

UNVEILING POTENTIAL LANDSCAPES IN THE AGE OF DEMATERIALIZATION AND DIGITAL PROGRESSION

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Data Availability Statement: All relevant data are within the paper and its Supporting Information files.
Competing Interests: The Author(s) declare(s) no conflict of interest

DOI: <https://doi.org/10.36253/fh-3167>

Abstract

Fashion, as a cultural system, has reshaped individual identity and social status, often encouraging irrational and unsustainable consumption. The production of clothing and accessories, supported by a capitalistic and plutocratic system, has placed enormous pressure on the environment. This scenario has led individuals to reflect on their future and reassess their lifestyles and consumption patterns. In an attempt to safeguard their interests, fashion conglomerates are beginning to adopt more sustainable business models. In addition, a future is emerging where belonging and desire will be fulfilled through experiences and digital representations, rather than material possessions. This shift, known as “phygital,” blends physical and digital realms and signals a move toward a post-materialist society. This paper investigates the future of fashion, exploring how the industry might transition to a sustainable model through dematerialization, the fusion of physical and digital experiences, and coexistence of both animism and transhumanist principles. It analyzes the ecological impact of fashion, the rise of conscious consumerism, the integration of “phygital” experiences and the role of transhumanism. Through an exploration of these dynamics, it proposes a vision of prosperity in fashion aligned with the future of sustainability in the paradigm of efficiency and digital progression.

Keywords: *Dematerialization, Consumerism, Hyperobjects, Transhumanism, Phygital fashion*

INTRODUCTION

The Anthropocene, characterized by the significant impact of human activity on Earth's ecosystems, raises critical questions regarding humanity's sustainability practices and future. The fashion industry plays a central role in these discussions due to its environmental footprint. This industry, historically driven by rapid consumption and trend cycles, now finds itself facing a paradigm shift, with growing emphasis on sustainability, digital innovation, and redefined prosperity (Crutzen, 2002). As climate change and biodiversity loss become urgent global issues, there is a pressing need to explore how fashion can adapt in response to ecological and ethical imperatives.

Fashion, traditionally a symbol of personal

identity and social status, has often promoted materialism and waste. However, conscious consumerism, dematerialization, and transhumanist ideals offer new avenues for transforming the industry. This paper examines these interconnected elements, proposing that prosperity in fashion can be achieved through sustainable practices and digital evolution. The analysis of this phenomena follows a secondary and ethnographic research methodology structured in 5 phases:

1. The Ecological Footprint of Fashion.
2. The Rise of Conscious Consumerism.
3. Transhumanism and the Evolution of Fashion
4. Phygital Fashion and the Shift Toward Dematerialization
5. Policy, Innovation and Systemic Change.

THE ECOLOGICAL FOOTPRINT OF FASHION

The environmental ramifications of the fashion industry extend across multiple dimensions, involving not only the depletion of natural resources but also the exacerbation of pollution and greenhouse gas emissions. This industry, deeply embedded in global trade and consumer culture, represents one of the most environmentally intensive sectors of the modern economy. As reported by the United Nations Environment Programme (UNEP), fashion contributes roughly 10% of global carbon emissions, a staggering figure that surpasses the combined emissions from international aviation and maritime shipping (UNEP, 2021). This highlights fashion's disproportionate role in accelerating climate change, placing it at the center of environmental discourse.

CARBON EMISSIONS AND CLIMATE CHANGE

The energy demands of the fashion supply chain are a key driver of its carbon footprint. From the extraction of raw materials to textile production, dyeing, and global distribution, each stage of the garment lifecycle is heavily dependent on fossil fuels. For instance, coal-fired power plants often fuel textile factories in countries like China, India, and Bangladesh, exacerbating the industry's reliance on non-renewable energy. Additionally, the frequent transportation of raw materials and finished products across continents—by air, sea, and road—compounds the industry's carbon emissions.

Luxury and fast fashion brands alike are beginning to address their climate responsibilities by setting carbon neutrality targets. For example, Patagonia has invested heavily in renewable energy for its operations, while fast fashion giant H&M has pledged to achieve a climate-positive supply chain by 2040. However, critics argue that these commitments often fall short of addressing systemic overproduction and waste (Business of Fashion, 2024).

