



---

# JUST FASHION

---

Redressing the Global Environmental Injustice of Fast Fashion



University of  
St Andrews

**By**  
Indigo Jones  
160007449

Date of Submission: 06.05.2020

Word Count: 12,440

This dissertation is submitted in part requirement for the Degree of M.A. (Honours with International Relations) at the University of St Andrews, Scotland. By electronically submitting this dissertation I affirm that it solely the work of the above named candidate.

## Abstract

The fashion industry is completely unregulated. Hence contemporary ‘fast fashion’ (FF) is unchecked capitalism, operating on near-exclusive production in the Global South (GS), secrecy in the supply chain, hyperconsumption and garment disposability. Such practices overburden the GS with the ecological costs of fashion production while the Global North (GN) reaps the economic profit. This constitutes global ecologically unequal exchange (EUE). I argue EUE is a global environmental injustice. The participatory injustices of EUE include colonialism’s institution of unequal economic starting positions of the GN and GS; neoliberal trade law systematically exploiting the GS’s finite resource base; and market pricing masking the unfair distribution of ecological harm and economic gain. Such unjust institutional context begets ecological and economic maldistribution. As a manifestation of EUE, FF must be considered global environmental injustice: FF denies the GS recognition of their social ecological needs; representation in political and economic institutional decision-making affecting ecology; and equitable distribution of the benefits and burdens of ecological space utilization in fashion production.

To redress this injustice, I forward a three-fold normative proposal. First, I argue for the international institution of blockchain technology along the fashion supply chain. Next, I assert the Treaty for Just Fashion to establish participatory environmental justice (PEJ) in determining global regulations of FF. Finally, I develop the Ecological Space Overconsumption Tax (ESOT) on FF multinational corporations (MNCs) for overconsumption of ecological space in the GS. The Treaty and Tax allow the GS to economically value their own ecologies. This shifts where economic value lies along the fashion supply chain: the capacity to valorize ecological space becomes the key determinant of wealth. Redistribution thus takes the form of economic revaluation. By establishing democratically constructed global regulatory principles for the fashion industry, and penalizing any transgression of such principles, the Treaty and Tax initiate environmentally just fashion.

## Dedications

I would like to thank Dr. Hayden for his patience with my inane ramblings and interminable homilies consuming far more than my fair share of his office hours. I would also like to thank the Kempleys for providing shelter, coffee and the dining room table at which most of this dissertation was written.

Finally, I thank my mother for instilling in me a love of fashion and the desire to pursue what is right, and my father for teaching me the beauty of the planet's environment.

And to the world's self-appointed fashion police: fight on.

## Table of Contents

CHAPTER ONE: INTRODUCTION.....	5
<i>What is Fast Fashion?</i> .....	5
<i>Terminology and Methodology</i> .....	8
CHAPTER TWO: ENVIRONMENTAL JUSTICE THEORY .....	11
<i>Introduction</i> .....	11
<i>Participatory Environmental Justice</i> .....	13
<i>Distributive Environmental Justice</i> .....	14
<i>Conclusion: What is Global Environmental Justice?</i> .....	19
CHAPTER THREE: FAST FASHION AS GLOBAL ENVIRONMENTAL INJUSTICE .....	20
<i>Introduction</i> .....	20
<i>World-System Theory and Ecologically Unequal Exchange Theory</i> .....	21
<i>Ecologically Unequal Exchange as Environmental Injustice</i> .....	24
<i>Fast Fashion as Ecologically Unequal Exchange</i> .....	26
<i>Conclusion</i> .....	32
CHAPTER FOUR: THE TREATY FOR JUST FASHION AND ECOLOGICAL SPACE OVERCONSUMPTION TAX .....	34
<i>Introduction</i> .....	34
<i>Potential Redressals of FF as a Global Environmental Injustice</i> .....	35
<i>Three Stage Proposal for Redressal of FF as a Global Environmental Injustice</i> .....	37
<i>Normative Defense</i> .....	41
<i>Practical Defense</i> .....	45
<i>Conclusion</i> .....	46
CHAPTER 5: CONCLUSION .....	47
<i>Findings</i> .....	47
<i>Research Limitations and Future Enquiry</i> .....	47
BIBLIOGRAPHY .....	49

## **Abbreviations**

GS – Global South

GN – Global North

FF – Fast fashion

MNC – Multinational Corporation

EJ – Environmental justice

PEJ – Participatory environmental justice

DEJ – Distributive environmental justice

EUE – Ecologically Unequal Exchange

WST – World Systems Theory

FDI – Foreign direct investment

ESOT – Ecological Space Overconsumption Tax

GHG – Greenhouse Gases

## **Chapter One: Introduction**

### **What is Fast Fashion?**

Fashion is the third largest industry in the world (Environmental Audit Committee (EAC), 2019; Francis, 2014). The fashion supply chain includes raw materials, woven fabrics, partially assembled clothing, ginning, spinning, wet processing, dyeing, fully assembled clothing with trim (zippers, labels, buttons, laces), and sales (Anguelov, 2016; Fashion Revolution, 2019). Hence fashion is one of the most labor-intensive industries in the world, employing one in six people on the planet (Thomas, 2019). Yet the industry is completely unregulated. In the 1990s, founder of Zara Amancio Ortega Gaona recognized the fashion industry, unencumbered by governance, as an opportunity for limitless economic growth. He abandoned the traditional two-season year to develop 'fast fashion' (FF): the appropriation of high-end designs (patterns, silhouettes, etc.) reproduced rapidly with cheap fabrics to be sold at significantly lower prices (Cline, 2013; Schlossberg, 2019; Thomas, 2019). FF brands, such as Zara, H&M, and Topshop, merely design and sell clothing; all in-between stages are subcontracted or offshored (Cline, 2013). Inexpensive materials and labor allow for the constant mass production of affordable clothing; Zara now offers 24 new collections annually in its 2,200 stores spanning 96 countries (Thomas, 2019). Proponents of fast fashion argue that such developments have 'democratized' fashion, making high-end style accessible to the middle-market consumer (Fletcher, 2010). Other advocates argue that the garment industry has a historical legacy of 'national industrial upgrading' by allowing states to develop their economies (Anguelov, 2016). However, scholars who contest FF argue that the social and ecological costs occurring at every stage of the fashion supply chain heavily outweigh these benefits.

Most notably, FF has four characteristics contributing to its ultimate iniquitousness: near-exclusive production in the GS, secrecy in the supply chain, hyperconsumption and garment disposability. First, FF MNCs of the GN offshore production to the GS, yet reap nearly all the economic gain of fashion production. Fifteen nations of the GS including ‘India, Pakistan, Bangladesh, Egypt and Turkey, account for 90% of global textile exports and 80% of global clothing exports’, while the EU and US account for two thirds of global garment consumption (Anguelov, 2016: 46). Further, according to McKinsey’s State of Fashion 2019 Report, 20 companies account for 97% of global economic profit in the fashion industry (Amed, Andersson, Berg, Balchandani, Hedrich, & Young, 2019). Brands include Nike, LVMH and Inditex. The report states that European luxury companies ‘tended to be overrepresented’ in this top 20 list, ‘with North American companies coming in a close second’ (Amed et al., 2019).

Problematically, the production stages that occur in the GS have severe, but invisible, social and environmental costs as no governance holds FF MNCs accountable. A Behind the Barcode report found that of the 219 surveyed retailers, 91% were not fully knowledgeable about the origins of their cotton, 75% were unaware of the source of their fabrics, and only 50% could trace where their garments were cut and sewn (Nimbalker, Mawson & Cremen, 2015). The untraceable nature of the supply chain hides a) the scattering of production around the GS and b) the environmental impacts of production. The most recent analysis by Fashion Revolution has found that only 19.5% of brands disclose their carbon emissions in the supply chain—where over 50% of the industry’s emissions occur (Fashion Revolution, 2019).

FF has only expedited, expanded and entrenched such environmental evisceration by promoting hyperconsumption and ‘disposable’ clothing. The GN purchases 400% more clothing today than 20 years ago: nearly fourteen garments per person on earth are produced

annually (Adamczyk, 2014; Remy, Speelman and Swartz, 2016). Fast fashion conglomerates H&M and Forever 21 get daily shipments of new styles, while Topshop introduces four hundred new styles on its website each week (Cline, 2019). This haste has spread across *all* European apparel companies, in which the average number of collections has increased from bi-annually to five a year (Remy et al., 2016). FF garments are cheaply made (i.e. not built to last), sold at shockingly low prices, and posthaste out of vogue. Hence consumers keep clothes for half as long as they did 15 years ago (Remy et al., 2016). In fact, consumers discard 60% of purchased clothing within a year of it being made (Schlossberg, 2019). The average American alone throws away 80 pounds of clothing a year, compounding to over 11 million tons of textile waste in the US annually (EPA, 2017). The UK dumps 9,513 garments every five minutes while the EU discards 5.8 million tons of apparel and textiles every year (Kerr and Landry, 2017).

Less than 1% of materials used in garment production is recycled into new clothing, thus textiles and garments become solid waste (Ellen Macarthur Foundation (EMF), 2017). The GN exports such post-consumer waste, making the GS both a ‘tap’ for raw materials and a ‘sink’ for manufacturing pollution and secondhand clothing (Jorgenson, 2016). There remains an ‘information void’ of the total environmental damage in FF due to a ‘notable lack of integrative research into the whole system’ (Anguelov, 2016: 104). Further, there is little comprehensive research into how the immense social and environmental costs of FF disproportionately affect the GS. I seek to address this literary ‘void’ at the nexus of fashion and environmental justice.

FF is unchecked capitalism, a parasitic vine sapping the ecology of the GS. Unregulated, FF operates according to economic dictums (namely, trade law and market pricing) determined and maintained by the GN exploiting the ecology and people of the GS for economic gain.

Therefore, I argue that due to its a) contingency on exclusive world-economic structures and b) inequitable distribution of economic benefits and ecological burdens, FF constitutes global environmental injustice against the GS. In this dissertation I forward a novel normative proposal for redressal: The Treaty for Just Fashion, establishing participatory environmental justice, and the Ecological Space Overconsumption Tax, enforcing compliance with the global regulations established under the Treaty and, consequently, ensuring distributive environmental justice.

### **Terminology and Methodology**

For the purposes of clarity, I briefly elucidate key terminology. In practical application to the fashion industry, the GN functions as the ‘core’ of World Systems Theory and the ‘global affluent’ of global justice theories, while the GS is the ‘periphery’/ ‘global poor’. Thus, while I recognize that the core/periphery and global affluent/global poor distinctions do not perfectly overlap the GN/GS distinction, I transition from the theoretical terms to GN/GS when analyzing how FF exemplifies the environmental injustice of EUE. Hence, I use the terms core, global affluent and GN interchangeably and consider the periphery, global poor, and GS terminologically the same. I do not wish to generalize the world into an over-simplistic binary of GN/GS. However, the mechanisms of the fashion industry operate according to this global distinction: within fashion, the nations of the GS are the producers (i.e. the periphery) for the consumers and profiteers of the GN (the core). Thus, while I wish to avoid naturalizing harmful us/North/affluent vs them/South/poor categorizations of society, these remain the most accurate groupings to depict the agents of FF.

