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"Experiencing and shaping": The relations between spatial and service design

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Introduction

This paper explores the relationship between service design and the design of physical environments through the contributions received in "Experiencing and shaping" track at the "ServDes.2018 Proof of Concept" Conference. The main aim of the track is to examine how the systemic logic of service design and its peculiar focus on interactions influence the shaping of spaces, while at the same time exploring how spatial design could shape places according to the different actions occurring within them, mainly due to services taking place there. Mutual influences relate both to the experiences the users could have in the spaces and in using services, and at the same time with the shapes of spaces where services happen.
Although the track topic deals with a barely explored aspect of service design, various contributions have framed an interesting panorama of thecurrent situation. The twelve articles selected have been gathered into three main clusters concerned with: framing a theoretical background, experimental educational activities and applied research.

KEYWORDS: experiencing, shaping, spatial design, service design, design research

Introduction

The spatial experience of human beings is rooted in architecture and urban planning and finds its exploratory focus in the spatial design discipline, where the transformation and manipulation of a given space deals not only with its perception and transit, but also with the system of actions and interactions that take place in it. Spatial design frequently encounters the redefinition of contemporary life parameters and discloses the new configurations of a changing society: the physical realm enables interactions among people and enhances a sense of shared ownership and the engagement of people with contexts. That is why the design of public and private spaces meets the relational nature of services, in a mutual influence that affects the creation of meaningful social environments.

When Spatial Design meets Service design (and vice versa), a wide range of settings are set up, dealing with urban planning, workplaces, retail, 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.
The "Experiencing and shaping" track at the "ServDes.2018 Proof of Concept" Conference seeks to explore the relationship between service design and the design of physical environments as a first attempt at a proof of concept concerning a relationship that has not yet been investigated in depth and lacks a wide set of academic references, but which on the other hand benefits from some educational activities mainly carried out in real contexts. The main aim of the track is to examine how the systemic logic of service design and its peculiar focus on interactions influence the shaping of spaces, in private as well as in public contexts, while at the same time exploring how spatial design could shape places according to the different actions occurring within them, mainly due to services taking place there. Mutual influences relate both to the experiences the users could have in the spaces and in using services, and at the same time with the shapes of spaces where services happen.
Experiences are here intended as actions to engage users in a personal and memorable way (Pine & Gilmore, 2011), while shapes refer to a system of technologies, materials, spatial components of a natural or artificial environment. Whereas experiences are usually identified through service actions, shapes are more closely-linked to the definition of the spaces themselves. This track tries to explore how services taking place in spaces, could affect the shapes and how the shapes of an environment could influence the characteristics of a service.
Contributors were invited to investigate specific issues:

- the role of service design in the theoretical and operational features of spatial design;
- the respective positioning of service design and spatial design in education and practice, and collaboration between the different practitioners;
- the potential of service design to facilitate the direct involvement of several stakeholders in the design of the spaces, and how this can contribute to strengthen long-term relationships between people and places;
- the quality of experience in the space.

The track has been introduced with some open questions to start the debate: what is the connection between spaces and services in the design discipline? How is the design of spaces and places influenced by the use of service tools? How does UX design cross the spatial design discipline? Can service design increase the engagement of stakeholders in the design of spaces?
These questions brought out the state of the art of the relationship between Service and Spatial design. The existing lack of exploration of this relationship limits the role of space in a service approach to "where something happens" with no further additions, instead of being a component of the system to be designed. At the same time there is still no consolidated background on how spatial designers are including service design in their design process and results. We may say that we are face to face with a new field in the design discipline, one which has a transdisciplinary aspect due to the increasing comparison of disciplines.
The contributions in this track propose several different interpretations of "experiencing and shaping" in the service design field. They highlight the enriching plurality of voices and expressions that characterize this debate among scholars, researchers and practitioners. At the same time, they establish new theoretical connections that prompt the pursuit of new research and design activities towards the integration of Service Design and Spatial Design. Although the track topic deals with a barely explored aspect of service design, various contributions have framed an interesting panorama of the current situation.
The twelve articles selected have been gathered into three main clusters concerned with:

- framing a theoretical background;
- experimental educational activities;
- applied research.