WATER USE AND POLLUTION

Water consumption represents another critical issue. Producing a single cotton T-shirt requires approximately 2,700 liters of water, equivalent to what one person drinks in over 2.5 years (WWF, 2021). This water-intensive nature of cotton cultivation exacerbates water scarcity in vulnera-

ble regions, particularly in countries like India and Uzbekistan, where rivers and aquifers have been drained to support cotton farms. Furthermore, textile dyeing, which contributes up to 20% of global industrial water pollution, releases toxic chemicals into water bodies, contaminating ecosystems and posing serious health risks to local communities.

Efforts to mitigate water consumption and pollution have led to innovative solutions, such as waterless dyeing technologies and the development of drought-resistant cotton varieties. Brands like Levi Strauss & Co. have adopted waterless techniques in their denim production, significantly reducing water use. However, widespread adoption of such practices remains limited, particularly among smaller manufacturers with constrained resources.

SYNTHETIC MATERIALS AND MICROPLASTICS

The fashion industry's increasing reliance on synthetic fibers like polyester, nylon, and acrylic has introduced another environmental challenge: microplastic pollution. Synthetic fabrics shed tiny plastic particles during washing, which make their way into rivers, oceans, and ultimately the food chain. A study by Napper and Thompson (2016) revealed that a single load of laundry can release up to 700,000 microplastic fibers, underscoring the pervasive nature of this issue.

The accumulation of microplastics in marine ecosystems exemplifies Timothy Morton's concept of "*hyperobjects*"—phenomena so vast and complex that they transcend human comprehension (Morton, 2018). The impact of microplastics extends beyond aquatic environments, as they are ingested by fish and other marine organisms, ultimately affecting human health through bioaccumulation. Efforts to combat this problem include the development of filtration devices for washing machines and the use of alternative, biodegradable fibers in clothing production.

THE ROLE OF FAST FASHION

At the heart of fashion's ecological crisis lies the fast fashion model, characterized by rapid production cycles, low-cost garments, and a culture of disposability. Brands like Zara, H&M, and Shein epitomize this model, producing new collections every few weeks to capitalize on shifting consumer trends. While this approach democratizes access to fashion, it perpetuates a throwaway culture

that results in staggering levels of textile waste. According to the Environmental Protection Agency (EPA), approximately 85% of textiles produced annually—equivalent to 21 billion pounds—end up in landfills (EPA, 2019).

This waste burden is compounded by the use of non-biodegradable synthetic fabrics, which can take hundreds of years to decompose. Moreover, the low quality of fast fashion items discourages reuse and repair, further accelerating their disposal. Addressing this issue requires a fundamental shift away from the fast fashion model toward circular fashion systems, where garments are designed for durability, recyclability, and minimal environmental impact.

MOVING TOWARD SUSTAINABLE PRACTICES

In response to mounting criticism, the fashion industry is exploring pathways to sustainability. Key strategies include adopting sustainable materials, implementing circular economy principles, and leveraging technology to minimize resource use. For example, the use of organic cotton, hemp, and recycled fibers is gaining traction as eco-friendly alternatives to conventional textiles. Meanwhile, brands like Stella McCartney and Eileen Fisher are pioneering take-back programs that encourage consumers to return old garments for recycling or resale.

Policy interventions also play a crucial role in driving industry-wide changes. The European Union's Circular Economy Action Plan, for instance, mandates extended producer responsibility (EPR) for textiles, requiring brands to finance the collection, sorting, and recycling of their products. Carbon taxes and stricter environmental regulations are further incentivizing brands to reduce their ecological footprints.

HYPEROBJECTS AND SYSTEMIC CHALLENGES

The environmental crises tied to fashion are deeply interconnected, forming a complex web of challenges that demand holistic solutions. Timothy Morton's concept of *hyperobjects*—phenomena like climate change and plastic pollution that are too vast to be fully understood or resolved by individuals—captures the systemic nature of these issues. Addressing *hyperobjects* requires collective action across industries, governments, and communities (Morton, 2018).

The transition to sustainable fashion necessitates a shift in consumer culture as well. Moving away from the disposable ethos of fast fashion toward valuing quality, longevity, and minimalism is essential. Initiatives like Fashion Revolution's #WhoMadeMyClothes campaign (2020) are empowering consumers to demand greater transparency and accountability from brands, fostering a culture of conscious consumption.