‘Ecology’, the ‘environment’ and ‘natural resources’ refer to economically unvalorized, naturally occurring substances (both biotic and abiotic). Examples include petroleum, water,

and land. ‘Pollution absorptive capacity’ is the Earth’s ability to reintegrate the by-products of modern human life such as CO<sub>2</sub> emissions, wastewater, etc. ‘Textile’ refers to the material constituents of garments including yarn, fabric, and fibers. ‘Transparency’ in the fashion supply chain indicates the ‘public disclosure of sourcing relationships and of companies’ social and environmental policies’ (Fashion Revolution, 2019). Finally, I note the distinction between environmental justice as ‘justice among humans on environmental issues’ and *ecological* justice as ‘justice toward the natural world’ (Schlosberg, 2001: 1). This dissertation will focus solely on the former. Chapter Two defines in detail ‘global environmental (in)justice’ and ‘ecological space’.

Methodologically, I completed critical qualitative analysis informed by primary textual research utilizing Global and Environmental Justice Theories, Postcolonial Theory, World Systems Theory, and Ecologically Unequal Exchange Theory. I utilized these theoretical lenses to depict the larger political and economic frameworks within which FF operates, and gathered empirical research from transparency reports, economic development reports, watchdog NGOs, and industry experts to indicate how FF manifests these larger theorized structures. Statistics regarding the social and environmental costs of FF, and how FF disproportionately affects the GS, operate as preexisting quantitative data gathered to substantiate my analysis. In this way, FF could be understood as a case study of WST, EUE and theories of justice. Theories of participatory, distributive and environmental justice depict *why* FF must be considered a global injustice, while ecological economic theory and post-colonialism explain *how* FF constitutes global environmental injustice. Such theories of global and environmental justice inform my normative proposal in Chapter Four. I also employ post-colonial theory to counterbalance theories of justice that risk slipping into a ‘rhetorical structure [that] reinforces a hierarchical relationship’ and denies agency to the global poor/South (Kohn, 2013: 193).

Chapter Two elucidates the theoretical foundation of this dissertation and defines global environmental justice in terms of both participatory and distributive justice. Chapter Three specifies FF as the global environmental justice of EUE, originating from exclusive and unjust colonial and neoliberal economic world structures. Finally, I develop my normative proposal for redressal in Chapter Four: the globally mandated institution of blockchain technology, the Treaty for Just Fashion, and the nationally enforced Ecological Space Overconsumption Tax. In Chapter Five I call attention to the limitations of this study and opportunities for future research.

## **Chapter Two: Environmental Justice Theory**

### **Introduction**

This chapter establishes the normative theoretical grounding of environmental justice (EJ). Traditionally, EJ has been defined in exclusively distributional terms. This approach, however, ignores how institutional context and decision-making processes determine distribution (Young, 1990). Thus, I step away from the ‘distributive paradigm’ in theories of justice to define EJ in both participatory and distributive terms. This chapter will first explicate Iris Young’s and Nancy Fraser’s respective theories of justice to develop the participatory requirements of EJ. Following the assertions of Young and Fraser, I argue participatory environmental justice (PEJ) can be understood as a) recognition of social ecological needs and b) representation in political and economic institutional decision-making affecting ecology.

I then turn to discussions of distributive environmental justice (DEJ) theory. Space precludes addressing in greater detail all core DEJ debates. The DEJ debate most prevalent to this dissertation is that of how to fairly allocate resources and permit pollution between the global affluent and global poor. The third section of this chapter assesses the respective normative assertions of Henry Shue, Thomas Pogge and Tim Hayward on how to ethically address distributional environmental injustice. Ultimately, I define EJ as the recognition of social ecological needs; representation in political and economic institutional decision-making affecting ecology; and equitable distribution of the environmental burdens and economic gain produced by ecological space utilization.

## **Participatory Justice: Iris Young and Nancy Fraser**

Iris Young (1990) critiques the distributive paradigm for failing to question the institutional context<sup>1</sup> that determines distribution. Young does not refute the importance of fair distribution; she simply seeks to consider ‘procedural issues of participation’ in determining such distribution (Young, 1990: 34). The naturalization of institutional context obfuscates how domination, oppression and maldistribution occur. Thus Young (1990) questions who *constructs* and *participates* in institutional decision-making, defining ‘social justice’ according to the following principle: ‘For a social condition to be just, it must enable all to *meet* their needs and exercise their freedom; this justice requires that all be able to *express* their needs’ (Young, 1990: 34, emphasis added).

Nancy Fraser (2009) develops a tripartite notion of social justice as redistribution, recognition and representation. Redistribution encompasses the economic and material ‘what’ of justice; social recognition addresses the cultural ‘who’; and political representation entails the institutionalized ‘how’ of decision-making processes. Fraser also identifies systems of ‘framing’ justice. Framing determines the (non)members of a community, and therefore, who is entitled to participate in issues of justice. In essence, framing determines the rights and duties of communities in relation to social justice (Fraser, 2009). The meta-injustice of ‘misframing’ occurs when membership boundaries ‘wrongly exclude some people from the chance to participate at all in authorized contests over justice’ (Fraser, 2009: 19). The disadvantaged are prevented from participating in the construction of membership and, *ipso facto*, disallowed from confronting the forces that oppress them (Fraser, 2009). She argues the Westphalian system is an antiquated frame as a) social justice issues are increasingly ‘trans-territorial’ and

---

<sup>1</sup> Young defines ‘institutional context’ as ‘any structures or practices, [and] the rules and norms that guide them’ that ‘condition people’s ability to participate in determining their actions and their ability to develop and exercise their capacities’ (Young, 1990: 22).

b) it ‘insulates extra- and non-territorial powers’ such as transnational corporations, foreign investors, and global economic governance structures ‘from the reach of justice’ (Fraser, 2009: 23). Like Young, Fraser asserts that social justice must be expanded beyond distribution: Fraser seeks to address misframing, and *how* such unjust boundaries are drawn, by institutionalizing ‘*parity of participation...* in deliberations and decisions concerning the “who” of justice through cultural recognition and political and economic representation (Fraser, 2009: 26). In short, just procedure begets just distribution.

### **Participatory Environmental Justice**

The majority of environmental justice theories remain fixed in the distributive paradigm. David Schlosberg has made critical advances for PEJ theorization, arguing that EJ must be defined as equitable distribution, cultural recognition and political participation (Schlosberg, 2001). I employ Young and Fraser’s theories of participatory justice to inform my own denotation of PEJ at the global scale. Following Young’s logic, for a condition regarding the environment to be just, it must enable all affected by the condition to *express* their ecological needs to enable all to *meet* their needs. Ergo, I argue PEJ at the global scale can be understood as a) recognition of social ecological needs and b) representation in political and economic institutional decision-making affecting ecology. In simpler terms, PEJ is freedom from oppression and domination in decision-making processes affecting the environment. It is important to note how social recognition, political representation and economic representation manifest. Misrecognition in social justice is social subordination, or ‘to be denied the status of a full partner...as a consequence of institutionalized patterns of cultural’ hierarchy (Fraser, 2000: 113). Recognition determines the ‘relative standing’ of actors (Fraser, 2000: 113). Translating Fraser’s theory from social to environmental justice, I argue that recognition in EJ is the equitable valuation of actors’ *cultural ecological needs*. I base ‘cultural ecological needs’ in

Henry Shue's notion of 'subsistence emissions' (Shue: 1993). First, Shue identifies rights as basic if the 'enjoyment of them is essential to the enjoyment of all other rights' (Shue, 1996: 19). He argues that 'for practically everyone present...survival requires the use of GHG emissions absorptive capacity...[it] is as vital as food and water' (Shue, 2001: 451). Classifying emissions absorptive capacity as a universal ecological need, Shue argues all peoples have the *basic right of subsistence emissions* to survive (Shue, 2001). Recognition of cultural ecological needs is therefore to hold in equal standing the GN and GS's respective ecological necessities for survival.

Political representation at the global scale is twofold: all voices of those affected by the political decision must be represented in the *construction* and *deliberation* of decision-making processes. Global economic representation refers to a nation's role in the construction of structures governing the world-economy (such as the IMF or the WTO; international trade agreements; and regulations on foreign investment) and their inclusion in discussion. Ultimately, PEJ at the global scale can only be achieved through the establishment of recognition of social ecological subsistence needs; political representation in the construction and deliberation of environmental decision-making processes; and economic representation in the institutions and policies governing the world-economy.

### **Distributive Environmental Justice**

Distributive justice relates to how the benefits and burdens of environmental degradation are allocated. A primary debate in EJ theory surrounds how to fairly allocate natural resources and pollution access between the global affluent and global poor. The crux of the debate is whether the GS has the 'right to develop', or the right to pollute to remain above poverty. A scholar's stance in this debate determines their understanding of environmental rights and duties apropos

distribution. Henry Shue, Thomas Pogge and Tim Hayward defend the GS's right to develop in view of the fact that requiring the GS to cut emissions as radically and immediately as the more affluent GN would condemn them to crippling poverty. From this theoretical outlook, Shue, Pogge and Hayward define environmental rights and duties and formulate respective normative assertions for the just allocation of natural resources and pollution access between the global affluent and global poor.

Henry Shue's theory of 'fair' emissions allocation is based in his differentiation between subsistence and luxury emissions.<sup>2</sup> Shue argues that, because pollution is necessary to survive, the 'only morally permissible' allocation of emissions includes inalienable minimum emissions rights for every person alive (Shue, 2001: 454). Industrialized nations commit injustice toward the global poor by using more than their 'fair share' of emissions absorptive capacity: The North's luxury emissions take the space of the South's subsistence emissions. *Ipsa facto*, the GN violates the Lockean proviso of leaving 'enough and as good' and undermines the GS's right to pollute. (Shue, 2001). In participatory justice terms, the GN's overconsumption of natural resources and emissions absorptive capacity for non-essential purposes subordinates the *cultural ecological needs and rights* of the GS. Moreover, Shue argues that such rights necessarily have correlative duties to meet these needs, specifically 'to avoid depriving,' 'to protect from deprivation,' and 'to aid the deprived' (Shue, 1996: 52). Shue argues the GN must limit its luxury emissions in order to aid and avoid depriving the GS of its basic emissions rights (Shue, 2001).

Thomas Pogge (2011) critiques Shue's theory first by arguing that Shue fails to identify 'basic' rights because no rights meet his required criteria: no one right precludes *all* other rights. It is

---

<sup>2</sup> Luxury emissions are pollutions for non-essential purposes.

possible to enjoy non-basic rights without the preliminary fulfillment of all basic rights (Pogge, 2011). Second, Pogge (2011) argues that Shue does not consider cost-benefit (evaluating differing levels of wealth) in assigning moral duties. Such a universal assignation of duties would therefore be less effective. I agree with Pogge's assertions that Shue is too vague and extreme in his definitions of basic rights and assignation of correlative duties. Further, Shue only considers GHG emissions, as opposed to the various types of pollution committed by nations. Despite these critiques, Shue's general framework of subsistence and luxury emissions, and his theory of inalienable minimum emissions rights (or the right to pollute) perfectly depicts the way in which the GN's overconsumption of natural resources and emissions absorptive capacity constitutes distributive environmental injustice.

