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# **DIGITAL ARCHIVES**

**NEW MATERIALITY  
AND INTANGIBLE HERITAGE**

# The Materials Library as an Interactive Device of Tangible Memory

## How to Convey Design Potential in the Metamorphosis of Resources

**Michele De Chirico**

Università Iuav di Venezia

Orcid id 0000-0001-8942-4886

### Keywords

Materials Library, Genius Loci, Material Culture Heritage, Tangible Memory, Generative Knowledge.

### Abstract

Today there is a multitude of devices and tools to share technologically mediated memory practices that can be understood as agents collaborating in the “production of the world”. In the field of design of materials, materials libraries started out as cataloguing systems and then became the physical and digital place aimed at conveying material cultures intended as transitions of the intangible and semantic values of a society onto the tangible reality. By configuring repositories of *tangible memory*, as physical documentary heritage of a territorial and material culture, the role of design emerges in preserving, organising and transmitting the knowledge of the reality that surrounds us. This means transforming the current cultural spaces of the materials libraries to determine design trajectories aimed at making evident the unexpressed opportunities of the materials.

The contribution is aimed at investigating the potential of a renewed service as a place of tangible memory, a generative device for conveying identity and valorisation of know-how, the *genius loci*, and the sense of materials as a potential and source of further design insights, by placing cultural heritage at the centre of the design approach. On the basis of the cataloguing of material samples as “materialised data”, a renewed interactive materials library service can convey the meaning of tangible memory to outline criteria for their knowledge, valorisation and use.

## 1. Design and Material Cultural Heritage

Today there is a multitude of devices and tools to convey technologically mediated memory practices (Aasman et al., 2018) whose understanding requires an approach that brings out their physical and infrastructural role in shaping culture, space, time, cognition and life itself (Attfield, 2020). Contemporary conditions also demonstrate the potential of using data for the production of shared knowledge through digital technologies that structurally transform the production, transmission and storage of data, information and knowledge. The connectivity between data, shared knowledge, spaces and individuals is driving a profound transformation, expanding the processes and design fields in which designers operate (Bollati, 2021).

As our society accelerates towards a profoundly pervasive digital culture, characterised by new forms of literacy, education, practice and expression, memory media can be understood as agents that collaborate in the “production of the world” (Bollmer, 2019) also through a strategic use of the digital that can be useful in defining new forms of public culture. The contribution focuses on issues of preservation and valorisation of cultural heritage in the intersection with the research topic concerning the design of materials, starting from a double level of interpretation of “tangible memory”: on the one hand we refer to resources as memory capsules of a material culture, on the other hand we refer specifically to production by-products as the materialised inheritance of a know-how, as well as tangible outcome of the metamorphoses of matter (Paoletti, 2021) that can generate knowledge and growth (Cocchia, 2020).

## 2. Contextual Memory Capsules

“Material objects represent the visible and tactile traces of the expressions of different cultures” (Dei & Meloni, 2015, p. 23). Culture, by contrast, is traditionally meant as something intangible: a set of social values and feelings, psychological patterns, structures of the human spirit, semiotic and communicative codes (Tylor, 1987). Then, objects “incorporate and can make visible these values, these meanings, as vehicles of an intangible essence” (Dei & Meloni, 2015, p. 36).

The *Convention for the Safeguarding of the Intangible Cultural Heritage* (Unesco, 2003) seems to assume the classic anthropological concept of culture as “dematerialised”, in other words intangible (Dei & Meloni, 2015). Such an interpretation suggests that a spiritual essence is involved, but it is clear that the sphere of the tangible as source of a sense of identity and continuity is largely implicated in the Unesco definition (Unesco, 2003). Therefore, the whole concept of preservation, applied to assets that are alive and constantly changing, should not be interpreted as a form of capitalisation of an authentic tradition being constantly eroded by mass culture and therefore in need of protection and enhancement. On the contrary, when considering heritage as understood by Unesco, the focus shifts to the circulation of the good and its transformations. Then the meaning of “memory” also changes, which is not to be understood as a static mapping of what has existed, but as embedded in the physical things that surround us as “specific and individual agents with which to be in resonance” (Dei & Meloni, 2015, p. 53).



In the literature related to design of materials, two main approaches to materials knowledge are identified: one concerns the technical-functional aspects, the other the expressive-sensorial ones (Ashby & Johnson, 2010). While on the one hand, the performance of materials is investigated, on the other hand, one can explore what materials communicate and evoke in the relationship with users (Karana et al., 2015).

A further interpretative dimension for the sustainable design of materials is provided by what we refer here to as “contextual attributes”, by which we mean the dense network of multi-dimensional relationships that a material conveys and which makes it necessary to explore a material by analysing it in relation to its context (Solanki, 2018; Bak-Andersen, 2018). When one seeks to understand the value of materials, the analysis of the flow of resources within a system defined in space and time must be considered (Brunner et al., 2002) and this demonstrates that sustainable development always relates to context (Bak-Andersen, 2021), as “no good has its own independent meaning” (Douglas & Isherwood, 1984, p. 80).

Each material resource has its own history, characterises a place, transforms a territory in geological as well as socio-economic terms, influencing the set of people in that context and acting on the resulting employment possibilities, even before it is used as a material for the design of a product. The investigation of the applications and uses to which materials are assigned, also provides further insight into the perception and value that users attribute to those materials. Such an investigation is possible by gathering information

that describes material resources in multidimensional terms: geo-historical, cultural, functional, technical, economic and ecological (Bak-Andersen, 2021; Brunner, 2021), thus it involves both quantitative data – available on technical datasets – and qualitative data – as the result of ethnographic research. In the transformation of matter, then, “a form of time emerges, a visible portrait of collective identity is outlined” (Kubler, 1976, p. 18) in which “object and subject – matter and culture – are two polarities that are simultaneously constituted, one in relation to the other” (Dei & Meloni, 2015, p. 56).

