

Springer Series in Design and Innovation 37

Francesca Zanella · Giampiero Bosoni ·
Elisabetta Di Stefano · Gioia Laura Iannilli ·
Giovanni Matteucci · Rita Messori ·
Raffaella Trocchianesi *Editors*

Multidisciplinary Aspects of Design

Objects, Processes, Experiences and
Narratives

OPEN ACCESS

 Springer



Fashion Education: Cultivating Fashion Designers-Plants

Clizia Moradei 

Università Iuav di Venezia, 30135 Venice, Italy
cmoradei@iuav.it

Abstract. In the context of the contemporary social and ecological crisis, this contribution proposes a reinterpretation of current fashion design educational programs through a bio-inspired perspective, with the intent of guiding next generation fashion designers to successfully face such issues. The investigation delineates the theoretical subsoil to frame the topic by illustrating some key concepts connected to ‘fashion futuring’, ‘making kin’, plant neurobiology, collective authorship and co-design, translated within fashion studies. Specific plant neurobiology and botanical definitions are then applied to the qualitative analysis of two peculiar didactical case studies: the Master in Co-diseño de Moda y Sostenibilidad at the Escola d’Art i Superior de Disseny de Valencia (Spain); the course in Biomoda at the Universidad de los Andes (Colombia). Proven the evidence that nowadays the needs of the planet and those of the fashion labour market must be realigned, the ultimate goal in education must be to train professionals capable of pursuing principles of sustainability. This is possible implementing redirection practices in a ‘futuring’ perspective, by operating as a collective parental-like organism establishing multidisciplinary dialogues. The vegetal metaphor allows weaving analogies between specific plant attitudes and today’s essential design requirements. Such aspects are not only useful to visualize and guide the creation of collective paths and sharing dynamics, but also to enhance the structuring of emerging experimental academic fashion curricula on the model of the fashion designer-plant hybridization.

Keywords: Fashion Education · Fashion Futuring · Making Kin · Plant Neurobiology · Co-Design · Biofashion

1 Introduction

On a planet interfacing with a proven social and environmental crisis, it appears crucial to realign the academic curricula in fashion design in order to prepare future fashion designers for today’s competitive and increasingly unsustainable fashion industry. Overall it has become necessary to educate students to co-operate as part of larger organisms, besides acquiring cross-disciplinary skills to handle the growing permeability of fashion practice. Fashion, in fact, appears to approach a biotechnological revolution through the manipulation of living organisms thanks to the collaboration of design and science [1]. Given these considerations, the essay proposes the re-reading of the educational

© The Author(s) 2024

F. Zanella et al. (Eds.): Design! OPEN 2022, SSDI 37, pp. 443–451, 2024.

https://doi.org/10.1007/978-3-031-49811-4_42

paradigm within fashion design through a plant-inspired metaphor. «For millennia, plants have been regarded as animated superior intelligent beings and honoured as teachers by many cultures» [2, 4]. Affirmation which clarifies why such vegetal metaphor is key to redefine living beings activity on a damaged planet, a world where too often plants have passed unobserved [3]. The first part of the essay outlines the theoretical framework by enlisting heterogeneous introductory concepts borrowed from fashion studies. Some notions related to neurobiology and botany are applied in the second part to develop a bio-inspired analysis of two case studies of didactical methodologies. The aim of the paper is to show how the biological and botanic fields penetrate fashion design processes; demonstrating how a plant-oriented paradigm offers a practical guide to cooperation, to establish more sustainable partnerships and experiment with nature-based solutions.

