A CONNECTED WORLD

DESIGNING NEW METHODS, TOOLS AND SOLUTIONS TO LINK PEOPLE TOGETHER AND SAVE THE PLANET

EDITED BY

Salvatore Di Dio
Mauro Filippi
Benedetto Inzerillo
Francesco Monterosso
Dario Russo
Domenico Schillaci

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This volume is the outcome of a discussion triggered by the 2022 World Information Architecture Day, the one-day a year event to encourage world-wide conversations about information architecture.

The 2022 topic was "A Connected World": *We connect with each other in digital, physical, and blended spaces. We connect with people, products, services, content, and the world in general. This connectedness can be wondrous and yet challenging.*

Information architecture uncovers and creates new connections that we weren't aware of before. It can inspire us to make new discoveries or reveal new relationships that may urge us to take constructive action, e.g. climate change, the global health crisis, or the supply chain disruption we have experienced during the pandemic. Information architecture contributes to making connections more relevant. It helps us understand which information is important and trustworthy. It provides guidance in a mess of information and helps fight against the disinformation of fake news. It allows us to steer better who and what we are connecting with. It creates places we enjoy being in where people and information meet.

In a world where we're connected yet distanced, *how do you facilitate connectedness? How do you help make sense of connections? What new connections have you made recently? How did you support others to discover new connections? In what ways do you think information and information architecture can be used to support, define, or create environments (digital, physical, virtual, or blended) to improve the lives and experiences of people in a connected world?*

The hybrid event organized on March 4th 2022 in Palermo by the University of Palermo, PUSH design lab and Arca, had the support of a international scientific
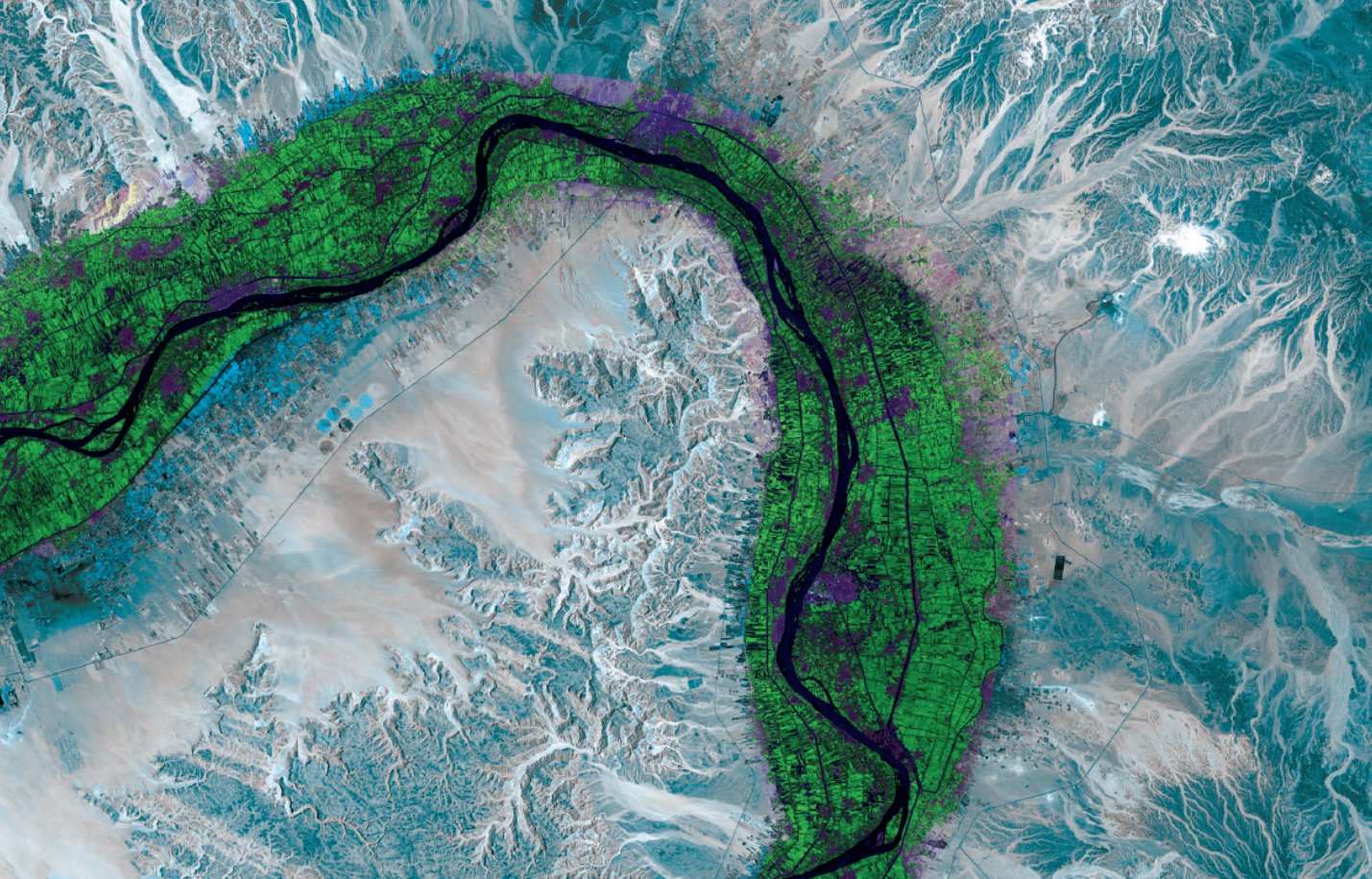
committee (Marika Aakesson, Cristian Campagnaro, Salvatore Di Dio, Nicola Morelli, Chiara Lorenza Remondino, Dario Russo, Paolo Tamborrin) which selected blindly abstracts of scholars and professionals willing to contribute to the discussion.