### **3. Materials Libraries as Places of Memory Repository**

The research concerning the history of a material and the traditions related to its use in different cultures is an approach to learn about the meaning of a material (Bak-Andersen, 2018; Carullo & Labalestra, 2018). Another sort of information that can be inferred from tangible memory is technical knowledge: cultures where a type of material has been dominant for centuries, and where it is still used, can store a wealth of relevant information (Bak-Andersen, 2018).

When designers study, explore and experiment with a material, they discover details about its origin and history, learn about its composition and compatibility with other materials, appreciate its experiential values and reach an understanding of how to manipulate it for production. All this is aimed at recognising the as yet unexpressed design potential of a material.

In the field of design of materials, materials libraries started out as cataloguing systems to facilitate the selection of materials (Ashby & Johnson, 2010; Wilkes & Miodownik, 2018), and then

became the physical and digital place (Wilkes, 2011; Rognoli & Levi, 2011) which can convey material cultures meant as transitions of the intangible and semantic values of a society onto the tangible reality (Woodward, 2013; Paoletti, 2021). Walsh and Ungson (1991) suggest that organisational memory refers to information stored in the past that can be used for decision-making in the present. A materials library fits well into this description, as “its basic function is to store samples of materials and information about them” (Anders & Luise, 2013, p. 2).

The contribution investigates the potential of a renewed materials library-system as a place of tangible memory, thus a generative device aimed at conveying identity and valorisation of a know-how, the *genius loci*, and the sense of materials as a potential and source of further design insights, by setting territory and material culture at the centre of the design approach (Bassi et al., 2021). This takes on significance when considering the current design scenarios, which call for a rethinking of the use of material resources (Solanki, 2018; Brunner, 2021; Pellizzari & Genovesi, 2021; Bak-Andersen, 2021), from which it follows the need to reinterpret the services available to the designer to “imagine a point of intersection between surface and depth” (Mantellini, 2018, p. 118).

#### 4. Case Study: Design Potential in the Metamorphoses of Resources

Starting from the collection, organisation, processing and translation of data and information about material resources, that is their tangible memory, services designed for specific territorial cultures can take place.

These services are intended with a twofold mission: on the one hand to convey the sense of materials as sources of cultural meanings, and on the other to enable design trajectories implementing principles of sustainability and paradigms of circular economy, through knowledge, valorisation and use. This means transforming the current cultural spaces of materials libraries through an operation enabled by a renewal of the physical exhibition of material resources and by interventions of digital expansion of the physical spaces, in order to determine design trajectories enabling the unexpressed opportunities of matter to be made evident.

The configuration of tangible memory repositories, understood as the physical documentary heritage of a cultural heritage, also makes it possible to decline the role of design in preserving, organising and transmitting knowledge of the reality that surrounds us. Therefore, the process of creating and sharing knowledge can take place through the valorisation of memory meant not as static and concluded, but as the tangible becoming of the material itself from raw material to semi-finished product.

As a consequence of the cataloguing of material samples perceived as “materialised data” (Gwilt, 2022), and if – as mentioned – we mean tangible memory as a metamorphoses to be mapped and elaborated, “we can know time indirectly, through what happens in it: that is, by observing change and permanence, marking the succession of events with reference to fixed points and noting the contrast of the various rhythms of change” (Kubler, 1976, pp. 22-23) typical of a know-how that takes its shape in the succession of creative and productive processes.

#### 4.1. Digital Multi-level Talking Map

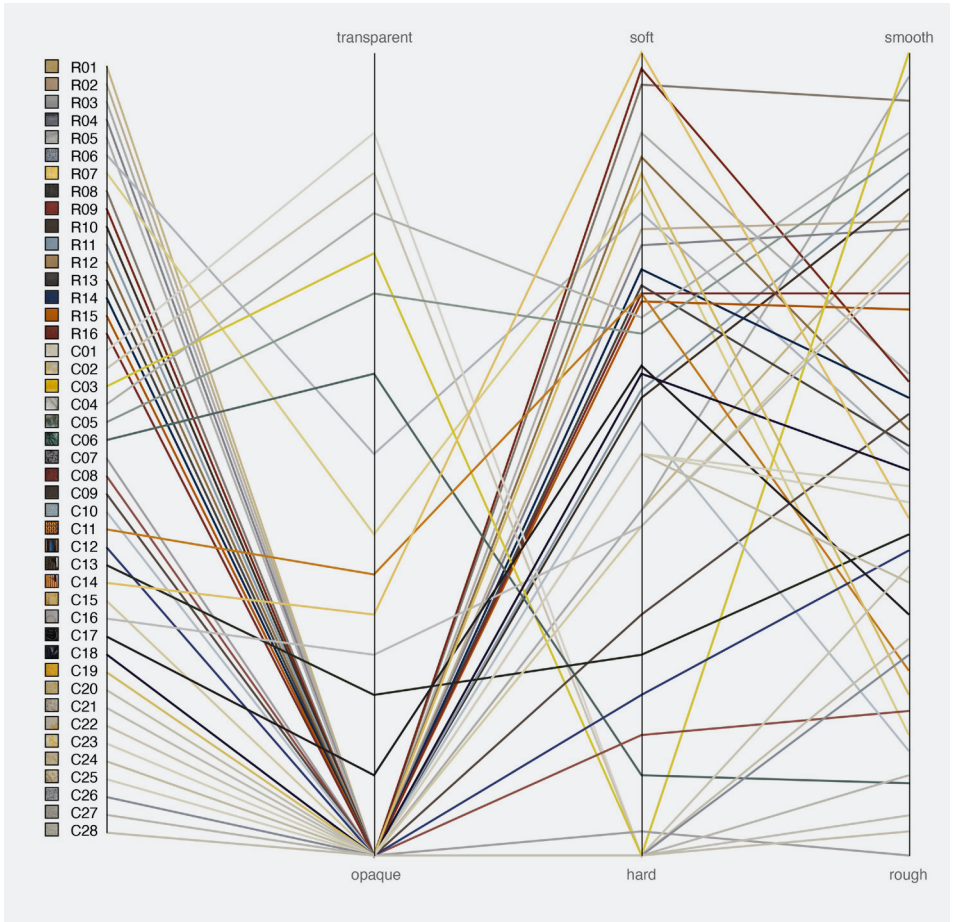
To demonstrate how the contextual and multidimensional interpretation of resources can generate sustainable design actions (Bak-Andersen, 2018), a prototype of a multilevel sensory-contextual-temporal map is presented, in which each of the deconstructed phases of the production processes, identified by the acknowledgement of a specific know-how, constitutes “the intersection point of the meshes of a network in which the generic notion of identity of territories is intended to be captured and deposited in individual artefacts” (Carullo & Labalestra, 2018, p. 100), as well as in the evidence of the metamorphoses of material resources (Paoletti, 2021).

