Plastics in Fashion:
How Consumer Culture Obscures the Petrochemical Life Cycle

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Alexa Madison Cuomo

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Advisor

Bryn E. Seabrook, Department of Engineering and Society

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Introduction to Petrochemical Applications and Consequences

Take a glance around the room – are there food containers or medicine bottles? What about a mobile phone, donning a phone case? What color of paint is on the walls, and is there furniture within the room? A quick survey of any human constructed setting would bring the realization that petrochemical-derived materials, such as plastic, fibers, or rubber, are everywhere (Nielsen et al., 2020). So ubiquitous have petrochemicals become in everyday life, that most people do not realize their lifestyle is dependent on fossil fuels outside of energy usage. Since their debut in the twentieth century, petrochemicals were produced "at a price and in a quantity that helped to instantiate a middle class defined by consumption" (Davis, 2015). Given that plastics and other petrochemicals were popularized and made essential throughout the development of advanced capitalism, their permeation throughout current society is impossible to avoid (Davis, 2015).

Today, the harmful impacts from petrochemical materials are a generational challenge – the solution, though, is one that requires a cultural reset. Using the STS co-production framework, this thesis will first explore how consumer culture has obscured the life cycle of petrochemicals, separating their consequences throughout production, consumption, and disposal from their use in daily life. Once society's past relationship with petrochemicals is considered, the research paper will shift to a focus on the future. An analysis of the International Energy Agency's (IEA) petrochemical industry outlook report will use a life cycle approach to determine if society is on track to repeat history, except at a substantially higher cost to human and environmental health. Finally, using a case study of the ultra-fast fashion brand, Shein, a

conclusion will be reached on why a cultural shift away from petrochemicals is essential for a sustainable society.

Research Methodology

Research Question: How has consumer culture obscured and promoted petrochemical integration with daily life?

For this research paper, the majority of sources are published articles from academic journals. They are used as verified factual sources to support the background information and STS framework sections. Plastic histories are retrieved from book excerpts. The accompanying analysis on consumer culture is supported by prominent economists, namely Juliet Schor. The report from the International Energy Agency (IEA) is a major source of data and analysis used in the life cycle section of this thesis. The case study requires some non-traditional sources, such as the TikTok app and the Shein shopping website, to fully understand the consumer end of fast-fashion appeal. In addition to these sources, a variety of reputable news sources are used to quantify Shein's production scale and economic growth. Keywords include: petrochemical, sustainable, consumption, and waste.

Background Information on Plastic Life Cycles

Petrochemicals are a wide class of materials developed from petroleum and its derivatives. A nonrenewable, fossil-fuel based commodity, petrochemicals lay the groundwork for modern society. They are commonly used as a feedstock, or building blocks, for manufacturing consumer products that range from paints and detergent to plastics and synthetic fibers (Chamas et al., 2020). Plastic packaging is the most ubiquitous and wasteful petrochemical in daily life, accounting for 42%, approximately 3000 million metric tons (Mt), of all non-fiber plastics produced since 1950 (Geyer et al., 2017). In total, 8300 Mt of plastic have been

produced since 2015; of the generated waste, totaling 6300 Mt, 9% has been recycled, while 79% has accumulated in landfills. While the total quantities for plastic production are startling, they only reveal a part of the entire plastic lifecycle.

A life cycle analysis/assessment (LCA) is an in-depth, technical report on a petrochemical material from 'cradle' to 'gate' (Huff et al., 2020). It includes total energy demand, required materials, greenhouse gas (GHG) emissions, and other metrics that accumulated during production, consumption, waste management, and pollution stages (Huff et al., 2020) (Nielsen et al., 2020). They typically aid in determining at which stage in a material's life cycle contribute the most harmful environmental impacts, so that sustainable strategies (e.g., reduce energy usage, recover materials, etc.) can be implemented (Kuczenski & Geyer, 2011). While a useful tool for informing policymakers, the tedious and technical nature of a LCA make them inaccessible to a typical consumer. Pollution and consumer stages of the life cycle are more often popularized and politicized, such as with microplastics from marine plastic pollution or overconsumption of single-use plastics (Nielsen et al., 2020). While an increased emphasis on visible plastic objects and waste is a step towards managing the plastic crisis, it continues to obscure the "the sociocultural dimension of the fossil fuel lock-in of plastics" in the pre-consumer stage (Nielsen et al., 2020). Additionally, the simplified outtake from specific plastic products' life cycles draws attention away from oft overlooked materials, such as synthetic fibers used in the textile industry, and stages, specifically waste management.

