

SUSTAINABLE FASHION AND PLASTIC WASTE

Reclaiming a Mediterranean Circularity

Research notes

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Executive Summary

The Mediterranean region stands today at a crossroads where two global challenges—plastic waste proliferation and the unsustainable practices of the fashion industry—converge. This Research Note explores the systemic connections between the rise of fast fashion, the dominance of synthetic fibers like polyester, and the plastic pollution crisis affecting terrestrial and marine ecosystems. Through analyses ranging from the surprising resilience of Africa's emerging fashion economy to the environmental toll of plastics in the oceans and inland waterways, we illustrate how industrialized fashion systems have externalized environmental costs, particularly onto the Global South.

Drawing insights from a review of Anneke Smelik's *Polyester: A Cultural History*, we recognize that material choices in fashion—specifically the turn to synthetic fibers—are not neutral but entangled with economic, technological, and cultural forces that have global ecological consequences. The Mediterranean, historically a cradle of sustainable artisanal textile traditions, offers today a unique opportunity: to reclaim fashion as a driver of territorial regeneration by promoting biobased materials, local supply chains, and circular economy models resistant to the globalized extractive logic of fast fashion.

In light of international moves towards a binding treaty on plastic pollution and increasing scrutiny of greenwashing practices, Mediterranean stakeholders—fashion designers, manufacturers, researchers, consumers and policymakers—must act now to reposition the region as a global laboratory for sustainable fashion. Addressing the environmental legacy of synthetic materials while fostering socio-economic resilience through sustainable textiles represents not only an ecological necessity but also a strategic opportunity for territorial development.

The State of Fashion in Africa may surprise us in 2023

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Africa's fashion economy in 2023 may surprise those who are glued to global market trends.

As 2022 came to a close, industry analysts believed that the fashion industry was heading for a global slowdown. Geopolitical factors and inflation sapped consumer confidence, while governments and central banks withdrew COVID-era fiscal stimulus measures that had propped up national economies during the pandemic crisis.

The World Bank growth forecast issued in January 2023 was dire, with worldwide economic output projected to be just 1.7% in 2023, the third lowest year of the century. Earlier, in October 2022, McKinsey Global Institute had forecast global Gross Domestic Product to grow a mere 1.5% in 2023, down from 3% in 2022.

The McKinsey growth forecast is reflected in The Business of Fashion (BoF)–McKinsey forecast for global fashion sales growth of 5% to 10% for the luxury market, and negative 2% to positive 3% for the rest of the industry, in 2023.¹

Sentiments expressed by respondents to the BoF-McKinsey State of Fashion 2023 Survey of Markets' expected growth prospects in 2023 were equally glum, with Africa taking last place among the nine regions of the world. Only 15% of survey respondents saw growth prospects in Africa in 2023 as "promising".

These forecasts have since proven to be overly pessimistic.²

The April 2023 Update of the World Economic Outlook issued by the International Monetary Fund forecast global economic growth to slow from 3.2% in 2022 to 2.8% in 2023. Notably, its authors said, "emerging market and developing economies are already powering ahead in many cases, with growth rates (fourth quarter over fourth quarter) jumping from 2.8% in 2022 to 4.5% this year."³ Such a rate of growth for these developing countries is three times higher than McKinsey's global projection of growth a mere six months ago.

The resilience of the global economy and rebound in emerging market and developing economies led us to reexamine the 10 global trends highlighted in BoF–McKinsey's The State of Fashion 2023 report.

¹ Business of Fashion, The (BoF) and McKinsey & Company (November 2022). *The State of Fashion 2023* is the seventh annual State of Fashion report by The Business of Fashion and McKinsey & Company. Released in November 2022, the report draws from the McKinsey Global Fashion Index (MGFI) and the The Business of Fashion–McKinsey State of Fashion 2023 Survey of business leaders.

² To take one dramatic example, the Economist Intelligence Unit in October 2022 had forecast that "Natural gas storage in Europe is likely to be completely depleted by spring 2023." Economist Intelligence Unit (October 13, 2022). The reality turned out to be starkly different. "Storage facilities across Europe will end winter between 45% and 61% full - an average of 55% capacity - bypassing the previous end of winter record of 54% in 2020." Sarah Taaffe-Maguire (March 6, 2023).

