

Exploring Tomás Maldonado

EDITED BY

Pierfrancesco Califano



Fondazione
Giangiacomo
Feltrinelli

Scenari 45

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POLITECNICO
MILANO 1863

SCUOLA DEL DESIGN



DOTTORATO
DI RICERCA
IN DESIGN

POLITECNICO DI MILANO
DIPARTIMENTO DI DESIGN

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Introductory Note

The idea for this book originated from the inter-doctoral course “The Legacy of Tomás Maldonado”, promoted by the Doctorate in Design and the School of Design of Politecnico di Milano, with the support of the Feltrinelli Foundation. The course, curated by Luca Guerrini and Raimonda Riccini, involved approximately 60 doctoral students and 11 doctoral programmes.¹

From February to April 2021, through the reading of texts and meetings with experts, the doctoral students were confronted with the thought and work of Tomás Maldonado on six themes: the training of designers, the role that artistic practice has in the design process, the

¹ The course involved the following PhD programmes: “Architecture and Design Cultures”, University of Bologna Alma Mater Studiorum; “Architecture, Design, Planning”, University of Camerino; “Environment, Design and Innovation”, University of Campania Luigi Vanvitelli; “Architecture and Urban planning”, University of Ferrara; “Sustainability and Innovation for the Design of Built Environment and System Product”, University of Florence; “Architecture and Design” and “Scienze e Tecnologie del Mare”, University of Genoa; “Design”, Politecnico di Milano; “Architecture”, University of Naples Federico II; “Planning, Design and Architecture Technology”, Sapienza University of Rome; “Management, Production and Design”, Politecnico di Torino; “Architecture, City and Design”, Iuav University of Venice.

environmental issue, the attention to the body and to interaction, the relation between design and technology, the contribution that semiotics and the philosophy of language can make to design. Out of this comparison emerged the essays by the doctoral students that make up this volume.

Before these, the essays by Paola Bertola, Luca Guerrini, and Raimonda Riccini reflect respectively on the perspectives of research in design, the doctoral learning experience gained in this seminar, and the influence that - directly and indirectly - Maldonado has had on the history of teaching design in Italy.

The section of doctoral students' essays opens with an essay by Pierfrancesco Califano that reconstructs how the six themes discussed in the seminar developed in Tomás Maldonado's thought and activity.

Reading Tomás Maldonado: back to Design Research Future

Paola Bertola

Design Research Pathway of Legitimation

In January 2020 the Politecnico di Milano celebrated the thirtieth anniversary since the establishment of its Doctoral Program in Design, the first internationally to be entirely focused on design, of which Tomás Maldonado was the coordinator since 1990. It was born at Politecnico even before the Bachelor Program in Design emancipated from the School of Architecture (1993), and the School of Design and the Department of Design were then formally institutionalized. It anticipated many other experiences that followed at national and international level, feeding the legitimation of design as a research discipline, able to express a specific cognitive attitude, a unique way of “knowing the world” and producing new knowledge.

Today we find ourselves in a highly transformed context both for research practice as a whole and for design itself as a discipline and research field.

On the one hand at European level, starting from the Salzburg document of 2005 (AA.VV., 2005), we have been witnessing a growing

attention to third level education. It is seen as a relevant lever not only to train academics, but to seed new entrepreneurial capacities, promoting research and innovation driven initiatives able to impact on local and territorial development, as other international models have been showing, especially the north American context (Etzkowitz, 2003a; 2003b). The pandemic crisis has layered to this an increased awareness on the importance of constantly developing research capabilities for which PhD education represents the founding pillar and this is giving an additional impulse to investments in it. This is clearly shown also at Italian level with the measures that the government is taking within the PNRR framework (MEF, 2021) to support doctoral education.

On the other hand, design in its statute of academic discipline has been highly transforming in the last thirty years. After the seminal Bauhaus experience, the goal to “scientisize” design emerged with urgency in the middle of last century, in a context increasingly populated by “designed artefacts”, and moved from the recognition of the implicit nature of design practice towards the establishment of the discipline as an independent field of inquiry (Buckminster Fuller, 1957; Bradbury, et al., 2018). The theoretical debate that flourished in the 60s and 70s, especially in the Anglo-Saxon contexts, brought to diversified attempts to formalize a theoretical corpus for design. The need to codify “the” design process led to the appropriation of methodological approaches developed in other scientific fields, such as information sciences, mechanical engineering, mathematics and statistics, as well as social sciences (Collina, 2005), unveiling the undeniable multidisciplinary nature of design discipline (Gregory, 1966; Simon, 1969; Archer, 1979). However, it soon became clear that the elaboration of a comprehensive theory of design based on a set of methodologies able to guide its research approaches and codifying its practices was inconsistent with the nature of design itself. This acknowledgement rose with the epistemological study of several applied disciplines (i.e. medicine, architecture) showing the interweaving of theories and experimental practices in the process of advancing their disciplinary