While plastic packaging and other objects have become ubiquitous to society since the 1950s, clothing has been a cultural mainstay for millennia (Geyer et al., 2017). However, clothing made of petrochemical-derived synthetic fibers is a recent development in the last century, and it has come with various environmental and human consequences. Textiles follow a

life cycle similar to packaging plastics, with the exception of a longer consumer-use stage. Over the past two decades, however, clothing production has nearly doubled due to a "growing middle-class population across the globe and increased per capita sales in mature economies" (Andrew Morlet et al., 2019). This phenomena is recognizable as 'fast fashion', which encompasses inexpensive and high turnover clothing that follows popular trends and utilizes poor labor practices and high volumes of material (Andrew Morlet et al., 2019). While there are a multitude of ethical issues with fast fashion, the environmental impacts relevant to this thesis are a complex web that does not have a singular entity to blame. The resource consumption and carbon emissions at the production stages are the actions of fast fashion giants, such as H&M and Zara; on the other hand, consumers express demand for a revolving door of new styles and have the disposable income to support it (Joy et al., 2012). Most recently, Shein has taken the "planned obsolescence" fast fashion practices to the extreme, with the corporation producing 700-1,000 new clothing pieces every day (Curry, 2022) (Gupta et al., n.d.). Using a case study of Shein, this research paper will determine whether the possibility to break the fast-fashion cycle exists while a societal "lock-in" to plastics and overconsumption still prevail (Evans et al., 2020).

STS Framework: Co-Production

The STS framework for this research paper is co-production, which is used to conceptualize the nuanced relationship between plastics' role in society and the pathway to a sustainable future. Current scholars utilize this framework to explore the adaptation of science to its cultural context and the resolutions to scientific and technical controversies, among other themes (Jasanoff, n.d.). The framework provides the grounds to analyze how the evolving access to scientific and technological innovations influences an object's stabilization within a given society (Jasanoff, n.d.). For this thesis, the technical object is plastic and other petrochemical-

derived materials and the stabilization is the degree of ubiquity to which these products have appeared in everyday life. Co-production is used to understand how plastic in our society has come to be, as well as to strategize a path towards a more sustainable future.

Plastic is a central focus in sustainability discourse given its function as a convenient and useful commodity; co-production has garnered significant attention for its application in sustainability science, albeit with some criticism. Sustainability crises require a bridge to the gap between scientific research and other knowledge systems, such as indigenous communities or decision makers in power (Wyborn et al., 2019). Using the co-production framework, scientific advancements in sustainability are ensured to be relevant and legitimate in the context of a given social and political network (Wyborn et al., 2019). There are numerous technical and non-technical solutions to the global plastic problem, but there is no chance of implementing them without technical and social knowledge systems, such as research institutions and government bodies, engaging in co-production processes (Wyborn et al., 2019). Given that these processes are complex and often iterative, it becomes clear that neither the technology nor the society is causing the other to play a certain role, such as in technological determinism or the social construction of technology. However, co-production criticisms include an inadequate account of "power within science-society relationships" (Wyborn et al., 2019). Therefore, accounting for this shortfall is necessary when framing plastic's future in a convenience-oriented society.

To evaluate the past entanglement of plastics within society, Evans et. al. performed three case studies on plastic packaging. A common theme among these case studies was the tendency for "plastics [to] both create and respond to societal needs and expectations" (Evans et al., 2020). Specifically, the technological solutions plastics provide support cultural values of safety, convenience, and more. While public health and increased productivity are considered to be

positive attributes of modern society, the challenge now is to breakdown the harmful practices of supporting these phenomena. Evans et. al. recognizes that "people do not use plastics per se, rather they use the services that they provide," meaning society has co-produced the usefulness of plastic materials and products as they came to be. Nevertheless, the solution to using less plastic is not simply replacing plastics with another bio-based or sustainable material to perform the same service; social norms and standards limit the extent to which a technical solution is effective, regardless of whether the solution brings reduced environmental harm or even positive social change (Evans et al., 2020). In this way, the forthcoming case study on Shein will analyze how clothing and fast fashion co-evolves between producer and consumer, as well as recognizing the nuances that come with certain cultural and societal standards in fashion.

