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INTERPRETATION KEY

Visual Workspace

Towards a Systemic Organizational Model for the Definition of New Digital Spaces for Sharing, Collaboration and Corporate Memory

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Abstract
The role of data visualization inside companies today, and with increasing emphasis in the near future, will play an essential role not only for the management of discrete and/or isolated events, not only for the achievement of a better reputational positioning on an aesthetic level, but for generating long-term tangible change. The role of visualization in the corporate system of the near future will shape – through the critical lens of design – the organization as a whole and its results, determining its success in terms of sustainable innovation.
This contribution explores a new model of intranet, as a functional and operational tool in response to contemporary changes in company dynamics, in individual as well as collective contributions. A tool in response to the need to understand the complexity of the company system, and in response to the need to define, redefine and communicate one's culture in a more fluid dimension and aimed at exploration by enabling an open, shared, and collaborative environment (Mercanti, 2020). Again, a concrete functional/operational expression of a new business model. A heterarchical model that is not original in its outward appearance as much as in terms of content to qualify and amplify the organizational memory.

1. Introduction

The theme of participatory and circular organization, in a broader vision aimed at a strategy for the resizing of hierarchical and role differences, is a potential trend despite not yet fully understood. Among the decisive factors that could contribute to shape this type of organization are: knowledge, sharing, and collaboration, greater and widespread trust among all employees, the presence of a resilient management strategy aimed at change, greater organizational and consequently working flexibility. Following: the importance of fluid and fast communication, the need to create and use useful tools for sharing and collaboration, the importance of continuous training for employees, and the ability to foster and enable creativity, and motivation. Factors that, however, clash with companies and realities in which still lack the times and places to manage information, horizontal communication, and original planning with a view to innovation and sustainability.

Thus, tools, applications and processes more visual and more contextualized can become a valid aid to the stimulation of interpretable insights in such a way as to trigger behavioral reaction mechanisms and activate a process of collective resilience. The openness and accessibility to data and to business relationships thus become the first step towards the creation of real organizational memory, on the one hand, capable of enabling resilience processes in a constantly changing context, from another useful to encourage new projects and new visions that can be shared. Shareable – in fact – only if made visible.

2. Experimenting with New Hierarchical Articulations: Knowing the Components

The big data applied to the internal management of the company are contextualized in a broader panorama which sees a reinterpretation of the past and present of companies in terms of structure and strategy with the aim of motivating management as well as workers for continuous change. By placing the individual at the center, the visualization of the corporate structure can become on the one hand, a valid aid for investigation and reading of the dynamics within the company, on the other hand a powerful tool useful for enabling projects with a view to innovation and sustainability with strong repercussions on the territory of belonging (Germak, 2008). In other words, it must necessarily take into consideration human, relational, and functional factors and at the same time maintain the simplicity that allows an intuitive and logical use. It must be alive: stable in principle, but changeable in form.

From these premises, the company is defined as a real organism, as a coherent set of people gathered under a single authority, with the aim of regularly and constantly performing certain functions (Simeray, 1972). The basic principles, operation, criteria according to which it is organized, and how these can be practically translated as demonstrating the intrinsic cultural quality of the company must therefore be determined and clarified. Be it elementary, complex or auxiliary, the establishment of a structure is mainly based on the sequence of relationships between people, creating a series of connections that represent the communication channels between the members of the company. The links can be formal if established *a*

priori and often of authoritarian nature, or informal or factual, as they are ascertained *a posteriori*, links that are established between different bodies to establish a collaboration. Again, the links also change depending on the form of the messages as well as the number of recipients and the return movements they trigger: unilateral, bilateral, and multilateral.