The environmental impact of fashion is a multifaceted challenge that touches on carbon emissions, water use, synthetic materials, and waste. While significant progress has been made in developing sustainable practices, systemic change is essential to address the industry's ecological footprint comprehensively. By embracing innovation, policy reform, and consumer awareness, fashion has the potential to redefine itself as a force for environmental stewardship in the Anthropocene. Only through such collective efforts can the industry reconcile its cultural significance with its responsibility to the planet.

THE RISE OF CONSCIOUS CONSUMERISM

Conscious consumerism reflects a growing desire to align consumption habits with ethical and environmental values. Yet, this shift can also be understood through the lens of animism and transhumanism—two contrasting yet complementary philosophical paradigms that offer unique perspectives on humanity's evolving relationship with technology and nature.

ANIMISM: REDEFINING CONSUMER RELATIONSHIPS WITH THE MATERIAL WORLD

Animism, as defined by Tylor (1871) and expanded upon by Edelkoort (2020, 2022), embodies a worldview where every object, living or non-living, possesses a soul or intrinsic value. This philosophy inspires a more harmonious relationship with the environment and challenges the disposability that characterizes contemporary fashion. For example, Edelkoort's advocacy for slow design underscores the potential of animist principles to revolutionize fashion production. By imbuing objects with "energy, beauty, and aura," animism encourages designers and consumers to treat clothing as meaningful artifacts rather than disposable commodities.

Animism also intersects with conscious consumerism by emphasizing emotional durability and craftsmanship in products. Gao (2021) suggests that animist societies view artifacts as extensions of the human spirit, fostering a culture of empathy and respect for materials. This outlook directly counters the wastefulness of fast fashion, urging consumers to prioritize longevity and sustainability in their purchasing decisions.

Social media campaigns such as #WhoMadeMyClothes echo animist ideals by drawing attention to the human labor and environmental resources embedded in each garment. These movements bridge ancient animist values with modern digital activism, demonstrating how the interconnectedness of humans, objects, and nature can influence consumer behavior. Animism, therefore, provides a philosophical foundation for a sustainable fashion ethos, reconnecting individuals with the material origins of their clothing (Fig. 01).

TRANSHUMANISM: REIMAGINING FASHION IN A DIGITAL AGE

While animism emphasizes a deep connection to the physical world, transhumanism offers a contrasting vision by focusing on the enhancement of human capabilities through technology. As Bostrom (2003) and Bohan (2018) articulate, transhumanism seeks to transcend biological and material limitations, suggesting new possibilities for fashion's evolution. Digital fashion, for instance, represents a transhumanist approach to sustainability. By creating virtual garments that exist solely in the digital realm, the industry can reduce its reliance on physical resources while meeting the expressive needs of consumers.

The rise of “phygital” experiences—a blend of physical and digital interactions—demonstrates how transhumanist principles are reshaping fashion. Virtual try-ons, augmented reality (AR) fashion shows, and blockchain-enabled transparency reflect a future where technology enhances consumer choices while minimizing waste. These innovations align with Bostrom's (2003) vision of “radical improvement” by enabling sustainable consumption patterns without sacrificing creativity or self-expression.

However, transhumanism's integration into fashion raises ethical considerations. Critics argue that the emphasis on digital transformation may alienate marginalized groups who lack access to technology, further entrenching inequalities. Additionally, the proliferation of virtual

fashion could perpetuate consumerism in new forms, contradicting the sustainability goals it seeks to achieve. To reconcile these tensions, the fashion industry must adopt a balanced approach that combines the human-centric values of animism with the technological aspirations of transhumanism.

BRIDGING ANIMISM AND TRANSHUMANISM: TOWARD A SYMBIOTIC FUTURE

Although animism and transhumanism appear to be opposing paradigms, they converge in their potential to redefine humanity's relationship with consumption and the environment. Animism's emphasis on respect for the material world complements transhumanism's vision of digital innovation, offering a holistic framework for sustainable fashion. For instance, combining animist-inspired slow design with transhumanist digital tools could create garments that are not only sustainable but also deeply meaningful.

Fashion brands can harness these philosophies to foster a more inclusive and ethical industry. By integrating animist values of interconnectedness with transhumanist technological advancements, the industry can move toward a post-materialist society where experiences, rather than objects, define prosperity. As Picq (2019) suggests, the convergence of human, natural, and artificial intelligences offers an opportunity to build a more equitable and sustainable future.

