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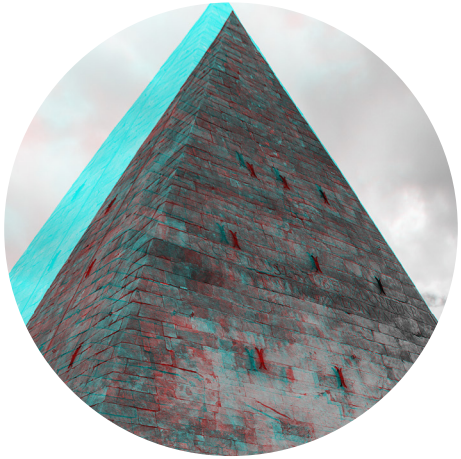

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Fashion Futuring. Rethinking sustainable fashion design.

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Abstract | The paper investigates the possibility to re-imagine fashion design in a sustainable direction and to conceive alternatives to the current unsustainable growth of which fashion has been a carrier in recent decades. The paper relies on the emerging design-theory-based concept of "futuring", which concerns ecology, sustainability, and social innovation. It sets a methodological framework that develops eco-fashion beyond environmental sustainability, and slow fashion beyond the critique of the acceleration of fashion production and consumption. The proposed framework leads into the four directives of Do it Yourself; Future Artisans; Digital Manufacturing; and Industrial Experimentation and allows to encompass initiatives ranging from circular economies to participatory design models and open design. Future research on Italian case studies will test the validity of this framework. The research hypothesis is that there is an Italian design laboratory in fashion, able to prefigure new material cultures and shape the ways we live and interact.

KEYWORDS | FASHION DESIGN, LABORATORY ITALY, FUTURING, ECOLOGY, SUSTAINABILITY

1. Introduction

A *merceria* (haberdashery) in Siena has re-imagined its function and extended its work to co-design accessories with its clients. People can choose patterns, fabrics, trimmings and have a personalised bag, basket, headscarf, t-shirt handmade in no time. A tailor learned his trade from the family business in Sicily. At one point, he decides to experiment with different ways of patternmaking, attends training at a makerspace, and starts using open-source software that allows him to create patterns using parametric designs. In Trentino Alto Adige, a group of young engineers has asked what to do with the leftovers from winemaking. The answer is a design process that recycles grape skins and stalks into a new textile. Meanwhile, in Piemonte, an almost 200 years old manufacturer produces high-quality yarns sold to designers for the luxury market. These four vignettes introduce this paper's theme: which are the main directions emerging in fashion and textile design in Italy in relation to sustainability? We present here the ideas that prompted our research, which is still at its initial stages.

It is believed that fashion does not have moral obligations toward the future. However, the seduction of bio textiles, the zero waste lifecycle and the use of new technologies in the garment industry are just some examples of the forward-looking agenda of 21st-century fashion. Nowadays, the association between fashion and a sustainable future is acquiring more relevance and communicative strength. In 2019, the French fashion designer Marine Serre defined her designs as "Future wear", combining techno-sportswear styles and environmental concerns in an "Eco futuristic" line made of end-of-cycle products. In 2015 the United Nations established seventeen Sustainable Development Goals (SDGs) under the title of *Transforming our world: the 2030 Agenda for Sustainable Development*. The SDGs' 169 targets address a wide range of issues related to sustainability and economic security. Following this agenda, the international non-profit association Forum for the Future and the Centre for Sustainable Fashion (London College of Fashion) have published *Fashion Futures 2030*, a global scenario for sustainable fashion conceived to help industries and people "to think differently about the future for fashion" (William et al., n.d.).

Students and climate activists organised the campaign Friday for Future which became a global movement in 2019. The slogan "no future" has been adopted by the global environmental movement Extinction Rebellion to warn about the un-sustainability of the present ways of living. Through the campaign #BoycottFashion, the movement has asked supporters not to buy new clothes for a year and repair and up-cycle, share and swap, rescue and repurpose clothes, and establish a new ecologically friendly relationship with them. In the context of a growing demand for a better future and increasing anxiety for the future generations, fashion should play a crucial role in encouraging a critical change, stimulating radical visions and pervasive action, from large-scale industrial systems to individual experiences. Finally, in the field of fashion studies, the discussions about the end of fashion as a broken system have inevitably raised a parallel debate on its future, involving the redefinition of fashion itself (Steele 2019).