Then there are the main functional activities by which we mean all the essential uses for achieving the permanent objectives of a company and the auxiliary activities, necessary for carrying out the main ones. Again, a fundamental component is the staff and its management, whose value is dictated by the professional competence of each person and their ability to integrate into the structure. From this point of view, the organization chart becomes a strategic tool for planning the staff's general management of personnel through, for example, advancement policies to keep staff motivation alive, training policies to keep the system efficient and updated, hiring and selection policies to avoid gaps or redundancies by optimizing the distribution of personnel in the structure, balance the members of a hierarchical line avoiding conflicts or overlaps. In recent years, many researchers have questioned the future of companies and their structures due to the upheavals that have occurred in the economic, digital sphere or in the speed of change in society in general (Floridi, 2012). A context characterized by hyper-connection, plurality, and fluidity. In these terms, given the complexity and variety of forms that companies are taking today, the generalization of the main elements for the constitution of the correct visual model becomes essential. The main distinction is thus reduced to two

models: the concept of a mechanistic model tends to be applied to all large structures that are characterized by the need to represent the concentration of dependency relationships between the different members. The organic model, on the other hand, is best suited to all those companies and startups that are characterized by characteristics such as: cross-functional teams, cross-hierarchical teams, fast information at every level, wide span of control and low formalization, companies whose goals are the result of a group effort making sharing and collaboration their strong point. Generally, the list of components of the company system could go on indefinitely, just think of the logistics, the suppliers, and the location of the offices, to name a few. It follows that each structure is a unique representation of the company, both as an intrinsically peculiar feature of itself, and referred to a specific time phase, to a particular place, to internal relations and more generally to the characteristic reference context. The organization chart, therefore, becomes in effect a *business card* with which to present oneself to the outside, influencing the judgment of what everyone expects from the company itself.

3. Experimenting with New Hierarchical Articulations: Some Examples

Matrices, sets, trees, networks, the formalization of organizational charts is a topic that is more relevant than ever (Lima, 2014). Many experts, detaching themselves from the past, tend to try to define methods and approaches for the constitution of the visualization rather than the visualization itself, thus defining general guidelines. In fact, a visual/functional representation of an organized structure must be clear in the expres-

sion of objectives, tasks, reports of responsibility and sources, effective and immediately readable, stable in principle and in the graphic/functional organization, resilient to natural corporate and contextual changes and open, going beyond the classic control schemes and increasing the procedural capacity at all hierarchical levels and beyond the corporate walls, becoming in effect an *informed system* (Zuboff, 1988).
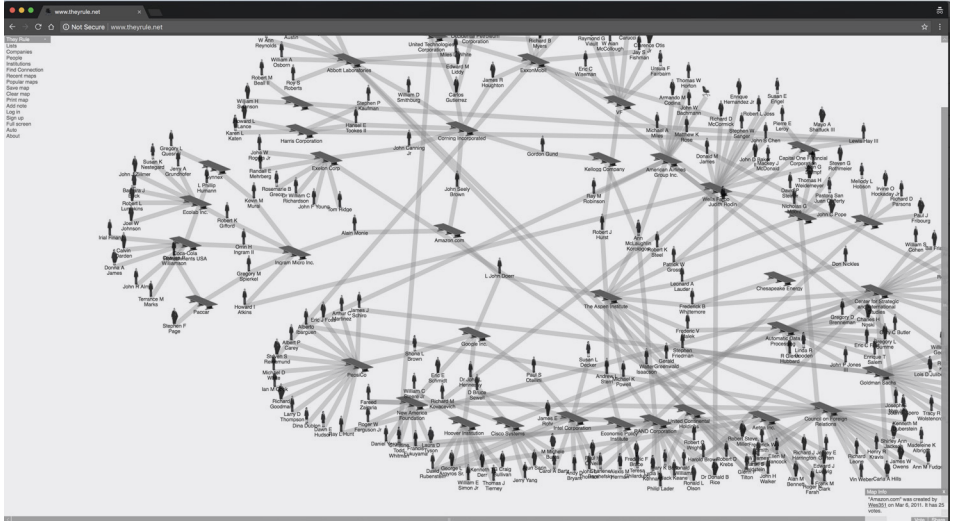
Figure 1. Josh On, They Rule: making visible the relationships of the U.S. ruling class. 2005-present.

There are many experiments carried out in this regard. The corporate organization chart of *Walt Disney Studios*, for example, is characterized by the fact that it is based not on the hierarchy of roles, but on the process (Fig. 1). In fact, if the state of contemporary art still sees a silos-centric representation of the different functional areas of a company, the case in question instead places every single role along the entire work process, from conception to implementation.

Figure 2. Disney Operations, Walt Disney Organizational Chart.