2 The Soil of the Vegetal Metaphor

To frame the soil of the metaphor means in first instance to reflect on what Fry [4] defines as ‘futuring’. Such notion aims at re-establishing sustainability in a world that has become unsustainable through redirection strategies oriented towards shared objectives. Fry’s studies have been applied to fashion studies and – as remarked by fashion scholars Vaccari and Vanni [5] – this produces a shift in the role of the designer, seen as the interpreter of a new collective approach. Concurrently, Payne [6] explains ‘fashion futuring’ as a dynamic process of negotiation between what she terms the ‘taming’ and the ‘rewilding’ of fashion, reconfiguring a balance between technology and tradition, artificial and nature. To this end, it is important to learn to act as a collective parental-like organism by ‘making kin’ [7]. Kinship indicates a relationship of intimate affinity, not exclusively among human beings but interconnecting all living beings. Such ‘making kin’ is associated here to the mutual synergy between fashion designers and plants. As Bondí [8] writes, the Greek philosopher Anaxagoras was the first to rigorously define mixing as the proper form of the world: everything is in everything (*pàn en pantí*). Mixture that in Bondí’s interpretation transforms the world in a space of universal transmissibility, where experiencing the world necessarily means making a world through acts of anthropization. As a consequence, the urgency to spread awareness on the human-nature co-responsibility.

The studies of Mancuso [9], pioneer of plant neurobiology, are analysed to re-imagine a new form of collaborative community. As Mancuso clarifies, plants are not individuals. Despite humans and animals, if divided into two or more parts they don’t die but multiply – simply think of propagation by cuttings or grafting. The main concept borrowed is that of ‘plant-colony’, which indicates the phenomenon whereby each single root acts autonomously while silently cooperates with the other root tips to solve problems concerning the overall life of the plant. It is therefore the entire root system that guides the plant, like a sort of ‘collective brain’ [9] or distributed intelligence, over a surface that can be enormous in the darkness of the forest subsoil. This ‘collective brain’ has the peculiarity of ensuring a distributed organization in the absence of a hierarchy, thanks to the modularity and interconnection between its parts, proving that plants have both a distributed intelligence and an exemplary capacity for collaboration. Although numerous design disciplines have already adopted methods based on participatory design, a

collaborative paradigm in fashion design appears not to be yet fully incorporated (Pardo-Cuenca) [10, 11]. Thus, hindering fertile forms of role sharing, active collaboration and networking.

As discussed by Vaccari [12], the debate on authorship dates back to Barthes [13] and to Foucault [14], where the authors identify in the ‘author-function’ a set of historical and social phenomena responding not so much to the reality of the individual as to the system that regulates it. Therefore, the fashion designer assumes the role of social mediator between reality and imaginary. Paradoxically, looking closer at the history of costume evidences how often its fruits result from collaborations [12]. What is innovative about today’s fashion partnerships is the diversity of the nature of such alliances that involve an increasing rate of experimentation and interdisciplinarity. Fashion designer J.W. Anderson in an interview says: «You can be most genius designer in the world. You can make the most incredible clothing and come up with the most incredible silhouettes, but if you’re unable to collaborate, it will never grow». Today, creative collectives and teamwork are celebrated as a way to excel in a difficult and competitive industry, as the most modern way to survive in the big fashion business. The fundamental shift is to figure oneself neither as competitor nor as neutral, but rather as a person who is part of a collective identity and who’s inevitably defined by the relationship with others [15].

The framing of the theoretical soil of the vegetal metaphor discloses two main themes: the request for more collaborative skills of fashion designers to overcome the limits of individual authorship; the ability to develop interdisciplinarity for their survival in a demanding labour market and to prevent further environmental disasters. The essay describes the emerging phenomenon whereby co-design and biology are grafted onto fashion design curricula inspiring the education – or cultivation – of fashion designers-plants.

3 Nurturing Hybridity

Inspired by a neo-positive attitude towards the resolutions of the environmental emergency through fashion education engagement, I apply a plant-oriented perspective of investigation to display two recently developed educational practices. Drawn on the affinity with neurobiology’s concept of ‘collective brain’, the first case illustrates the experimentation of co-design practices in fashion education. The second case is exemplary of the interdisciplinary hybridization – in line with the botanic definition of chimera – which fades the borders of fashion design. It consists of a qualitative research applying the methodology of live interviews; useful to explore details and origins of the programs structure, to probe specific professor-student dynamics, to compare advantages and disadvantages, and to collect impressions on the overall results of students’ educational curricula.