knowledge (Rosselli, 1973; Schön, 1983; Friedman, 1997; Cross, 2001). Within the Italian context, the focus on “practice” as a specific ontological system of design has always had great relevance. When in 1990 Politecnico was the first University in Italy to institutionalize design research education, it could count on several experiences and expertise both inside and outside the academy. They were all the results of the same reflexive attitude transcending the material dimension of artefacts, an attitude which Emilio Ambasz highlighted in the exhibition “Italy. The New Domestic Landscape” he curated at MoMa-New York in 1972 (Ambasz, 1972). He eloquently titled his introduction to the catalogue *Transcending functions. In the world of Italian design simple shapes mask complex thoughts*, giving a formal recognition to an original body of contributions where design practices and design theories were strictly interwoven. Such contributions stemmed from a large community of “reflexive practitioners”, among which many graduates and professors of Politecnico di Milano (Munari, 1966; Rosselli, 1973; Bonsiepe, 1975; Ciribini, 1984; Branzi 1999, 2008). Across the last thirty years of reflection, theoretical elaborations and design research practices, several advancements have been made reinforcing an interdisciplinary vision of design, blending theories and applied methodologies and building a rich, diverse and connected research community (Bertola, et al., 2020).

Design Research to Critically Question Future Trajectories of Change

After thirty years from the establishment of the first PhD program in design, thanks to several seminal contributions among which the one by Tomás Maldonado remains crucial, there is a general acknowledgment that design research training is a fundamental component for our cultural and scientific progress. And more specifically that it contributes to develop those speculative, critical and planning skills necessary to face the challenges that increasingly characterize our horizon.

More in detail I would like to focus on one specific theme, that of digital transformation, which certainly represents a topic he addressed beforehand with an anticipatory vision.

The context that characterizes our contemporaneity has profoundly changed, also in light of the experience we have lived in the last two years. Some dynamics of transformation, already underway, have been accelerated by the pandemic and today place us even more clearly in the face of challenges that require new categories of thought, new tools and the ability to promote a radical change of paradigm. In particular, along these two years one dimension of transformation has been influencing our daily lives more than others, that of digitization, towards which Tomás Maldonado had arisen many concerns with respect to its implications and potential impacts (Maldonado, 1997).

Indeed, during the pandemic several of the foreseen impacts he had drawn have shown their effects in an unprecedented way, making our reality a mirror of the three dimensions of the digital he had questioned in his book *Critica della Ragione Informatica* [Critique of the Informatic Reason]. Hence, the essay is organized in three main chapters.

The first one is titled *Cyberspace, a democratic space?*, questioning if the digital space generated by new media and networks is really accessible and participative.

The second one is titled *Telematic and the urban scenario*, discussing the dematerialization of our activities and related infrastructures for working and learning, and if they are still able to guarantee the quality of relationships, contents and knowledge.

The third one is titled *Human body and digital knowledge*, focusing on how digital technologies partake in the process of human body “artificialization” started with the technological development.

All these three themes resonate with several topics we have been discussing since the start of the digital revolution and then highly revamped during the pandemic.

First of all, the shift from the “industrial economy” paradigm to the “knowledge economy” one has been opening up a rich debate on the

accessibility of knowledge (Rifkin, 2000). Being intangible and easily transferable it could be potentially shared in a capillar way, especially thorough democratic and distributed web supported by new technologies; but which, in real, has demonstrated to be a factor of politization even worst that the previous ones. All ideologies based on the abstract conception of distributed and participative democracy have been becoming a lever for the growth of Internet colossi, such as Google and Amazon, owning now monopolies within almost completely un-regulated markets of knowledge and information (Sundararajan, 2016). This has become even clearer during the pandemic, where we have been experiencing how much technologies can increase inequalities between the ones that can access them, and the ones excluded, isolating entire urban neighborhoods, villages, regions and areas of the planet.