The pilot case was developed within a research project at the Università Iuav di Venezia and financed by the Veneto Region’s ESF fund between 2020 and 2021. It concerns the tanning supply chain and is focused on the sustainable management of production residues. It led the author to the framing of a methodology related to the modalities of both organisation and design interpretation of material resources by putting in place trajectories of practical and design experience as an act of enabling knowledge of materials (Bak-Andersen, 2021). The development of this methodology is aimed at the formulation of a tool to overcome the notion of residues as waste, in support of their valorisation as a subject of design. The integration of residues within experimental design processes has been mediated by their expressive-sensorial qualification, an interpretative filter drawn from the studies of the materials experience research field (Karana, 2010; Del Curto et al., 2010; Rognoli & Levi, 2011; Carullo et al., 2017) inherent to the meaning of materials



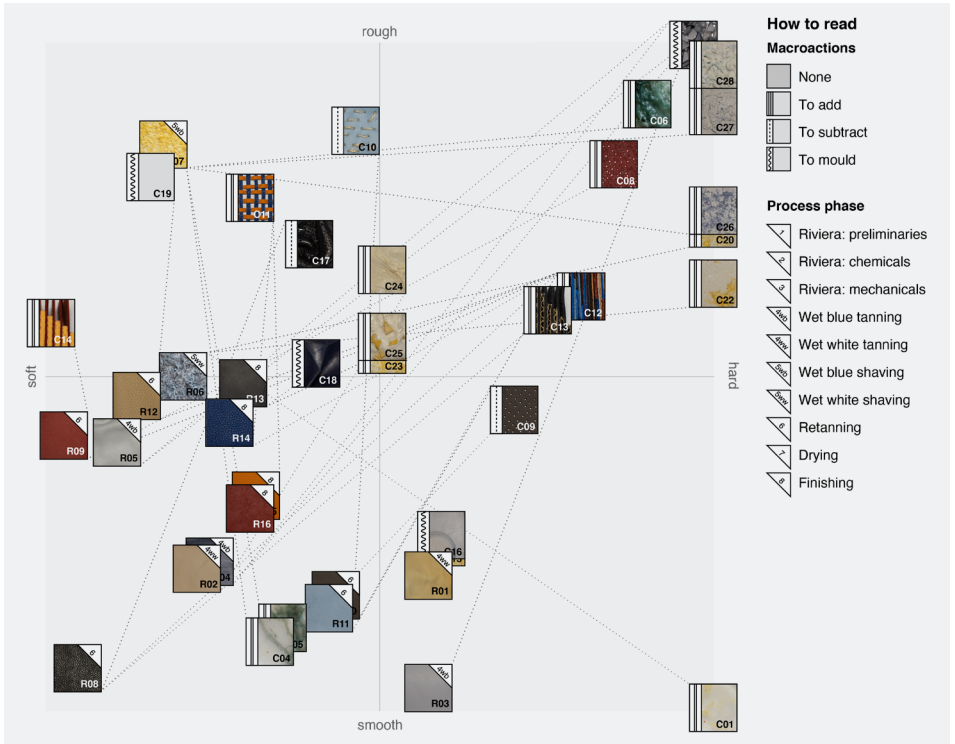
**Figure 1.** Michele De Chirico, cataloguing material resources and material concepts resulting from macro-actions: adding, subtracting, moulding, Università Iuav di Venezia. 2021.

as enablers of experiences mediated by the senses and vehicles of cultural meanings. This explains the decision to explore the meaning of materials through the analysis of the experiential qualities that are then conveyed in a product: these aspects may be difficult to measure, but they are fundamental to sustainable design of materials as they set the stage for assessing the perception people will have of that material and the connotations that will be attributed to it (Karana et al., 2015). Through the definition of categories of design macro-actions and technological transfers, we first came to the creation of material concepts (Fig. 1) and then to the implementation of the prototype of a



