DESIGN

CULTURE

OF

PROXIMITY

PLACES

PEOPLE

ECONOMY
Sam Bucolo, Swinburne University of Technology, Australia
“Exploring the role of design through research which is focused on our economy through the lens of interaction (proximity) between people and places within our communities.”

Claudia De Giorgi, Polytechnic University of Turin, Italy
“Design for territory is evolving beyond local connotations by considering an expanded world, to be reinvented through multidisciplinary reflections on the sustainable relationship with resources, the material cultures linked to them and the real dimension of our presence on the planet.”

Frédéric Degouzon, L’École de design Nantes Atlantique, France
“In a time of globalisation going backwards and despite a clear recognition of design as a solution to complex issues, how close should be design practice to be efficient, detail driven and systemic?”

Giuseppe Lotti, University of Firenze, Italy
“The design between opening and closure / globalisation and localisms / lands and borders: roles and responsibilities”
A Design Experience for Interactive Narrative Based on The User Behavior

Yuan Yao\textsuperscript{a,b}, Haipeng Mi*\textsuperscript{a,b},

\textsuperscript{a} Department of Information Art and Design, Tsinghua University
\textsuperscript{b} The Future Laboratory, Tsinghua University
* haipeng.mi@acm.org

Abstract | Research on interactive narrative experiences in physical spaces is becoming more popular, growing into an established new media art format with the development of technology and evolution of audience aesthetics. However, the methods of designing interactive narratives are still similar to the basic video narratology of traditional designers, directors, and producers. This paper provides a design method based on the user’s physical behavior and proposes an art installation by this method, where the aim of the installation is to transmit a more vivid story to users, presenting a new research inspiration of interactive narratology for designers and researchers.

KEYWORDS | USER BEHAVIOR, INTERACTIVE NARRATIVE, STORYTELLING, INSTALLATION ART
1. Introduction

The intervention of technology makes the story more vivid and even developed a new narrative method, named interactive narrative. However, research on interactive narrative is mostly theoretical such as (Gerrig, R, 2018), (Gervás, P, 2009), (Weyhrauch, P, 1997), and (Louchart, S. et al, 2004). Even in 1970, Roger Schank had already proposed the prototype of interactive storytelling (García, R et al, 2014). Although recently, there has also emerged design practice, most of which are interactive computer programs focused on story plots, for instance (Ryan, M. L, 2008), (Delmas, G, 2007) and (Riedl, M. O. et al, 2013). Taking into consideration of user behavior interaction in physical space, we can also see some cases of interactive installation design, most of which are advertisements to attract users to participate with interaction and incentive mechanisms (Ojala, T. et al, 2012), (Zhang, Y.et al, 2018) and (Müller, J. et al, 2012). In recent years, there have been a lot of interactive narrative cases combined with VR, which is a good start to focus on user behavior, and makes possible the user’s immersive experience such as (Bates, J, 1992). However, VR is not a real physical experience but a way of interaction. The development of technology may give us access to multimodal sensors and experience more diversified stories. Because the essence of interactive narrative is both the user’s immersion and fascinating stories. Sleep No More, an interactive stage play, sets a good example of excellent interactive experience.

This paper elaborates a design case of interactive narrative combining user behavior in physical space. In the course of our research, we attempt to find the mapping relation between user’s natural behavior and narrative camera language, and to explore the possibility to apply it to an interactive narrative on the large display.

Figure 1. Interactive Installation — Still Walking

1 The VR game, Tree, https://www.media.mit.edu/posts/tree-treesense/
2 The interaction drama, Sleep no more. https://mckittrickhotel.com/
An interactive installation, *Still Walking*, is designed to explore the spatial interaction between the user and the story. The installation’s narrative theme is based on temporal change, while the concept of “shadow” acts as the narrative glue to connect the story with the user. As a user approaches the installation screen, the shadow of a woman appears on an endless path. If the user revolves the screen and moves forward, the shadow moves along, the scene changing bit by bit from a child to an older woman. In this process, branching stories at different life stages—determined by the age—of the older woman are triggered by the different positions of the screen. We are taking advantage of this installation to present users with a novel and thought-provoking interactive experience. In this paper, I would dig into the process of designing this installation as well as our various thoughts and takeaways on interactive narrative design.