Thomas Pogge asserts his own framework for reform, the Global Resource Dividend (GRD). In pursuit of global poverty alleviation and ecological conservation, the GRD would levy a tax at the extraction stage on any natural resources used or sold. The GRD is founded on the assumption that the global poor 'own an inalienable stake in all limited resources' and are thus entitled to a share of the economic value of the resource (Pogge, 2001: 196). He first highlights the way in which the wealth of the affluent and the poverty of the poor are causally connected: affluent nations control the economic institutional order; the long shadow of colonialism set poor nations back from the outset; and the global poor have been unjustly excluded from the use of the planet's natural resources (Pogge, 2002). Specifically, he asserts that the global poor 'get to share the burdens' of environmental degradation 'while having to watch helplessly as the affluent distribute the planet's abundant natural wealth amongst themselves' (Pogge, 2001: 203). As global wealth and poverty are casually tied, Pogge defends the GRD on the grounds that the global affluent has the negative duty to stop further immiserating the global poor by upholding an exclusive and oppressive global order. Tim Hayward (2005) argues that the GRD

would be ineffective in redistributing wealth and curbing resource depletion. First, he asserts that because the tax is levied at the extraction stage, it would fall primarily on poor, export-focused nations. Second, the GRD applies arbitrarily only to certain resources. Third, raw resources only constitute a small fraction of the final products created by affluent North as economic value is added later in production processes. Thus, levying a dividend at the exploitation stage is arbitrary, leaving the subsequent value-adding production processes unaffected (Hayward, 2005).

I find Hayward's theory of ecological space more convincing. Ecological space is 'the total amount of biologically productive land and water area required to produce the resources consumed and to assimilate the wastes generated' (Hayward, 2005: 8). Ecological space includes the 'total resource appropriation' of the final product *and* by-products (i.e. all dissipation of natural resources as product and waste). Ecological space utilization is thus the consumption of both the planet's natural resources and pollution absorptive capacity. Hayward combines ecological economics with normative theories of justice to argue that a nation's endowment of natural resources is not indicative of affluence: the key factor determining wealth is a nation's capacity to 'valorize resources' (Hayward, 2006: 353). Thus, he argues a more effective mechanism to redistribute wealth and curb environmental degradation would be a tax on a nation's per capita utilization of ecological space. Hayward's (2005: 19) tax would be based on a state's 'aggregate *excess* usage of ecological space'. This tax is less arbitrary than the GRD as it relates to the use of all resources; applies to the use of resources at each stage as opposed to simply initial extraction; and more accurately identifies the 'respective shares of resources actually commanded by different agents' (Hayward, 2005: 358). Most notably, the tax would impact the overconsuming GN rather than the export-based GS, unlike the GRD. Hayward justifies his tax on Pogge's moral argument and Shue's deontology:

specifically, the negative duty not to deprive (Shue, 1990; Hayward, 2005). Thus, nations overconsuming ecological space are normatively obliged to redistribute the economic benefits gained from such global ecological exploitation to compensate those denied ecological space, namely, the GS (Hayward, 2005).

I find Pogge's moral justification for action cogent. As the GN is aware of the injustices caused by their own affluence, it is their moral duty to cease impoverishing the GS. However, I find the GRD problematic as Pogge ignores how the structure of the global economic order *causes* environmental injustices and the GS's dependency on extractive economies. As the following chapter extrapolates, a fundamental feature of the world-economy is the global affluent/core's exploitation and undervaluation of the global poor/periphery's extracted raw materials. Taxing extraction would only worsen the situation of poor, export-focused nations and marginally affect the affluent North (Hayward, 2005). I elect to adopt Pogge's moral justification for action: the GN has the negative duty to cease impoverishing and subjugating the global poor, and to respect the participatory and distributional environmental rights of the GS. I justify my normative proposal for rectifying the injustices of the fashion industry on these grounds. Shue's classifications of inalienable subsistence emissions vs luxury emissions best explicates *how* the maldistribution of ecological burdens and emissions rights constitutes environmental injustice by prioritizing the lives of the GN over those of the GS.

Finally, I will employ Hayward's conception of ecological space, as it is the most comprehensive assessment of a) the relationship between ecology and the economy and b) how natural resources are consumed as raw resources and pollution absorptive capacity. I argue overconsumption of ecological space not only denies social recognition of the ecological needs of others (by denying space for their subsistence needs) but violates the negative duty to avoid

depriving or harming others. In short, I argue the GN and GS have environmental rights and duties in maintaining just procedure and a fair distribution of ecological space utilization, on the grounds that ecological overconsumption is morally indefensible.

### **Conclusion: What is Global Environmental Justice?**

Ultimately, I define global EJ as recognition of social ecological needs; representation in political and economic institutional decision-making affecting ecology; and equitable distribution of the benefits and burdens of ecological space utilization. A violation of any of these principles constitutes environmental injustice. I argue global EJ rests on the rectification of international institutional contexts to be more inclusive of the voices of the GS. Secondly, I assert the GS has been stripped of its right to ecological space by Northern environmental overconsumption. The forced silence of the GS has enabled fashion MNCs of the GN to burden the GS with the most ecologically detrimental facets of the industry without any retribution. I recognize that the establishment of a perfectly ‘fair’ distribution of the world’s ecological space is quixotic, even if only because fairness is subjective. Rather, I simply seek to argue that the current world-system is participatorily unjust, producing unequitable distribution of ecological space utilization, and requires remediation.

## **Chapter Three: Fast Fashion as Global Environmental Injustice**

### **Introduction**

This chapter first explicates the theoretical groundings of WST and EUE theory to elucidate the systemic global environmental inequity within which FF operates. Immanuel Wallerstein's WST is foundational in explaining the systemically exploitative economic relationship between the GN and GS that underpins FF. However, Wallerstein fails to consider the ecological dimensions of such global systemic exploitation. EUE theory thus fills this gap by unveiling the hidden imbalanced structures of ecological exchange reinforcing the world-system. This chapter argues first that EUE constitutes global environmental injustice by the GN unto the GS. EUE is fundamentally participatorily unjust, engendered by the exclusive world-economic governance structures of colonialism and neoliberalism. Colonialism instituted unequal starting positions of economic power between the GN and GS, leaving the global-economy inherently exclusive from the outset. Based on this inequality, the contemporary neoliberal global economy has only perpetuated economic and ecological exploitation of the GS: global economic decision-making processes determining ecological space utilization are dictated *almost exclusively by the GN*. Specifically, the rules of trade have been written by the GN to maintain their accretion of resources and the GS has been disbarred from determining market pricing, or economic valuation. The GS are denied social recognition of their ecological needs, political or economic representation, inevitably giving rise to distributive environmental injustice.

This chapter then illustrates how FF epitomizes EUE, thereby constituting global environmental injustice. The post-colonial export-oriented economies of the GS rely on foreign direct investment (FDI) and structural adjustment programs for economic growth. This

instigates a ‘chase for the cheapest needle’ and the forgoing of environmental standards. Second, preferential trade agreements allow for the exportation by the GN of the most environmentally detrimental stages of FF to the GS. Finally, the market pricing of FF places finalized products at such low value that the ecological space of the GS used to produce FF is detrimentally valued by the GN at effectively nothing. In short, FF capitalizes on the lasting impacts of colonialism, preferential trade agreements, and unjust market pricing to offshore ecological damage to the GS. The environmental needs and rights of the GS are disregarded in FF: the ecological space of the GS is rapidly consumed by fashion MNCs of the GN that reap all economic benefits and evade the direct ecological damage<sup>3</sup>.

### **World-System Theory and Ecologically Unequal Exchange Theory**

Through a neo-Marxian macrosociological perspective, WST analyzes the international level to identify distributional issues within the world-system. Wallerstein defines the ‘world-system’, or world-economy, as a

‘multicultural territorial *division of labor* in which the production and exchange of basic goods and raw materials is necessary for the everyday life of its inhabitants. This division of labor refers to the forces and relations of production of the world-economy as a whole and it leads to the existence of two interdependent regions: core and periphery’ (Wallerstein, 1974: 347).

Crucially, the core and periphery are geographic regions that transcend nation-state borders. The ‘core’ refers to industrialized nations focused on capital-intensive production to export high value, finalized products, while the ‘periphery’ is made up of less powerful, less affluent nations that export natural resources and labor (Wallerstein, 1974; Goldfrank, 2000) Wallerstein also purports a middle tier: the semi-periphery. Semiperipheral states tend to have more varied economies than peripheral states, but do not dominate international trade. The

---

<sup>3</sup> the GN *is* affected by global pollution, such as CO2 emissions causing global warming, what I mean rather is that the GN does not face the immediate ecological impact such as the degradation of local biospheres.

global division of labor is most clearly understood as according to the core/periphery classification of states; thus, I do not include the semi-periphery in my analysis of FF as environmental injustice. WST adapts dependency theory to a wider framework. Wallerstein posits that this core/periphery stratification is hierarchical and reproduced by mechanisms of ‘unequal exchange’, or the ‘systematic transfer of surplus [capital] from the...periphery to the high-technology, more fully proletarianized core’ (Goldfrank, 2000: 170). These processes of unequal exchange allow for capital accumulation in the core and increasing exploitation of the periphery. While accurately identifying the distributional issues of the world-system, Alf Hornborg (1998) and Juan Martinez-Alier (1987) critique Wallerstein and dependency theory for their failure to address the corresponding ecological issues of such inequalities. Ciccantell asserts that ‘the environment was at best an afterthought in world-systems analysis’ (Ciccantell, 2019: 50). Despite these criticisms, Wallerstein’s WST is the crucial first step of identifying perpetuated global inequalities in order to rectify them.

Central to Hornborg’s assertions is the claim that distributional issues and ecological issues are inseparable. Thus, Hornborg utilizes WST as a theoretical foundation in developing the concept of ecologically unequal exchange (EUE). Hornborg purports an ‘ecologized’ dependency theory which argues that increasingly, ‘the productive input that is being underpaid is resources rather than labor’ (Hornborg, 1998: 134). Hornborg advances Wallerstein’s concept of unequal exchange to become *ecologically* unequal exchange as ‘growth and technological development in some parts of the world are ... organically linked to underdevelopment and environmental deterioration in others’ (Hornborg, 2001: 32). Further, the market system masks these asymmetrical trade relations underpinning and perpetuating unequal economic development; EUE is made invisible through market pricing which ‘conceals the fact that what is being exchanged are intact resources for products representing resources already spent’ (Hornborg,

1998: 136). Hornborg thus posits that the ‘only adequate way’ to understand global economic inequity is to consider the hidden unequitable structures of ecological exchange reinforcing the world-system (Hornborg, 1998).

However, Hornborg’s conception of EUE is vague. Andrew Jorgenson defines EUE as ‘the environmentally damaging withdrawal of energy and other natural resource assets from and the externalization of environmentally damaging production and disposal activities’ to the periphery (Jorgenson, 2016: 335). Essentially, the periphery is both ‘a tap for the raw materials and sink for the waste products’ of the core (Jorgenson, 2016: 335). Jorgenson and Clark (2009) also note that more powerful nations in the core determine the terms of trade to their advantage. Like Hornborg, Jorgenson’s conception of EUE thus refers to both participatory injustices of exclusionary terms of trade and market pricing mechanisms, and the distributive injustice of inequitably distributed ecological space utilization and ecological risks (Jorgenson and Clark 2009). Jorgenson and Anguelov also explicate the role of foreign direct investment (FDI) in reinforcing EUE and perpetuating environmental load displacements. This conception of EUE best encapsulates the economic dynamics that FF capitalizes on. However, ecological economists fail to consider the lasting consequences of colonialism in establishing inequitable world structures and EUE.