**Figure 2.** Michele De Chirico, The sensory map. An organisation of mutations of matter. Università Iuav di Venezia. 2021. Data visualisation support: Jacopo Poletto.

visual cataloguing system, which can convey the valorisation of production by-products in the shape of a multi-level *talking* map (Bruno, 2015): it is a sensory map as it gives back the paths and perceptive mutations of the material obtained through design actions (Fig. 2), a temporal map as it bears the trace of the succession of process phases of which production residues are the material outcome as well as tangible memory (Fig. 3), and a



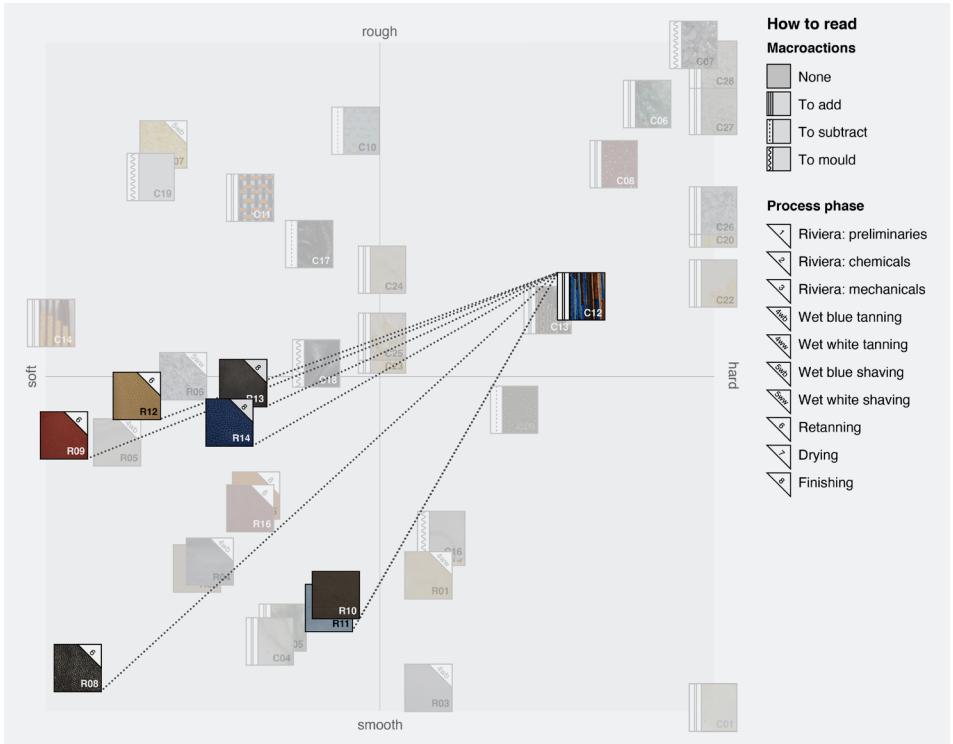
**Figure 3.** Michele De Chirico, The temporal map. A trace of the metamorphosis. Università Iuav di Venezia, 2021. Data visualisation support: Jacopo Poletto.

generative matrix-map that provides a number of suggestions – beyond what has already been exhibited and experimented – intended as possibilities for the design of materials or sustainable applications starting from by-products (Fig. 4).

#### 4.2. Material Residues as Memory of a Know-how

The study allowed us to explore the material as a complex system of relationships, data, information, in which “each material residue is like a memory of the forgotten causes whose only recollection is that they succeeded among many simultaneous sequences” (Kubler, 1976, p. 159).





**Figure 4.** Michele De Chirico, Matrix map. Design possibilities generated by actions and contaminations. Università Iuav di Venezia. 2021. Data visualisation support: Jacopo Poletto.

In order to allow us to access the relationship between us and the world in design terms, the map acts as an interface and becomes a place of reciprocity, both physical and cultural: an “in-between”, a mutable and sensuous surface as “an active mechanism for reorganising the space” (Wigley, 1995, p. 25) of knowledge and design possibilities in which the material is not constrained within fixed patterns, and is not aimed at its preservation. It is not a collection that seeks to exhaust its subject and is not meant to be all-encompassing: it is an open map, the “document of a transit” (Bruno, 2015, p. 252) that does not provide a defined form to knowledge.

It is not a static structure, in fact it is defined while being manipulated by the designer, constantly negotiated by the sensations resulting from the potential sensory transitions.

The richness of this output lies in making it possible to read and interpret the direct relationship between materials, production systems and territories, enabling an analysis of materials not only on the basis of their performance and aesthetic qualification, but as part of a complex system.

By allowing what has been said, the tool offers itself as an interceptor of values such as identity and sustainability of a know-how of a territorial and material culture, whose production residues becomes evidence and matters of design. As a legacy of the metamorphoses of a material through the processes of a specific know-how, they emerge as resources embodying a form of knowledge (Coccia, 2020; Paoletti, 2021).

## 5. Further Developments

The research, carried out as part of the research fellowship also through a workshop for students of the Materials for Design course, held at the Università Iuav di Venezia by Alessandro Mason (2020-21) and Riccardo Berrone (2021-22), has provided final outputs in the form of booklets and information sheets collecting multidimensional information about raw materials and their transformations as they become finished materials.

The results of the study presented in this contribution represent the first step towards a broader research work that aims at the creation of a multi-level database – on which specific exploration filters can be applied – that will flow into a geographically-based materials library in response to design

students' need to materials experiences, through which they can develop the required knowledge for sustainable design and circular use of resources.