³ International Monetary Fund (April 2023). See References for full citation.

We ask ‘How relevant are these factors and trends when viewed through the lens of Africa’s emerging fashion economy?’

The 10 trends are categorized into three groups: Global Economy, Consumer Shifts and Fashion System. In our review we focus primarily on the first two with a brief glance at the third.

Global Fragility is the first of the two trends the authors highlight in Global Economy. Inflation, war, climate crisis and consumer confidence are cited as factors of the global economy’s present volatile state.

These factors may be overly influenced by OECD, especially European and North American, dynamics. Sub-Saharan Africa’s inflation rate is ebbing from its peak of 14.5% year on year aggregate in 2022, and was forecast to drop to 12.5%.⁴ Lower levels may be expected, however, as global inflationary pressures have noticeably eased since the end of 2022.

The risk of a global recession has similarly fallen, with China, Germany and the U.S. – the three leading economies – having avoided falling into recession in the first quarter of 2023.

War may also be seen, sadly, through the eye of the beholder. The Ukraine war spawned by the Russian invasion in February 2022 is arguably of less significance to the Global South than the two-year armed conflict in northern Ethiopia, which began in November 2020 and has received far less attention by Western media. A truce was reached by the main warring parties in November 2022. Given the key role Ethiopia plays in East Africa’s fashion economy, the ending of the conflict may bring unexpected economic and social benefits to the sector and region.

The climate crisis and sagging consumer confidence, along with inflation, remain problem areas. The FNB/BER Consumer Confidence Index for South Africa slipped to -23 points in the first quarter of 2023, from a two-year high of -8 points in the previous three-month period.⁵ Prior to 2023, confidence was rising, against the general trend of falling confidence in the developed countries up until the third quarter of 2022, when consumer confidence among G20 nations slowly began to rise from its post-COVID-19 lows.

Among Regional Realities, the second trend identified by BoF-McKinsey, analysts recommend that “brands re-evaluate regional growth priorities and hone their strategies so they are more tailored to the geographies in which they operate.”

The trend among global brands to increase localization in their supply chains, with consumers increasingly buying local brands imbued with local culture and heritage, and the young in particular seeking locally produced fashion, are factors highly relevant for African producers. With about 200 million people between 15 and 24 years old, Africa is the youngest continent in the world. Youth will define fashion’s future here.

Another shifting dynamic in fashion’s supply chains involves nearshoring. By moving manufacturing closer to consumer markets, brands can increase their speed to market and reduce the cost of transport and, in some cases, duties.⁶ African manufacturers which are relatively close to Asian, European, Middle Eastern markets may benefit from this trend.

In the category Consumer Shift, we find consumers are increasingly shopping across gender categories, a factor which may be related to LGBTQ+ movements.

⁴ Economist Intelligence Unit (December 2022).

⁵ FNB (2023).

⁶ Business of Fashion, The (BoF) and McKinsey & Company (December 2022).

Although homosexuality remains outlawed in 34 African countries, styles perceived as ‘gender fluid’ may be gaining in markets here. The blurring of the lines between menswear and womenswear may require brands to rethink their product design, marketing, and in-store and digital shopping experiences.⁷

African designers may have an advantage over their northern competitors in this growing niche of the fashion market. Traditional gender markers found in West European and American fashion may not be applicable to Africa, which has always enjoyed a freer aesthetic than in the more restricted west.

President Barack Obama once told Vanity Fair, “You’ll see I only wear blue or grey suits. I’m trying to pare down decisions about what I’m...wearing – because I have too many other decisions to make.”

African men’s style shows greater variety and creativity in business and business casual wear. This is also evident among formalwear, with wider array of fabrics, patterns and colours supporting a greater selection of imaginative designs worn by both men and women.

“Encourage creative teams to reimagine the formalwear category with as much diversity in terms of colours, shapes, products or materials as any other category,” advise BoF–McKinsey authors.

Africans have a head start in this direction.