### 2. Narrative Design

#### 2.1 Interactive narrative structures

In the traditional film narratology, the narrative structure is linear. Even it has enriched plots. However, the interactive narrative presents a broader range of plot types. It is typically composed of a structure where has multiple starting points that may lead to various outcomes, as illustrated in tree-structure, network structure, and etc. (Figure 2)

In *Still Walking*, the storyline is organized in the circular narrative structure. There are different branching plots in the entire story, and the interaction leads to different endings. The narrative structure is a similar circular network. (Figure 3)

![Figure 2. (a)The traditional narrative structure; Interactive narrative structure, tree (b) and network(c);](image-url)
2.2 Interaction Design

The core purpose of narration is to establish an emotional connection after the audience has watched and understood the story (Bordwell, D, 2012). This can be realized, when there are clues weaved in the story, guiding the audience to piece together and establish emotional resonance with the whole story. In this design, we try to give back the interaction rights to the audience, make them users. According to the interactive plots and clue to guide the users to explore the story and build emotional connections.

The story of Still Walking is a life circle, and the users also need to come back to beginning point in the end. Therefore, we designed a circle road, utilized rotation and pause as the gates of the other plots. Additionally, the rotation of the screen brings out the shadow as a story clue moving along with the user, and guide the users by different states. (Figure 4)

2.3 Story script

The story concerns a woman’s lifetime, which is divided into four sections. One rotation of the installation means the story completes for one time, the shadow changing form a girl to an old woman (Figure 5), which takes about 40 seconds. As the installation rotates, the user goes through the four periods in her life, namely infancy, juvenile, youth, middle-aged and old-aged life, each scene lasting 10 to 15 seconds. In other words, the interaction between the installation and the user lasts about 40 to 100 seconds. The whole story, with the help of mimicry and fixed camera angle, is unveiling a woman’s growth, symbolized by the changes of the shadow. (Figure 6)
Infancy: a carefree catch

The 4-year-old protagonist, no longer a toddling infant, is jumping joyfully. Suddenly, a butterfly appears ahead of the road.

- Keep walking: The girl is running after the butterfly and reaching her hands to catch it.
- Stop walking: As she stops, the butterfly flies away.

Juvenile: a friendly companion

The eight-year-old protagonist sees a girl in her class with a backpack.

- Keep walking: She waves her hands and catches up with her classmate. Then walking together, until her classmate’s shadow fades away and finally disappears.
- Stop walking: If she stops, she can never catch up with her classmate.

Youth: a difficult choice

The eighteen-year-old protagonist finds the boy she likes. One of her hands is reaching to him but pauses halfway. She is about to chase after him.

- Keep walking: No matter how fast she runs, she can’t catch up with him.
- Stop walking: Another boy will appear behind her. Accompanying her for a while, the shadow of the boy fades away and vanishes, leaving the girl to go forward herself.

Middle-aged and old-aged life: an affectionate change

The forty-year-old protagonist sees her little daughter walking in front of her. She is waving her hands to get her daughter’s attention and wants to catch up with her toddling daughter. As the screen rotates and the user keeps walking, she realizes her daughter’s change is much slower than hers, but then she ages quickly from 50 years old to 80 years old.
Keep walking: As the screen keeping rotating, her daughter is getting close to the camera, while the shadow of the protagonist is backing out and fading away. Push the screen to the original position, and the protagonist becomes her daughter and starts a new circle of life over again.

Figure 6. Overview of the story

3. Mapping Behavior and Camera Language

3.1 User behavior in interactive narrative

Created for the 2015 Melbourne Writers Festival and by J. Walter Thompson, Twists & Turns is not only an app but also a case of large-scale, outdoor interactive narrative. This crafty design uses the location, direction, and movement of the user in a large space to deliver a story in which the user can choose the branching plots. To be specific, each street and every corner in Melbourne become twists and turns in the story. This case is an indirect proof that the user’s natural behavior serves not only as an inspiration in the design process but also as a chance to develop a new interactive form, which is easy for the user to interact with and for the designer to create. The proxemic (Ballendat, T. et al, 2010), (Hall, E. T, 1966) and (Vogel, D. et al, 2004) offers us a perspective that the user’s natural behavior has both implicit and natural interaction with the installation in physical space. Based on this which many design forms of natural interaction are created for the users. Throughout our research, we take five factors into consideration to explain user behavior: distance, identity, location, direction, and movement. (Figure 7)

In this research, we would use the camera language in filmology as the main content for mapping relationships. The camera language provides an opportunity for user behavior, enabling the user to participate in the plot. In traditional film narrative, the camera language includes the camera shot, angle, camera movement, and montage. The only way for the user to understand the camera language is to “watch”. However, in this paper, we try to establish a mapping relation between the five aforementioned factors of user behavior and the narrative camera language, which provides the user with a vivid way to understand the story.