Through the opencall the scientific committee have selected abstracts from Luigi Farrauto, Danilo Costa, Roberto Anelli, Federica Ditta, Cristina Marino, Leonardo Moiso, Eleonora Fiore, Enrica Amplo, Andrea Arboleda, Antonio De Pasquale, Irene Fiesoli, Claudia Mastrantoni, Florian Myter, Caterina Bonora, Isabella Patti, Valeria Valeriano and Caterina Bonora.

The following conversation triggered by the event was therefore the starting point of a deeper discussion in the next month, and, thanks to the interest of Palermo University Press, curators of this volume invited all contributors to condense all further reflections in a fix peer-reviewed paper (David Kaplan, 2005 "How to Fix Peer Review", The Scientist, 19).

All contributions discussed in this essay focus on the potential of design and innovation to address important challenges facing humanity and the importance of inclusive design and sustainability in the digital age. The common characteristics

of the texts are that they all discuss design in relation to technology and innovation. They explore how design principles can be applied to various fields, such as education, public services, and sustainability, to create new solutions and opportunities. Authors also discuss the potential of using technology, such as data analysis and digital platforms, to improve design processes and outcomes. Additionally, the papers highlight the importance of inclusive and holistic approaches to design, and the need for collaboration and dialogue between different stakeholders in the design process.

PUBLIC INTERIORS AS INFRASTRUCTURES OF CONTINUITY AMONGST PEOPLE, SPACES AND SERVICES

Laura GALLUZZO
Department of Design, Politecnico di Milano
Milano, Italy

Claudia MASTRANTONI
Department of Design, Politecnico di Milano
Milano, Italy

Elisa CINELLI
Department of Management, Economics and Industrial Engineering (DIG), Politecnico di Milano
Milano, Italy

ABSTRACT

Growing cities have transformed their relationship with public spaces, also dealing with the digitization of services that has emptied the spaces they once occupied, leaving behind a spatial heritage that has to be reallocated. Indeed, few public areas now meet the requirements that enable them to be perceived as "public" with new ways of communicating, socializing and interacting. Therefore, we should generate new narratives for the cities' Public Interior spaces as scenarios to display ideas directed toward the public. Continuity and accessibility are considered positive elements for the users, linking proximities to live in our cities with a new generation of public services, multimodal and shared services, re-inventing Urban Commons, also incrementing flows of people inside and outside surpassing the "boundaries" of the constructed environment. As well the Information Architecture designers create user flow of information, as Spatial and Service designers must enrich the capacity to offer and experience the most fluid and relevant experiences to the users within the spaces, enabling roots and programs into the environments defining components of this Infrastructure of Continuity within Public Interiors.