Two-track Spending, the final consumer shift highlighted in The State of Fashion 2023, where consumers seek bargains through alternatives to high street retail, is less of a factor in Africa. Limitations on transport and access to outlets by consumers provide fewer options for domestic shoppers.

Brand loyalty may remain an important factor in the African luxury market. Securing brand loyalty in digital shopping media could present challenges for Africa’s small- and medium-size designers seeking to break into the global marketplace. The rising cost of digital marketing could prove to be a barrier.

“Digital direct-to-consumer [DTC] channels, mounting digital marketing costs and e-commerce readjustments have put the viability of the DTC model into question,” reports BoF–McKinsey in their Fashion System discussion.

DTC factors have less of a role to play in Africa, where distribution options remain limited. Kenya, for example, does not have a direct postal delivery system, making online shopping relatively expensive and inconvenient. DTC channels should be reserved for the most loyal, high-value customers operating in the luxury market.

The crackdown on Greenwashing – defined as “Communication that suggests a company or its products are environmentally friendly in a way that is misleading, exaggerated or not reflected in overall business practices” – by the European Union may be expected to affect African producers exporting to OECD markets. The EU Directive on corporate sustainability due diligence will likely have spillover effects on African producers participating in global value chains.

With more than 70% of the industry’s greenhouse gas emissions generated from upstream activities, some manufacturers may leverage their improved sustainability credentials to differentiate themselves from the competition, and place increasing demands for evidence of sustainable practice on their suppliers.⁸ African textile producers should take note.

⁷ de Vries, T. (n.d.).

⁸ Granskok, A., and Lee, L. (October 19, 2020).

Further investments in physical infrastructure to improve manufacturing facilities, logistics, and supply chain management are needed so African fashion entrepreneurs can increase production capacity, improve product quality, and reduce lead times.⁹

Last year, nine of the world's 20 fastest-growing economies were African.¹⁰

Africa's current population of 1.2 billion people is estimated to grow to 2 billion by 2050 and 4 billion by 2100. According to the African Development Bank Group, Africa's middle class population, those with a household income of over US\$3,900, already stands at 300 million people across the continent.

The African fashion economy will continue to grow rapidly.

Revenue in the Fashion segment is projected to reach US\$8.26bn in 2023 and grow by an annual growth rate (CAGR 2023-2027) of 12.66%, resulting in a projected market volume of US\$13.30bn by 2027.¹¹

In the face of such growth, the tremendous economic potential presented by Africa fashion should no longer surprise anyone.

⁹ BellaNaija Style (2023).

¹⁰ Toppan Digital (2023).

¹¹ Statista (2023).

References

- BellaNaija Style (2023). Unlocking Growth for African Fashion Brands. Reprinted in Medium.com. <https://medium.com/@emebassey/unlocking-growth-for-african-fashion-brands-664a32db4c6e>
- Business of Fashion (BoF), The, and McKinsey & Company (December 2022). The Year Ahead: Can New Production Models Help Fashion Overcome Supply Chain Woes? <https://www.businessoffashion.com/articles/retail/the-state-of-fashion-2023-report-supply-chain-manufacturing-nearshoring-vertical-integration/>
- Business of Fashion (BoF), The, and McKinsey & Company (November 2022). The State of Fashion 2023: Resilience in the Face of Uncertainty. <https://www.businessoffashion.com/reports/news-analysis/the-state-of-fashion-2023-industry-report-bof-mckinsey/>
- De Vries, T. (n.d.). Gender-fluid fashion is not a trend, it's a reality. Vocast. <https://vocast.com/gender-fluid-fashion-is-not-a-trend-its-a-reality>
- Economist Intelligence Unit (October 13, 2022). Energy crisis will erode Europe's competitiveness in 2023. <https://www.eiu.com/n/energy-crisis-will-erode-europe-competitiveness-in-2023>, accessed on 15 April 2023.
- Economist Intelligence Unit (December 15, 2022). Inflation in Africa will ebb slowly in 2023. <https://www.eiu.com/n/inflation-in-africa-will-ebb-slowly-in-2023/>
- FNB (2023). Business Confidence sinks to 21-year low. <https://www.fnbcib.com/news/business-confidence-sinks-to-21year-low>, accessed on 15 April 2023.
- Granskok, A., and Lee, L. (October 19, 2020). The fashion industry can reduce emissions across the entire value chain. McKinsey & Company. <https://www.mckinsey.com/capabilities/sustainability/our-insights/sustainability-blog/the-fashion-industry-can-reduce-emissions-across-the-entire-value-chain>
- International Monetary Fund (April 2023). World Economic Outlook: A rocky recovery. <https://www.imf.org/en/Publications/WEO/Issues/2023/04/11/world-economic-outlook-april-2023>
- Statista (2023). Fashion – Africa. <https://www.statista.com/outlook/dmo/ecommerce/fashion/africa>
- Taaffe-Maguire. S. (March 6, 2023). Energy crisis: European gas storage levels at record highs - and it suggests good news for supplies. Sky News. <https://news.sky.com/story/energy-crisis-european-gas-storage-levels-at-record-highs-and-it-suggests-good-news-for-supplies-12827479>, accessed on 15 April 2023.
- Toppan Digital (2023). Africa's Emerging Fashion Industry <https://toppandigital.com/translation-blog/africas-emerging-fashion-industry/>, accessed on 15 April 2023.