3.2 Distance, position and direction of the user VS. Camera shot and angle of the camera

The camera shots of the camera language, in a broad sense, include long shots, full shots, medium shots, and close-ups. Taking narrative patterns into consideration, there is a different system of shots, such as the detail shot, narrative shot, and environment shot. The wider the camera shot, the less the story tells; the closer the camera shot, the more the story expresses. There are also have different camera angle types, such as eye-level shot, low-angle shot, high-angle shot as well as frontal, side, and canted angle. Different combinations of camera shot and angles in traditional film narratives can present different levels of story content for the audience.

At the same time, research on large-display interaction indicates that the user's intention will be stronger as the distance is closer, that mentioned by (Ballendat, T. et al, 2010), (Michelis, D, 2011) and (Vogel, D. et al, 2004). Therefore, we combine the camera shot and angle of narrative language with the distance, position, and direction of the user in the narrative language. The change of user behavior may trigger the transform of camera shot and angle, reinforcing the user’s experience.

We have two hypotheses. 1) The mapping between the user’s distance and the camera shot: the farther the user keeps from the screen, the wider the camera shot changes, and it means less content in the story. On the contrary, the closer the distance is, the closer the camera shot changes, and it means more content in the story. 2) The position and direction of the user will determine the viewing angle, which has a mapping with the shooting angle. The change of the user’s position results in the change of point of view in the story, which can improve the user’s experience of story understanding.
3.3 Movement of the user VS. Camera movement and montage of the camera language

Besides the basic cinematography movements, namely zoom, pan, follow, tilt, dolly, truck, pedestal and rack focus, there are two basic forms of motion—mimicry, and spontaneity (table 1). Mimicry indicates the movement of a camera that follows the action of the character or other objects in the story, which makes it easier for users to participate as a character. Spontaneity is more about watching the development of the plot from a third-person point of view.

<table>
<thead>
<tr>
<th>Table 1. Forms of camera motion</th>
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<tbody>
<tr>
<td>Forms of motion</td>
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<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Mimicry</td>
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<td></td>
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<td></td>
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<tr>
<td>Spontaneity</td>
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</tbody>
</table>

The camera movements can be combined with the user’s physical movements. In Still Walking, the user’s movement, or rather rotation, is designed to mapping with the “follow” of camera movement. The camera shooting the story moves along as the user continuously pushes the screen forward. Once the user stops, the camera stops as well. What’s more, the shooting movement also changes with the speed at which the user pushes the screen.

Also, montage is a major feature of film narrative, using various combinations of images to stimulate emotions and lead the plot to a climax. In the interactive narrative, we attempt to apply the montage to piece together separate sections in different scenes into a continuous whole, for example, similar movement of users and camera shots.

3.4 Identity of the use VS Clue of the story

<table>
<thead>
<tr>
<th>Table 2. The mapping relation between user behavior and camera language</th>
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<tbody>
<tr>
<td>User behavior</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Identify</td>
</tr>
<tr>
<td>Location/Direction/Distance movement</td>
</tr>
<tr>
<td>Motion (mimicry, spontaneity)</td>
</tr>
<tr>
<td>Above all</td>
</tr>
</tbody>
</table>

In the story, a user makes use of the clues to thread the plots, and in the same way, the interactive installation in the physical space can also use the clues to guide the user to explore the branching plots. And the clues can mapping with the user identity. While in Still Walking,
we take the shadow of the user as its clue, and the user can quickly get themselves involved in the story as the protagonist. (table 2)

4. Implementation

Compared with the traditional narrative, the interactive narrative depends more on technology to convey information that facilitates interaction between the user and story. The interactive technology supports tasks such as user behavior perception, data analysis, and information feedback. Interactive technology plays a supporting role in installation design, where we should focus on the theme of the work and procure suitable technology to present information.