In opposition to the dystopian visions of unsustainable growth of which fast fashion has been a carrier in recent decades (Payne, 2019), this paper outlines possible research directions. It presents a methodological framework articulated along two axes: 1) short-long supply chain and 2) handmade and techno-oriented. These two axes create four areas: Do It Yourself, Future Artisans (*Futuro artigiano*), Digital Manufacturing, and Industrial Experimentation.

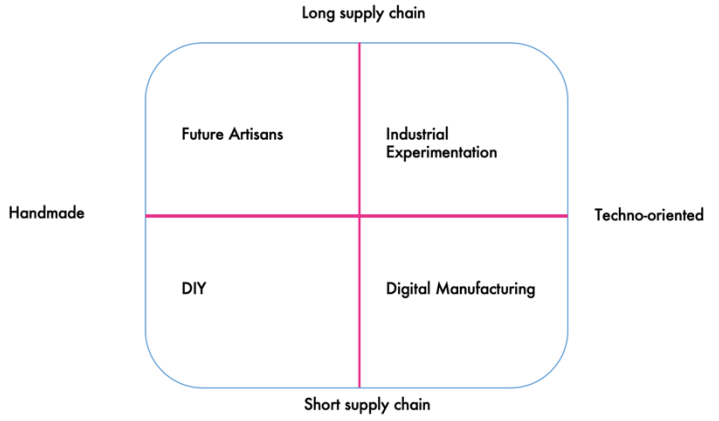

Figure 1. Fashion futuring methodological framework.

Future research on Italian case studies will test the validity of this framework. The research hypothesis is that an Italian design laboratory in fashion can prefigure new material cultures. In the next two sections, we provide the context of this design laboratory's experimental and prefigurative character, outlining the main points in two intersecting debates: one on fashion futuring and the other on "laboratory Italy" (Hardt, 1996).

2. Fashion Futuring and Sustainability Debate

The concept of design futuring stems from the work of design theorist Tony Fry, who has argued for the need for new directions (redirecting) in design to respond to a world that has become unsustainable. Re-directive practices facilitate knowledge exchange; politically contest the unsustainable status quo; promote the transformation of knowledge into action; and shape communities of change working towards a common goal. Importantly, as Fry emphasized, re-directive practices break away from established ways of thinking, working

and making, and producing new designed objects and new design cultures, practices, and designers (Fry 2009, 2014).

"Futuring" is becoming an essential concept in fashion, thanks to the sustainability scholar (Alice Payne, 2019). Payne understands futuring as a dynamic process able to negotiate between two opposing interpretations of sustainability. The first interpretation sees futuring an optimistic and gradual technological evolution towards a cleaner industry. The second endorses a more prudent approach to freeing fashion from the imperative of unsustainable growth of capitalism.

The concept of fashion futuring allows overcoming the exclusivity of some of the proposed sustainable solutions to fashion. These positions include, for instance, "eco-fashion" beyond environmental sustainability (Scaturro, 2008; Brown, 2010); "slow fashion" as a critique of the acceleration of fashion production and consumption (Fletcher 2007, 2010; Clark 2008); and the ancient Greek philosophical concept of "beautiful and good" (Frisa & Ricchetti 2011), which combines ethics and aesthetics. These approaches reaffirm fashion as an elitist concept that exclusively entails the linkage between slow and expensive, innovation and luxury. On the contrary, fashion futuring is a new approach to the debate on sustainable fashion that emphasises initiatives ranging from the creation of circular economies (Smith, Baille & McHattie 2017) to participatory design models (Hirscher, Fuad-Luke 2013) and open design (Romano 2015). All these initiatives have in common the quest for a more holistic approach to fashion design, manufacture, and consumption. For instance, it entails DIY practices and innovation supported by the free circulation of ideas and skills.

3. Fashion Futuring the "Laboratory Italy"

Italy represents an interesting case study because big brands, emerging designers and a plurality of artisans coexist in its territory. Each has its narrative, stressing respectively, marketing, creativity, and manual work's intellectual character (d'Ovidio, 2015). Together, these dimensions show how fashion in Italy is a multifaceted and a complex phenomenon, defined by positive tensions between traditional techniques and new technologies.