PUBLIC INTERIOR, S+S DESIGN, PROXIMITY, HYBRID SPACES, HALL OF THE FUTURE, CONTINUITY

1. INTRODUCTION

Today, design discipline represents a holistic perspective [1], navigating between formerly distinct areas of action which have become progressively blurred. Design evolves from specialist expertise to a more broad and interdisciplinary profession that includes social settings, products, services, systems, and branding [2; 3]. Interactions are common in fields like Space and Service design, which is why, within a multidisciplinary vision, combining the two disciplines to envisage future alternative developments seems a natural consequence.

S+S (Spatial + Service) Design is applied to "urban planning, in the design of workplaces, retail settings, private interior spaces, public services and infrastructures.
In this range of settings, spaces host relational entities and vice versa, services take place in physical environments and determine tangible outcomes" [4].

This paper attempts to define the Spatial and Service approach related to Information Architecture, answering the question: what role does, or could, Information Architecture (IA) play in the design process? To comprehend the effect that IA could have on S+S design by making it easier for users to locate essential information, we will first attempt to describe the current trends inherent to the design of public spaces and public services that S+S is concerned with. Then we will determine the position occupied by Information Architecture within this field of study in order to understand why we should put them in relation. After analyzing the intersection of digital and physical space in the public environment and the effect of Public Administration's digital transition on the physical space, we will mention a public interior renewal project that highlighting this connection.

2. HOW CAN PUBLIC INTERIORS BE TRANSFORMED INTO INFRASTRUCTURES OF CONTINUITY?

Public Interiors
This multidimensional design approach identified in the S+S Design, should be able to generate new narratives for cities' Public Interior spaces as transformative scenarios. Public interiors are public spaces in a constructed environment, primarily described as "spatially contained environments inside civic buildings (government buildings) and institutions (e.g. for education, healthcare, culture etc.)" [5]. This essay suggests continuity and accessibility as basic components of Public Interior proximity, related to the flows of people both inside and outside the built environment, transcending its "boundaries".

Starting from these premises, we can explore some of the key terms which define the boundaries of the infrastructure of continuity topic:

Proximity
The condition of being physically close in space is known as proximity. It is also the sensation that arises from the awareness of sharing something with someone. "Proximity is the quality of a system whose elements can easily enter into direct contact" [6].

It became a keyword in today's urban planning. A city of proximity, often known as a "15-minute city," is one in which everything people need for daily living is just a few minutes away by foot or by bicycle from where they live [7].

Closer proximity is meant to increase people's quality of life, strengthen communities, and promote environmental, social, and economic sustainability [8].

Despite being based in the physical world, according to Manzini [7] proximity has also become increasingly digital, and it could no longer exist without it. Into this hyperconnected era of Digital transitions, we communicate in digital, physical, and hybrid contexts.

Hybrid Spaces

De Souza and Silva [9] affirm that "hybrid spaces arise when virtual communities (chats, multiuser domains, and massively multiplayer online role-playing games), previously enacted in what was conceptualized as cyberspace, migrate to physical spaces because of the use of mobile technologies as interfaces. They merge the physical and the digital in a social environment created by the mobility of users connected via mobile technology devices''. According to them "hybrid spaces are conceptualized according to three distinct but overlapping trends: hybrid spaces as connected spaces, as mobile spaces, and as social spaces". The space of flows, according to Castells [10], is the main spatial logic of the network society. Paraphrasing Castells [10], Stalder (2001) affirmed that "the space of flows is created by the real-time interaction of distributed social actors. The space is comprised of interactions and the material infrastructure that makes these interactions possible." From this definition, we know that the space of flows is intrinsically a social space; according to Castells, space is the expression of society (p. 440). However, in the space of flows, the material infrastructure that makes these social interactions possible is in part composed of digital technologies and a physical network" [9].

