

THE CRAFTSMAN AND DESIGN 4.0

A RECONSIDERATION OF CREATIVE VALUE

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Abstract

The paper has the intention to open a thinking space for the complexity of the scenarios in the current Italian manufacture: promoters of Italian excellence on one side and places for theoretical debate over the wide mutations we are living on the other.

The evolution of the industry 4.0 allows us to reconsider methodologies and resources to keep our heritage of beauty and practical knowledge alive and thriving. The study moves through a theoretical framework where we encounter the strong necessity for digital and technological evolution, as well as the stewardship for the figure of the artisan, a skillful identity who enriches the meaning of our projectuality through their mastery and handcraft.

The Made in Italy concept functions then as a catalyst for study and consideration, launching a discussion that is just complex as it is necessary.

Keywords: Transition Design, Design 4.0, Creative process, Made in Italy, Craftsman

Transition Time

The historic era we are finding ourselves in presents remarkable and dynamic changes which allow to deepen the necessary and worthwhile research in order to comprehend the situation we are currently called to investigate.

The evolution of the 4.0 industry brought especially significant mutations in the fashion industry, for it may be the field which better understands the urgency for an evolutive process in Italian manufacturing and artisanal systems. Its nature allows it to orient, condition and tell about the values and the involved territories to an international audience. The concept of circularity, sustainability and digitalization introduces a crucial shift to the Italian manufacturing practices.

Terry Irwin identifies the concept of Transition Design, an emerging research area which underlines the recognition of being amidst a time of transition (Irwin, 2015); in this framework, he places the natural condition to rethink more sustainable futures and elects design as the means par excellence to pursue this aim.

Detecting Transition design and Design 4.0 becomes therefore fundamental, for it entails

the necessity to reconsider the methodologies and tools which were previously applied, along investigating new trajectories to be found. Within this dimension, the concept of Made in Italy itself can find an evolutive rebirth, as the relationship between manufacture and handcraft, design and territories of production transform. Hence the need to reconsider the roles of their characters, lands and identity. Specifically, the figure of the artisan is capable of regenerating itself and contributing to the creation of value, where experimentation is fueled by research and technological specialization. Identifying design as the central element, understood as a process of connection and reconfiguration of resources (Vacca, 2013), it generates a complex supply chain characterized by the coexistence of artisanal and industrial processes, which are hybrid and multifaceted.

Designed in Italy

The artisanal component has always been inherent to our territory, both in terms of realization and in regards to the conception and implementation of design practices closely linked to Italian design

(Rossi, 2015). In this dimension, knowledge related to tradition and craftsmanship actively contributes to the enrichment of our cultural heritage, preserving them while simultaneously allowing for a reevaluation of the design process, giving it new boundaries and forms. The powerful dichotomy of tradition and innovation finds space for a significant reinterpretation today, where the vast production capacity allows for great experimental leaps, leading to the reconfiguration of the value chain itself. The work conducted by Paola Bertola and Federica Vacca in the book "Eccellenza italiana: artefatti ad alto contenuto culturale" is particularly interesting, as the authors identify the main variables in which the strong relationship between design and craftsmanship in Italy emerges (Bertola & Vacca, 2020).

The reflection finds its starting point in the ability to articulate a design language that is capable, on one hand, of preserving artisanal knowledge by emphasizing specialization and engaging with material culture and territorial tradition. On the other, it is activated through reinterpretations of traditional practices and techniques that acquire new meanings. Hence, there is a need to enhance the content by harnessing and utilizing new technologies which are capable of conveying different meanings and adapting to the changes that design is called upon to address nowadays. The aim to reconfigure the value chain takes shape in the debate between the traditional dimension and an approach focused on process redesign and new design forms. While historically the distinction between industrial and traditional products was linked to the quantity brought to the market, the current scenario supports the concept of small-scale ultra-luxury production. This dimension highlights exceptionalism, uniqueness and dynamism through customization and the definition of a private and intimate sphere of consumption (Branzi, 2009; Colombi, 2009).

These considerations allow us to interpret the Italian context, understanding the complexity of the relationship between design and craftsmanship, without neglecting the process of cultural innovation with which these practices continue to enrich our heritage. Their presence ensures the perpetuation of the concept of excellence as a cultural quality that manifests through techniques and innovations, influencing and guaranteeing a distinctive sense of identity and differentiation.