ACTION AGAINST PLASTICS THREATENING LIFE IN OUR OCEANS ACCELERATES AS PLASTIC POLLUTION PROLIFERATES

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The world's oceans suffer from staggering loads of plastic discharged into the our planet's waterways each year. Since the mid-20th century, the production of plastic has grown exponentially worldwide – from 1.5 million tonnes in 1950 to 390.7 million tonnes in 2021.¹² With this increase in production has come exponential growth in the amount of plastic waste. Today, we produce about 400 million tonnes of plastic waste every year.¹³ Nearly 11 million tonnes of plastic end up in the ocean annually.¹⁴

Plastic pollution poses an existential threat to marine ecosystems. Researchers have documented up to 580,000 pieces of plastic per km² in the ocean.¹⁵ Small fish mistake plastic particles for food (zooplankton, fish eggs) and unwittingly ingest them. The fish in turn are eaten by seabirds. Eighty of 135 (59%) seabird species with studies between 1962 and 2012 were found to have ingested plastic, and, of these, on average 29% of individuals had plastic in their gut.¹⁶ The mass and abundance of drifting plastic items in the Austrian Danube were found in 2015 to be higher than those of larval fish.¹⁷

Of the plastic which ends up in the ocean, a significant portion is transported to the seas by rivers.¹⁸ The plastic input of the River Danube into the Black Sea is estimated to be 4.2 tonnes per day. The Slovak Academy of Sciences estimates between 530 to 1,550 tonnes of plastic waste are discharged by the Danube into the Black Sea annually.¹⁹

Of the 6.3bn tonnes of plastic waste produced globally since the 1950s only 9% has been recycled and another 12% incinerated.²⁰ Less than a third of plastic waste in Europe is recycled with half of the plastic collected for recycling being exported to be treated in countries outside the EU.²¹

Trends among companies voluntarily committed to reducing plastic use and expanding the use of recycled plastic in their packaging have been unpromising. Key reduction and recycling targets set in 2018 for achievement by 2025 under the New Plastics Global Economy Commitment are expected to be missed. For example, out of six sectors – Apparel, Beverages, Cosmetics, Food, Household and Personal Care, and Retail

¹² Statista, Annual production of plastics worldwide from 1950 to 2021 (in million metric tons). <https://www.statista.com/statistics/282732/global-production-of-plastics-since-1950/>

¹³ United Nations Environment Programme (n.d). Our Planet is Choking on Plastic, <https://www.unep.org/interactives/beat-plastic-pollution/>

¹⁴ United Nations Environment Programme (2022a). From Pollution to Solution. <https://www.unep.org/interactives/pollution-to-solution/>

¹⁵ Chris Wilcox, Erik Van Sebille, and Britta Denise Hardesty (2015). Threat of plastic pollution to seabirds is global, pervasive, and increasing. PNAS 112 (38) 11899-11904. University of California, Santa Cruz. <https://doi.org/10.1073/pnas.1502108112>

¹⁶ Wilcox et al., op cit.