Most of the papers fit the first two groups, while the third type has a smaller number of contributions and can be placed between theoretical and applied research. In addition, the articles dealing with educational activities help to frame he current situation and to

investigate the academic institutions in which the relationship between spaces and services is explored. We can certainly say that the interaction of these two disciplines outlines a landscape of constantly evolving design opportunities and that future scenarios are promising and rich.

Framing A Theoretical Background

In the positioning paper, "Service+Spatial design: introducing the fundamentals of a transdisciplinary approach", the authors, Davide Fassi, Laura Galluzzo and Annalinda De Rosa, define the relationship between Spatial and Service Design, trace the theoretical genesis of the two disciplines, analyse the contact points and overlap between the different approaches and imagine future developments in the direction of a transdisciplinary approach that is not limited to the overlapping of the two disciplines. This paper starts by assuming that services take place in spaces and services generate spaces.
Therefore, the guiding questions concern: how spaces can influence, can generate, can be set up for and be used through service, how services can influence, can generate, can be set up for and be used through space; how service design processes can add value to space projects and vice-versa.
Moreover, the authors define the Service + Spatial fundamentals through a comparative theoretical framework based on the qualitative dimension, and in which the two disciplines face different but complementary aspects:

- environmental dimension (dialectical / unfolded)
- temporal dimension (abstract - endless time of memory / experiential - limited time of use)
- social dimension (symbolic, relational) (Fassi, Galluzzo, De Rosa, 2018)

This qualitative comparison aims at framing the Service + Spatial nature as dialectical, archetypical and phenomenological.
Further, the paper highlights five findings, in a first attempt to frame a theoretical background to the topic.
In his paper, "Traces as service evidence", Spyros Bofylatos talks about physical evidence in Service Design, particularly in the context of service design for social innovation. Here, traces are perceived as an essential aspect of services because the service experience exists as a choreography of people, things and processes. (Bofylatos, 2018)
According to the author, these traces connect the present with the past and guide the service and its users in the future. Such trajectories are not designed, but the designer can set favourable conditions for them to emerge, thanks to the use of tacit knowledge.
Tacit knowledge provides a way towards a new "restoring narrative unity" (Walker 2017) fostering a more meaningful material culture and unlocking the redirective potential of design. Especially in the context of service design for social innovation, due to its transformative position and distributed character, tacit knowledge seems like a necessary consideration. (Bofylatos, 2018)
Shana Agid and Yoko Akama in their paper, "Dance of designing: Rethinking position, relation and movement in service design", underline the importance of dynamic relationships in service design and, above all, how the most contradictory and less predictable aspects are not currently held in consideration when using fixed and stable tools such as the journey map.
Instead of drawing inspirations from systems engineering and architectural blueprints with lines already laden with precision and prediction, what if we looked to notations in music, dance and performance? (Agid and Akama, 2018)
The authors suggest a new type of map that also focuses on the sensible aspects – those things that can be heard and perceived – the unexpected experiences which place people at the centre of service design. Using such tools is to reveal conflict, serendipity, cultural assumptions, missed connections, or false promises, rather than hide or disguise them under more desirable experiences (Agid and Akama, 2018).

In both these last two papers, great attention is placed on the unfixed knowledge, the experience, the tacit knowledge and, in general, the processes of alterations.
In framing a theoretical background, use of tools is one of the issues to be investigated and the "Walkthrough" models, mainly used in service design process, are the focus in the following two papers. Desktop walkthrough is a design tool that uses a collaboratively-built miniature environment that allows participants to interact with abstract concepts such as service processes and flows.
It is the perfect mix of tangible and immaterial service qualities and portrays in a complete manner the interactions taking place during the performance of the service itself. We could say that the Desktop walkthrough is the most appropriate tool to deal with the issues addressed in this track and, in particular, with the relationship between the service and the spatial dimension.

In their paper, "Facilitating in Service Design using Desktop Walkthroughs", Johan Blomkvist and Fredrik Wahlman claim that with new territories for design come new (opportunities and) challenges – and with them, new tools that help designers deal with new situations (Blomkvist and Wahlman, 2018). In particular, according to the authors the Desktop walkthrough tool is used as a service design tool to facilitate collaborative design activities, but a deeper knowledge of motivations and considerations about its value is lacking as there is no specific literature. The paper therefore aims to fill this gap by offering a better understanding of its role as a co-design tool from the perspective of facilitation. Its use has been explored from several points of view: those of the facilitators, the design student, the researcher, the in-house service designer and the consultant. (Blomkvist and Wahlman, 2018). The authors also try to assess how successful, or otherwise, the tool could be for utilitarian purposes, or in relation to marketing and education issues, underlining its lack of perspective from the participant point of view.