The experiment conducted within the *HubSpot* company instead saw the direct involvement of employees in the creation of a particular organization chart, not so much hierarchical as it is operational, functional, and social. An organization chart based on the report of each employee of two types of relationships: direct manager (black line), network of people who daily and really influence and help their work (blue line). Again *Theyrule.com* (Fig. 2), a project that allows readers to examine the connections between all the members of the board of directors of the top 1,000 US companies, or *Org Org Chart*, an animation showing the evolution of the Autodesk organizational structure over time (1498 days, from May 2007 to June 2011).

Thanks to the potential offered by video animation and the metaphorical use of fireworks, it is possible to follow the various internal dynamics in an extremely easy way: the birth of new structures and substructures such as the closure of some sectors or entire areas. Interaction and gestures, the intersection between technology, culture and education, are some fundamental aspects to enable more immersive and customizable experiences as in the case of *Convene - Organizational Behavior.* By placing the individual at the center, the company organization chart becomes a real tool for investigation, reading, and re-reading of corporate and social interpersonal relationships, offering original and unusual points of view thanks to the intertwining and correlation with data of different nature: mobility, training and personal data of employees, distribution of offices in the area, communications, meetings and much more.

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The future challenges, therefore, concern the management of an increasing amount of data available for storage and display, data that are heterogeneous and complex in their nature, but also dynamic as they are linked to a temporal dimension. Again, they concern the – urgent – need for planning actions aimed at preserving the past, at the qualification of the organizational memory in order to strategically manage future challenges.

4. Towards New Digital Spaces for Sharing

The *HR Trends and Salary Report* produced by Randstad Professionals with the Alta Scuola di psicologia Agostino Gemelli of the Università Cattolica di Milano, aims each year to explore the current trends within the Italian business landscape. Visionary trends, sometimes disruptive – in the case in question, reference is made to the *Report 2018* – which on the one hand have seen the examination of historical issues such as strategies for human capital and salaries, but which from the others have enhanced new feelings on very contemporary scenarios: the participatory and circular company, the approach to error and emotions in the company (Randstad Professionals, 2018). According to what emerged, 74% of the realities taken into consideration as a sample felt the need for a more or less radical change at the organizational level. Change that hopefully should concern in 65% of cases new styles and models of leadership, and to follow new ways of working, approach to the market and training strategies for individual workers. The most common models among contemporary companies are the divisional one (34%) or a model that sees the company divided and subdivided on the basis of the production lines of the products or according to the geographical logic; the hierar-

chical model (24%) closely followed by the functional one (22%) characterized by the fact that each organizational unit focuses its activities on a particular function, issuing specific directives to the other functional units. Again, the matrix model (16%) as a hybridization between the advantages of functional division and those of the divisional model by product, project or geographical area, and finally the circular model (4%). Only 4% have a circular and participatory model, a model characterized by present but less rigid hierarchies, a model with a marked propensity for autonomy and empowerment of the individual employee as well as of the individual work team. In fact, only 4% who renounce the rigid approach to favor a horizontal comparison. A comparison based on trust, on empathy.

The theme of participatory and circular organization, in a broader vision and aimed at a strategy for the resizing of hierarchical and role differences, is today – in the New Normality – a potential trend despite not yet fully understood. This is due to the fact that real internal organizational challenges are common among companies regardless of their size, sector or geography. Bureaucracy, hierarchy, silos-centric approach, lack of collaboration, aversion to risk and failure, accumulation of information are the elements that have the greatest impact on the way people work, collaborate and achieve their goals, thus also influencing the organizational performance and the ability to innovate and change. Some are the specific axes of possible and plausible action, which characterize the aforementioned challenges today: the importance of collaboration between departments and company functions, the shift of the decision-making axis from the top to the periphery, the contamination and the multidisci-

plinary approach based on project during the team structuring phase, the accessibility of information, the opening of the company system in favor of greater involvement of suppliers and customers, as well as the replacement of a vertical and validation methodology based on annual measurements and monitoring in favor of one based on continuous feedback.

The work to follow is proposed as a pragmatic restitution of the concepts that emerged, as a concrete model of shared corporate space-oriented by a circular approach (Rusconi, 2018). Restitution that is revealed through the tool that characterizes the medium-large company's daily work: the *intranet*.