Parks and Roberts emphasize the influence of both a) economic factors, such as terms of trade and pricing mechanisms, and b) the impact of colonialism in constructing global dynamics of EUE. The unequal starting positions instituted by colonialism led to the GS’s dependency on export-focused economies and the subsequent need for FDI. Ultimately, I align with Jorgenson and Parks and Roberts. Alone, neither ecological economists nor post-colonialists can fully explicate the world-system processes of EUE. Additionally, Jorgenson and Parks and Roberts

define EUE in terms of participatory and distributive (in)justices. My explication of how FF operates within the well-established global exploitation of the periphery operates at the nexus of ecological economic theory and post-colonialism.

### **Ecologically Unequal Exchange as Environmental Injustice**

EUE is global environmental injustice against the periphery, or in the case of fashion, the GS. There are three primary participatory injustices of EUE. First, colonial institutions and relationships of exploitation are the foundation for contemporary unjust global economic structures (Parks and Roberts, 2006). Colonies were forced to ‘specialize in raw materials exports’ for the consumption of the GN (Parks and Roberts, 2006). Colonialism and extractive economies also led to weak domestic institutions and political ‘underdevelopment’ (Parks and Roberts, 2006: 193). Colonial-era institutions persist today, with two primary impacts. First, export economies and political underdevelopment incentivize nations to pursue ecologically harmful, exportable commodities (Parks and Roberts, 2006). Second, weak domestic institutions do not have the power to pursue environmental conservation. These factors are the substratum for contemporary exploitative and exclusive economic policies, and consequently, modern-day EUE: such ‘chronic underdevelopment’ and narrow export profiles left post-colonies a) dependent on exportation for economic growth and b) vulnerable, if not beholden, to loans from the World Bank and IMF (Parks and Roberts, 2006: 193; Anguelov, 2016; Peng, 1993). This is a manifestation of Pogge’s first principle of how the wealth of the affluent and the poverty of the poor are causally connected: the continuing effects of ‘a common and violent history... pervaded by massive grievous wrongs’ left the ‘starting positions’ of the GN and GS radically unequal (Pogge, 2002: 203). The enduring effects of the colonial origins of today’s economic structures (and *ipso facto* ecological exchange) made the global-economy inherently exclusive from the outset.

Second, global liberal trade law inaccurately purports that free trade is just on the grounds that, despite growing inequalities between unequal trading partners, the weaker partner will still have gained from participating in trade (Hayward, 2006; Pogge, 2002). In reality, the total global resource base is *finite* and cannot accommodate the capitalist model of indefinite economic growth. Thus, poor states fail to benefit from liberal trade because affluent states continue to accrue the relative advantages of trade lead: the depletion of finite resources eliminates the gains of the weaker partner—'those who have traded away their resources'—inevitably resulting in the further immiseration of the global poor in absolute terms. (Hayward, 2006: 362). The finitude of the planet's resources means the inequity between the global poor and affluent is symptomatic of 'trade relationships that are systematically exploitative' (Hayward, 2006: 362). This exemplifies Pogge's second connection between global affluence and poverty: the 'shared institutional order' of the global economy is *developed* by the global affluent and *maintained* by their economic power, thereby reproducing inequality and denying the global poor economic representation (Pogge, 2002: 199). Liberalized trade is the first apparatus through which EUE and ecological overconsumption occurs. By exploiting the ecology of the global poor through trade in this manner, the global affluent violate their negative duty to avoid depriving and impoverishing the global poor.

Finally, Hornborg argues that market prices mask EUE as 'reciprocal' exchange (Hornborg, 2001: 46). Natural resources are imbued with 'exergy', the workable or productive energy of a substance. Negative entropy is the expenditure of a substance's available energy. Hornborg (2001) argues that exergy and market pricing is negatively correlated: finished products have a higher economic value than the original natural resources used to create such products. For example, finalized consumer goods exported by the core are economically valued at four times

as much as raw natural resources from the periphery (Hayward, 2006). This has two implications. First, alongside preferential trade, market pricing is the second mechanism by which the core ‘extract[s] exergy from, and export[s] entropy to, [it’s] peripheries’ (Hornborg, 2001: 45). Market prices undervalue natural resources and overvalue finalized products, which *allows* for EUE. Second, because finished products are priced higher, ‘the capacity to valorize resources is the key determinant of wealth’ (Hayward, 2006: 353). Market pricing essentially determines the distribution of economic gain. Until the global poor are granted participatory parity in the global economy, and *ipso facto*, in economically valuing their ecological resources, market pricing will continue to a) be constructed to the benefit of the global affluent and b) mask EUE.

Industrialized nations founded the global economy on inherently unjust global starting-positions with colonialism; have maintain exclusive control over the mechanisms of the economy by dictating the rules of trade; and have determined opportunities for wealth according to their own benefit through market prices. In these ways the global poor are denied social recognition and excluded from global economic decision-making processes, which inevitably begets distributive injustices of EUE. The core’s acquisitive agglomeration of ecological resources and economic wealth, coupled with the offshoring of entropy, is the acme of environmental distributive injustice.

### **Fast Fashion as Ecologically Unequal Exchange**

#### *Participatory Environmental Injustices of Fast Fashion*

Fast fashion is a microcosm of the world-economy, operating according to the same exploitative mechanisms. As such, FF perfectly exemplifies global EUE. First, the GS was economically disadvantaged from the outset by colonialism. Neoliberalism has perpetuated

colonial legacies, leaving the GS economically dependent on exportation and the GN (Hoskins, 2014). As such, the GS is vulnerable to loans from the World Bank and IMF for economic growth. Such loans, or structural adjustment programs, further promote export-oriented production, which force the nations of the GS to pursue FDI (Peng, 1993). This is best illustrated by Bangladesh, the second top producer of apparel in 2018, employing 45% of the nation's total work force to produce \$30 billion worth of ready-to-wear garments (Anguelov, 2016). 83% of foreign investment in Bangladesh is in the fashion sector. Siddiqur Rahman, president of the Bangladesh Garment Manufacturers and Exporters Association, states, 'fifty million people depend on the garment industry. Our *economy* is dependent on it' (Anguelov, 2016: 52). Further examples include Indonesia, where 95% of textile mills are 'foreign owned' (Anguelov, 2016: 52). The competition for FDI instigates a 'race to the bottom', or 'chasing the cheapest needle': in order to become the most attractive option for production, the nation of the GS are incentivized to forgo or eliminate environmental standards (Anguelov, 2016: 88).

In 1997, Effluent Treatment Plants were made mandatory for Bangladeshi garment factories. However, as they are expensive to run, most of the nation's 5,000 fashion factories either do not have them or do not use them (Yardley, 2013). In a 2016 study, the Partnership for Cleaner Textiles revealed that 719 wet process factories (garment washing, dyeing, finishing, etc.) discharge unprocessed wastewater directly into the rivers of Dhaka (PaCT, 2013). One factory, Anlima Yarn, had a functioning effluent treatment plant but was discovered dumping untreated wastewater and operating without an environmental clearance certificate for 23 years (Yardley, 2013). Mohammed Abdul Kader, mayor of Savar, notes how the pollution is 'damaging our fish stocks, our fruit produce, our vegetables'; journalist Jim Yardley goes so far as to argue that 'many of Savar's canals or wetlands are now effectively retention ponds of untreated industrial waste' (Yardley, 2013). As nations with the fewest environmental regulations are

rewarded with FDI, FDI is the ‘direct tool’ through which the GN has offshored industries that voraciously consume ecological space (Anguelov, 2016). The colonial-era institutionalization of economic dependence has fostered today’s world-economy in which the GS, chased by the threat of chronic indigence, must accommodate the economic dictums of the GN.

Fast fashion also exemplifies the way in which the GN determines trade laws. The Multi Fiber Agreement (MFA, 1974 – 2004) imposed national export quotas on textiles and garments from the GS to ‘developed’ nations. As labor and production costs were cheaper in the GS, FF MNCs spread their supply chains in order to save costs and evade quotas. The fashion supply chain became fragmented and globalized, with various nations specializing in one of the dozens of steps of garment manufacturing (Parks and Roberts, 2006). Gap Inc., for example, was ordering its garments from ‘more than 1,200 different factories in 42 countries’ by 2003 (Cline, 2013: 52). Such protectionist policies globalizing the supply chain ‘paved the way for FF’ (Thomas, 2019: 30). The MFA was replaced by the Agreement on Textiles and Clothing, however the removal of the quota system only perpetuated ‘environmental sourcing’ when site selecting for FDI (Anguelov, 2016). Preferential trade agreements and protectionist policies only *spread the environmental hazards of FF more widely across the GS*. Obligated by economic requisite to offer the ‘cheapest needle’ and trade away their ecological space through garment production, the GS now produces 90% of the world’s clothing (Bick, Ekenga and Halsey, 2018). Consequently, the GS is unduly burdened with the vast majority of FF’s environmental costs. Global free trade agreements—formulated by and for the GN—are systematically exploitative of the GS’s finite resource base, amounting to participatory environmental injustice naturally producing distributive environmental injustice.

Finally, as the GS does not have equitable economic representation in the decision-making processes of the world-economy, the GN determines market pricing of the fashion supply chain. Unsurprisingly, the most ‘profitable areas of apparel production’ are all abstract stages that occur in the GN, namely marketing, design and branding, marking a ‘shift of value from tangible to intangible aspects of production’ (Hoskins, 2014: 81). This has two implications. First, the MNCs of the GN hold the capacity to valorize resources, granting themselves virtually all the profit from fashion production; the ‘wealth created by the factories is *extracted* by corporations’ (Hoskins, 2014: 88). Second, finalized products are economically valued much higher than natural resources. Yet the foundation of the FF business model is irresistibly *low prices* driving insatiable hyperconsumption. Thus, as FF boomed in the early 2000s, fashion prices dropped by 26% in Europe and 17% in the USA (Brooks, 2015: 68). At the same time, the number of garments produced annually doubled each year from 2000 to 2014, exceeding 100 billion garments in 2014 (Remy, Speelman and Swartz, 2016). Fashion MNCs sell more clothing at the lowest prices than ever before. Online FF conglomerate Boohoo recently sold a bikini, this final product being *the most economically valued* aspect of the fashion supply chain, for £1. Market pricing dictated by the GN already undervalues ecological space, but by radically underpricing the worth of clothing, FF essentially values the ecological space used by fashion production at next to nothing.

Structural adjustment programs, preferential trade agreements, and market pricing allowed governments and MNCs of the GN to ‘[write] the rules’ and institute a ‘new form of colonialism’ (Ritchie, 1993: 212). Within fashion, the GS’s economic dependence on exportation and FDI forces it to comply with the asymmetric hegemonic economic order. The exclusion of the GS in constructing global terms of trade and market pricing amounts to participatory environmental injustice. Poor countries are systemically barred access to

profitability, stuck as FF's tap and sink, and disallowed from economically valuing their own ecological space and labor. As the GS is silenced, the GN has instituted a self-promoting global economic order facilitating EUE and the exploitation of the GS, upon which FF capitalizes.

### *Distributive Environmental Injustices of Fast Fashion*

Participatory injustices inevitably produce distributional injustices. Because of this competition to attract FDI and the subsequent 'race to the bottom' of environmental standards, conjoined with the impacts of preferential trade agreements, the GN has successfully offshored nearly all stages of garment production to the GS. In 2012, only 2.5% of clothing purchased in the US was American-made and by 2017, the UK was importing 92.4% of its garments (Thomas, 2019). The distributive injustice lies in the ecological detriment occurring at each stage of garment manufacturing.