Information Architecture

The increasing digitization of services is making services more efficient and quick, and it is shifting the primacy of physical presence, that is why the discipline (IA) that focuses on the organization of information within digital products improving their user friendliness is gaining more and more ground.

"A world of digital information will always need people to architect spaces for sharing, collecting, and organizing documents and resources. [...] The dynamic structuring of information in response to user activity is likely to offer increasing challenges for research to understand how people construct meaning and navigate through fluid information environments." [11]. Information Architecture designers create user flows of information and they bring "principles of design and architecture to the digital landscape" [11]. IA is defined by Dillon [12] as "the process of designing, implementing, and evaluating information spaces that are humanly and socially acceptable to their intended stakeholders".

IA design connects the users with the content and the context. People visit websites for content. Producing good content is crucial, but so is making it easily accessible to users [13].

Continuity

Overlapping all these topics into a positioning map **(Figure 1)** composed by the disciplines of Spatial Design and Service Design (first axis) operating between digital and physical space (second axis), IA can be connected to public Interiors and generate Continuity, passing through S+S, which takes place at the center of the two axes. Hybrid spaces and Proximity play a prominent role
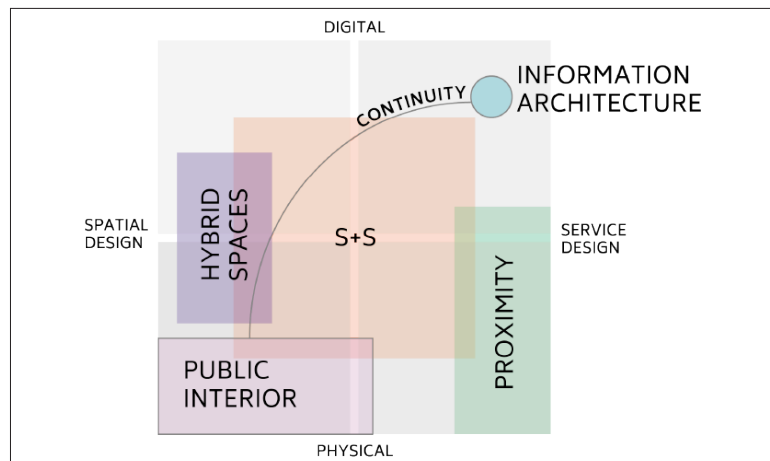

Figure 1. *Positioning map*

in this context as the places within which Continuity occurs. According to this theory Spatial and Service designers must enrich the capacity to offer and experience the most fluid and relevant experiences to the users within the spaces, enabling roots and programs into the environments defining components of this Infrastructure of Continuity within Public Interiors.

3. DIGITAL TRANSITION'S IMPACT IN PHYSICAL (PUBLIC) ENVIRONMENTS RENOVATION

The decrease in usage of public interiors is the consequence of a mix of variables, the most important of which is service digitalization. The digital transformation of public administrations, underway in many countries including Italy, which established a special Department for Digital Transformation in 2019, aims to use information technology to make access to public services easier, faster, and more efficient [14].

Language, methods, and processes differ greatly between Information Architecture and public administration. The majority of studies on public agency communication have been conducted from the perspective of communication science, public relations and

political marketing. Even the few texts that have addressed the contribution of design have done so by emphasizing its graphic-visual skills rather than its strategic contribution [15]. Two turning points of this "non-strategy" have been: the definition of *design guidelines for PA website*[1] and the development of the *Designers Italia*[2] platform, the first reference point for the design of digital public services.