4.1. Focus

Since the mid-nineties, a new telematic paradigm has radically transformed the corporate culture, the methods of communication, questioning habits, and established customs. The innovative telematic network – or intranet – has suddenly become a fundamental tool for a corporate/organizational restructuring with the aim of optimizing work, speeding up internal communications, sharing information, etc. From a more technical point of view, the so-called *Corporate Portal* is the real access point for defined applications and functions:

- *publishing*, as a useful function to convey content and one-way communications to staff;
- *document management*, for the acquisition and management of explicit knowledge through archiving, indexing, and search functions;
- *community*, to support horizontal and non-horizontal in-

teractions and communications between employees, including forums, e-mails, instant messaging, chats, etc.;

- *collaborative work*, for the support and management of teams (videoconferencing, e-room, and more);
- *legacy integration*, i.e. applications for accessing the company's information and management systems, and applications for accessing data and procedures;
- *self-service*, all the activities enabled to provide interactive services to employees: e-learning, help desk, forms, etc.

These activities, can also vary considerably according to the company and its needs. Variations that investigate different functions, activities, connections with other systems, technologies used, and much more.

5. Visual Workspace: a Systemic Model

From the systematization of the overview on display, the contribution proposes a new intranet model, as an operational tool in response to the contemporary needs: a visual intranet. A visual model as a tool to create shared spaces where people can learn from others, share successes and/or failures as well as a common vision of their work (Simon, 2014). An intranet based and powered by company data, and therefore a dynamic, and circular digital tool. A tool capable of restoring the intrinsic complexity of a medium-large company. Because the effects of a technology occur on several levels, just think of the car and the influence it exerts, for example, on the market, on the world economy, on the production of components and materials, on the oil extraction, on the mindset, on the habits and behavior of citizens and much more. Derrick De Kerckhove in

this regard speaks of *psychotechnologies*, as tools capable of extending the human mind. An extension of thought based on the power of information (De Kerckhove, 2014).

We said a visual intranet. A model, the one proposed, able to feed itself from data relating to relational and communicative flows (email and chat for example), from daily information relating to the productivity of the individual worker, but also from external data, such as the weather as a variable able to influence behaviors and moods. Two digital spaces are thus operationally structured: a space of emotions, as an investigation of the mood that can positively or negatively influence daily productivity, as attention paid to personnel by the HR function and by the top management, and a space for relationships, that is the operational and functional heart of the portal.

5.1. Space for Emotions

How do you feel today? A simple question, a clear intention. An intention that can fall within the broader strand of the *Quantified Organization*. To all intents and purposes, the demonstration and commitment of a company in knowing the sentiment of the individual, visually returning it to the community.
In detail and by way of example of the model, the access screen of the intranet in question, once the worker has logged in, is proposed as a collector of the company's sentiment and mood starting from a simple and direct question: *How you feel today?* Thanks to a predefined coded system of keywords as a database, the background of the home will take on different colors and shades based on the responses of users, defining the real mood of the day.

Figure 3. Chiara Remondino, Visual workspace model, *How do you feel today?* The emotional space of the intranet in shades of purple and light blue.

Figure 4. Chiara Remondino, Visual workspace model, *How do you feel today?* The emotional space of the intranet in shades of purple and red.

Thus, with responses such as calm, relaxed, sad, and melancholy, the nuance will take on shades of purple/blue (Fig. 3), with responses such as angry, frustrated, apathetic, and contemptuous the nuance will take on purple/red tones (Fig. 4), with responses such as anxious, nervous, and worried, the nuance will take on shades of red/orange, and with responses such as happy, satisfied, and enthusiastic, the nuance will take on shades of green/blue.

The dynamic display, updated in real time based on the feedback received, displays and reports the details, also in real time, of the weather conditions of the day: temperature, precipitation and wind. Once the answer has been entered, you will be directly addressed within the platform, however, before sending it will be possible, thanks to the functions provided, to view the progress of the corporate mood of the day, week and month. Finally, a counter will monitor the active people at that precise moment within the company.