Textile production creates 1.2 billion tons of CO<sub>2</sub> annually, surpassing the combined carbon footprints of air travel and maritime shipping (EAC, 2019). In fact, the global fashion and footwear industry accounts for 8% of global GHG—nearly as much as the entirety of Europe (Quantis, 2018). Furthermore, the fashion industry consumes roughly 79 billion cubic meters of fresh water annually for the production of fibers, dyeing, finishing and washing processes (as every ton of textiles produced requires 200 tons of water) (EAC, 2019; Anguelov, 2016). This leads to water stress and water scarcity in international production hubs such as India and China. In China, 80-90% 'of fabric, yarn, and plastic-based fibers are made in water-scarce or water-stressed regions' (EAC, 2019: 38). Not only does the industry consume unsustainable amounts of water, but textile dyeing and treatment accounts for 20% of global industrial water pollution (EMF, 2017). The lack of environmental regulation means that such toxic wastewater is dumped directly into waterways. For example, in Guangdong Province, the 'jeans capital of

the world', effectively no cities treat fashion production wastewater (Thomas, 2019: 77). The city of Xintang alone produces 800,000 pairs of jeans a day, or 300 million annually (Thomas, 2019). Xintang's 3,000 factories dump dye waste directly into the East River, a tributary of the Pearl River (Thomas, 2019). Greenpeace has reported high levels of cadmium, copper and lead in the riverbed, killing off aquatic life and causing serious health hazards for local populations (such as rashes, lung infections and infertility) (Brigden, Labunska, Santillo and Johnston, 2009).

Finally, the use of land and pesticides for fiber and textile production can lead to serious ecological damage such as desertification, biodiversity loss and deforestation (EAC, 2019). Virgin cashmere, made from Mongolian goats, has 100 times the environmental impact of wool (Thomas, 2019). FF coopted cashmere, transforming it from luxury products to cheaply made, disposable garments. To meet demand, Mongolian goat herders quadrupled the number of goats herded on the same amount of land.<sup>4</sup> By 2017, the Mongolian grasslands began undergoing desertification, revealing the ecological power of FF: 'When cashmere became cheap, and fast fashion embraced it, a whole ecosystem was destroyed' (Thomas, 2019: 212).

A secondary facet of fashion's distributive injustice is clothing disposal. Post-consumer garments are largely disposed of in the GS, where there are few to no regulations on waste management (Anguelov, 2016; Ahmed and Ali, 2004; Henry et al., 2006; Thomas-Hope, 1998). The International Trade Commission notes that between 1989 and 2003, 'American exports of used clothing more than tripled, to nearly 7 billion pounds per year' (Claudio, 2007: 452). Such used clothing is largely sent to East Africa; Kenya alone accepts 100,000 tons of

---

<sup>4</sup> From 5 million in the 1990s to 21 million today (Thomas, 2019).

second-hand clothing annually (Thomas, 2019). Such mass quantities of secondhand clothing become solid waste littering regional water ways and land (Anguelov, 2016).

As the GS does not have participatory parity in constructing the economic institutions that govern fast fashion, the ‘two most ecologically damaging phases of the clothing life cycle’, garment production and post-consumer disposal, ‘disproportionately happen in the developing world’ (Anguelov, 2016: 114; EAC, 2019; Claudio, 2007; Thomas, 2019). Thus, the GS has become a ‘pollution haven’ for the MNCs of the GN to invest in (and offshore) highly polluting manufacturing processes (Anguelov, 2016; Cline, 2013). In doing so, the GN overconsume their ‘fair share’ of ecological space through fashion production, leaving only marginal room for the GS’s ecological needs and rights.<sup>5</sup>

## **Conclusion**

I have argued a) how EUE comprises global environmental injustice and b) how FF must be considered a manifestation of EUE. Ergo, FF *must be considered a form of global environmental injustice against the GS*. The participatory injustices of EUE include colonialism’s institution of unequal economic starting positions of the GN and GS; neoliberal trade law systematically exploiting the GS’s finite resource base; and market pricing masking the unfair distribution of ecological harm and economic gain. These deny the social recognition, economic and political representation of the GS. The continual accumulation of resources in the industrial core coupled with the offshoring of FF’s ecological damage to the GS denies recognition of the South’s ecological subsistence needs by overconsuming ecological space for the fashion industry at the cost of the GS’s subsistence needs. As

---

<sup>5</sup> The GN’s ‘fair share’ of ecological space is determined by Shue’s rights and duties and Pogge’s negative duty to avoid harming others. A ‘fair share’ respects the Lockean proviso of leaving ‘enough and as good’ and recognizes the global South’s subsistence emissions rights/needs (Shue, 2001).

exemplified by Guangdong's Pearl River, Dhaza's waterworks systems, and the disappearing Mongolian grasslands, FF is destroying the ecosystems that millions of people depend on for water, food and shelter.

Further, the GS has little to no economic representation in the decision-making processes of neoliberal economic governance, best exemplified by the *parti pris* laws of liberalized trade and mechanisms of market pricing. The GS is caught in an economic dependency: with many national economies reliant on the production and exportation of one stage of the fashion supply chain they forced to comply with the exclusionary hegemonic economic world-system. Finally, the FF supply chain is fragmented, globalized and completely unregulated, there exists no political organization or decision-making process within which the GS could reach political representation. Such participatory injustices cause the maldistribution of ecological space utilization and irreparable environmental damage. By continuing to exploit the ecology of the GS through trade in this manner, the GN violate their negative duty to avoid depriving and impoverishing the global poor set out by Pogge and Shue.

## **Chapter Four: The Treaty for Just Fashion and Ecological Space Overconsumption Tax**

### **Introduction**

This chapter first explores the merits and limitations of three recourses to addressing the injustices of FF. Namely, remedying the exploitations of the entire world-economy; rightshoring; and substantive change for the fashion industry. I then enjoin my own three-stage proposal. First, as a preliminary step toward achieving justice, there must be an international institution of blockchain technology along the fashion supply chain. Blockchain archives immutable data, ensuring transparency and accountability. Second, I propose the Treaty for Just Fashion, constructed by nations of both the GS and GN, establishing the maximum permissible utilization of ecological space by fashion MNCs. The Treaty thereby institutes a) participatory justice from the bottom up and b) global regulatory principles for FF. Finally, I propose the Ecological Space Overconsumption Tax. Signatories of the Treaty commit to nationally enforcing the ESOT on fashion MNCs for overconsumption of ecological space based on the global regulatory principles determined under the Treaty. The Treaty and ESOT limit the ecological space available for FF production and grant the GS the power to determine the economic value of their own ecologies. Thus, just redistribution takes the form of *economic revaluation*.

I conclude by forwarding deontic and practical defenses for the proposal. The ESOT is based on Pogge's moral justification for action, and Shue's conceptions of rights and duties in EJ. The GS has the right to ecological space, and the GN has the negative duty to avoid deprivation. Thus, the GN are morally obliged to eradicate the exploitative mechanisms of FF. From a practical perspective, fashion is one of the world's largest industries and yet is entirely unregulated. Such an institution of transparency requirements, global standards for production, and punitive measures for breaching such policies is standard business practice. Furthermore,

fashion is one of the wealthiest industries in the world: it can afford to pay the cost of its damage. Finally, by inevitably raising the price of fashion the ESOT has the potential to address the crux of the issue: hyperconsumption and the undervaluation of clothing by consumers. These measures thus address FF's four fundamental iniquities: offshoring of ecological detriment to the GS, supply chain secrecy, hyperconsumption and disposability.

### **Potential Redressals of FF as a Global Environmental Injustice**

#### *Fix the World-System, Subsequently Fixing Fashion*

The current capitalist world-system is the 'root cause of [the] massive and ever-expanding pressure on resources' and the exploitation of the GS (EMF, 2017). FF operates within the economically hierarchical relationship between the GN and GS. Replacing the world-system with a more inclusive alternative (a circular economy, for example) would eliminate the participatory injustices set by colonialism and neoliberalism.<sup>6</sup> Such blanket corrective-ness grants the opportunity to reconstruct the global economy with the participation of the GS thereby instituting participatory justice and eliminating the possibility of future distributive injustices. However, there are clear flaws to this proposal, the most evident being that this requires a fundamental transformation (or eradication) of the neoliberal economic system. The GN is unlikely to unreservedly forfeit their position of economic power and rewrite the entire world-system in the name of equaling the scales.

---

<sup>6</sup> The Ellen MacArthur foundation defines a circular economy as 'gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system' (EMF, 2017).

### *Rightshoring*

Rightshoring entails the re-nationalization, or vertical integration, of the FF supply chain in the GN (Thomas, 2019). This would eliminate issues of global participatory justice in that states would determine their *own* regulation of the fashion supply chain; there would be no need for global participatory parity. Rightshoring would necessarily re-nationalize the ecological space utilization of FF thereby eradicating issues of distributive justice. Ultimately FF would be more just: those who reap the economic benefits are burdened with their own ecological detriment of both production and postconsumer waste. Unfortunately, this is not the best method of rectification as the pollution of FF is *both* luxury pollution by the GN *and* subsistence pollution by the GS: while the ecological damage of FF is the responsibility of the MNCs of the GN, multiple national economies of the GS (Cambodia and Bangladesh, for example) rely on the garment industry for economic growth. To cease global fashion production would destroy these national economies.

### *Substantive Change*

Currently, synthetic fibers (polyester, nylon, etc.) are in approximately 60% of the world's garments (EAC, 2019). A polyester t-shirt has more than double the carbon footprint of a cotton shirt, *and* such synthetic fibers take 500-1,000 years to degrade (EAC, 2019). A turn to more ecologically friendly materials and production practices would alleviate, at least in part, the current ecological devastation of FF. Companies such as Piñatex, Bolt Threads, and Faber Futures are innovating environmentally friendly, biodegradable fabric and dye alternatives (Amed, et al., 2019). Substantive change would limit post-consumer and cut-and-sew solid waste; lessen pollution from the preliminary agricultural and livestock stages of fashion by eliminating the use of animal products (e.g. leather); and reduce the industry's use of plastic by avoiding synthetic fiber. This is a crucial step the industry must take; however, this is not a

fix-all solution. While addressing issues of distributive environmental justice, substantive changes do not guarantee participatory environmental justice; it fails to address the unjust way in which FF inordinately affects the GS. Without transparency and participatory parity, the systemic issues of FF will persist. Additionally, until forced to disclose the true ecological cost of their production, FF MNCs will continue chasing the cheapest needle and likely will not adopt more expensive eco-friendly alternatives of their own accord.

### **Three Stage Proposal for Redressal of FF as a Global Environmental Injustice**

I now forward a three-fold proposal to address the participatory and distributive injustices of FF. I argue for the international institution of blockchain technology along the fashion supply chain; the Treaty for Just Fashion to establish PEJ in determining global regulations of FF; and ultimately, for the Ecological Space Overconsumption Tax (ESOT) on the FF MNCs of the GN for overconsumption of ecological space in the GS.

#### *Stage 1: Blockchain*

Blockchain is a system for data collection, storage and management on a public ledger ‘immune to falsifications’ (Fu, Shu, Liu, 2018: 5). It is highly advanced, readily available for industrial application and becoming mainstream. Industries such as pharmaceuticals, banking, and food are already adopting such technology while international organizations such as the WWF and UN champion the use of blockchain to achieve the Sustainable Development Goals (CB Insights Research, 2020; Chhabra, 2019; Pollock, 2019; UN, 2018). Designer Martine Jarlgaard has pioneered the application of blockchain to the fashion industry. Collaborating with blockchain company Provenance, each piece in Jarlgaard’s collection “Fragile; A State of Emergency” has a QR code which the consumer scans to see the entire supply chain of the garment (Arthur, 2017).