4.1 Mock-Up

The technical design has a complicated process, and we have to predict hidden problems that may appear at different stages. Thus, it’s necessary to have a mock-up before the formal implementation. We conducted a lot of tests during this phase, such as screen size, animation type, sensors, and main supporting structures.

In this phase, the main content was designing the animation composition. We stuck a 2-squares meter paper on the wall for testing. The first was to measure the distance between the user and the screen. In interaction, the user needs to push the installation to rotate, the distance between them is quite close. If the scene size is too large, it will be distorted and cause the vision burden to users. Therefore, scene composition needs to conform to the comfortable perspective, contain the size and position of shadow, and other characters.

The primary hardware is display device. We compared the effect of projection and LED screen. The projection can be resized, but it needs more space. The advantage of the LED screen is high-definition, but it cannot be resized and much heavier. However, we choose a large-size LED screen in the end, that means we have to consider the stability of the structure during the implementation.

4.2 Interactive technique

The core technique consists of two parts: the hardware and the software. The hardware here is a 65-inch TV screen rotating 360-degrees around a vertical axis and it is the main body of the installation. We have paid great attention to the safety issue and its power supply. For safety concerns, we have added extra weight on both the shaft and base to prevent the screen from falling. It’s a steel plate with 1 m diameter and 3 cm thickness. For the supply of electricity, an industrial-grade slip ring allows the transmission of power. And we designed a special structure to break down the tension generated by rotation to ensure the safety of the slip ring. (Figure 8)
In software design, there are two pieces involved: Angle Sensor is used to register the angle data of rotation and transfer it to computer by Arduino. After that, the Unity3D would render the sequences of animation frames that according to our preset program. (table 3)

Table 3. The numbers of animation frames in each plot.

<table>
<thead>
<tr>
<th>Age Changes</th>
<th>1 years old</th>
<th>4 years old</th>
<th>8 years old</th>
<th>18 years old</th>
<th>30 years old</th>
<th>90 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk</td>
<td>0</td>
<td>12</td>
<td>35</td>
<td>34</td>
<td>20</td>
<td>66</td>
</tr>
<tr>
<td>Pause</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Wave Hands</td>
<td>0</td>
<td>12</td>
<td>19</td>
<td>20</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Other Characters</td>
<td>0</td>
<td>Butterfly 31</td>
<td>Classmates 10-35</td>
<td>Boy_a 20 20</td>
<td>Baby 4-60</td>
<td></td>
</tr>
</tbody>
</table>

4.3 Installation

The installation has 1.8m high, 1.5m wide, and covers an area of 3m by 3m. And add ground stickers with age symbols. All surfaces of the installation are painted white to increase interactive immersion. It has a circle motion, the user can stand around and join it anytime and any angle. This display mechanism is quite light and easy to push, however, considering the safety of many young users, we have specially posted a warning banner.
In the interactive narrative, the design process has multiple feedback. Besides the visual feedback, it may get other sensory feedback concerning auditory sense, tactile sense, olfactory sense, and etc. All the feedbacks are using to enriches the users’ experience and helps them to enjoy the story.

5. Observation and improvement

During the exhibition, more than thousands of people had experienced the interaction. Even there have audiences posted the video on social networks and watched by millions of people. Most of them would praise the interaction and moved by the story. However, there still have users doubts about the interactive method of the installation if there were no accompanying instructions. It is not easy for the users to figure out that they should interact with the installation through “push”. People at different ages respond to the installation in different ways: children from 3 to 10 years old prefer active engagement, but most of them are attracted by the revolving screen and fail to explore it further. Young people from 15 to 25 years old make up their minds on whether or not to take the next step after watching how others may respond first. Middle-aged people over 40 prefer watching to joining. Based on user behavior in the first round, we put up signs “Push slowly” on the frame of the installation, which turns out to be a good reminder for young people and middle-aged people. For the aesthetic, the notice should be designed as part of the installation or put on the ground, rather than putting it up on the frame.

As for the story content design, some users failed to find out the branching plots. Even though they were informed of the interactive method in advance, some users still could not find the proper angle to stop the screen. Learning from this, we need a more attainable angle to trigger the interaction, and users should also have proper guidance on how to interact with the story. Despite all the defects above, the content and form of our story have been recognized by the users. The theme of time and lifespan was clear enough to be consistently understood by the users.