5.2. Space for Relationships

Assuming that the entire portal would continue to guarantee the fundamental functions and operations for the proper performance of everyone's work, this concept completely overturns the paradigm of the traditional hierarchical model. Starting from the concept of the network, the challenge is to give up the rigid setting by levels, to encourage comparison and horizontal collaboration. Benefiting from the processing of the communication data of the individual (email, meeting, calendar, etc.), to assist in a real re-organization of time, space and corporate culture. A time, a space and a culture based on the importance of the concept of influence and the need for

comparison with the other. The other, which does not necessarily place itself above the defined hierarchical line. The message must be sought exactly in this reorganization: the success of a job, of a project, or more generally the well-being of the company of the future will largely depend on the recognition by the top management of the importance of horizontal influence, of trustworthy dialogue from below will largely depend on the degree of flexibility and transparency that will be guaranteed. Again, it will depend on the degree of downsizing of hierarchical differences achieved in favor of greater participation and therefore circularity of internal communication, in favor of a holistic vision of shared strategies.

By way of example, some views, functions and actions of the proposed model. The central body of the screen is proposed as a visual rendering and representation of the company organization chart (Fig. 5). A different network for everyone, personal, unique.

Figure 5. Chiara Remondino, Visual workspace model, The relationship space of the intranet: *Homepage*.

Figure 6. Chiara Remondino, Visual workspace model, The relationship space of the intranet: personal connections.

With the aim of giving everyone the opportunity to view and immerse themselves in their own relational system, representation qualifies horizontal connections (Fig. 6). The conformation of the network is based on the concepts of proximity and frequency; each node (person) of the network will in fact be more or less close to the main node (logged-in worker) based on work affinity and therefore on competence, and the node will be more or less large based on the frequency of communications. For clarity, it should be specified that when the system detects a communication, the node and therefore the connection are automatically created. In detail, the hierarchical dependencies will take on a red color and the influence connections in green, and the lines will be more or less thick to underline the frequency of connection and communication between the two nodes. By activating the *over* function on the nodes, a curtain will open directly containing the details of the person

on whom you have focused (name, e-mail, sector of belonging within the company system, coded tags, etc.).

It should be specified that all interactions on the network automatically enable changes in the side area. In fact, the selection of your network will correspond to the display of some detailed data about, the professionals with whom you are in greater contact. If useful functions do not appear in the side area at that time, you can open the drop-down menu and then select the desired section.

Precisely with the aim of creating a collaborative space, collecting and sharing the company's information assets, there are two fundamental sections/functions to ensure company memory and work optimization. Within *Our work* it will in fact be possible to view the entire digital archive of works ordered chronologically and have immediate confirmation of the name of the project and the work team, and then view the file showing: upload date, team, a brief description, the data used, the reference link(s), etc. (Fig.7). While the *Our data* section will contain all the datasets used in the various works. Dataset that can be filtered and organized by year, category, format and rating, dataset that can be viewed, updated and/or downloaded at any time (Fig. 8).