Also the second chapter seems contemporary indeed. In the last few years, the topic of transforming cities through an extensive technological infrastructure enabling efficient flows, shared services and full connectivity has been guiding the urban planning debate. Smart cities have become symbols for a sustainable transformation of urban environments and for improving citizens' quality of life. This concept of a cyber-physical space has quickly turned into real as a consequence of the pandemic. In a condition of social distancing, digitization has allowed us to carry on with several activities related to tertiary works and professions (a large majority in the first world), to learning and teaching activities (especially developed in western countries), in some cases even increasing our efficiency and working capacity. Looked downside, it turned out to be a factor increasing inequalities towards peripheral areas and activities, and also it has negatively impacted our lives (Sassen, 1991, 2015; Secchi, 2013). It has impoverished our human and social dimension, often distorting our work-life balance. It has demonstrated to be a very powerful tool for teaching and learning, but at the same time not always able to support the development of all students' cognitive capacity. The deprivation of the physical social interaction dimension from learning environments has been heavily

affecting younger generations, growing anxiety, sense of isolation and loneliness.

The third chapter touches perhaps the most sensitive topic within the discourse on technological evolution. In fact, it's never been so evident how implications of technologies which characterize the so-called fourth industrial revolution are unpredictable and unexplored. On the one hand, for the first time in the history of human development, technology is no longer able to simply process data and information faster and in greater quantities, as it happened with the third industrial revolution; but it is able to replicate cognitive processes, that is, to say, to learn and take decisions such as the paradigm of Artificial Intelligence teaches us. On the other hand, a process of convergence between information sciences and biological and cognitive sciences has also been triggered (the so-called Nano Bio Info Cognitive convergence, NBIC) (Dordrecht, Roco, 2016). Especially in the North American context, this process is supported by a strong "technology-driven" vision, in which the prospect of being able to fully exploit this convergence of technologies to enhance and increase human capabilities is highly pursued. This scenario, not anymore so-futuristic, populated by artificial intelligences and augmented humans brings with it undoubtedly unexplored potentials for development, but also urgent ethical questions (Khushf, 2007; Harari, 2017; Russel, 2019).

The critical vision introduced by Maldonado on these topics seems to be quite anticipatory as effects produced by purely technology driven visions of the future are currently questioned from several voices, and especially in Europe a different perspective is emerging. It is based on a broader openness to knowledge development where, together with sciences and technologies, also arts and humanities find their space as necessary components for a sustainable transformation, in order to guide technological development towards applications aimed at improving the quality of life and the environment.

Too many times, approaches to innovation driven by the sole technological lever and blind to long-term impacts, have produced deleterious effects on the environment, on the transformation of work, on

social communities, on culture. This growing awareness is widening a new space for design. The culture of design, both in its speculative and design dimension, of dialogue between arts and sciences, of projection into the future of new and better ways of life, cultural systems, relationship practices, represents an important alternative to a purely technology driven vision.

Several initiatives among which the New European Bauhaus recently launched by the European Community are reinforcing this conception.

It is the sign for a “new humanism”, capable of guiding technological development through a clear design vision. Despite the fact that our common understanding often confuses “humanism” with the conception of an “anthropocentric world”, often iconized by the “Vitruvian man” drawing, it is instead rooted in a holistic vision of the world, which was at the core of the early Renaissance. A comprehensive science, unifying man with the world under the same system of governing principles, going from the mathematical reading of the world by Leonardo Fibonacci, passing through Leonardo da Vinci’s exploration of scientific principles through the arts, up to Giordano Bruno’s cosmology (Montecucco, 2001). It was in that cultural milieu that the masters of the Renaissance, embedding in themselves artistic practice, philosophical thinking and scientific research, were using arts and design to create meaningful visions of the world, designing desirable futures, such as in the fiction-book *Utopia* by Tommaso Moro, or in the painting *La città ideale* (The Ideal City) by Leon Battista Alberti.

Along this vein, contemporary design research practice can become an important guiding compass in critically discussing future innovation trajectories. By defining new relationships among societal trends, cultural directions and technological potentials, it can fully express its powerful capacity of “materializing” possible and desirable futures, making them tangible through design thinking.

A Living Legacy

There are several reasons why reading today Tomás Maldonado's corpus of thought can be so relevant and impactful.

First of all, the essays included in this book represent important steps to redraw some identity red threads within the design culture that still characterizes Italian schools and their contribution to design discipline in general.

Additionally, they embody a consistent way to update some of Tomás Maldonado's core themes through the exercise of a critical vision, itself an integral part of the legacy he left us.

Moreover, re-reading his essays through the filter of contemporaneity is one of the way to nourish the awareness about the strategic relevance of design research. This can contribute to reinforce the pathway of legitimation of design discipline that Tomás Maldonado himself gave a great contribution to.

Finally, given the ongoing contemporary dramatic transformations and the challenges we are confronting, it is particularly important that the contributions included in this book are developed by young PhD researchers in design. Indeed, doctoral research embeds by its nature that exploratory and curiosity driven attitude which is becoming so important for building a future more socially equitable, culturally inclusive and environmentally sustainable.

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