An innovative way to redesign this tool is presented in the paper, "VR Service Walkthrough: A Virtual Reality-based Method for Service Prototyping". The author proposes a new service prototyping method: a service walkthrough as a virtual simulation of the service journey, showing how the service unfolds over space and time. Costas Boletsis describes the new tool as follows: the method allows designers to explore, evaluate, and communicate service concepts in a holistic way, capturing the service as a whole, while it enables service users to immerse themselves in the virtual, prototyping environment, interact with service components in virtual form, and experience the service journey in VR (Boletsis, 2018). He also presents an application of the new tool to a location-based Audio Tour Guide Service, together with the results obtained.

Experimental educational activities

The educational and teaching fields are the main topic of two papers dealing with innovative approaches in service and spatial design in university courses.
In the paper, "Space and service design into educational practice", Nansi Van Geetsom describes how the "Interior & Service Design Course" at Thomas More University of Applied Sciences in Mechelen, Belgium was established starting from a research of the local market needs. She writes: "the concrete and ongoing demand from the local society has created the urge for a new design specialization and a new approach: Interior/Space & Service Design. And as society and therefore design disciplines keep evolving, education needs to evolve too in order to prepare future-proof designers" (Van Geetsom, 2018) . As mentioned in the previous paragraph, an integrated approach combining space and service design is lacking (Felix, E., 2011), although many examples in design practice show that they are inseparable. In the "Interior & Service Design Course" "the design of the space is not the end but the start of a continuous interaction with people using that space. Therefore, the aspirant designer should learn how to create a space as a system by identifying the services and defining the interactions between people, space, objects and communication tools.

Spatial design and service design are used to create better experiences. (Van Geetsom, 2018)". While this author focuses on how educational activities in spatial and service design could be innovative and explore the contemporary needs of companies and clients, the following paper shows how design studios at academic level could be run to translate these inputs into practice.
In their paper, "Design Thinking for Interior and Spatial Design: A Case Study within Politecnico di Milano", Ngoc Pham and Davide Fassi present the approach, development and output of two design studios at the Politecnico di Milano, which addressed different areas of concern but were underpinned by a shared approach. They used service design tools and methods to implement spatial design solutions, and focused on how spaces for education could be temporarily reshaped to answer the students' needs to develop design solutions.
These cases are interesting because within the School and Department of Design at the Politecnico di Milano, the POLIMI DESIS Lab has been developing some innovative interdisciplinary programs, crossing the area of Interior and Spatial design with Service design, through design thinking and user- and community-centred design. An interesting approach of their analysis is explained through maps showing classroom layouts, with the purpose of understanding (students and teachers) how an educational space could be reshaped by the needs of the users. For example, in the "Final Design studio", a clear view is given of how the classroom was transformed, highlighting the following settings: from lectures to feedbacks, from lectures to presentations, from traditional classroom to active classroom, from teacher-centred learning to student-centred learning. (Pham and Fassi, 2018)

Applied research

The third cluster includes papers dealing with applied research, such as experimentations in the field of spatial and service solutions. The paper, "Service Design Methods and Tools as Support to the Participatory Definition of the Meta-design Brief of a Contemporary Integrated Campus", focuses on the definition of tailor-made methods and tools merging the contribution of Service and Spatial Design for the meta-design development of the new scientific campus at the "Università degli Studi di Milano", to be built on the former Milano Expo 2015 site. The authors present an applied research that focuses on the learning spaces for future campuses.
The relations between the two disciplines highlight how the Service Design tools help the researcher to define a set of principles, guidelines, and reference rules capable of generating the layout for an integrated campus at a later stage. If a campus is a network of connections, relationships and interactions between individuals and groups (Amelar, 2016), the authors state that this network should be facilitated by the spatial context in which they take place. (Camocini, Collina, Daglio, Mazzarello, Trapani, 2018)