This digital transition is also having an impact on public interiors, which are experiencing considerable changes. The dematerialization of papers, the development in digital andcomputerized document and process management, is a fundamental driver of this transformation which has a massive impact on spatial fruition and people behavior.
Italian public administrations, despite its slowness, have been at the forefront of remarkable digital innovations aimed at developing structures that promote effectiveness and efficiency. That is, substantial computerization of both national and local public administrations, resulting in e-Government [16].
This digital transition will be increasingly growing thanks also to the Italian PNRR (National Recovery and Resilience Plan) and the European Next Generation EU program, which allocate substantial resources to this

aspect.
PNRR has the potential to provide a long-term investment and reform plan for effective twin transitions (sustainable and digital) while maintaining social and territorial cohesion [17].

4. HALL OF THE FUTURE CASE STUDY

Dematerialization brought about by this transition represents an important theme in the physical public environment renovation. An example is the case of registry offices renovation of the *Chamber of Commerce of Milan, Monza Brianza and Lodi* conceived by a research team of the Design Department of Politecnico di Milano. The Chamber of Commerce is shifting to online services, decreasing the need for physical space. The progressive digitization of its services allowed it to reduce costs, optimize and simplify processes, and improve service quality. The registry office public interior renovation project, aimed at reducing the distance between the public service and the citizens, presented an opportunity to interact with this transitioning phenomenon. From the applied co-design process emerged three guidelines to be followed:

"Flexibility (workstations and exhibition areas must be able to adapt dynamically to the provision of more services

and activities); Continuity (the Chamber of Commerce must continue to be the point of reference in terms of offering services dedicated to the growth of businesses, and gradually integrating some innovations); Innovation (the space will gain a modern look, offer brand new services, and also adopt new forms of technology)" [18].

The program was aimed to rethink and transform both users' and Chamber of Commerce operators' spatial experiences. To achieve this result, the project was designed as a strategic scenario, leaving the physical project open to changes in social, technological, and work paradigms. Moreover, the project strives to broaden its temporal scope while remaining current. Gained outcomes have been the increasing of the continuity, the permeability, new spaces and new services.

The concept of "accessibility," defined as the possibility to enter a space without effort [19], can be used to differentiate between public spaces and public interiors since access to a public interior, as the Chamber of Commerce, may be limited for evident reasons. The decrease of this limit is one of the functions that Information Architecture can do as part of the design process, enabling a system of connection and proximity that is not located in physical space but rather in digital space, by which enhance participation, accessibility and social inclusion.

5. CONCLUSIONS

In today's cities, public space is no longer created just by traditional typologies like squares, gardens, public and private areas, but rather by the emergence of a variety of hybrid spaces and collaborative uses. These can include the realm of communication as well as virtual spaces. It is necessary for us to concentrate on systemic perspectives, a network space [20] which promotes functional and morphological continuity [21].

Figure 2. *View of the design project*

Figure 3. *View of the realized project*

The concept of continuity for the Public Administration Infrastructures is expressed in terms of a new generation of public services and linked to accessibility and permeability, including PA digital transition. Digitalization is an instrument to facilitate connection between people, goods, services, materials, and the wider context acting in public spaces. The new narration of public interiors should express public values and shaping the public sense through its users' behaviour. As with S+S Design, Information Architecture requires a users-centered strategy, which includes user research, determining what people need and want, conducting card sorting and tree testing sessions, as well as contextual questions and usability testing **[13]**. This approach aims to increase the quality of the user-product/space interaction and usability.

Therefore, as a consequence of digitalization, physical spaces need to be redesigned enhancing their level of continuity, so of easier fruition. The knowledge gap of the future impact of today's transformation still has to be filled.

S+S Design action should focus on the process of physical and digital renovation aiming at a new sense of connection and developing a continuity strategy for spatial and service implications.

NOTES

1   https://www.agid.gov.it/it/design-servizi .
2   *https://designers.italia.it/*

REFERENCES

[1]   Buchanan, R. (1992). **Wicked Problems in Design Thinking. Design Issues**, 8(2), 5. https://doi.org/10.2307/1511637

[2]   Squires, S., & Byrne, B. (2002). **Creating Breakthrough Ideas: The Collaboration of Anthropologists and Designers in the Product Development Industry** (Illustrated ed.). Praeger.