The prototype of such a tool, aimed at organising tangible memory, represents the first step in framing the methodology and tools to be brought together in such a system-service designed to convey knowledge in an augmented space that allows experiences as an interactive condition, which is both active and interpersonal (Stogner, 2011), in order to investigate materials and receive design input from them in the form of “information on demand”. On the basis of these considerations, we envision a place as a fluid space-organism that provides new access thresholds by communicating with the designer who will experience and choose which contents to activate.

### **5.1. Generative Knowledge through Tangible Memory**

The further development of the study conducted so far, which is currently a research topic of the author's doctoral research at the Università Iuav di Venezia in the field of Design Sciences, has as its long-term goal the setting up of a platform understood as an augmented space in which the so-called “interaction” with materials – traditionally interpreted by a static exhibition of materials in which designers act on and with samples – would really allow material resources and concepts to interact with the designers who use the materials library service.

Therefore, the materials, embodying the memory of a material culture, rise themselves to the role of a source of information and sustainable design stimuli: at each “vibration” (Eliasson, 2006), the designer-visitor is not a passive receiver who merely absorbs knowledge, but emerges as a sophisticated

and active subject of the encounter, as a cognitive movement, a “going towards” aimed at reaching the content. He goes beyond the exposition, “in a dynamic exploration, he is an interlocutor taking part in a bilateral communicative exchange by participating individually and actively” (Bollati, 2021, p. 67) A materials library system-service, renewed in its interactive-digital organisation and fruition as an enhancement of its physical-spatial configuration and fruition, can convey the meaning of tangible memory in order to facilitate the recognisability of the peculiar qualities of the materials and outline criteria for their knowledge, valorisation and use.

By deploying a multiplicity of linguistic, communicative and informational tools to stage the narrative, we intend a place that becomes an activator of imaginaries, in the sense of “conveying cognitive operations that do not merely show the reality, but analyse its underlying structures” (Dei & Meloni, 2015, p. 51).

Every interaction is a relationship between entities: as they communicate with each other, they transfer emotions and information, and in this relationship, multimedia technologies can introduce new dimensions to the dialogue. The possibility of conveying information of the materials to which that information refers, in the form of digital data, opens the way to possibilities of augmenting these materials into “data-objects”, such as intelligent surfaces, augmented realities and interfaces that integrate the physical and digital components (Gwilt, 2022) through the very physicality of the material. Then it is about designing a platform that uses data to drive generative design processes (Bassi, 2020). Such a platform is an “expanded” materials library, in its being a tool

for generating shared knowledge, and at the same time it is a workshop, in its being a place of tangible memory as a design resource. The result is a place of design making in which the restitution of tangible cultural heritage, in the form of narrative representations that systematically focus on materials, emerges as a creative principle of design intuitions beyond what is effectively exhibited in the physical space, as an expansion of the traditional materials library.

If material resources are the “reacting devices” (Rosa, 2004) that have the ability to activate, transform and store tangible and intangible cultural transformations, then the proposed place is to be understood as a generative, public and cultural space, configuring a service for shared use between networks of designers and companies, based on a multidimensional mapping and storytelling of materials, both from a performance and contextual point of view.

## 6. Conclusions

The thesis supported in the contribution states that by investigating the relationship between tangible memory, digital technologies and cultures and sustainability criteria, the complexity of the material as a contextual system can be brought to light. Furthermore, this relationship brings into play the meaning of the preservation of material cultural heritage as transformation, becoming and circulation of the heritage itself.

Specifically in the design discipline, this means evoking the invisible that constitutes the cultural substratum of a material resource and making its cultural value transparent, visible.

For this purpose, we prefigure a materials library system-service, which is also a workshop as understood in the contribu-

tion, requiring an intellectual and design attitude in looking at the transformations of the material itself.

In such a place of materials organisation, through a generative approach of tangible knowledge of the by-products resulting from metamorphoses that occur between one production process and another, a change in their very status of existence is made possible, leading them to become designed or designable material entities.

This makes possible the interpretation of materials into complex resources and the understanding of the transfer of this complexity onto the material world around us, enabling the recognition of the cultural meanings of those resources, as well as the conferral of an identity that can give them a proper position in the artificial universe.

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IV

# BIOGRAPHIES

### Giuseppe Amoruso

Associate Professor of Drawing and Measured Drawing at Politecnico di Milano. He was awarded a PhD in Drawing and Measured Drawing from the Polytechnic University of Marche. He edited over 150 essays and papers on digital media for design & heritage, town documentation, traditional architecture, and cultural and historic urban landscape.

In 2019 he co-edited the book "Cultural Landscape in Practice. Conservation vs. Emergencies" (with Rossella Salerno). He designed the colour code masterplan for the historical centre *façade* of Meldola and Morciano di Romagna and, recently, the proposal for reconstructing the centre of Amatrice after the earthquake. Chair of INTBAU ITALIA, International Network for Traditional Building Architecture & Urbanism, currently he is the director of the International Cooperation Program for the improvement and enhancement of the Folklore Museum, the Museum of Popular Traditions and the Roman Theater of Amman, documenting the 3D reconstruction of the Roman Theatre of Amman and developing the proposal for a "Digital Library of Living Traditions".

[giuseppe.amoruso@polimi.it](mailto:giuseppe.amoruso@polimi.it)

### Roberta Angari

She is an Italian graphic designer. In 2015 she graduated in Design for Innovation at Università della Campania "Luigi Vanvitelli". In 2020 she obtained a PhD in Architecture, City and Design - Design Sciences at Università luav di Venezia with the dissertation "Kono. Analysis and design of a digital archive of visual communication". Her line of research focuses on data visualization, digital design and digital archives. At the Department of Architecture and Industrial Design (DADI) of the Università della Campania "Luigi Vanvitelli", she is a Contract Professor of the course in Digital Representation Skills in the first year of the Bachelor's degree in Design and Communication.