In the paper, "Designing Spaces and Services: an Experimental Project for Student Dormitories: Collective Experiences, Connected Lives and Linked Places", student residences are considered as physical touchpoints to activate interaction between people. In most university campuses and schools, the dormitory area as a whole can be considered an urban hub through which synergistic relations take place between the student residential complex and the neighbourhood, and vice versa. (Collina, Di Sabatino, Galluzzo, Mastrantoni, 2018).
The authors describe an experimental teaching project for a student residential building in Milan, Italy; through this applied project the paper presents possible relationships between spatial (environment and experience design) and service design. (Collina, Di Sabatino, Galluzzo, Mastrantoni, 2018)
In both the previous two papers the research process is described as a fundamental aspect of the project presented; both projects adopt a human centred design approach and use co-design tools to define the actions and characteristics of the output with the local

communities. The groups of users in these places dedicated to learning and research are heterogeneous, some belong to the university community, while others are citizens from the neighbourhood where the facilities are located. The goal of both research projects is to involve the different populations and develop the design output with them and not for them. An original use of service design tools in the development both of the spaces and services is here presented. The inclusion of spatial features in those tools generally used by service design (i.e. user journey, storyboard etc.) allow a cross between the processes. Adding to and enriching the storyboards and user journeys with more spatial details will transform them into useful tools for representing the environment, and its flows, its uses and its functions. (Collina, Di Sabatino, Galluzzo, Mastrantoni, 2018).
Continuing the design experiments in several fields of application, the authors, Giuliano Simonelli, Francesco Scullica, Elena Elgani and Vanessa Monna, ask a specific research question that gives the paper its title: "Can co-working spaces be built bottom-up?" If technological development potentially enables people to work anywhere in the world, (…) the irony is that there is no space anywhere designed for such work. Co-working can be considered the leading example of a workspace as a service (Boyd, 2014). From a service design point of view, it is interesting to observe that co-working is in fact a package of services including, in terms of space, the container itself and, in terms of content, targeted facilities and equipment. This means that co-working is a distributed system of people, spaces, goods, and processes. (Simonelli, Scullica, Elgani, Monna, 2018)

The paper, "Engagement strategies within co-making environments bridging spatial and organisational design", also examines the possibility of involving co-making-space users in a more structured way, through an app, in order to characterize, personalize and then enrich the spaces and services with different points of view and visions.
Ricardo Saint-Clair has observed and applied several research methods to investigate 18 prominent maker spaces, located in five cities in Europe, and try to answer the questions: to what extent does the interior design of a space make people more collaborative and innovative? What are the settings and platforms that may affect the way people feel, behave and interact?
The empirical study navigates the blurry boundaries of spatial design and organisational design, and the dynamic strategies employed to unleash the patterns and congruencies of these adaptive environments, assuring the engagement and participation of the population researched. (Saint-Clair, 2018)
It is interesting to note that even though they are relatively new spaces, neither maker spaces nor fablabs are characterized by impactful relations between space design and services.
In many ways, buildings and interiors have not been designed to keep pace with the speed of digital technologies, especially when we analyse the workspace and how new ways of working and social interacting are influenced by the interior landscape. (Saint-Clair, 2018)
The aim of the paper, "Service Design Principles for organizational well-being: improving the employee experience through Design Thinking", is to link Service Design and Design Thinking to well-being in workplaces and propose a set of design principles that can be adopted by both designers and managers responsible for organizational services to improve employees' well-being. In the research phase, the data collected were organized into three main categories: spaces, interactions and relationships, services and work-life balance. Thus, in this case, both services and spaces are involved in the definition of seven design principles. These suggest the key features that organizational services must have to produce positive effects on well-being.
The design principles can help not only to design better services, but also to feature better experience of interaction with spaces. The authors suggest that there are different elements in the realm of spaces, interactions and services that are interconnected and characterize the experience of people within an organization. (Di Norcia, Bertolotti and Vignoli, 2018).

Conclusions

The last few years of practice across spatial, service and experience design has been significant for a number of reasons. There has been an avalanche of public discourse and debate about the relationship between service, space and experience, alongside its adoption by organisations and designers from multiple backgrounds.

