanimate objects but understanding that I lack the same level of knowledge or access to the equipment necessary to produce such sophisticated dresses, I opted to make smaller pieces that would be dictated by the materials I scavenged. As an electronic artist, instead of prioritizing the development of cutting-edge technologies, repurposing provides an opportunity to centre the mundane or obsolete (Hertz and Parikka 2012, 426). Like Fan (2021), I wanted to defamiliarise the experience of these objects to draw attention to consumptive habits and the flexibility of media temporality, but also to inspire others to engage in the same creative tinkering. Thus, e-waste accessories were conceived.

Digital media systems will often build upon existing infrastructure and repurpose it to aid in service distribution, such as cellphone towers strategically placed atop of water towers, marking not only an architectural interdependency but the possibility of generating new market potential based around a single node (Parks and Starosielski 2015, 13-14). I harnessed this logic when designing my project. I used existing holes in microchips to determine where I would place jewellery hooks, revitalizing them as earrings. Then, I concentrated on taking advantage of the existing patterns in translucent plastic foils extracted from a computer keyboard and using them as the focal point of an accessory. Intrigued by the trendy, tiny purses popularized by French high-end womenswear brand Jacquemus, named the *Le Chiquito* clutch (Jacquemus n.d.), I repurposed the keyboard matrix maps into by own tiny bag by adding minor hardware to connect the pieces and attach straps. The resulting design was visually appealing but unfortunately impractical due to the flimsy material. I justify the lack of functionality by the likewise lack of functionality of the miniature *Le Chiquito* clutches but hope to improve the design so that it can be used as any other bag going forward.

Figure 1: Oriana Confente, *Collage featuring e-waste earrings.*

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Figure 2: Oriana Confente, *Collage featuring keyboard matrix purse.*

The objective of crafting accessories from discarded digital technologies was to explore a different type of e-waste recycling which relies upon the labour of the consumer to expand the lifespan of products they purchased but have since become obsolete. I sought to prove that amateur design is possible if you have a few hooks and a pair of pliers, which is essentially all that was needed to achieve the objects presented in this project. My efforts are not exclusive–there are different interpretations of the intersection between e-waste and fashion which have recently attracted attention on social media. Hanne Zaruma (@hannezaruma) affixes outmoded keyboard keys to purses, boots, and other fashion items (February 27, 2020; March 6, 2020). Another user, Tega Akinola (@tegaakinola), uses defective USB cables to personalize sneakers (May 16, 2020). Both of these do-it-yourself artists have increased the uniqueness and appeal of what they wear, as evidenced by public reception and engagement with their posts.

The capitalist exploitation of human and non-human life is a collective issue demanding a collective solution. As consumers, we are complicit in perpetuating systems that imbue digital technologies with *bios*–life marked by an extractive birth and a social death–while simultaneously stripping the humans who create them of their own humanity, to continue refreshing our personal collections with the latest styles. Together, we normalise the exploitation of vitality and excessive resource use as the "banality of unsustainability," accepting violations as an inevitable aspect of existing in a capitalist epoch (Smith 2020, 595) and justifying narcissistic purchases as a society. Gabrys (2011) and Parikka (2014) remind us that social death is not the end of the life cycle for digital devices. Planned obsolescence fosters an anti-thrift mentality, and would have us believe that "ending is better than mending" (Slade 2007, 76). However, repair or re-use practices are critical for the "maker movement," a community generally seen as either the "entrepreneurial and globally distributed phase of capitalism" or a "grassroots anti-capitalist response to globalism" depending on whether or not the output is commodified (Smith 2020, 594). When they are not initiated for profit, do-it-yourself projects are locally based initiatives with global implications. Encouraging others to

reconsider the longevity of the objects they acquired while they were in style and to extend the social lives of those objects by making them into something new, like earrings or a handbag, interrupts the supply chain. It provides an intervention to a capitalist problem which you do not need to be an expert to participate in. By doing it yourself with e-waste, we can hack the anthrobscene together.

Amateur maker projects, like mine and the ones featured on Instagram, reintroduce obsolete media into a new cycle of life. They become "zombies that carry with them history [and] are also reminders of the non-human temporalities involved in technical media" (Hertz and Parikka 2012, 429), offering a mode to critically engage with the biopolitical categories that are implicit in Anthropocenic media manufacturing and consumerism...by making it fashion.

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