[roberta.angari@unicampania.it](mailto:roberta.angari@unicampania.it)

### Letizia Bollini (guest editor)

ARTchitect. Associate professor of Interaction/Communication/Transmedia Design at the Free University of Bozen-Bolzano, she has been working on multimodal interfaces and digital media at the intersection of communication design, social research, and digital technologies since last millennium.

She edited with Francesco E. Guida, also issue 23 of *PAD*, entitled *Digital Memories*.

[letizia.bollini@unibz.it](mailto:letizia.bollini@unibz.it)

### Marco Borsotti

He holds a Master of Science in Architecture and serves as an Associate Professor of Interior Architecture and Exhibition Design at the Department of Architecture, Built Environment, and Construction Engineering (DABC) of Politecnico di Milano. With a PhD in Interior Architecture and Exhibition Design obtained in 2000, his specialization lies in the Theory and Design for the Conservation and Enhancement of Tangible and Intangible Cultural Heritage. He is an active member of the Faculty Board of the Architectural Urban Interior Design PhD program at Politecnico di Milano. He actively participates in specialized training programs on national and international platforms and contributes to specialization masters.

Additionally, he is the author and curator of numerous books and articles on Interior Architecture and Exhibition Design.

[marco.borsotti@polimi.it](mailto:marco.borsotti@polimi.it)

### Eloisa Casadei

Archaeologist and researcher in cultural heritage studies, with a focus on Middle Eastern Tangible and Intangible Heritage. Currently, she is a research fellow at Politecnico di Milano. Her work focuses on Traditional Handicrafts, the definition of the Cultural Landscape in Jordan, and Community Engagement strategies.

In 2018, she discussed a PhD at Università degli Studi di Roma La Sapienza about the economy and handicrafts of Ancient Mesopotamia. Since 2009 she has conducted researches and field campaigns in Jordan and Iraq, aiming at the reconstruction of the cultural landscape of past societies. She collaborated with several international projects conducted by the British Museum, the University of Cambridge, the Penn University Museum (Philadelphia, Pennsylvania), the Ludwig Maximilians Universität in Munich, and the American School of Oriental Research.

[eloisa.casadei@polimi.it](mailto:eloisa.casadei@polimi.it)

**Mariana Ciancia**

PhD, Researcher at the Department of Design, Politecnico di Milano. She is an Imagis Lab research Lab member and Deputy Director of the Specializing Master in Brand Communication. Her research deals with new media and participatory culture to understand how multichannel phenomena (crossmedia and transmedia) change narrative environments' production, distribution, and consumption.

The fields of communication design, storytelling, and digital technologies have been investigated in research and educational activities to define processes, methods, and tools since 2010.

National and international publications include books, book chapters, journal articles, and conference proceedings on the transmedia phenomenon, communication strategies, the transformative power of stories, narrative formats (interactive narratives), and audiovisual artefacts.

[mariana.ciancia@polimi.it](mailto:mariana.ciancia@polimi.it)

**Diana Ciuffo**

Independent architect and set designer, she studied Architecture in Porto (FAUP) and Rome (La Sapienza), graduating with honours in 2012. As a Leonardo Da Vinci fellow recipient, she moved to the Netherlands in 2013, where she started a long-lasting collaboration with several offices as a freelance architect. During the past Academic Years, she has been first assistant in the Sapienza Design Department (PDTA) and then Adjunct Professor in "Performing Arts and New Media Studio", currently enrolled in a PhD course at the same Department in the field of Urban Studies. Her projects stand mainly in the field of temporary architecture and scenic design (her installations have been set at: Teatro Biondo Palermo, Les Halles Schaerbeek Bruxelles, CSS Udine, TPE Torino, Milano Salone, Pergine and Oriente Occidente Festivals). The relationship between people, inhabitants, spectators and space is the main point of her research.

[diana.ciuffo@uniroma1.it](mailto:diana.ciuffo@uniroma1.it)

**Giovanni Maria Conti**

PhD, Associate Professor, he is currently the Coordinator of Knitwear Design Lab – Knitlab of the Fashion Design Degree at the Politecnico di Milano. Founder and Scientific Coordinator of the website/blog [www.knitlab.org](http://www.knitlab.org), he was executive secretary of the Fashion Design Degree at the School of Design of Politecnico di Milano. He is Istituto Italo-Latino Americano (IILA) expert collaborator in the Pymes Forum for cooperation projects on textile and fashion. He is the director of the Master in Fashion Direction: Product Sustainability Management at MFI (Milano Fashion Institute consortium) and a member of LeNS - International Learning Network on Sustainability.

[giovanni.conti@polimi.it](mailto:giovanni.conti@polimi.it)

**Giulia Cordin**

She is a designer, researcher and educator. She currently teaches at Studio Image in the Major in Art at the Free University of Bozen-Bolzano, and at the Universität für künstlerische und industrielle Gestaltung Linz (Austria) as an adjunct lecturer in Visual Communication. She is a PhD candidate in the Interface Cultures Program at the UFG Linz and has been an artist in residence at the Jan van Eyck Academie in Maastricht (2015-16). She is on the editorial board of "Progetto Grafico" and collaborates with Museion, the Museum of Contemporary Art in Bolzano as a member of the Art Club.