The implementation of blockchain along the fashion supply chain is irrefutably possible. The transparency guaranteed by blockchain would be devastating for FF MNCs as they would finally be held accountable for their use of ecological space. Hence, I argue the first step toward redressing the global environmental injustice of FF is the global mandate of supply chain transparency in the fashion industry using blockchain technology. This is foundational to achieve justice as ecological damages must first be brought to light before punitive measures can be fairly applied. Blockchain ought to be instituted along the globalized fashion supply chain as a measure of corporate responsibility by FF MNCs and enforced by the governments of the GN, as the vast majority of FF profiteers are corporately based in the GN. Each government may decide *how* to legislate this mandate, establishing their own punitive measures for lack of supply chain transparency. The application of blockchain technology to the fashion supply chain is the cornerstone in establishing legislative regulation and compliance.

### *Stage 2: International Treaty for Just Fashion*

There have been industry-wide attempts at self-regulation. The G7 Fashion Pact seeks to represent 20% of the industry in a commitment to curbing biodiversity loss, adapting to climate change, and conserving oceans (G7, 2019). Signatories include Inditex, H&M, Kering and Adidas. The UNFCCC (2018) has also launched a Fashion Industry Charter for Climate Action, yet the Charter itself states that it ‘does not constitute a new formal initiative or registered organization’. These agreements have no enforcement mechanism, nor do they address the systemic injustices underpinning the ecological issues of FF. The key, if not only, benefit of the completely unregulated nature of the industry is that there exists no political infrastructure to reconstruct nor entrenched unjust legislation to unpick; we face the opportunity to institute the just regulation of the fashion industry from the outset.

What is needed is the institution of a ‘common framework and rigorous standards’ as a ‘globally harmonized approach’ (Kerr and Landry, 2017). Thus, I argue the second stage of redressing the global environmental injustice of FF is establishing the international Treaty for Just Fashion with a correlative treaty body. The primary purpose of the treaty would be to establish the recognition of the social ecological needs of all nations engaged in the fashion supply chain; provide political and economic representation in institutional decision-making regulating FF’s use of ecological space; and to ensure a just distribution of the benefits and burdens of ecological space utilization. The treaty body is analogous to the UN human rights treaty bodies: a committee of experts, in this case in the fashion industry and environmental justice, that monitors the implementation of the treaty. The Treaty would enable equitable decision-making processes establishing global regulatory principles for FF. To ensure global participatory parity and representation of both the GS and GN, all nations engaged in the fashion industry supply chain would be invited to participate. Furthermore, the treaty body would be made up of agents across the fashion industry from MNC CEOs, FDI investors, to factory owners and textile manufacturers.

Signatories commit to regulate FF MNCs incorporated under their sovereignty according to the democratically constructed global principles established by the Treaty. The paramount regulatory principle determined under the Treaty would be the maximum acceptable utilization of ecological space by garment MNCs in the nations of their globalized supply chain. In essence, the nations of the GS would be able to express how much of their ecological space they are willing to grant the FF MNCs of the GN offshoring production to their territory.<sup>7</sup>

---

<sup>7</sup> I.e. how much dissipation of natural resources consumed as product and pollution within their sovereign borders.

Signatories would collectively establish the global baseline of maximum utilization of ecological space by garment MNCs, however individual nations could institute more stringent measures (thereby granting *less* ecological space to FF MNCs). Such parameters ought to be in accordance with the international goal of limiting global warming to a 1.5°C increase and net zero carbon emissions by 2050 (IPCC, 2018).

Methods for tracking and economically valuing ecological space consumption exist but have only ever been self-imposed by MNCs. Kering has developed an environmental profit and loss system (EP&L) that analyzes the conglomerate's carbon emissions, water use, water pollution, land use, air pollution and waste. The data is then translated into a monetary value of the environmental cost at each stage of the supply chain (Kering, 2020). Similarly, the Sustainable Apparel Coalition (SAC) has developed the Higg Index, a standardized method of measuring a company's environmental and social sustainability. Kering's EP&L and the SAC's Higg Index could provide the ideological foundations for economically valuing ecological space consumption at the global scale. This valuation system, converting ecological damage into economic terms, would provide the basis for the ESOT.

### *Stage 3: Ecological Overconsumption Tax on FF MNCs of the GN*

By defining the maximum utilization of ecological space, the Treaty consequently defines *overconsumption* of ecological space. Signatories commit to enforce the ESOT on FF MNCs incorporated under their sovereignty for any violation of the maximum utilization of ecological space set out by the Treaty. In other words, the Signatories collectively determine a minimum ESOT figure and individual nations tax MNCs under their national sovereignty for overconsuming ecological space along the supply chain. The ESOT is theoretically grounded in Pogge's GRD and Hayward's ecological space tax. Like Pogge and Hayward's taxes, the

ESOT is a global tax that seeks to redistribute wealth and curb resource depletion.<sup>8</sup> They differ in that the ESOT is nationally enforced: each nation has the power to determine how much to tax (in accordance with the established baseline) and how to collect the tax. ESOT funds are retained by the national governments enforcing the tax for two reasons. First, the tax incentivizes the GN to participate by providing the potential for significant economic gain through regulating major fashion MNCs. Second, were the funds raised by the tax to be redistributed to the GS, the regulatory system would merely become a façade for outright sale of ecological space by the GS to the GN. The GS would be economically motivated to forfeit even greater expanses of ecological space to FF MNCs in exchange for ESOT funds, worsening economic dependency and the devastation of the planet's biospheres.

Finally, the treaty body would monitor the various stages necessary to achieve EJ in fashion. It would first surveil the implementation of blockchain along the fashion supply chain, highlighting the MNCs that fail to do so and nations that resist making implementation mandatory. Next, it would a) oversee, alongside national governments, the ecological consumption by FF MNCs and b) shed light on any attempts by MNCs to obfuscate the truth. Finally, it would act as a global watchdog, ensuring that Signatories implement and collect the ESOT.

## **Normative Defense**

### *Participatory Environmental Justice*

The Treaty for Just Fashion is the medium through which PEJ may be reached for the fashion industry. Bringing together representatives from the GS and GN as equals to democratically

---

<sup>8</sup>It is a 'global tax' in that it is based on the globally applied principles established under the Treaty for Just Fashion.

construct global regulatory principles for the industry grants all participants social recognition, political representation, and economic representation. Ensuring representation from the GS in decision-making processes *and* maintaining a treaty body with representatives from across the fashion supply chain allows all voices to be heard so all ecological needs can be met. As an international agreement, the GS will be guaranteed political representation by their government in conversations under the Treaty. Through economic representation under the Treaty, the GS regains control over its ecological space, and the agency to determine how much they are willing to apportion to fashion MNCs—whose production to-date is contingent on the exploitation of the GS’s ecological space. This allows for redistribution as economic revaluation.

#### *Distributive Environmental Justice*

Hayward argues nations that overconsume ecological space are normatively obliged to redistribute the economic benefits gained from such global ecological exploitation to compensate those denied ecological space, namely the peoples of the GS whose ecologies are disappearing at the hands of FF (Hayward, 2005). I contend that such a *post facto* economic redistribution is remedial at best and fails to address the systemic issues coupling economic and ecological inequality. Moreover, this form of economic redistribution does not respect nor recognize the exploited as equals. Rather, they are afforded a pittance of the economic profit gained at their expense, which is in turn extolled as a rectification of injustice. I argue instead that the Treaty for Just Fashion and the ESOT initiate a more just and effective method of distributive environmental justice for the fashion industry: *redistribution as economic revaluation*. By this I mean an internal transposition of where monetary value lies along the fashion supply chain.<sup>9</sup> Limiting the ecological space available for consumption by FF

---

<sup>9</sup> This would shift value from the intangible to the tangible aspects of fashion production in the GS.

manufacturing in the GS economically converts it into a finite, precious resource necessary for fashion production. The nations of the GS hold this necessary, limited resource and the power to decide how much they are willing to apportion. Ergo, the Treaty grants the nations of the GS the *power to economically value their own ecologies*.

Thus far the fashion industry has perfectly exemplified Hayward's assertion that the 'capacity to valorize resources is the key determinant of wealth': the ecological space of the GS used in FF production has been valued at virtually nothing, while MNCs have reaped all the economic benefit at later valorization stages. However, FF MNCs of the GN *need* the ecological space of the GS, having offshored 90% of production across the GS (Bick, et al., 2018). The Treaty and ESOT allow the GS to economically revalue their ecological space as the rapidly depleting commodity in high demand that it truly is. This rebalances the scales of economic power in the fashion industry: the capacity to valorize ecological space becomes the key determinant of wealth.

This forcibly divorces the fashion industry from the larger exploitative world-system that perpetuates EUE. Revaluing natural resources as more economically valuable would first inevitably alter international trade relations: as the GS now holds what is valuable, the GN can no longer exploit their economic dependency to the same degree. Furthermore, the characteristically low market prices of FF would no longer be sustainable as they currently depend on the radical undervaluation of ecological space. Empowering the GS to control, sell and price their ecological space decouples ecological and economic inequity and undermines the systemic foundations of EUE: it redistributes the economic benefits of ecological degradation.

Redistribution as economic revaluation recognizes and respects the equitable worth of the GS's ecology, which remedial justice does not. Further it seeks to redress the *systemic roots* of global environmental injustice in FF. In this way, the Treaty and redistribution as economic revaluation begin to circumscribe the disproportionate burdening of the GS with the majority of FF's environmental detriment. The participatory justice established under the Treaty enables distributive justice: Signatories decide their own ecological burdens and the ESOT prevents any ecological burdens that the GS has not willingly accepted. By subverting the exploitative economic systems upon which FF depends, these measures address the FF's injustices at the core.

### *Deontic Grounds*

Pogge defends the GRD, Hayward rests his ecological space tax, and Shue asserts his rights and duties on the grounds that the global affluent have the *negative duty* to stop further immiserating the global poor by upholding an exclusive and oppressive global order. The Treaty and ESOT rest on this same moral justification: as the GN is aware of the environmental injustices caused by their own affluence from fashion, it is their moral duty to stop impoverishing the GS. The GN ought to join the Treaty on the basis of their duties to 'avoid depriving' and 'aid the deprived' (Shue, 1996: 52). Pogge's GRD is founded on the assumption that the global poor 'own an inalienable stake in all limited resources' and thus have the right to a share of the economic value of the resource (Pogge, 2002: 196). The Treaty and ESOT rest on this same assertion, instituting the GS's right to control the limited resources within their sovereignty *and* their right to the economic value of such resources. The Treaty and ESOT also institutionalize Shue's basic right of subsistence emissions and correlative duties: granting the GS the power to control, sell and price their ecological space respects their right to ecological space and subsistence emissions. By penalizing overconsuming ecological space, the ESOT

forces FF MNCs to respect the GS's rights. Ultimately, the Treaty and ESOT are normatively justified by a) the GS's rights to ecological space and the economic value of their resources and b) the GN's negative duty to cease the exploitative and harmful mechanisms of FF.