Results and Discussion

There is no relationship quite as complex and ubiquitous as humans and plastic. This discussion begins with a delve into the history of the petrochemical industry and its creation of and integration within consumer lifestyles. Through co-production, times of economic prosperity, such as post World War II and the late 1990s, solidified plastic use in fueling consumer culture. After the undertaking with the past, a review of the current and future petrochemical industry's status ensues. Throughout the discussion of the International Energy Agency's report, the lesser-known segments of the petrochemical life cycle are analyzed. As the world shifts toward clean energy sources, the oil and gas industry channels their excess raw materials to the petrochemical industry. With this transition comes a number of challenges, but the most important within the scope of this thesis is waste management. If the petrochemical industry continues to grow, the waste retrieval and disposal systems necessary to manage non-degradable products must evolve with it. However, this development may be outpaced as the

requisite consumption to industry growth has skyrocketed in a digital era. A case study of the entirely e-commerce-based corporation, Shein, reveals a new age of hyper-consumption. Petrochemical-derived textiles are far removed in appearance from their raw materials, but their manufacture, consumption, and disposal have severe environmental consequences. Now, as new business models capitalize on social media campaigning and plentiful, cheap raw materials, the importance of consumer culture for supporting a prosperous society raises concerns over ethics and sustainability.

Petrochemical Embedment into Consumer Lifestyles

During the fraction of time humans have spent on Earth, plastic has co-opted our lives for less than a thousandth of a percent of our history (Kaneda & Haub, 2022). The petrochemical industry's development since the 1950s is a story of exponential growth and consumer product innovation. While many plastic products serve as a cheaper, lightweight replacement of previous materials, such as the switch from glass to plastic bottles, there is a myriad of consumer products that did not exist before the widespread commercialization of plastic in the 1950s. Plastic and other petrochemical materials' co-production with convenient lifestyles in first-world countries is especially visible during prosperous economic periods.

Throughout World War II, plastic production leaped from "213 million pounds in 1939 to 818 million pounds in 1945" (Freinkel, 2011). Plastic, as a new wonder material, made its way into the war effort as plastic combs, parachutes, helmet liners, volatile gas containers used in the Manhattan Project, and more (Freinkel, 2011). While petrochemicals served an indisputable role in enabling the U.S. military to bring the Allies to victory, integration of plastic through multiple functional levels can be viewed as the start to co-production of petrochemicals into everyday life. Once servicemembers arrived home from overseas, the US was experiencing an economic boom.

At the National Plastics Exposition in New York, new commercial plastic products showcased a modern lifestyle (Freinkel, 2011). A *Life* magazine print ad glamorized the concept of "Throwaway Living." Depicting a nuclear family surrounded by disposable utensils, plates, cups, and more, the cover was a joyous expression of excitement for plastic goods (Rochman, 2020). Before these disposable goods were commercialized and made widely available, other naturally derived material goods dominated domestic spaces. Glassware and ceramic dishes were more time-consuming than the "throwaway living" culture promoted to young families. While the consequences of encouraging plastic consumption were unforeseen at the time, the post-war modern lifestyles utilizing plastic as a convenient alternative laid a foundation for decades to come.

As the latter part of the twentieth century carried on, the co-production of plastic products and consumer lifestyles continued. In the 1980s and 90s, economist Juliet Schor observed that household resources shifted away from free time, the public sector, and private savings to public consumption. Due to a rapid upscaling of lifestyle norms, households typically used their two incomes to increase their consumption, rather than contributing to savings (Schor, 1999). At the same time, oil and gas companies were running recycling campaigns to encourage the consumption of more plastic. While the industry knew early on that high recovery recycling is infeasible and uneconomical, it did not stop the widespread advertising to increasingly affluent consumers. To combat the "growing tide of antipathy toward plastic in the 1980s and '90s," industry leaders promoted recycling as a remedy (Sullivan, 2020). Environmentally-minded consumers now know, however, that the countless different plastic types make them difficult to separate, melt, and reuse. Plastic degrades through recycling, so the product using recycled plastic is of lower value (Sullivan, 2020). Nevertheless, the ad campaigns were successful in

easing the public disapproval of plastic: oil and plastic executives successfully lobbied close to 40 states to mandate having the recycling symbol on plastic, regardless of whether their recycling was economically feasible (Sullivan, 2020). Municipal recycling facilities saw a huge influx of plastic products with the new labels; consumer awareness that these products were actually not recyclable was limited (Sullivan, 2020). As the uptick of consumerism and lifestyle norms coincided with the push for recycling, plastics became embedded not only as functional products, but as a source of ethical consumption.