[3]   Muratovski, G. (2010). **Design and Design Research: The Conflict between the Principles in Design Education and Practices in Industry**. Design Principles and Practices: An International Journal—Annual Review, 4(2), 377–386. https://doi.org/10.18848/1833-1874/cgp/v04i02/37871

[4]   Fassi, D. Galluzzo, L. & de Rosa, A. (2018). **Service+Spatial design: Introducing the fundamentals of a transdisciplinary approach**. ServDes 2018 - Service Design Proof of Concept (pp. 847–862). Linköping University Electronic Press.

[5]   Pimlott, M. (2018). **Interiority and The Conditions of Interior**. Interiority, 1(1), 5–20. https://doi.org/10.7454/in.v1i1.5

[6]   Manzini,. E. (2022). **Livable Proximity: Ideas for the City that Cares**. EGEA Spa - Bocconi University Press.

[7]   Tajani, C. (2021). **Città prossime. Dal quartiere al mondo: Milano e le metropoli globali** (Italian Edition). goWare e Edizioni Angelo Guerini e Associati.

[8]   Gil Solá, A., & Vilhelmson, B. (2018). **Negotiating Proximity in Sustainable Urban Planning: A Swedish Case**. Sustainability, 11(1), 31. https://doi.org/10.3390/su11010031

[9]   De Souza E Silva, A. (2006). **From Cyber to Hybrid. Space and Culture**, 9(3), 261–278. https://doi.org/10.1177/1206331206289022

[10]   Castells, M. (2000). **The Rise of the Network Society (The Information Age: Economy, Society and Culture**, Volume 1) (2nded.). Wiley-Blackwell.

[11]   Dillon, A., Turnbull D. (2005). **Information Architecture**. Encyclopedia of Library and Information Science DOI: 10.1081/E-ELIS-120017582

[12]   Dillon, A. (2002). **Information architecture inJASIST: Just where did we come from?** Journal of the American Society for Information Science and Technology, 53(10), 821–823. https://doi.org/10.1002/asi.10090

[13]   Babich, N. (2020). **Information Architecture Guide for UX Architects & Designers** | Adobe XD. Ideas. https://xd.adobe.com/ideas/process/information-architecture/information-ux-architect/

[14]   Filippi, M., Merenda F. (2022, January 29). **Accessibili, usabili e inclusivi: per una progettazione etica dei servizi pubblici digitali**. Medium. https://medium.com/designers-italia/accessibili-usabili-e-inclusivi-per-una-progettazione-etica-dei-servizi-pubblici-digitali-186ed6ebc469

[15]   Sinni, G., Sgarro, I. (2022, March 23). **L'Atlante della trasformazione digitale della PA - Designers Italia**. Medium. https://medium.com/designers-italia/latlante-della-trasformazione-digitale-della-pa-cc1c47960759

[16]   Armenia, S., Casalino, N., Gnan, L., Flamini G. (2021). **A systems approach to the Digital Transformation of Public Administration**. Prospettive in Organizzazione. La rivista di organizzazione aziendale.

[17]   Pilati, M. (2021) **National Recovery and Resilience Plans: Empowering the green and digital transitions?** Policy Analyst European Policy Centre (EPC)

[18]   Collina, L., Galluzzo, L., Mastrantoni, C., & Monna, V. (2020). **Hall of the Future: a Systemic Research Project for Public Interiors and Spaces using Co-Design Tools**. Strategic Design Research Journal, 13(2), 234–248. https://doi.org/10.4013/sdrj.2020.132.08

[19]   Poot, T., van Acker, M., & de Vos, E. (2015). **The Public Interior: The meeting place for the urban**. IDEA JOURNAL, 44–55. https://doi.org/10.37113/ideaj.vi0.52

[20]   Pinto, A. J., & Remesar, A. (2012). **Public Space Networks as a Support for Urban Diversity**. Open House International, 37(2), pp. 15–23.

[21]   Brandão, A. L., & Brandão, P. (2017). **Public Space, Infrastructure, Landscape: an interdisciplinary matrix for urban spatial continuity**. The Journal of Public Space, 2(1), 123. https://doi.org/10.5204/jps.v2i1.55