### **Practical Defense**

First, it is important to note that requiring fashion brands to comply with environmental, social and governance standards—from ensuring proper working conditions to monitoring their environmental impact—is basic business practice, not an additional burden. Second, fashion MNCs can afford to pay the ESOT. Wealth in fashion accumulates at the highest echelon of corporations; 60% of the \$150 billion in sales of luxury goods goes to just 35 brands, 'most of which are owned by just a few conglomerates' (Hoskins, 2014). Were Inditex a country, for example, it would rank 98<sup>th</sup> by GDP; for comparison, in 2017, Inditex's revenue was greater than Paraguay's GDP (Belinchón and Moynihan, 2018). Bernard Arnault (LVMH) is currently the 3<sup>rd</sup> richest man in the world, Amancio Ortega (Zara) is the 8<sup>th</sup>, and Philip Green (valued at £4.3 billion) is not far behind (Forbes, 2020). Such accumulation of wealth at the expense of the GS is normatively difficult to justify. Governments of the GN have the negative duty to instate the ESOT which would prevent such an imbalanced and unjust distribution of economic gain and ecological detriment. Governments also face an opportunity for substantial economic gain through taxing such opulent fashion companies.

Finally, the institution of blockchain technology, the regulation of social and environmental impacts, and the ESOT will likely cost fashion MNCs a substantial sum. This would, in turn, inevitably raise the price of fashion. Higher price tags would impel consumers to a) purchase less and b) value their clothes more, thereby eradicating the hyperconsumption and disposability fueling FF. I anticipate the rejoinder that to raise prices would unravel the recent

accessibility of fashion. I respond that the social and environmental costs of FF are too high for this business model to be morally justifiable. The current world-system of exploitation means that peoples of the GS pay what the GN does not: the true environmental cost of FF.

## **Conclusion**

Addressing the global environmental injustice of FF requires systemic restructuring. This, however, will not be possible without first securing transparency and accountability through blockchain technology. Next, the Treaty for Just Fashion would institute the participatory justice needed to ensure just distribution of ecological damage and economic benefit. The subsequent ESOT enforces compliance with the global standards set by the Treaty. These measures confront the issues of justice at the core of FF: The Treaty and tax establish participatory justice, allowing for redistribution as the systemic economic revaluation of ecological space. By eliminating secrecy, limitless consumption of the GS's ecological space, and too-low market prices, the Treaty and tax destabilize the pillars of injustice upholding FF.

## **Chapter 5: Conclusion**

### **Findings**

Fast fashion is fueled by near-exclusive production in the GS, secrecy in the supply chain, hyperconsumption and garment disposability. Such practices overburden the GS with the ecological costs of fashion production while the GN reaps the economic profit, thereby constituting global ecologically unequal exchange (EUE). FF must accordingly be considered a global environmental injustice: FF denies the GS recognition of their social ecological needs; representation in political and economic institutional decision-making affecting ecology; and equitable distribution of the benefits and burdens of ecological space utilization in fashion production. To redress this injustice, I forward a three-fold normative proposal. I argue for the international institution of blockchain technology along the fashion supply chain; the Treaty for Just Fashion to establish PEJ in determining global regulations of FF; and ultimately, for the ESOT on FF MNCs for violating the regulations established under the Treaty. The Treaty and Tax allow the GS to economically value their own ecologies thereby shifting where economic value lies along the fashion supply chain: the capacity to valorize ecological space becomes the key determinant of wealth. Hence redistribution takes the form of economic revaluation. Ultimately, I hope for the Treaty and Tax to be an initial step toward establishing environmentally just fashion.

### **Research Limitations and Future Enquiry**

I recognize that I have not delineated the exact mechanisms of the Treaty and ESOT, however, space constraints limited the scope of my proposal. Rather, I have only been able to forward a comprehensive framework for action, leaving much of the detail up to the Treaty's Signatories. Granted more space I would have specified certain elements, such as what types of pollutants

must be included when accounting for fashion's ecological space? Or what figure ought the maximum acceptable utilization of ecological space by garment MNCs be based on? I would also focus more attention to the second most detrimental aspect of the fashion industry: post-consumer waste disposal in the GS. Hopefully, by raising prices, and *ipso facto* stemming hyperconsumption and disposability, the Treaty and ESOT would reduce the amount of post-consumer waste produced by the GN. However, this does not address the systemic issue of offshoring secondhand clothing to the GS that decimates local ecologies and cultural fashion artisanship. Thus, researchers who wish to add to this study might pursue this matter as it is fashion's next major issue of justice. Future researchers could also identify subsidiary incentives to offer citizens, corporations, and governments redressing the issues of FF. One option is to offer tax breaks. As Sweden has recently instituted, citizens could receive reduced VAT for repairing rather than disposing of clothing (Starritt, 2016). Fashion companies could receive tax cuts for total supply chain transparency; coming in under their ecological space cap (i.e. using less than allocated); adopting eco-friendly materials and, crucially, production methods (i.e. eliminating wastewater, hazardous dyes, etc.); or recycling/upcycling fabrics.<sup>10</sup>

Clothing is a human right. Nearly everyone, everywhere, engages with fashion every day. Hence, fashion will remain a staple industry for the foreseeable future. The fashion industry must no longer be trivialized, considered too inconsequential or frivolous to require any political regulation: it is not just fashion.

---

<sup>10</sup> This would entail companies either sourcing upcycled or secondhand fabric or collecting their own garments back from consumers at the end of the garment's lifecycle.

## **Bibliography**

- Adamczyk, A., 2014. *Why Brands and Retailers Are Running with the 'Slow Fashion' Movement*. [online] Forbes. Available at: <<https://www.forbes.com/sites/aliciaadamczyk/2014/11/20/why-brands-and-retailers-are-running-with-the-slow-fashion-movement/#5e8b2656c642>> [Accessed 29 April 2020].
- Africa News, 2018. *Global Business of Secondhand Clothes Thrive in Africa*. [online] Available at: <<https://www.africanews.com/2018/04/26/global-business-of-secondhand-clothes-thrive-in-africa-business-africa/>> [Accessed 5 May 2020].
- Agyeman, J., Bullard, R. and Evans, B., 2003. *Just Sustainabilities: Development in An Unequal World*. London: Earthscan.
- Ahmed, S. and Ali, M., 2004. Partnerships for Solid Waste Management in Developing Countries: Linking Theories to Realities. *Habitat International*, 28(3), pp.467-479.
- Amed, I., Berg, A., Balchandani, A., Andersson, J., Hedrich, S. and Young, R., 2019. *The State of Fashion 2019*. The Business of Fashion and Mckinsey & Company.
- Amed, I., Berg, A., Balchandani, A., Hedrich, S., Rolkens, F., Young, R. and Poojara, S., 2020. *The State of Fashion 2020*. The Business of Fashion and Mckinsey & Compan.
- Anguelov, N., 2016. *The Dirty Side of the Garment Industry*. Boca Raton, Florida: CRC Press, Taylor & Francis Group.
- Arthur, R., 2017. *From Farm to Finished Garment: Blockchain Is Aiding This Fashion Collection With Transparency*. [online] Forbes. Available at: <<https://www.forbes.com/sites/rachelarthur/2017/05/10/garment-blockchain-fashion-transparency/#6a0e542974f3>> [Accessed 2 May 2020].
- Beitz, C. and Goodin, R., 2011. *Global Basic Rights*. Oxford: Oxford University Press.
- Belinchón, F. and Moynihan, R., 2018. *25 Giant Companies That Are Bigger Than Entire Countries*. [online] Business Insider. Available at: <<https://www.businessinsider.com/25-giant-companies-that-earn-more-than-entire-countries-2018-7?r=US&IR=T>> [Accessed 2 May 2020].
- Bick, R., Halsey, E. and Ekenga, C., 2018. The Global Environmental Injustice of Fast Fashion. *Environmental Health*, 17(1).
- Biermann, F., 2011. *Reforming Global Environmental Governance: The Case for A United Nations Environment Organisation (UNEO)*. Amsterdam: Stakeholder Forum.
- Brauch, H., Spring, U., Mesjasz, C., Grin, J., Kameri-Mbote, P., Chourou, B., Dunay, P. and Birkmann, J., 2011. *Coping with Global Environmental Change, Disasters And Security*. Berlin: Springer.

- Brigden, K., Labunska, I., Santillo, D. and Johnston, P., 2009. *Hazardous Chemical Pollution of The Pearl River*. Amsterdam: Greenpeace International.
- Brooks, A., 2015. *Clothing Poverty*. London: Zed Books.
- Cheng, T. and Choi, T., 2015. *Sustainable Fashion Supply Chain Management*. New York: Springer.
- Chhabra, E., 2019. *The WWF Backs Blockchain To Unpick Messy Food Supply Chains*. [online] Wired. Available at: <<https://www.wired.co.uk/article/food-supply-chains-blockchain-wwf>> [Accessed 2 May 2020].
- Ciccantell, P., 2019. Ecologically Unequal Exchange and Raw Materialism: The Material Foundations of the Capitalist World-Economy. In: R. Frey, H. Dahms and P. Gellert, ed., *Ecologically Unequal Exchange*. Cham: Palgrave Macmillan.
- Claudio, L., 2007. Waste Couture: The Environmental Impact of the Clothing Industry. *Environmental Health Perspectives*, 115(9).
- Cline, E., 2013. *Overdressed*. New York: Portfolio/Penguin.
- Ditty, S., 2017. *Money Fashion Power*. Fanzines. Fashion Revolution.
- Ellen MacArthur Foundation., 2017. *A New Textiles Economy*. Circular Fibers Initiative.
- Environmental Audit Committee., 2019. *Fixing fashion: clothing consumption and sustainability*. [online] UK Parliament. Available at: <https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/1952/report-summary.html> [Accessed 19 Feb. 2020].
- Fashion Revolution, 2019. *Fashion Transparency Index: 2019*. Fashion Revolution CIC.
- Figeroa, R. and Mills, C., 2001. Environmental Justice. In: D. Jamieson, ed., *A Companion to Environmental Philosophy*. Oxford: Blackwell Publishers.
- Fletcher, K., 2010. Slow Fashion: An Invitation for Systems Change. *Fashion Practice*, 2(2), pp.259-265.
- Fletcher, K. and Tham, M., 2019. *Earth Logic: Fashion Action Research Plan*. London: The J. J. Charitable Trust.
- Forbes, 2020. *The Real-Time Billionaires List*. [online] Available at: <<https://www.forbes.com/real-time-billionaires/#3d593d603d78>> [Accessed 2 May 2020].
- Francis, D., 2014. *Mending the Capitalist Model*. [online] Financial Post. Available at: <<https://business.financialpost.com/opinion/in-bangladesh-tau-investment-management-hopes-to-spur-a-race-to-the-top>> [Accessed 29 April 2020].