This upsurge in design work and discourse connecting experience to space seems almost to supersede service design or spatial design as an exclusive pursuit. There is now a crossover of practice and a transdisciplinarity of approaches, which not only mirrors the complexity of design challenges themselves, but also the escalating convergences of the world around us: smartphones becoming much more than just phones, for example, or living spaces where one lives *and* works.

When one considers service design on its own, helpfully defined by Wikipedia as 'the activity of planning and organizing people, infrastructure, communication and material components of a service in order to improve its quality and the interaction between the service provider and its customers.' one recognises the need to shift focus.

Space is not mentioned in this definition, nor is experience. Service design here is described as an organising approach, akin to engineering, to iron out frustrations, increase efficiencies, quicken processes. It is of course more than this, yet as one sees with Design Thinking, it is so widespread and supposedly so embedded in all design that it no longer carries much definitive meaning.

The experience of space (Lina Bo Bardi describes architecture/spaces as 'not existing' until one enters and 'experiences' it) is contained in itself so to speak: one can try to imagine it, model it or evoke it, but it needs at some point to be human scale, to be itself. We compensate for this in the design of space through models, drawings, VR, prototypes and any means possible, but these are all 'stand ins' for the thing itself. The experience of space is such a complex amalgamation of memory, imagination, physiology, sound, light, touch, and smell that it is very hard to appropriate.

To understand the value of converging service and space design one needs to acknowledge that once space is designed and built, no matter how it was conceived or approached, once it exists and is occupied, an ongoing relationship between the 'user' and the 'space' is created. This simple idea challenges a lot of architectural thinking and brings spatial design practice alongside service design. Thinking of a user of space, and designing for a community of users, suddenly enlivens spaces towards a human dimension that adds to the whole, rather than compromising the designer's vision. If one accepts this limit of complete and cohesive thinking, acknowledging that to predetermine how a space is felt, understood and used is not only impossible, but undesirable, one steps off the pedestal of the master builder. Conversely too, if the service designer can assume the user point of view and acknowledge that it is impossible to imagine all parts of their journey, and to exhaust all possibilities of what they may want, need or desire at any one moment, he/she will again arrive at a similar point: the need to step back and stop designing.

Service flows, service blueprints, user journeys, all these elements become clear and effective when understood in spatial terms, not just on the page, but as a way to understand and communicate them and their impact: to enact them in space. Space contains them and their purpose. At the same time, the attributes of architecture, such as volume, rhythm, height or material, become more exhilarating when conceived as a way of enabling a service, providing a platform that facilitates the creation of personal experiences.

Conclusions and Further Challenges

As described in the last paragraphs, there are three main clusters that emerge from the twelve papers presented in this track. While a theoretical background has been explored by detailing a transdisciplinary field (De Rosa, Fassi, Galluzzo 2018) and the importance of the service legacy (Bofylatis, 2018), a range of alternatives in the use of tools has been presented to support this emerging interest in Service and Spatial Design (Agid and Akama, 2018), (Blomkvist and Wahlman, 2018), (Boletsis, 2018).

When the theory is applied to education, the fields of exploration are diverse but converge in a common design language (Van Geetsom, 2018) (Pham and Fassi, 2018). At the same time, the theoretical background is supported by several practices exploring different applications: including university campuses (Camocini, Collina, Daglio, Mazzarello, Trapani, 2018), student residential complexes (Collina, Di Sabatino, Galluzzo, Mastrantoni, 2018), co-working places (Simonelli, Scullica, Elgani, Monna, 2018), maker spaces (Di Norcia, Bertolotti and Vignoli, 2018) and private companies (Saint-Clair, 2018).
The relationship between Spatial Design and Service Design has been investigated in depth by creating one of the first attempts to establish academic literature in this field. This step is useful to start a discussion about the future of this relationship that could include:

- the creation of a transdisciplinary approach in need of specific tools and methodology;
- the establishment of a new professional figure who will deal with shaping the environments hosting services and designing experiencing connected to spatial dimensions;
- a new design language that will draw on existing ones (from service and spatial design) to create an innovative way to approach, visualize, tell, prototype and build innovative design output in the field of Spatial and Service design;
- a research area able to observe the evolution of these two disciplines and their connection with the professional, educational and market realms, and able to explore a dialogue with other disciplines.

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