As American society ventured into the 21st century, excess consumption became the norm. The US economic model is based on ever-increasing consumption – gross domestic product (GDP) is the value of goods and services consumed in the US and is considered the primary measure of economic health (Mataloni, 2023). In regards to evaluating healthy levels of consumption, economists have begun to join ecologists in questioning whether people consume too much (Schor, 2005; Arrow et al., 2004). From this perspective, looking at where petrochemicals have become embedded into popular manufactured goods is intriguing. The term "excess consumption," coined by Schor, encompasses how price declines in goods and commodities caused by the structure of the global economy encourages additional consumption (Schor, 2005). There were notable price decreases in many categories of manufactured goods from 1993-2005, including apparel, toys, personal computers, televisions, footwear, and other durable goods. In the case of fashion apparel, which will be discussed further on in this thesis, price declines were driven by offshore production and low labor costs. As a result, clothing prices dropped far below their actual value, which involves both economic and ecological costs (Schor, 2005). A common resource between all of the aforementioned products are petrochemicals; from synthetic polyester fibers to the myriad of molded plastic in toys and

footwear, petrochemicals are a main supporter of excess consumption. In addition to the sourcing of these material goods, the "throwaway living" concept advertised in the 1950s continues to permeate lifestyles. Over the turn of the century, the amount of personal computers becoming obsolete tripled, from 20 million in 1998 to 63 million in 2005 (Schor, 2005). While the items in the *Life* advert still contributed to convenient and disposable lifestyles, the shift of higher value goods, such as apparel and computer technology, toward more frequent obsolescence was a marked turn in the co-production of petrochemicals and consumer culture.

Unraveling Petrochemical Life Cycles

While the previous discussion regarding consumer culture focuses on the plastic product use and disposal phase, the raw material extraction and production phase begs further investigation. An oft overlooked part of a product's life cycle, the 'cradle' of any petrochemical material begins in the same place as gasoline or jet fuel: oil fields. Extracting petroleum and natural gas involves energy-intensive drilling equipment or, more recently, hydraulic fracturing, otherwise known as fracking. A controversial practice that has supported a natural gas boom over the past couple decades, fracking uses high quantities of water pressurized and mixed with sand and chemicals to access oil and gas in shale formations. There are significant environmental impacts, such as groundwater contamination and land tremors, from this extraction phase before the fossil fuel is even recovered (Denchak, 2019). Since the practice brings the U.S. energy security, the increase in fossil fuel extraction is mainly criticized within the context of transportation and commercial energy use. Less visible to the public eye, though, are the petrochemicals on a rapid pace to becoming the global leaders of oil consumption (IEA, 2018).

As the lens of co-production uncovers the relationship between consumer lifestyles and the rise of plastics, so will the framework be essential in revealing how fossil fuel extraction

drives the future petrochemicals industry. The International Energy Association (IEA) recognizes petrochemicals as a key "blind spot" in designing sustainable energy systems (IEA, 2018). Accounting for 14% of global oil demand and 8% of natural gas demand, petrochemicals use half of their energy inputs as raw material feedstock (IEA, 2018). Because their total energy usage does not automatically translate to direct carbon emissions, petrochemicals fly under the radar when it comes to climate change criticism. This obscurity comes in spite of consuming the most energy out of any industrial sector through heat-intensive processes, such as distillation, and 90% of their raw material sourcing from fossil fuels (IEA, 2018). The drive towards sustainable energy systems in the form of solar and wind power, electrification, and other technological innovations has brought concern for oil and gas industries regarding reduced demand for products such as gasoline and natural gas heating. Through identifying the chemical sector as a target for increased demand, both massive industries are establishing the groundwork to further intertwine petrochemical products as indispensable to higher qualities of life.

While the scope of this discussion thus far has been limited to plastic consumption within the US, the petrochemical industry's bounds are global. The largest demand growth for petrochemical materials is forecasted to occur in developing countries, especially for single-use packaging. As of 2015, plastic demand in the mature economies of Canada, Korea, Saudi Arabia, and the US was greater than 80 kg/capita, while demand in India and Africa was less than 10 kg/capita (IEA, 2018). The disparity between demands is attributable to many societal and economic forces, but the most likely cause is rapid industrialization and consumption-driven capitalism in the "mature" economies. Notably, these per capita figures do not include synthetic fibers, which are a smaller but significant portion of plastics produced. The IEA predicts growth to stagnate in developed countries, with a shift in plastic utilization from single-use, low value

products to specialized use in clean technologies. Through predicting growth in developing economies, the IEA and petrochemical industry at large assume the "desire of the global population for improved living standards" relies on mirroring the modern developed lifestyle co-produced with plastics.