From Artisan to Design 4.0

The combination of artisanal craftsmanship and new technologies generates a process that integrates designers, artisans, producers, and consumers more effectively. The potential of this strong and rooted relationship constantly produces innovative solutions. In fact, "Design [...] is about saying and doing, it is industry and craftsmanship, it is art and functionality, it is process and method; above all, it is the driving force behind continuous, not merely specific, innovation that aspires to intervene in the entire process from the conception of things to their role in our life systems" (Follesa, 2013, p.19). This statement emphasizes the intention not to nostalgically chase artisanal trades of the past but, on the contrary, to valorize the profile and characteristics of the artisan: the passion for quality work, the constant commitment to improving and deepening techniques, and the rootedness in socially recognized communities around practice (Micelli, 2011).

The current challenge lies in finding the best way to promote the encounter between creativity and artisanal work. The approach of Design 4.0 serves as the ideal guarantor to create the conditions for this meeting point, utilizing the digital revolution and its tools, while responding to social needs, design techniques, and globalization. The goal is to enhance the territory and its craftsmanship. The potential of this process is remarkable, considering themes related to traceability, such as using blockchain technology to demonstrate and guarantee originality and to reconstruct all phases of the production process, including origin and materials that are used.

The use of virtual reality as a tool to engage the user in order to refine processes within the production cycle is also noteworthy. Realistic simulations are employed to manage data capable of conducting future maintenance and providing valuable feedback to the designing process (Beltrametti et al., 2017).

Supporting this, the experience conducted by FCA - Fiat Chrysler Automobiles is particularly worthy of note. They have developed specific studies and research to bring forward new approaches with the purpose of analyzing the ergonomics of workstations. The use of technological tools has made it possible to define a three-dimensional virtual environment, verifying and identifying configurations capable of adapting to the operator and the product, thus generating more flexible

production processes (Caputo & Lardante, 2016). The interesting aspects that emerged include operator visibility, reachability, tool usability, comfort, and even individualization of potential workplace hazards.

In this context, the functional transformation of processes, which can be enhanced by improving the production evolution implemented by technology, becomes evident. It offers products on the market with new experiential functionalities. Therefore, we can affirm that Design 4.0 plays a central role in this transformative phase where the object of design shifts from the artifact to the process itself, blending technical and humanistic knowledge to ensure the creation of products and services that continue to meet human needs. The emerging model opens up new paths of high design value to explore and experiment with. Speaking of Design 4.0, it is not merely limited to technological conversion but rather to the definition of an organized model in which digitization and interaction coexist with the contribution of specialized and qualified workers who can navigate within dynamic and flexible processes characteristic of artisanal craftsmanship.

New Possible Scenarios

The redefinition of this process brings innovative momentum and extremely interesting dynamics illustrated in the contribution “Virtual Production Districts: The Transition of Made in Italy in Fashion” by Giovanni Maria Conti and Paolo Franzo (Conti & Franzo, 2020). The examined and proposed case studies outline a possible direction in support of what has been said so far. Specifically, these are realities that aim to reconnect artisanal work with innovative systems thanks to the adoption of digital language and tools. The first example is Italian Artisan, a platform created by Davide Clementoni in 2015, which brings together over 300 Italian artisans and more than 1700 international designers, providing a system centered around the design and production of clothing, shoes, bags, and accessories. This platform is significantly interesting as it generates a functional interaction system that redefines the relationship between designers and artisans, allowing them to collaborate and intertwine creativity, skills, and craftsmanship. The project provides technological and human support to facilitate the relational connection between Italian artisans and designers. Interconnection and

networking appear therefore crucial, especially in a complex structure of diversified territories like Italy, where they can overcome geographic limitations and offer an alternative.

The contribution also highlights Up To You Anthology, founded by Nicolò Gavazzi in 2019. One innovative aspect of this other platform is the ability to access the “Design your bag” section. In this area, users can propose their own bag ideas by providing all the necessary elements for its realization. The team evaluates the project’s suitability and introduces the user to a consultant who will accompany the product’s development and production, involving various artisans. Subsequently, still-life photos of the prototype are made for the placement inside the e-commerce platform, allowing pre-order sales. These creative projects find their space once again in the creation of a new design approach, making the production system of Made in Italy more accessible. Traditional production processes are evolving by utilizing artisanal and specialized craftsmanship whilst embracing the opportunities offered by digital technologies.