- Francisco, K. and Swanson, D., 2018. The Supply Chain Has No Clothes: Technology Adoption of Blockchain for Supply Chain Transparency. *Logistics*, 2(1), p.2.
- Fraser, N., 2000. Rethinking Recognition. *New Left Review*, [online] 3(3). Available at: <<https://newleftreview.org/issues/II3/articles/nancy-fraser-rethinking-recognition>> [Accessed 1 May 2020].
- Fraser, N., 2009. *Scales Of Justice*. New York: Columbia University Press.
- Frey, R., Gellert, P. and Dahms, H., 2019. *Ecologically Unequal Exchange: Environmental Injustice in Comparative and Historical Perspective*. Palgrave Macmillan.
- Fu, B., Shu, Z. and Liu, X., 2018. Blockchain Enhanced Emission Trading Framework in Fashion Apparel Manufacturing Industry. *Sustainability*, 10(4), p.1105.
- G7, 2019. *The Fashion Pact*. [online] Biarritz. Available at: <<https://thefashionpact.org/?lang=en>> [Accessed 2 May 2020].
- Gereffi, G., 2006. *The New Offshoring of Jobs and Global Development*. Jamaica: International Institute for Labour Studies.
- Goldfrank, W., 2000. Paradigm Regained? The Rules of Wallerstein's World-System Method. *Journal of World-Systems Research*, 6(2), pp.150-195.
- Gore, T., 2015. *Extreme Carbon Inequality*. [online] Oxfam. Available at: <<https://www.oxfam.org/en/research/extreme-carbon-inequality>> [Accessed 5 May 2020].
- Greenpeace International, 2014. *A Little Story About A Fashionable Lie*. Amsterdam: Greenpeace International.
- Hampton, G., 1999. Environmental Equity and Public Participation. *Policy Sciences*, 32, pp.163-174.
- Hayward, T., 2005. Thomas Pogge's Global Resources Dividend: A Critique and an Alternative. *Journal of Moral Philosophy*, 2(3), pp.317-332.
- Hayward, T., 2006. Global Justice and the Distribution of Natural Resources. *Political Studies*, 54(2), pp.349-369.
- Hayward, T., 2017. Ecological Space: The Concept and Its Ethical Significance. In: S. Gardiner and A. Thompson, ed., *The Oxford Handbook of Environmental Ethics*. New York: Oxford University Press.
- Henninger, C., Alevizou, P., Goworek, H. and Ryding, D., 2017. *Sustainability in Fashion*. Palgrave Macmillan.
- Henry, R., Yongsheng, Z. and Jun, D., 2006. Municipal solid waste management challenges in developing countries – Kenyan case study. *Waste Management*, 26(1), pp.92-100.

- Hornborg, A., 1998. Towards an Ecological Theory of Unequal Exchange. *Ecological Economics*, 25(1).
- Hornborg, A., 2001. *The Power of the Machine*. Walnut Creek, Calif: AltaMira Press.
- Hornborg, A. and Martinez-Alier, J., 2016. Ecologically Unequal Exchange and Ecological Debt. *Journal of Political Ecology*, 23(1), p.328.
- Hornborg, A., 2009. Zero-Sum World: Challenges in Conceptualizing Environmental Load Displacement and Ecologically Unequal Exchange in the World-System. *International Journal of Comparative Sociology*, 50(3-4), pp.237-262.
- Hoskins, T., 2014. *Stitched Up: The Anti-Capitalist Book of Fashion*. London: Pluto Press.
- Househam, A., Bombis, E. and Liew, D., 2014. *A Guide to Traceability*. New York: UN Global Compact.
- IPCC, 2018. *Global Warming Of 1.5 °C*. [online] Available at: <<https://www.ipcc.ch/sr15/>> [Accessed 2 May 2020].
- Jorgenson, A., 2016. The Sociology of Ecologically Unequal Exchange, Foreign Investment Dependence and Environmental Load Displacement. *Journal of Political Ecology*, 23(1).
- Jorgenson, A. and B. Clark., 2009. The Economy, Military, and Ecologically Unequal Relationships in Comparative Perspective: a panel study of the ecological footprints of nations, 1975-2000. *Social Problems* 56(4).
- Kering, 2020. *What Is An EP&L?*. [online] Available at: <<https://www.kering.com/en/iframe/epl>> [Accessed 2 May 2020].
- Kerr, J. and Landry, J., 2017. *Pulse of The Fashion Industry 2017*. [online] Global Fashion Agenda & The Boston Consulting Group. Available at: <[https://globalfashionagenda.com/wp-content/uploads/2017/05/Pulse-of-the-Fashion-Industry\\_2017.pdf](https://globalfashionagenda.com/wp-content/uploads/2017/05/Pulse-of-the-Fashion-Industry_2017.pdf)> [Accessed 5 May 2020].
- Kohn, M., 2013. Postcolonialism and Global Justice. *Journal of Global Ethics*, 9(2), pp.187-200.
- Lake, R., 1996. Volunteers, NIMBYs, and Environmental Justice. *Antipode*, 28(2), pp.160-174.
- Lehmann, M., Arici, G., Boger, S., Martinez-Pardo, C., Krueger, F., Schneider, M., Carrière-Pradal, B. and Schou, D., 2019. *Pulse of The Fashion Industry: 2019 Update*. [online] Global Fashion Agenda, Boston Consulting Group, and Sustainable Apparel Coalition. Available at: <<https://globalfashionagenda.com/pulse-2019-update/>> [Accessed 1 May 2020].
- Li, X. and Zhou, Y., 2017. Offshoring Pollution while Offshoring Production?. *Strategic Management Journal*, 38(11), pp.2310-2329.

- Martinez-Alier, J. and Schlüpmann, K., 1987. *Ecological Economics*. Oxford: Basil Blackwell.
- Martínez-Vela, C., 2001. World Systems Theory. ESD.83 – Fall 2001.
- Miller, D., 2008. *Global Justice And Climate Change: How Should Responsibilities Be Distributed?*.
- Nimbalker, G., Mawson, J. and Cremen, C., 2015. *The Australian Fashion Report 2015. Behind the Barcode*.
- Nunes, J., 2013. *Security, Emancipation and The Politics of Health*. London: Routledge.
- Partnership for Cleaner Textile (PaCT), 2016. *Know Your Market*. [online] Available at: <<https://www.textilepact.net/news-and-events/news/know-your-market.html>> [Accessed 1 May 2020].
- Peng, M., 1993. Economics and Environmental Justice: Rethinking North-South Relations. In: R. Hofrichter, ed., *Toxic Struggles*. Philadelphia: New Society Publishers.
- Pogge, T., 2001. Priorities of Global Justice. *Metaphilosophy*, 32(1-2), pp.6-24.
- Pogge, T., 2001b. Eradicating Systemic Poverty: Brief for a Global Resources Dividend. *Journal of Human Development*, 2(1), pp.59-77.
- Pogge, T., 2002. *World Poverty And Human Rights*. Cambridge: Polity.
- Pogge, T., 2011. Shue on Rights and Duties. In: C. Beitz and R. Goodin, ed., *Global Basic Rights*. Oxford: Oxford University Press.
- Pollock, D., 2020. *Blockchain For Good: How The United Nations Is Looking To Leverage Technology*. [online] Forbes. Available at: <<https://www.forbes.com/sites/darrynpollock/2020/02/27/blockchain-for-good-how-the-united-nations-is-looking-to-leverage-technology/#c8a2bb9543dd>> [Accessed 2 May 2020].
- Putt Del Pino, S., Metzger, E., Drew, D. and Moss, K., 2017. *Elephant In The Boardroom: Why Unchecked Consumption Is Not An Option In Tomorrow'S Markets*. World Resource Insitute.
- Quantis, 2018. *Measuring Fashion: Nsights From The Environmental Impact Of The Global Apparel And Footwear Industries*.
- Remy, N., Speelman, E. and Swartz, S., 2016. *Style That'S Sustainable: A New Fast-Fashion Formula*. [online] McKinsey & Company. Available at: <<https://www.mckinsey.com/business-functions/sustainability/our-insights/style-thats-sustainable-a-new-fast-fashion-formula>> [Accessed 29 April 2020].

- Research Briefs, 2020. *58 Big Industries Blockchain Could Disrupt* | *CB Insights Research*. [online] Available at: <<https://www.cbinsights.com/research/industries-disrupted-blockchain/>> [Accessed 2 May 2020].
- Ritchie, M., 1993. Trading Away the Environment. In: R. Hofrichter, *Toxic Struggles*. Salt Lake City: University of Utah Press
- Rivoli, P., 2009. *The Travels of a T-Shirt In The Global Economy*. 2nd ed. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Roberts, J. and Parks, B., 2006. *A Climate of Injustice: Global Inequality, North-South Politics, and Climate Policy*. Cambridge: MIT Press.
- Schlosberg, D., 2001. *Three Dimensions of Environmental and Ecological Justice*. France.
- Schlosberg, D., 2003. The Justice of Environmental Justice. In: A. Light and A. De-Shalit, ed., *Moral and Political Reasoning in Environmental Practice*. London, Cambridge: MIT Press.
- Schlosberg, D., 2007. *Defining Environmental Justice*. Oxford: Oxford University Press.
- Schlossberg, T., 2019. *Inconspicuous Consumption*. New York: Grand Central Publishing.
- Shue, H., 1993. Subsistence Emissions and Luxury Emissions. *Law & Policy*, 15(1), pp.39-60.
- Shue, H., 1996. *Basic Rights*. 2nd ed. Princeton, N.J.: Princeton University Press.
- Shue, H., 2014. *Climate Justice*. Oxford: Oxford University Press.
- Shue, H., 1981. Exporting Hazards. *Ethics*, 91(4), pp.579-606.
- Shue, H., 2001. Climate. In: D. Jamieson, ed., *A Companion to Environmental Philosophy*. Malden, MA: Blackwell, pp.449–59.
- Starritt, A., 2016. *Sweden Is Paying People to Fix Their Belongings Instead Of Throwing Them Away*. [online] World Economic Forum. Available at: <<https://www.weforum.org/agenda/2016/10/sweden-is-tackling-its-throwaway-culture-with-tax-breaks-on-repairs-will-it-work/>> [Accessed 3 May 2020].
- Taplin, I., 2014. Who is To Blame?. *Critical perspectives on international business*, 10(1/2), pp.72-83.
- Thomas-Hope, E., 1998. *Solid Waste Management: Critical Issues for Developing Countries*. Kingston, Jamaica: Canoe Press.
- Thomas, D., 2019. *Fashionopolis*. New York: Penguin Random House.

- United Nations, 2018. *Secretary-General's Strategy on New Technologies*. [online] Available at: <<https://www.un.org/en/newtechnologies/images/pdf/SGs-Strategy-on-New-Technologies.pdf>> [Accessed 2 May 2020].
- United Nations Framework Convention on Climate Change, 2018. *Fashion Industry Charter for Climate Action*. Germany: United Nations.
- US Environmental Protection Agency (EPA), 2017. *Textiles: Material-Specific Data | US EPA*. [online] Available at: <<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/textiles-material-specific-data#TextilesTableandGraph>> [Accessed 29 April 2020].
- van Ree, L., 2016. *Fast Fashion as A Contemporary Global Justice Problem*. Master's Thesis in Applied Ethics. Utrecht University.
- Vanderheiden, S., 2008. *Atmospheric Justice*. Oxford: Oxford University Press.
- Wallerstein, I., 1974. *The Modern World System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*. New York: Academic Press.
- Wallerstein, I., 2004. *World-systems Analysis: An Introduction*. Durham, North Carolina: Duke University Press.
- Wenz, P. S., 1988. *Environmental Justice*. Buffalo: SUNY Press.
- World Wide Fund for Nature, 2013. *Cleaner, Greener Cotton: Impacts and Better Management Practices*. [online] WWF. Available at: <<https://www.worldwildlife.org/publications/cleaner-greener-cotton-impacts-and-better-management-practices>> [Accessed 1 May 2020].
- Yardley, J., 2013. *Bangladesh Pollution, Told In Colors And Smells*. [online] Nytimes.com. Available at: <<https://www.nytimes.com/2013/07/15/world/asia/bangladesh-pollution-told-in-colors-and-smells.html>> [Accessed 1 May 2020].
- Young, I., 1983. Justice and Hazardous Waste. *Bowling Green Studies in Applied Philosophy*, 5, pp.171-183.
- Young, I., 1990. *Justice and The Politics Of Difference*. Princeton: Princeton University Press.