TRANSHUMANISM AND THE EVOLUTION OF FASHION

Transhumanism, a philosophical movement advocating for the enhancement of human abilities through technology, has profound implications for fashion. In a transhumanist context, fashion can evolve to serve functional roles that extend beyond aesthetics, incorporating technologies that enhance physical and mental capacities. Han (2022) describes transhumanist ideals as encompassing super well-being, super longevity, and super intelligence, which can be supported by clothing that monitors health metrics or responds to environmental conditions.

Wearable technology, such as fitness trackers or biosensor-equipped garments, represents a convergence of fashion and transhumanism. These innovations align with sustainability by emphasizing durability and multifunction-



Fig. 01

ality, potentially reducing the need for excessive consumption. As advancements continue, future garments might incorporate adaptive features that respond to weather changes or offer augmented strength, shifting fashion's focus from aesthetics to performance.

Transhumanism also intersects with dematerialization, as fashion may increasingly exist in virtual or augmented reality environments. This evolution raises philosophical questions about identity and authenticity in digital spaces, particularly as individuals adopt virtual avatars and digital attire. The ethical implications of transhumanist fashion are significant, as access to wearable enhancements may be limited to those who can afford them, exacerbating existing inequalities. Addressing these challenges is crucial to ensuring an inclusive and equitable future for fashion.

PHYGITAL FASHION AND THE SHIFT TOWARD DEMATERIALIZATION

The fusion of physical and digital realms in fashion, or "phygital fashion," represents a transformative development. Phygital fashion includes digital-only

garments (Fig. 02), virtual fittings, and augmented reality experiences, allowing consumers to interact with brands without generating physical waste (Morton, 2018). This shift aligns with the concept of dematerialization, where experiences replace material possessions as markers of status and identity.

After the acceleration of the digital world brought on by the pandemic, brands are currently facing numerous challenges. The main one is arguably the use of digital technology per se. Although we have always been used to a certain kind of consumption and to certain products, in the last four years these have undergone several changes fueled by the rise of digital dicit. Metaverse, through which users gain access to a virtual world, offers brands a new and vast world to explore, giving them the opportunity to present themselves in a different way and above all, the possibility to create the most diverse kinds of products in the form of NFTs. The latter are unique cryptographic tokens that exist on a blockchain and cannot be replicated. They are usually associated with visual assets such as images or videos, but they are also used to record ownership of physical assets such as real estate, artwork and, more and more often, clothing. Fashion NFTs can take many forms, including virtual clothing that customers can wear in virtual environments, digital content that owners can interact with, and useful authentication assets (Durocher, 2022). Many brands have already joined this futuristic strategy, also to capture the attention of the younger generations who play a pivotal role in the current fashion market.

This presence in the metaverse and the use of NFT's has intensified over the last three years, with the rise of the need for interaction at a distance and the somewhat unconscious dream of having access to a parallel world - also - to detach from what is happening around us, has become. Needless to say, this full immersion in the digital world is the basis for Transhumanism. Animism can also be considered a consequence of the pandemic, originating from the desire for a deeper connection with nature fueled by being in lockdown.

Digital fashion brands like The Fabricant exemplify this trend, creating virtual clothes that consumers can wear in online spaces (McDowell, 2023). The adoption of non-fungible tokens (NFTs) further enhances the digital fashion experience, enabling consumers to own exclusive digital



Fig. 02

items verified by blockchain. Gucci's 2021 launch of NFT sneakers illustrates how luxury brands are integrating digital fashion into their business models, combining exclusivity with sustainability (Nanda, 2021).

While phygital fashion has the potential to reduce resource dependency, it also introduces new sustainability challenges. Blockchain technology, which underpins NFTs, is energy-intensive and generates considerable carbon emissions. Addressing this paradox requires exploring sustainable blockchain alternatives to ensure that digital fashion remains ecologically viable. As society increasingly embraces digital experiences, the potential for dematerialized fashion to redefine consumer culture becomes evident, offering a pathway to sustainability through reduced material dependency.