¹⁷ Aaron Lechner et al. (2015). The Danube so colourful: A potpourri of plastic litter outnumbers fish larvae in Europe's second largest river, Environmental Pollution Volume 188. <https://doi.org/10.1016/j.envpol.2014.02.006>

¹⁸ Between 1.15 and 2.41 million tonnes of plastic waste currently enters the ocean every year from rivers, with over 74% of emissions occurring between May and October. Lebreton, L., van der Zwet, J., Damsteeg, JW. et al. River plastic emissions to the world's oceans. *Nat Commun* 8, 15611 (2017). <https://doi.org/10.1038/ncomms15611>

¹⁹ Stanislav Ščepán, Slovak Academy of Sciences (1 November 2017). Quoted in [Odborníci chcú riešiť znečistenie Dunaja plastovým odpadom | Aktualita.sk](https://www.aktualita.sk/odbornici-vcu-rieit-zneistenie-dunaja-plastovym-odpadom)

²⁰ R. Geyer et al. Production, use, and fate of all plastics ever made (2017), *Science Advances*, cited by The Economist (3 March 2018). The known unknowns of plastic pollution. <https://www.economist.com/international/2018/03/03/the-known-unknowns-of-plastic-pollution>

²¹ European Parliament (2023). Plastic waste and recycling in the EU: facts and figures (europa.eu)

– only two showed modest decreases in virgin plastic packaging use, while four showed increases of up to 6% between 2020 and 2021.²²

On current trends, the amount of plastic waste entering aquatic ecosystems could nearly triple from 9-14 million tonnes per year in 2016 to a projected 23-37 million tonnes per year by 2040.²³

The rapidly increasing levels of plastic pollution represent a serious global environmental issue that negatively impacts the environmental, social, economic and health dimensions of sustainable development.²⁴

In 2016, the European Commission declared that “Marine litter is a major threat to our oceans” and called for a coherent cross sectoral, rules-based international approach “to ensure that seas are safe, secure, clean and sustainably managed”.²⁵ A rules-based approach is slowly taken form globally.

In February 2022, governments meeting at the United Nations Environment Assembly (UNEA-5.2) adopted a historic resolution to develop an international legally binding instrument on plastic pollution, including in the marine environment, with the ambition to complete the negotiations by end of 2024.²⁶

In March 2023, the Global Environment Facility (GEF) drafted a new agreement under the UN Convention on the Law of the Sea on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction. The new agreement commits countries to safeguard life on the high seas. The agreement would cover waters like the Black Sea, the Danube River’s receiving sea.

Coordinated efforts to control plastic production, decrease consumption, and promote reuse and recycling at national, regional and international levels will be needed to secure a sustainable future for the planet’s marine environment and threatened species.

As plastic threatening life in our oceans continues to proliferate unchecked, countries around the globe may finally be ready to take coordinated, legally binding action against plastic pollution.

²² Ellen Macarthur Foundation and United Nations Environment Programme (2022). [Apparel insights: Plastic packaging](https://ellenmacarthurfoundation.org/) (ellenmacarthurfoundation.org).

²³ United Nations Environment Programme (2022a) op cit.

²⁴ United Nations Environment Programme (2022b). Intergovernmental negotiating committee (INC) on plastic pollution. <https://www.unep.org/about-un-environment/inc-plastic-pollution>

²⁵ European Commission (2016). International ocean governance: an agenda for the future of our oceans Brussels, Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. 10.11.2016 JOIN(2016) 49 final. https://www.eesc.europa.eu/sites/default/files/resources/docs/join-2016-49_en.pdf

²⁶ UNEA Resolution 5/14 entitled “End plastic pollution: Towards an international legally binding instrument” (UNEP/PP/OEWG/1/INF/1: 10 May 2022). [UNITED \(unep.org\)](https://www.unep.org/)

PLASTIC POLLUTION PLAGUES CHAD, YET SOLUTIONS ARE AT HAND

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Since the 1950s, production of plastics has grown to such a degree that by 2017 global annual production of plastics (including plastic in synthetic textiles) equaled the global human biomass (Lebreton, L., Andrady, A., 2019). With this increase in production has come exponential growth in the amount of plastic waste found on the globe. Today, we produce about 400 million tonnes of plastic waste every year (UNEP, 2021), of which 9 to 14 million tonnes, carried mainly by rivers, find their way to the sea. And not only are humans being surpassed by plastics. The mass and abundance of drifting plastic items in the Austria's Danube River were found in 2015 to be higher than those of larval fish (Lechner, A., et al. (2015). Plastic is the greatest monster found in today's seas.