Lastly, Hands on Design, created in Milan in 2015, is a platform for jewelry and other design objects, connecting international designers with artisans, with products available for purchase in a dedicated e-commerce section. The project unfolds through concept interpretations by designers, which are then presented to artisans who, based on their skills and specialties, select the ones then to be created. The system that emerges defines a synergistic collaboration between designers and artisans, mediated by the coherence criteria adopted by the platform. An essential characteristic of this system is the equality of visibility for all participants in the design process. The website’s structure encourages this equality by presenting images and descriptions of designers and artisans side by side, giving them equal value. These examples demonstrate new configurations of the protagonists who animate Design 4.0, maintaining a central role in redefining otherwise seemingly consolidated systems.

Marzotto: Digital Advantages

The textile industry is proving to be particularly open to change and increased use of digital technologies to incorporate them into their production processes, identifying the significant advantages that these tools can provide to the

innovation of the entire process. The positive momentum towards these new approaches ranges from the development of fabric prototypes to the actual production phase. This enthusiasm needs to be examined within a series of considerations that the company must take into account in order to meet and satisfy the needs and desires of customers, without eliminating or losing the skills and specificities that distinguish it.

Marzotto Group, specifically, has understood the potential of digitalization from the outset, evolving the working process by trying to reduce the use of physical and real fabric samples towards a digital version. This operation is intended to arrange an immediate image of the fabric, anticipating the actual production phase. The considerations that arise rotate around the difficulties in guaranteeing a realistic fitting starting from two-dimensional CAD designs, which must reflect the physical characteristics of three-dimensional fabrics. The second critical aspect relates to the need to use an interface that is suitable and compatible with the various CAD softwares used by Marzotto's clients, in addition to the training process of the users themselves. Despite these aspects, the digitalization process conducted by the group has reconsidered various stages of prototyping, distinctively: measuring colors, materials, and fabrics; distributing data through interfaces and monitors; sophisticated reworking of two-dimensional and three-dimensional models of the projects. The ultimate goal is the digital connection of all these various processes. In this regard, Luca Bieco, IT specialist at Marzotto Group, states: "One of the critical factors to evaluate and monitor is the sharing of know-how and inter-functional collaboration with our business partners in order to ensure a multidirectional workflow," he continues, "We have long sought a solution that meets our precision and color accuracy requirements. With the renowned EIZO graphic processing models, we have found what works for us" (EIZO, 2023). The use of these highly technological devices has allowed precise and efficient color calibration, guaranteeing exceptionally realistic samples and unerring reproduction of physical models.

The provided example clarifies one of the many facets that can be explored and developed by brands and companies using technological tools. It furthers the possibility of specialization for various artisans working within the system, providing new stimuli and innovatively expanding skills and expertise,

generating and training employees capable of operating in increasingly advanced and design-flexible systems.

Conclusions

The revolution of Design 4.0 proposes a reflection upon a new organization of the creative process, one that is capable of opening innovative and valuable perspectives. The intention of this brief overview emphasizes the importance of the role of the artisan, which maintains a central position even in the era of Design 4.0, linked to the transformation and digitalization process of Made in Italy and Italian manufacturing.

Design 4.0 appears to be a connector capable of keeping the centrality of the artisanal presence alive in contemporary design processes, carrying knowledge and practices developed and improved within the workshops and ateliers, made then available to designers and the industry (Andamson, 2007). The emerging model carries a significant amount of value, shifting the focus from the artifact to the process itself, not only by digitally converting the system but also by creating a new balance between the specialized operator and increasingly dynamic and flexible processes.

This powerful synergy is able to respond to social needs, techniques, and the globalization of design, celebrating the territory and its craftsmanship. The cultural and treasurable heritage that belongs to us should not only be made known and preserved, but also be meant to provide an opportunity to rethink the relationship between creativity and production, fashion and the territory, tradition and innovation. When hand and machine, artisanal awareness, and technological innovation come together, the conditions for the revival of the creative and productive process, which is so characteristic to our design identity, grow.

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