POLICY, INNOVATION AND SYSTEMIC CHANGE

While consumer-driven changes and technological advancements represent significant steps forward, systemic change is necessary to address the fashion industry's environmental footprint. Policy interven-

tions, including carbon taxes, extended producer responsibility (EPR) programs, and sustainable certification standards, play a central role in this transition. The European Commission (2020) advocates for EPR as a mechanism to hold companies accountable for their products' end-of-life disposal, encouraging sustainable design practices.

Technological innovation is another pillar of systemic change. Advances in materials science, such as the development of biodegradable fabrics and lab-grown textiles, offer sustainable alternatives to traditional materials. Biotechnology firms like Bolt Threads are pioneering lab-grown silk, which reduces reliance on resource-intensive materials. Similarly, 3D printing technology allows for customized production, minimizing waste and enabling efficient resource use (European Commission, 2020).

Systemic change requires a collaborative effort among governments, brands, and consumers. By aligning regulatory frameworks, incentivizing sustainable practices, and fostering transparency, the fashion industry can transition toward a model that prioritizes ecological responsibility. Through these combined efforts, fashion can redefine prosperity, emphasizing connection, durability, and sustainability over material accumulation.

CONCLUSION

The fashion industry, emblematic of human creativity and cultural expression, stands at a pivotal crossroads in the Anthropocene era. Once a driver of materialism and rapid consumption, it now faces increasing scrutiny for its significant ecological footprint and contribution to global environmental crises. From carbon emissions and water overuse to microplastic pollution and systemic waste, the traditional model of fashion production has proven incompatible with the planet's ecological limits. However, within this crisis lies an opportunity for transformation, one that reimagines fashion as a force for sustainability, innovation, and ethical consciousness.

Central to this redefinition is the rise of conscious consumerism, which challenges the disposability culture underpinning fast fashion. Drawing on animist principles that attribute intrinsic value to objects, this movement fosters respect for the craftsmanship and resources embodied in garments. By encouraging longer product lifecycles and promoting emotional durability, animism

aligns with slow design practices that counteract the industry's relentless pace. Simultaneously, transhumanist ideals and technological advancements present opportunities to reconfigure the fashion landscape. The integration of wearable technologies and digital garments, for instance, not only reduces reliance on physical resources but also allows consumers to engage in expressive, sustainable fashion experiences within the virtual realm. This transition reflects the broader shift toward a dematerialized society where value is increasingly placed on experiences and digital assets over physical possessions.

The concept of “phygital” fashion—blending physical and digital realms—epitomizes the industry's potential for innovation. Digital-only garments, virtual try-ons, and non-fungible tokens (NFTs) are reshaping consumer interactions, offering environmentally conscious alternatives to traditional consumption patterns. Despite their promise, these advancements are not without challenges. Blockchain technology, a cornerstone of digital fashion, is energy-intensive, raising concerns about its carbon footprint. As the industry embraces digital transformation, it must balance technological progress with sustainability by exploring greener blockchain solutions and reducing the environmental cost of innovation. Policy frameworks and systemic change are essential to complement consumer-driven shifts and technological advancements. Initiatives like the European Union's Circular Economy Action Plan and extended producer responsibility (EPR) programs incentivize sustainable design, promote transparency, and hold brands accountable for their environmental impact. In parallel, innovations in materials science, such as lab-grown textiles and biodegradable fabrics, offer scalable solutions to reduce resource dependency. Collaborative efforts among governments, industries, and consumers are critical to embedding these changes within the fabric of the global fashion system.

As the fashion industry navigates this transformative period, its future will hinge on its ability to reconcile ecological responsibility with creative expression. By integrating animist respect for materiality, transhumanist aspirations for technological enhancement, and systemic policies supporting sustainability, the industry can redefine prosperity for the Anthropocene. This vision of post-materialist fashion—where identity and social status are no longer tied to material accumula-

tion—offers a path forward that is both innovative and equitable. Ultimately, the fusion of ethical values, cutting-edge technology, and collective action has the potential to position fashion as a leader in the global shift toward sustainability and environmental stewardship.

CAPTIONS

[Fig. 01] Hungarian Farmers. Stekovic, J. Retrived from <https://monovisions.com/two-identical-twin-farmers-at-the-end-of-their-lives/>

[Fig. 02] Cyber Contactless Coat. Tribute. 10 Magazine. Retrived from <https://10magazine.com/tribute-brand-contactless-digital-fashion/>

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