3.1 Designing as Plants’ Collective Brain

Thanks to my fellowship research project FabbriCrafter (2020–21) at Università Iuav di Venezia under the scientific responsibility of professor Alessandra Vaccari, I collaborated with professor Desamparados Pardo-Cuenca during my visiting research. Pardo

is founder and coordinator of the Master in *Co-diseño de Moda y Sostenibilidad* at the public Escola d'Art i Superior de Disseny de Valencia (Spain). The one-year Master was founded in 2014 and is based on two fundamental pillars: the practice and implementation of collaborative design methodologies and the development of open design processes for sustainable production. My intent during the interview was to draw analogies that could demonstrate and answer the following question: could we define this way of teaching fashion design as cultivating a 'collective brain'?

First of all, a curious fact that emerged from our conversation is how the term co-design is often confused with eco-design, which doesn't sound like a coincidence but rather proves their intertwinement. Hence, the combined name of co-design plus sustainability. The idea for the program of the Master originates from Pardo doctoral thesis [10], focused on bringing the collaborative methodology of co-design to fashion. One of her key research topics was the investigation through an estimated value scale of creative unlocking, to demonstrate how working together helped this process (Fig. 1). Another significant fact discussed in the interview is the importance of the students selection phase, which strongly affects the general outcome of the course. The assortment of the students group is attentively evaluated by the commission, whose members should estimate attitudes and foresee possible group roles. It is essential to identify people capable and motivated to work in team, rather than personalities who want to stand out or overpower in the wake of the traditional stylist. With some exceptions, the most part of the students are in their 23–26, that is the age they finish the four-years Bachelor. Previous fashion design or fine arts studies are privileged, since they ensure the basic knowledge and technical competences to develop subsequent team skills. In addition, class groups are kept limited in number (maximum 15 are selected each year) for a more effective management.

Co-design materializes in the Master program in its structure made of two semesters: three practical classes which result in three collective fashion projects; a set of theoretical classes that reflect as well the collaborative approach. Unfortunately, not all professors are prepared for this methodology and tend to orient towards the development of individual researches. So, besides the students selection process, another critical step is to prepare an educational team capable of triggering interactivity and dialogue with and among students. Within this perspective, educators interpret the role of mediators orienting the fluxes of information. As theorized by Manzini [16], in a world in transition in which everyone – individuals and collectives – is called to design in order to redefine its life project, we are witnessing a wave of social innovation with a sustainable matrix consisting of an open co-design process in expansion. As a result, the new frontier is the construction of a new shared and more malleable educational paradigm. «Co-design is a rupture of hierarchies, a rupture of alienation, a rupture of institutions, it is a collective enrichment. It is also breaking prejudices, bringing fashion to the right place and not seeing it as something superfluous» stated Pardo.

The last questions were intended to verify how much do students assimilate the practice and whether they re-propose it in other projects or professional activity. Previous co-design teaching experiences held by Pardo testified how fashion design students strengthened their creativity, self-esteem and motivation when they work with co-design methods, while the students' confusion and anxiety levels lowers [10]; Pardo-Cuenca



Fig. 1. Initial phase of the co-design process: development of a collaborative moodboard for creating students' collective identity in order to design a group capsule collection. Photograph courtesy of the authors.

and Baldan [17]. As an evidence of absorption, the last group of students graduated in 2020 participated autonomously but collectively in the European Social Innovation Competition 2020 *Re-imagine fashion: Changing behaviours for sustainable fashion*. The group, selected among the finalists, was headed by a former student whose interest for collaborative design further lead her to found MeuTeu co-design lab with four of her colleagues. This scenario stands in the representation of a rooting plant system, where each student moves autonomously but harmoniously cooperates with the others to achieve common goals. Thought and design processes flow according to a rhizomatic net (Deleuze and Guattari) [18]. The combination of co-design plus sustainability assembles the perfect attempt to stir the soil of fashion academic programs to bring them on a horizontal and non-hierarchical level. Proving the efficiency of collective designing for both the design process and the quality of the working environment, this case study appears to translate the principle of 'collective brain' into fashion design education by nurturing future fashion designers-plants.