[gcordin@unibz.it](mailto:gcordin@unibz.it)

**Vincenzo Cristallo**

He is an Associate Professor of Industrial Design at the Politecnico di Bari. His published books and essays reflect a research activity focused on studying contemporary design and its impact on regional development. In recent years, his scholarly interests have shifted towards the design of infographic languages and their role in facilitating knowledge access.

[vincenzo.cristallo@poliba.it](mailto:vincenzo.cristallo@poliba.it)

**Raissa D'Uffizi**

She holds a Bachelor's degree in Industrial Design and a Master's in Design, Visual and Multimedia Communication. She is currently enrolled in the PhD in Planning, Design and Architecture Technology" at the Università degli Studi di Roma La Sapienza. Her research investigates the mediation between objects of Italian design and consumers by reflecting on

the evolution of their communication within design magazines (1949-1977). She worked as a graphic designer at Studio Davide Perez Medina (Madrid) and NOAO Studio (Rome). She curated editorial and graphic design projects for international institutions, such as the recent *UNESCO art collection: selected works* (2021). She also has engaged in research projects on the themes of the history of design and visual communication, like *From Dreams to Abandonment: Lina Bo and the Culture of Living in Italy (1939-1946)*, published by *AIS/Design Journal* (2021) or the participation in the editorial project *La Milano che disegna* (2020), on the knowledge of design archives in Milan.

[raissa.duffizi@uniroma1.it](mailto:raissa.duffizi@uniroma1.it)

### **Michele De Chirico**

He is a PhD student in Design Sciences at the Università Iuav di Venezia. He was previously a research fellow at the same institute. His research relates to the design of materials, focusing on the meaning of materials as sources of cultural meanings. He is also a lecturing collaborator, focusing on design for the sustainable management of production by-products and materials resources as contextual actors.

[mdechirico@iuav.it](mailto:mdechirico@iuav.it)

### **Daniela Dispoto**

Specialized in theatrical architecture and interested in exploring the expressive possibilities of new digital cultures, she has worked in exhibit design with museum and multimedia set-up projects and site-specific interventions. Some projects carried out as a co-designer: *Racconti (IN)visibili* (2021); *110 anni della SAM* (2018); *MUUD - Nuovo Museo Nazionale della Daunia* (2016); *Det Elektriske Akvariet* (2016); *Progetto per Nuovo Teatro Comunale di Empoli* (2022); *Cantieri Teatrali Koreja*; *Nuovo Teatro Comunale Ruvo di Puglia* (2017); *Nuovo Teatro Abeliano* (2012).

She is also a Contract Professor of the Performing Arts and New Media studio of the MA in Design, Multimedia and visual communication at the Faculty of Architecture of the Università degli Studi di Roma La Sapienza.

[daniela.dispoto@uniroma1.it](mailto:daniela.dispoto@uniroma1.it)

### **Francesco E. Guida (guest editor)**

Associate professor at the Department of Design and Communication Design lecturer at the School of Design, Politecnico di Milano (<http://www.labsintesi-c1.info/>). PhD in Design and Technologies for the Enhancement of Cultural Heritage.

Scientific coordinator of the Documentation Center on Graphic Design of AIAP, he is a member of the editorial committee of *PAD. Pages on Arts and Design* and past associate editor of *AIS/Design Journal. Storia e Ricerche*.

He edited with Letizia Bollini, also issue 23 of *PAD*, entitled *Digital Memories*.

[francesco.guida@polimi.it](mailto:francesco.guida@polimi.it)

### **Alessandro Ianniello**

Product designer for innovation, he is a PhD candidate and a research fellow at the Design Department of Politecnico di Milano. He also works as a tutor for some Bachelor's and Master's degree courses in Product Design. He is part of the Environmental Design Multisensory Experience (EDME) Interdepartmental Laboratory.

His research primarily focuses on the imaginative processes necessary to implement transformations toward more sustainable futures and to understand immersive technologies' potential role in fostering these processes.

[alessandro.ianniello@polimi.it](mailto:alessandro.ianniello@polimi.it)

### **Miriam Mariani**

She is a PhD student in Design at the Department of Planning, Design, and Architecture Technology, Università degli Studi di Roma La Sapienza. Her research centres on the interplay between design theories, design process modelling, and information design, focusing particularly on infographics and data visualization. She has also been involved in research in sustainable architecture and visual communication design.

[miriam.mariani@uniroma1.it](mailto:miriam.mariani@uniroma1.it)

**Vincenzo Maselli**

Motion Designer and PhD Vincenzo Maselli is a Research Fellow in communication design at the Università degli Studi di Roma La Sapienza and a lecturer in motion graphics at the Università G. D'Annunzio di Chieti-Pescara. His research focuses on motion design and animation with a specific interest in puppetry and stop-motion, studied as fields of technological experimentation and media tools. On these topics, he authored several publications, among which the book *Anatomy of a Puppet. Design driven categories for animated puppets' skin* (2020) and the article *Performance of Puppets' Skin Material: The Metadiegetic Narrative Level of Animated Puppets' Material Surface* (2019), which received the Norman McLaren-Evelyn Lambart Award for "Best Scholarly Article on Animation" in 2020. In 2021 he won the BE-FOR-ERC starting grant for the interdisciplinary research CCODE - Design, material experiences and stop-motion animation as didactic tools for developing creative thinking and cooperative learning.