Africa has not escaped this explosion of plastic waste. Comprising less than 17% of the world's population, Africa consumes just 4% of global plastic volumes. Even at this relatively low level of consumption, the continent generated a total of 19 million tonnes of plastic waste in 2015, of which 17 million tonnes were mismanaged. The cost of plastic pollution in Africa places serious burdens on its countries, impacting their health, livelihoods, greenhouse gas emissions, biodiversity and ecosystems (Sadan, Z. and De Kock, L., 2021).

This is dramatically illustrated by the case of Chad, a landlocked country in the centre of the semiarid region of western and north-central Africa known as the Sāhil, which ironically means 'coast' or 'shore' in Arabic. Chad lies largely in the Chad Basin, the largest enorheic basin – one that has no outlet to the sea – in Africa.

Studies have estimated the economic damages wrought by marine plastic pollution at global and regional levels and to specific economic sectors, such as fisheries and tourism. Little research to date has addressed the effects of plastic waste in inland environments. A 2022 World Bank case study estimated the economic damages caused by the inappropriate disposal of plastic waste in an urban area of a developing country—N'Djamena, the capital of Chad, seeks to fill this gap (Croitoru, L., et al., 2022).

The study's authors examined 380 households in proximity to N'Djamena's Canal des Jardiniers, which crosses the city center from the south to the north. The area lacked a solid waste disposal facility and portion of the area's solid waste regularly ends up in the canal. About a third of the solid waste clogging the canal was comprised of plastics.

Obstruction of the canal by solid waste contributed to water flooding a vast area around the canal during the torrential rains of August 2020. The inappropriate disposal of solid waste had also led to the depreciation of the value of the houses located in the proximity of the canal.

The residents living by the canal were also found to have experienced higher incidences of disease (malaria, diarrhea, and dysentery). The total number of cases due to canal obstruction was estimated at roughly 6,900. Treating these illnesses placed a financial burden on these households, as did lost wages due to having to stay home to care for sick children and the loss of income among sick adults who could not work.

The proximity to the obstructed canal, the study found, explains the high occurrence of disease, the large decline in house values, and the severe flood damages. Households living within 20 meters of the canal bear more than 75% of the total plastic damage. For the whole study area, which was divided into three zones at different distances from the canal, this damage averages to US\$800 per household. Overall, the economic cost corresponds to more than US\$3000/ton of plastic waste in 2020. The estimated damage is substantially higher than the average impact of solid waste estimated for N'Djamena at US\$60/ton per year by a different study.

Solutions for N'Djamena and other urban areas's waste management challenges are at hand.

Among the priority areas for future work, the authors recommend identifying and cleaning up N'Djamena's hotspot areas of solid waste (including plastic), reinforcing the municipal decree prohibiting the use of plastic bags, supporting waste recycling, and promoting the reuse of recycled products.

As a longer-term solution, N'Djamena should invest in more solid waste collection points and sanitary landfills. Partnerships between the Société Tchadienne d'Industrie et de Plastique, which is currently the only plastic recycling firm in Chad, and the International Finance Corporation (IFC) could support this infrastructure.

On current trends, globally the amount of plastic waste entering aquatic ecosystems could nearly triple to a projected 23-37 million tonnes per year by 2040. Plastic pollution represents failures at every stage of the plastics life cycle: from raw material extraction to polymer production and product design, to consumption and waste collection, to the management of plastic after use.

There is as yet no global instrument in place to comprehensively tackle plastic pollution across the full plastics life cycle using circular economy principles. One may be on its way. In February 2022, governments meeting at the United Nations Environment Assembly (UNEA-5.2) adopted a historic resolution to develop an international legally binding instrument on plastic pollution, with the ambition to complete the negotiations by end of 2024.