This research project is part of a network of studies investigating fashion in an interdisciplinary key and its complex relationships with capitalism’s history. The project moves from the idea of "Laboratory Italy" as theorised by Michael Hardt as a political experimentation model in which theory and practice go hand in hand. In Hardt's words:

"The relationship between theory and practice remains an open problematic, a kind of laboratory for testing the effects of new ideas, strategies, and organisations. Revolution can be nothing other than this continually open process of experimentation." (Hardt, 1996, p.2)

In recent years, "Laboratory Italy" has gained new momentum and new meaning. A new momentum, because it has been seen as a paradigmatic concept to rethink Made in Italy as a “cultural counter-hegemony in an international market dominated by the United States”

(Balicco, 2018, p. 39). A new meaning, because it has been expanded from political philosophy to the rich cultural pluralism of Italian design, and tested in the fields of fashion, architecture, and visual and performative arts (Bolgherini, et al., 2018).

The research thus adopts an approach that combines the two theoretical debates around "Futuring fashion" and "Laboratory Italy", to identify, map and analyse emerging re-directive and experimental practices in the field of design, production and communication of fashion in Italy. A result is a theoretical tool for investigating new areas of contact between creative practices in the field of fashion and forms of activism (Vanni, 2020).

We identified futuring practices and Italian laboratory in fashion in the intersections of the following four directives: Do it Yourself; future artisans, digital manufacturing, and industrial experimentation.

4. Fashion futuring: a methodological framework

This section expands the methodological framework we outlined in our introduction. This framework is a mapping instrument built in two dimensions: the practice and knowledge axis, that moves from the handmade to the techno-oriented, and the production and distribution axis, that moves from short to long supply chain. These two directions intersect to form four quadrants, and each of these quadrants includes design practices, theory, and artefacts. This framework is a methodological tool to think through emerging design practices that we will map in the next stage of our research. As it often happens when methodological frameworks are tested in fieldwork, the framework itself may change.

4.1 Do It Yourself (short supply chain + handmade)

The 2000s has seen the revival of self-production practices in clothing, from knitwear circles to cutting and sewing courses. These practices point to the desire to escape classic production and consumption mechanisms and re-evaluate individual creative abilities. Feminist perspectives recovered knitting, crochet, embroidery, and other domestic crafts as examples of creativity and unpaid female labour (Greer, 2013; Hackney, 2013: Rosner, 1018). More recently these crafts have expanded through the use of web 2.0 (Gauntlett, 2011), for examples with websites dedicated to particular techniques, with platforms that enable short supply chains (Etsy) and with visual social media (Pinterest and Instagram).

Handmade, craft and DIY are labels that often recover creative, minorities practices, following feminist studies on the politics of making activities and the historical omissions of women's crafts (Parker & Pollock, 1981; Greer, 2013; Hackney, 2013). As signs of personal creativity, these DIY practices mobilise an imaginary of individuality, economic resilience, reinvention of traditions, a more democratic fashion and forms of "quiet activism" (Hackney, 2013). DIY also appeals to an appetite for new frugality (von Busch, 2014). Finally, making or buying from makers are also acts of micro resistance and material disobedience to the many

ethical and environmental issues surrounding fast fashion. Artisanal and handmade products appeal to a quest for authenticity, uniqueness and added value against the ubiquity of fast and high street fashion (Micelli, 2011). With regard to Italy, a case in point taken into consideration during the initial stage of the research is Talking Hands, a permanent workshop of fashion design and social innovation established in Treviso in 2016. It involves migrant workers from developing countries and adopts manual activity as a form of narration of their lives and dreams (Franzo, 2020).

4.2 Future artisans (long supply chain + handmade)

Futuro artigiano is the title of the book (2011) by Stefano Micelli dedicated to hand made artisan cultures and practices, which the author places at the centre of the concept of Made in Italy. Micelli maintains that it is precisely the skills of "knowing how to make artisans" (Sennett 2008), both in small and large companies, that make Italian manufacturing attractive at a global level. Handmade becomes a meeting point between local and global. An example is how small fashion independent brands as Ijo' Design, funded in 2001 by Annalisa Surace, have revived the Apulian traditional weaving on olive wood looms. It has gained an international profile and has been selling its designs through The Lobby, an experimental concept retail born in 2018 in Stockholm to offer short contracts to niche brands, providing them with small in-store spaces for the presentation of their collections to the public and the buyers. Another enlightening example is the Italian textile company Bonotto, which has contributed to promote the “slow factory” model against industrial standardisation and low-cost mass production. As the company website explains, in the Bonotto firm, industrial production processes "are entrusted to mechanical machines with no automation rather than to electronic machines. Old, discarded, and neglected looms, precisely because they are 'slow'" (Bonotto 2020).