The IEA set about predicting growth in demand to model two possible futures: a Reference Technology Scenario (RTS) and a Clean Technology Scenario (CTS). The RTS is based on optimizing cost and capitalizing on industry growth with no constraints relating to climate change or waste reduction. Essentially, the RTS is a baseline scenario for the petrochemical industry to continue growth as is, although the IEA states that the baseline is not a forecast. On the other hand, the CTS is subject to various constraints related to sustainable development, including, but not limited, to a 45% reduction in direct carbon dioxide emissions. Both models incorporate the entire life cycle of petrochemicals in their analysis, and the RTS baseline is used to identify the most impactful areas to reach the goals of the CTS. Most relevant to this discussion are the predicted feedstock sources and quantity and waste disposal strategies.

The assumptions made to reach the CTS goals from the RTS regarding feedstock and waste management reflect those made in the petrochemical industry's recycling campaigns. The primary feedstock sources now for plastics, fertilizers, and other materials are petroleum and natural gas. To meet growing demand, the IEA attributes growing recycling rates in the CTS to curbing the increase in oil consumption seen in the RTS. Based on recycling performance over the past 50 years, however, the assumption appears unlikely to come to fruition unless global governmental bodies enact strict recycling regulations. Experts with backgrounds in polymer science, plastics recycling, sustainability, and more predict feedstock recycling and high-performance, high-separation recycling to play a significant role only in high-income economies

(Soares et al., 2022). Low-income economies, on the other hand, are more likely to continue with low-performance recycling and business as usual approaches to waste management (Soares et al., 2022). Given that low-income countries are the target for increased plastic demand, the IEA's outlook that recycling and waste collections practices will transform alongside excess consumption is naïve. Rather, petrochemicals will continue to create and fulfill needs in these developing economies at the expense of limited or non-existent waste management systems. While it may heighten quality of life in the short-term, the long-term issue, which mature economies are facing now, is that current mechanical recycling methods are ineffective and reduce product quality and chemical recycling technologies are economically infeasible (Garcia & Robertson, 2017). Petrochemical companies over the years used recycling to sell more plastic; the goal to meet demand growth in developing countries in the CTS uses the same strategy.

Through co-production, heightening living standards has become contingent upon petrochemical consumption. Despite highlighting a path toward reduced carbon emissions for the industry, the IEA's outlook places the burden of fueling petrochemical demand growth on advancing technologies and heightened government regulations. While both of these are necessary for tackling the climate and waste crisis, the CTS still maintains the same core values as past petrochemical companies, who sold the idea of throwaway living and recycling as ethical consumption. Now under the guise of advanced recycling techniques and carbon capture, the simple motivation for this industry is to profit off of extracting fossil fuels and producing materials that support the lifestyles they created. Overall, consumption and disposal increase and is never given the opportunity to decrease. While a noted trend throughout this discussion, the business concept is seen in full force through the rise of ultra-fast fashion.

Shein Case Study

As mass-produced petrochemical materials go, synthetic fibers are one of the least recognizable as derived from fossil fuels. Polyester is the world's most dominant textile, and fast fashion brands make a majority of their clothing from the cheap material. While fast fashion is not a brand-new phenomenon, the uber popular brand, Shein, has taken fashion consumerism to new heights over the past few years. Despite cultural reckonings on sweatshop labor practices and the idea of the "sustainable consumer" in younger generations, Shein has built a business model that's brought their valuation to over $100bn, greater than prominent fast fashion brands Zara and H&M combined (Yip, 2022).

During COVID-19 pandemic lockdowns, people looked toward the digital worlds as a way to escape reality. TikTok, an app for sharing short videos and catering to personal interests using an impressive algorithm, almost doubled their downloads from 857 million in 2019 to 1579 million in 2020 (Iqbal, 2023). By 2022, the app had 3306 million cumulative downloads (Iqbal, 2023). This wide-reaching social platform has everyone from celebrities and brands to influencers and political figures, with the opportunity for anyone in the general population to go viral. The influencer culture within the app is a prime opportunity for companies to market their products to a young and impressionable audience. Cue Shein, whose data-driven business model took off as TikTok's cultural influence grew.