Coordinated efforts to control plastic production, decrease consumption, and promote reuse and recycling at national, regional and international levels will be needed to secure a sustainable future for the people of Chad and for the planet.

References

- Croitoru, L., Singambaye, A. and Rossignol, A. (2022). The Cost of Plastic Pollution in N'Djamena: A Case Study. *Journal of Environmental Protection*, 13, 575-588. <https://doi.org/10.4236/jep.2022.138036>
- Lebreton, L., Andrady, A. (2019). Future scenarios of global plastic waste generation and disposal. *Palgrave Commun* 5, 6. <https://doi.org/10.1057/s41599-018-0212-7>
- Lechner, A. et al. (2015). The Danube so colourful: A potpourri of plastic litter outnumbers fish larvae in Europe's second largest river, *Environmental Pollution* Volume 188. <https://doi.org/10.1016/j.envpol.2014.02.006>
- Sadan, Z. and De Kock, L. (2021). Plastic Pollution in Africa: Identifying policy gaps and opportunities. WWF South Africa, Cape Town, South Africa.
- UNEA Resolution 5/14 entitled "End plastic pollution: Towards an international legally binding instrument" (UNEP/PP/OEWG/1/INF/1: 10 May 2022).
- United Nations Environment Programme (UNEP, 2021). Drowning in plastics: Marine litter and plastic waste vital graphics. United Nations Environment Programme, Nairobi, Kenya. <https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/36964/VITGRAPH.pdf>
- United Nations Environment Programme (UNEP, n.d). Our Planet is Choking on Plastic, <https://www.unep.org/interactives/beat-plastic-pollution/>, accessed on 11 April 2023.

REVIEW OF ANNEKE SMELIK'S MATERIALIST STORY "POLYESTER: A CULTURAL HISTORY"

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In a new paper, "Polyester: A Cultural History", Anneke Smelik, Professor emerita of Visual Culture and Fashion Studies at Radboud University, Netherlands, traces a cultural history and critique of polyester from the perspective of the field known as the New Materialism (Smelik 2023, 2018).

Polyester, the most widely used man-made synthetic material is all-pervasive in today's textiles and clothes, making up 54 per cent of all produced fibers. Yet we know little about it. In part this is because, according to Smelik, "fashion studies has devoted little attention to the physical substrate of garments" (Sykas, 2013). Smelik in her cultural history sets out to remedy this gap in our knowledge.

To understand her own way of going about this, it helps to know what New Materialism highlights for cultural history. In a seminal 2018 essay, Smelik outlines what is at stake:

"The interdisciplinary field of new materialism highlights the role of non-human factors in the field of fashion, ranging from raw materials (cotton) to smart materials (solar cells) and from the textility of the garment to the tactility of the human body. New materialists work from a dynamic notion of life in which human bodies, fibres, fabrics, garments and technologies are inextricably entangled. The context of new materialism is posthumanism, which entails both a decentring of the human subject and an understanding of things and nature as having agency."

It is not surprising that her research into the cultural history of polyester leans heavily into the role of technological change as a driver of the synthetic fibre's story. Few things decenter human agency as much as technology does.

Any history of polyester needs to explain how the synthetic fibre first boomed in the 1960s and early '70s and then went bust at the end of the 1970s, before recovering in the '80s and '90s to become the dominant global fibre used in clothing today. In 1960, 64 per cent of fibres in the USA was made of cotton and 29 per cent of synthetics. But a decade later the tables were reversed: 58 per cent of fibres were made of synthetics, versus 39 per cent cotton (St. Clair 2019).

Here Smelik takes two tracks, first highlighting the cultural value women (and some men) placed on polyester in the 1960s as a labour saving advance. Polyester brought the advent of permanent-press apparel with a distinctly modernist aesthetic: bright colors, permanent pleating, different shapes and smooth, simple, slender silhouettes (O'Connor 2011).

The collapse of demand in the late 1970s is principally tied to the counter-cultural backlash against this aesthetic. Citing Schneider (1994), Smelik tells us that "Hippies rebelled against bourgeois fashion, longing for a simpler, more natural and less "plastic" world." John Travolta's white suit in *Saturday Night Fever* (1977) also is said to have played a role in promoting this backlash.