6. Conclusions

"We especially love projects that make our life simple" says J. Maeda (2006, p. 5), whose continuous research-action aims to pursue simplicity on a continuum in what we can now define the digital transition, an era in which technologies will be increasingly elaborate, complex and pervasive.
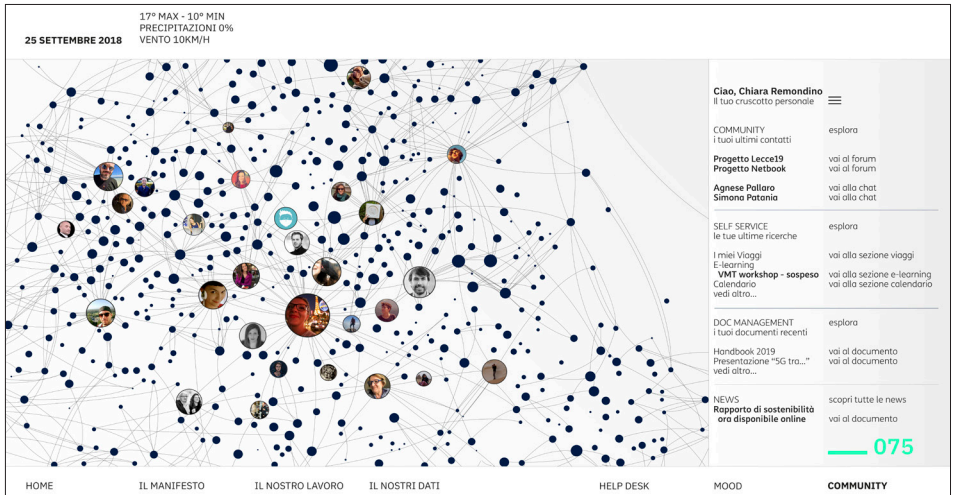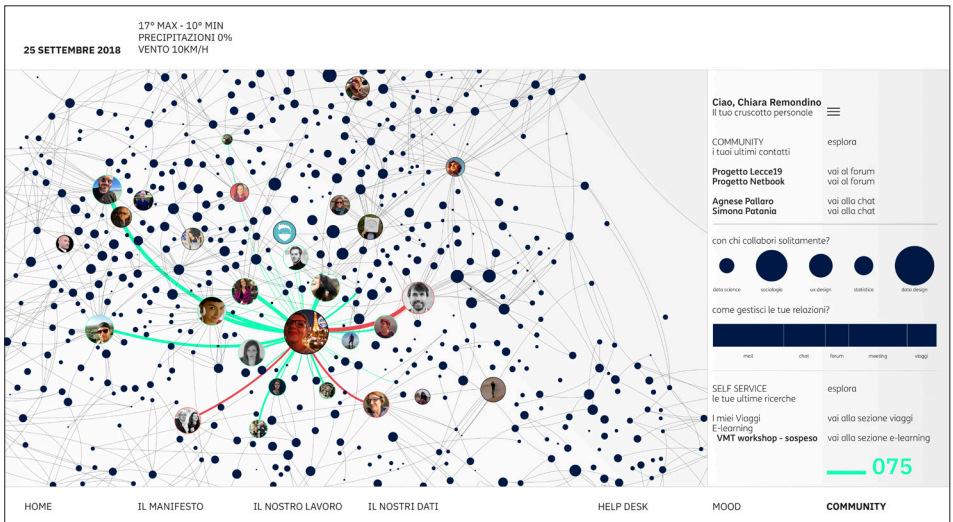
Figure 7. Chiara Remondino, Visual workspace model, The relationship space of the intranet: *Our works* section.

Figure 8. Chiara Remondino, Visual workspace model, The relationship space of the intranet: *Our data* section.

A simplicity of thought intended as a strategic tool with which companies can first compare their intrinsic functional and managerial complexities. Collecting, managing, organizing, and keeping track of data in the right form and with the right tools requires very specific technical, and design, knowledge (Masud et al., 2010).

The proposed model and future possible interactive implementations, thus aims to pursue the assumption that "the network is the message", as a combination of flexibility and adaptability with respect to the objectives of decision-making and execution, of individual expression and horizontal communication. With the aim of minimizing the concept of hierarchy as a top down coordination mechanism, the proposed model manifests itself in the quality of a system based on the importance of collective intelligence, based on often horizontal and interdependent relationships between the different parts. To all intents and purposes a *cognitive multiplier* (Rullani, 2002) which takes the name of *heterarchy* (Hedlund, 1986).

A narrative of openness and knowledge, however, only occasionally follows one inclusive practice, capable of satisfying administrative/bureaucratic aspects on the one hand and operating at the level of the imagination, culture and widespread and shared responsibility on the other. In this complex informational landscape, citing Victor Margolin's thought, democratic nature should not be understood and pursued in its most traditional sense but as a process. A process that is articulated in the planning of democracy as a basic condition that arises from the contribution and collaboration of dif-

ferent actors. A process aimed at democracy with a view to transparency and preservation of memory (Margolin, 2012). A process rooted in a broader democratic system capable of highlighting and activating, through design, initiatives aimed at shaping realities that are no longer exclusive but collective, inclusive, plural.

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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.

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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.

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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.

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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 Iuav 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.

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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.

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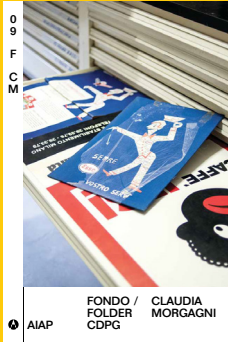yi.zhang@polimi.it

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posters, prints, catalogues, correspondence, photographs) help reconstruct the history of graphic design in Italy and support research and educational activities, as it is the CDGP's intention to make these documents widely available.

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