4.3 Digital manufacturing (short supply chain + techno-oriented)

The advent of a new culture of making (maker culture) coincides with the desire to re-imagine production and consumption in the direction of sustainable futures, and the capacity to blur distinctions between producer and consumer. The spread of digital technologies such as laser cutters associated with open source software has generated new ways of thinking fashion design and new design processes. In the field of fashion, digital manufacturing is not limited to the production of new objects. Instead, digital manufacturing includes the reinvention of a 0 km fashion chain and the creation of new designers capable of integrating artisan know-how with digital knowledge. It also includes the invention of new technology or the hacking of existing tools. For example, the Milanese makerspace We Make runs Digital Fashion training programs that use open source technologies and remixes specific fashion design with digital technology knowledge and practices. For instance, pattern making draws both on 'traditional' fashion design methods and the possibilities of parametric patternmaking software (Seamly2) that enables the designer to change specific parameters to alter sizes without producing new patterns for each different size. Similarly,

1980s knitting machines have been updated with a shield and an Arduino microcontroller, used in combination with open-source graphic software to produce innovative patterns (Vanni, 2020). Files with patterns, designs and hacks can be circulated online and made locally (in maker spaces, or other spaces equipped with technologies), and artefacts can be sold through online platforms, such as Etsy. In 2020, the digital manufacturing has shown its potential to transform the fashion industry, overcoming some of the limitations imposed by the anti-Covid-19 measures. To date, the research has explored the four Italian cases of Inversion; Sense – Immaterial Reality; IL3X and Barbara Bologna (Vaccari, Franzo & Tonucci, 2020).

4.4 Industrial experimentation (long supply chain + techno-oriented)

Sustainability has acquired central importance at an environmental, socio-cultural and economic level. The logic of 'Reduce, Reuse, and Recycle' informs a rich pool of experiments. This is the case of the invention of new fabrics made of living materials such as mushrooms (Mycotex by Neffa), or waste milk (QMilk), algae (Algae Apparel), and agricultural residues (Crop à Porter). The latter is mainly developed in Italy, where the local agri-food production has plenty of raw materials to experiment with and to sustain a circular economy based on waste transformation. Orange Fiber is a Sicilian company that turns citrus peels into textiles. The apple skin leather Frumat and the wine waste leather Vegea are manufactured by other two Italian companies specialised in vegan and eco-friendly materials. The initial phase of our research has highlighted how these sustainable and innovative examples (Franzo, Vaccari, Vanni & forthcoming) can contribute to radically transform the textile and leather industries, which in the 20th century have been the cornerstones of the Made in Italy.

5. Discussion

Fashion futuring theoretical framework intends to highlight new areas of contact between fashion design and forms of activism; traditional craft skills and technological innovation culture; and small scale high-quality productions and digital manufacturing. Also, it aims to contribute to rethinking the cultural, environmental and socio-economic implications of the role of the fashion designer, from their working conditions to their weltanschauung (Vaccari, 2012). Building on "Laboratory Italy", this research intends to overcome the traditional interpretation of Italian fashion inherited by the late 20th century and built upon the opposition between the mass politicisation of Italian culture in the 1960s and 1970s and the hedonism of the 1980s and the following decades, epitomised by fashion. The research highlights the role that Italian fashion could play in the 21st century when fashion and fashion design can contribute to generating forms of resistance and resilience to global climate change.

The research combines fashion studies, design theory, historical research, field research, and qualitative analysis on the methodological level. On a territorial and national scale, this

research relates to independent fashion designers, start-ups, small and medium enterprises, sustainability departments of luxury groups, independent fairs dedicated to craft and sustainable fashion such as Venice Fashion Week, international associations such as Fashion Revolution and the Fab-Lab network.

This research has the main theoretical objective of conceptualising an Italian theory of fashion and study the new material cultures generated by fashion futuring. The research also aims to support sustainable futures, helping to face the current climate and environmental emergency through disseminating and enhancing practices aimed at redirecting fashion design as a product and re-imagining it both at an individual level and as a collaborative practice.

Conclusion

Fashion for the future is an emerging theme, able to catch the interest of global brands, small-medium scale firms, and independent designers. The fashion futuring research project is part of a network of studies that investigates fashion in an interdisciplinary key and in its complex relationships with the history of capitalism on the one hand, and, on the other hand, the literature on sustainability. This preliminary study has identified "futuring" practices in fashion design in the intersections of four directives: Do it Yourself; Future artisans; Digital manufacturing; and Industrial experimentation. This framework could help to enhance the understanding of fashion sustainability, by offering a tool for mapping it and putting in relation the broad spectrum of experiments found in Italy today.

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