A more materialistic cause also played a significant role: global overproduction and the collapse of the North American and European textile sectors in the 1980s.

The revival of polyester Smelik ties to technological innovation, namely the invention of microfiber (shingosen) in Japan, along with solving of the perspiration problem through improved blended fabrics, and repurposing of polyester for "active sportswear", a rising market segment. Think Jane Fonda circa 1982.

If shingosen helped the industry “to break out of the slump in polyester”, the sheer market forces of the phenomenon of fast fashion completed polyester’s rehabilitation and sealed its ascendancy in today’s pre-a-porter fashion marketplace. Polyester’s advantages over other fibers is economic: selling throwaway polyester clothing is the most profitable business model for the industry to pursue. And pursue it it did with a vengeance from the 1990s up until today.

How consumers respond to technological change is part of culture. Yet the history of polyester from a New Materialists vantage looks much like the old Materialists’ point of view. Economics, with technology as its handmaiden, is the true driver of social trends. Viewed through this lens, fast fashion is part of the democratization of fashion, in as much as cheap throwaway clothing has become accessible to all consumers.

In this account, cultural elements – the convenience sought by feminism, the so-called hippy backlash against plastic culture – should be questioned.

Other options lay open for escaping the drudgery of ironing natural fabrics. Today, hardly anyone irons cotton clothing anymore. Wrinkles have become acceptable.

The hippy backlash thesis is vulnerable to scrutiny of Smelik’s suggested timeline. Hippy aesthetics peaked in the late ’60s; the collapse of the polyester market occurred a decade later. In between disco intervened. How does John Travolta’s suit evoke a backlash which had set in 10 years earlier than Saturday Night Fever and was long in retreat by the mid-70s?

Something has gone wrong with this chronology.

Missing from Smelik’s account is evidence that marketing the new polyester designs played a major role in reintroducing synthetics to consumers. She rightly points out that in the 1950s French couturiers used synthetic fibers for their collections, including synthetic gowns made by Chanel, Dior, Balmain, and Givenchy (Brunnschweiler and Hearle 1993). Much less is heard about the role of later designers, e.g. Oscar de la Renta, twice president of the Council of Fashion Designers of America (1973–76, and 1986–88), in incorporating polyester in their ready-to-wear lines.ⁱ

Pride and greed, all-to-human aspects of our agency, are also components of fashion’s cultural history. A Materialist account of polyester’s history needs to be supplemented with such humanist material.

References

- Brunnschweiler, David, and John Hearle, eds. 1993. Polyester: 50 Years of Achievement. Tomorrow’s Ideas & Profits. Manchester: The Textile Institute.
- O’Connor, Kaori. 2011. Lycra: How a Fiber Shaped America. London and New York: Routledge.
- Schneider, Jane. 1994. “In and Out of Polyester: Desire, Disdain and Global Fibre Competitions.” *Anthropology Today* 10 (4): 2–10. doi:10.2307/2783434
- Smelik, Anneke (2023): Polyester: A Cultural History, Fashion Practice, DOI: 10.1080/17569370.2023.2196158
- Smelik, Anneke (2018). New materialism: A theoretical framework for fashion in the age of technological innovation. *International Journal of Fashion Studies* Volume 5 Number 1. doi: 10.1386/inf.5.1.33_1
- St. Clair, Kassia. (2018) 2019. The Golden Thread. How Fabric Changed History. Reprint. New York: Liveright Publishing

- Sykas, Philip A. 2013. "Investigative Methodologies: Understanding the Fabric of Fashion." In *The Handbook of Fashion Studies*, edited by S. Black et al., 235–267 London: Bloomsbury.

i 100 per cent polyester floral-lace detail blouse for US\$4,379. FARFETCH ID: 19029689; Brand style ID: 23RN734GFEBLK, <https://www.farfetch.com/ge/shopping/women/oscar-de-la-renta-floral-lace-detail-blouse-item-19029689.aspx?v=f9b4157f-1656-4ba7-8b8d-3ac4237cd845>. Accessed on 14 July 2023.