3.2 Students-Chimeras

An important aspect links this second case to the previous one: a plant-oriented educational paradigm seems to imply engaging with the issue of sustainability. The *Biomoda* course started with its first edition in the Fall 2020. It is a one-year elective class part of the Bachelor curriculum in Product Design at the private Universidad de los Andes (Colombia). Most of the students who choose it are towards the middle or end of the Bachelor. Carolina Obregón and Giovanna Danies Turano, professors and co-founders of the course, represent an innovative teaching duo. Their professional background is

briefly reported to understand how they are reflected on the peculiarity of the course. Danies introduced: «Who we are is more than who we actually are, but we as a team have created a very nice marriage. We really enjoy working together and I think this is very important for you to understand how it all started with the *Biomoda* – or *Biofashion* – course». Danies is a biologist and microbiologist with a PhD in plant pathology. Her passion for education took her to become professor in the School of Architecture at the Universidad de los Andes within the program in biodesign. «As a scientist I was always expecting the results I formulated in the beginning, while in design it is about open-ended questions that depend on the methodologies you follow and which can draw a circular path, like Carolina has taught me» clarified Danies. Obregón is a fashion designer who studied at Parson's School of Design and worked in the fashion industry for many years, realizing soon how the beauty of fashion wasn't really as beautiful as the clothing itself. This led her to study at the Master in *Fashion Sustainability* at the Aalto University in Finland, which helped her understanding on how fashion practices could better fit the natural world. She has taken part in the *Sustainable Fashion* program at the University of Colombia, and has given a course in *Sustainable Fashion* and in *Disruptive Sustainable Design* at Universidad de los Andes.

Professors Obregón and Danies met thanks to the *Biodesign Challenge*, a multi-university competition born to create a community of collaboration among artists, designers, and biologists, to which the university competes since 2017. It was in 2018 that Danies was hired on behalf of the student's request to receive the support of a biology professional: the soil aimed at cultivating students-chimeras was set. Thanks to this experience and by acquiring the similarity in their educational approach, they combined their expertise to create a common course structured in two phases. The first part of the course focuses on teaching students to handle theoretical background on biology, which in parallel they are requested to put into practice. This independent exploration of the bio world leads students to create a portfolio report recording temperatures, weather conditions, origin of the samples, and any detail influencing the methodology adopted to get certain results. In the second part of the course, students go beyond observation and analysis to be guided by Obregón in the design process. They are very open to what is considered fashion piece, the important is applying the best of their former experimentations. Obregón observed that for the majority of the students it is an introduction to a world they don't know though, even if in the beginning students can be hesitating, once they get involved they immediately feel "scientists", so in the second phase they have to pull them back to being fashion designers. Students are guided into developing a fashion piece – often working in team – aware of the business side of biofashion too (Fig. 2).

Even though biofashion may indeed offer a greener version of the industry's extractive status quo, and yet may be imagined as a human kinship with the living world [1], it also represents a critical point when resuming strength and weakness of teaching and learning design interdisciplinarity. Obregón specified: «We don't have an issue teaching interdisciplinarity, it's more the hesitancy of the students into being open in just experimenting whatever happens. They cannot know how fast the fungi are going to grow or if they're going to be the colour they want to obtain». It's been observed how often



Fig. 2. Last stage of assembling for the creation of the project *Brideology* by students Juanita Salga-do, Manuela Mestizo, Maria Camila Calvo, Sara Lucia Gonzalez, Sofia Moncayo. Wedding dress made in bioplastic with organic dandelions insertion realized using made-to-measure pattern molds. Photograph courtesy of the authors.

students get anxious when experiments don't work, but failing is part of the whole process. As a professor, the goal must be to teach them to be flexible and risk-takers, since biology works at its own rhythm without enabling total control. In addition, this process of combining scientific methodologies and biomaterials with fashion design results in a handwork, whereby the limits of scalability and costs arise. As a final note, Danies remarked the definite change in students' mind-sets; testified by many of them who continue to experiment with biological materials in their thesis projects.