Although Shein's origins are shrouded, sources suggest it began as an online-only fashion company in 2012 that specialized in wedding dresses (Hanbury, 2021). It did not reach the level of success it has found today, however, until capitalizing off of TikTok marketing. When looking at the business model behind Shein, the center spotlight is on over-consumption. With hundreds of new items released online daily, the company is certainly not at the forefront of raw material sourcing or waste disposal sustainability. The website used to have a feature that gave the exact

number of daily new items. That feature, however, has been removed. The average estimate for new styles released is 2,800 per week (Yip, 2022). The sustainability policy promoted by the company states that they limit production to 100-200 pieces for each new style to limit production waste (Shein, 2021). The total figure comes out to at least 280,000 new pieces produced every week on the low end of the spectrum, and it does not include the pieces that become popular and mass-produced. To identify trends and best-selling items, Shein uses a "data-driven test and learn approach" (Shein, 2021). Micro fashion trends on TikTok and other social media platforms, as well as customer purchases, supply Shein with the consumer-specific data to continuously expand their enormous repertoire (Matsakis et al., 2021; Rajvanshi, 2023).

While the brand, similar to many fast-fashion companies, often uses independent designers' clothes on social media as a model for their knock-off version, Shein differentiates themselves on the advertising end. A search for "#shein" on TikTok reveals a tag that has over 52 billion views, and the related "#sheinhaul" tag has close to 9 billion views. Shein marketing strategies use influencers and celebrities to post videos unboxing or wearing their clothing, with an accompanying discount code in the caption (*Shein's marketing strategy is conquering the West*, 2022). These tactics are unique to the 21st century, where online shopping and digital communication are the ruling norm. Finally, their low prices are a huge draw, but they come at a high cost throughout the company's supply chain. Carbon emissions reach 6.3 million tons a year for the when following the clothing manufacturing and shipping process, and the sourcing of virgin polyester still fully overshadows any recycled material they claim to use (Rajvanshi, 2023). The human impact is severe as well, with multiple factories along Shein's supply chain housing unsafe working conditions and lacking on-time and livable payments for their garment workers (Singh-Kurtz, 2022). The marketing and business model employed by Shein co-evolved

profitably in connection to TikTok and other social media, but the unchecked damages and ignored consequences left in its wake are antithetical to future sustainability.

Research Limitations and Scope

The petrochemical industry is vast and all-encompassing. A related industry that I was not able to fully research is the food industry. Plastic packaging related to food safety measures is a major contributor to single-use plastic waste. Fertilizers are largely petrochemical-derived, and their utilization has led to massive bounds in agriculture. The agricultural industry is one of many examples where plastics and other petrochemicals have greatly improved standards of living and supported the growing human population. This thesis is not to villainize petrochemicals – to do so would be to ignore the ways in which every human benefits from their existence. Using the fashion industry as a final investigation to whether consumption should continue as is was a choice based on objectivity. Fashion is an important and time-honored aspect of many human cultures; fast fashion, on the other hand, has a history of co-opting marginalized cultures and producing mass quantities of materials with little sentimental value and a lot of human and environmental harm. Because of cultural appropriation, the industry is objectively a negative branch of the petrochemical industry. For more complex moral arguments, further researchers should consider investigating the agricultural or medical industry, as their use of petrochemicals and single-use plastics come with positive societal impact.

Conclusion: A Cultural Shift

In the digital age of consumption, the answer to whether a cultural shift is possible becomes elusive. The petrochemical industry is prepared to supply more raw materials than ever before, and further downstream corporations, such as Shein, are optimizing supply chains and advertising to elicit hyper-consumption of synthetic materials. Before consumers were aware of

where their products were derived from or where they were going, corporations took advantage through misleading recycling campaigns and encouraging disposable consumption. Now, there is ample information online and through social media that hyper-consumption in the fashion industry is unsustainable. There is an often-touted phrase people use when they are criticized for posting a "#sheinhaul": "There is no ethical consumption under capitalism." This response is meant to take blame away from the consumer and place it on the producer. In the case of Shein, though, the consumer is not blameless. Similar to plastic becoming an undervalued commodity throughout its history, so now is clothing reducing in its cultural value. As has been proven time and again, producers will do what is most cost-effective in response to consumer demand. Ethical consumption, then, is less consumption. Shein employs a business model that is likely to be mimicked in the coming years, and the marketing structure will only serve as an invisible stream through which petrochemical products flow. Consumer culture, developed alongside plastic dominance, is in the midst of a shift to the digital world, which only serves as more camouflage to the already obscured petrochemical life cycle. Global leaders recognize the twenty-first century as a pivotal moment for climate change; colliding at the turning point is the excess consumption economy and global climate and waste goals. To move forward, societal values must shift away from consumption as a gauge for prosperity.

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