[vincenzo.maselli@uniroma1.it](mailto:vincenzo.maselli@uniroma1.it)

**Marco Mason**

He is a senior lecturer and design researcher affiliated with the School of Design at Northumbria University, United Kingdom. Holding a PhD in Design Sciences since 2012, his specialization lies in Digital Cultural Heritage Design. His research and teaching experience spans prestigious research centres, including the luav Faculty of Arts and Design in Italy, the Massachusetts Institute of Technology in the USA, the School of Museum Studies in Leicester, UK, the University of Cambridge, and presently, Northumbria School of Design in the UK. His research explores the convergence of Digital Cultural Heritage, Design, and Organizational studies, specifically focusing on human-centred design methodologies like Design Thinking and Service Design. This extends to their applications within cultural heritage institutions, encompassing the realm of visitor experience design involving technologies such as Apps, AR, VR, Wearable Tech, and AI. He is also engaged in researching Museums' Digital Transformation through a design-centric approach.

[marco.mason@northumbria.ac.uk](mailto:marco.mason@northumbria.ac.uk)

**Martina Motta**

PhD cum laude in Design, she is a Research Fellow at the Design Department of Politecnico di Milano. As a faculty member, she teaches at the School of Design of Politecnico di Milano, in the FIT in Milan program of the Fashion Institute of Technology (NY), and at Milano Fashion Institute.

Her teaching and research activity focuses on knitwear and textile design, mainly on the convergence of traditional techniques with advanced technologies, the evolution of the digital representation of textile products and the enhancement of sustainable design, processes and products.

She has been a visiting researcher and teacher at Birmingham City University, at the Swedish School of Textile and the Faculty of Architecture in Lisbon, and taught in several other international workshops.

Since 2020 she has been the Vice-Director of the Master in Product Sustainability Management at Milano Fashion Institute and a LeNS - International Learning Network on Sustainability member.

[martina.motta@polimi.it](mailto:martina.motta@polimi.it)

**Chiara L. Remondino**

She is a researcher in the Department of Architecture and Design at Politecnico di Torino. She earned her PhD in Management, Production, and Design. Her research is focused on innovative and sustainable packaging design and communication and visualization design of complex data systems within business companies and multidisciplinary learning paths. In 2015, she co-founded the Innovation Design Lab. Since 2022, she has been a member of the magazine *Graphicus*.

*Designing communication* scientific committee.

[chiara.remondino@polito.it](mailto:chiara.remondino@polito.it)

**Elisa Rossi**

Graduated cum laude in the master course "Design for the Fashion System" at Politecnico di Milano, she is currently working as a knitwear designer assistant in the Italian brand Loro Piana.

Her university career focused on knitwear, attending the knitwear design studio during the last year of her Bachelor's. The same year, she participated in the international competition "Feel The Yarn", realizing two knitwear outfits, then

exposed in Pitti Filati in June 2019. During the last year of the Master, she attended one semester in Rovaniemi, Finland, where she focused on weaving textiles and learned more about art design.

[elisa6.rossi@mail.polimi.it](mailto:elisa6.rossi@mail.polimi.it)

### **Paolo Tamborini**

He is a Full Professor in Design and serves as the scientific director of the Innovation Design Lab at Politecnico di Torino. He has overseen numerous research projects in the field of design and communication for sustainability. He is also the director of "Graphicus. Designing communication", a magazine that brings together authors from various disciplines connected to the world of communication. Additionally, he coordinates the Master's program in Eco Packaging Design and has authored numerous scientific publications and design criticism.

[paolo.tamborini@polito.it](mailto:paolo.tamborini@polito.it)

### **Raffaella Trocchianesi**

She is an Architect and holds the position of Associate Professor at the Department of Design, School of Design, Politecnico di Milano. Her primary focus lies in Design for Cultural Heritage, encompassing areas such as museography and exhibition design, communication and enhancement of local areas, new models and narratives of cultural experiences, and the relationship among design, humanities and arts. She serves as the director of the specialization Master IDEA\_ Exhibition Design. She was a member of the PhD faculties and the coordination teams of the programs in Design and Technologies for the Valorisation of Cultural Heritage. She is in the PhD faculty and the coordination team of the program in Design. Her instructional roles in these programs encompass courses like "Processes and Methods in the Cultural Heritage System", "Research in Design: Academic Case Histories", and "Design Research Context and Resources".

[raffaella.trocchianesi@polimi.it](mailto:raffaella.trocchianesi@polimi.it)

### **Mansu Wang**

She is a PhD student in Design at Politecnico di Milano. Her research centres on Territorial Museums and Exhibition Narratives, with her doctoral investigations primarily delving into narrative design and the integration of local culture within territorial museums. She holds a Bachelor's degree in Art & Design from the Beijing Institute of Fashion Technology (2016) and a Master's degree in Visual Arts from the Accademia di Belle Arti di Brera (2019).

[mansu.wang@polimi.it](mailto:mansu.wang@polimi.it)

### **Yi Zhang**

She is a PhD student at Politecnico di Milano. Her research domain encompasses sound design and narrative in museums and temporary exhibitions, specifically focusing on sound elements and sensory experiences in museum production. She graduated from Tsinghua University, China, and Politecnico di Milano, Italy, earning her Master's degree in Display Design & Interior and Spatial Design in 2021.

[yi.zhang@polimi.it](mailto:yi.zhang@polimi.it)



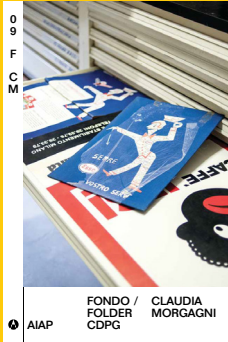
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