The discussion above highlights the reasons why this didactic example recalls the figure of a student-chimera. A chimera is a hybrid plant that owns different natures, that generates oddities in its fruits, that doesn't only co-live with these forms of *bizzarria* (which in botany stands for graft) but also enhances them. A fashion designer who is a hybrid, is someone who accepts its gemmary mutations within his professional interactivity and in his project unpredictable and more experimental outcomes, as elements that characterize and enrich his double nature of fashion designer-plant.

4 Conclusion

In introduction to the essay it emerged how fashion design academic programs need to re-direct fashion designers towards a 'futuring' perspective, by inviting them to 'make kin' with other living organisms such as plants. A bio-inspired re-direction of the educational paradigm, mutating concept from plant neurobiology and botany, is beneficial to guide next generation fashion designers towards more intense co-design practices and involvement in sustainability. It is able to guide students to co-operate as part of a larger

organism while design borders of action are becoming more labile, by teaching them how to adapt to more open and horizontal methodologies. To conclude, the use of the vegetal metaphor applied to two case studies demonstrates how weaving analogies between specific plant attitudes and fashion design helps to enhance the emerging experimental academic fashion curricula in the wake of a hybridized fashion designer-plant.

References

1. Quijano, L., Speight, R., Payne, A.: Future fashion, biotechnology and the living world: microbial cell factories and forming new “oddkins.” *Continuum* **35**(6), 897–913 (2021)
2. Gagliano, M.: Persons as plants: ecopsychology and the return to the dream of nature. *Landscapes: J. Int. Centre Landscape Lang.* **5**(2) (2013)
3. Wandersee, J.H., Schussler, E.E.: Preventing plant blindness. *Am. Biol. Teach.* **61**(2), 82–86 (1999)
4. Fry, T.: *Design Futuring: Sustainability, Ethics and New Practice*. Berg Publishers, Oxford (2009)
5. Vanni Accarigi, I., Vaccari, A.: Fashion futuring: un modello di produzione sostenibile. In: *Remanufacturing Italy. L’Italia nell’epoca della postproduzione*. Mimesis, Milan and Venice, pp. 48–61 (2020)
6. Payne, A.: Fashion futuring in the anthropocene: sustainable fashion as “timing” and “rewilding.” *Fash. Theory* **23**(1), 5–23 (2019)
7. Haraway, D.: *Staying with the Trouble Making Kin in the Chthulucene*. Duke University Press, London (2016)
8. Bondí, R.: *Natura. Il Mulino*, Bologna (2015)
9. Mancuso, S.: *Plant revolution*. Giunti, Florence (2017)
10. Pardo-Cuenca, D.: *La gestión del diseño de moda a través de los valores del consumidor co-diseñando en la didáctica de la moda’*. Universitat Politècnica de València, PhD Thesis (2014)
11. Pardo-Cuenca, D., Prado-Gascó, V.J.: Involving customers through co-creation: an approach from the fashion industry. In: *Engaging Consumers through Branded Entertainment and Convergent Media*, pp. 242–70. IGI Global (2015)
12. Vaccari, A.: *La moda nei discorsi dei designer*. Clueb, Bologna (2012)
13. Barthes, R.: *La Mort de l’auteur*. *Mantéa* 5, (1968)
14. Foucault, M.: *Qu’est-Ce Qu’un Auteur?* (1969)
15. Brown, V., Harris, J.: A collective mind for a just and sustainable future. In: *Agents of Alternatives. Re-designing Our Realities*, pp. 47–57. Agents of Alternatives, Berlin (2015)
16. Manzini, E.: *Design, when Everybody Designs an Introduction to Design for Social Innovation*. The MIT Press, Cambridge and London (2015)
17. Pardo-Cuenca, D., Baldan, P.: *Co-designing in fashion teaching*. Politecnico di Milano (2014)
18. Deleuze, G., Guattari, F.: *Mille piani: capitalismo e schizofrenia*. Cooper & Castelvechchi, Rome (2003)

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