6. Conclusion and Future Work

We have discussed the feasibility of using user behavior as an interactive trigger on the large display. And we prove it can not only help the users to understand the story, but also make the installation more attractive and immersive.

In this case, we discuss the situation of one single person as part of the interactive narrative. However, it can also involve other users. The interaction among them and their user behavior will inevitably change the interactive storytelling.
In addition, we only discuss the interaction in a physical space. The future interactive installation may relate different spaces together, and the users’ behavior in different spaces may trigger the interaction mechanism so that they can participate in the story together.

Finally, the interactive narrative method based on user behavior proposed in this paper is only an experimental exploration. It is just the tip of the iceberg in terms of studies on the new media and interactive narrative. We hope this case serves as a good start for further exploration of the relationship between narrative and user behavior.

References


About the Authors:

**Yuan Yao** is a Ph.D. candidate at the Department of Information Art and Design, Tsinghua University and The Future Laboratory, Tsinghua University. Her research is focused on the future of human’s interactive experiences with environments. In particular, she is interested in the interactive narrative that engages in New Media Art and Public space.

**Haipeng Mi** is an Associate Professor at the Department of Information Art and Design, Tsinghua University. He is also a visiting researcher in the Future Laboratory of Tsinghua University. His research interests range from user interface design, human-robot interaction to interactive art. He has over 30 peer-reviewed publications in the field of HCI.
An answer to the complex representation of territory. The fertile ground of mnemotoposes and design of communication.

Clorinda Sissi Galasso*a, Giovanni Baulea

aPolitecnico di Milano
Design Department
*clorindasissi.galasso@polimi.it

Abstract | The present article aims to be part of the multidisciplinary debate on the relationship between places and memory. It intends to investigate mnemotopes as cultural objects of vertical interpretation of the memory-place axis, capable of including the tension between places of memory and memory of places. After the analysis of selected mnemotopes, the article will focus on the important role of Design of Communication as a mediator of territorial past through significant examples of existing artifacts and projects. A mnemotopic communication, founded on geolocalized map-based systems, can interpret the stratification of places and succeed in translating and reactivating their memories. These practices can be useful to understand how the perception of the places of memory changes over time, reflecting on their entrance into contemporaneity. Mnemotopic communication design can be therefore a valid cultural practice and fertile ground for creative entities.

KEYWORDS | MNEMOTOPE, COMMUNICATION DESIGN, MEMORY, CULTURE, TERRITORY
1. Memory activating places: between reality and fiction

Even if memory may look like a phenomenon that mainly concerns temporality, a closer look reveals a constitutive and not accidental relationship with spatiality (Violi, 2014). Memory and spaces are strongly interconnected and every place can be read as a palimpsest of what has occurred in the past. Spatial localization is also one of the most important devices that supports our abilities to remember, and it would be very difficult to describe an event if one did not imagine the place (Halbwachs, 1997). Places not only help to remember, but they can be a mnestic anchorage and can even activate memories.

It is therefore not surprising that, since the times of ancient Greece and Rome, poets, orators and politicians have relied on mnemonic systems, the art of memory, which made it possible to keep in mind vast stores of knowledge. Frances Yates (1993), emphasizes its importance on a communicative level, in historical periods in which, before the invention of printing, orality played a fundamental role. These internal remembrance processes, were founded only on mental activities and abilities, without the aid of devices, and were based on the invention of artificial places of memory, loci, set up in the mind and then populated by a series of objects and figures directly connected to the contents to be remembered. The “images were used for the significance of precise contents of knowledge, while the fiction places to give them order and the possibility of being recalled” (Assmann, 2002, p.331). Cicero himself stated that people wishing to train memory must choose certain places and form mental images of the things they wish to remember and locate those images in the produced places (Yates, 1993). The images agentes, "activating images", thus generated, ancient mental unions of concepts, images and spaces, were able to reanimate large amounts of information that could be transmitted as a result.

However, considering the ontologically technological nature of humans, which has always made up for their faults and failings, it is not surprising that, with the passage of time, the art of memory became a sort of “intellectual fossil” (Rossi, 2001, p.60), giving way to technically dependent mnemonic systems (Montani, 2017). This definition, without any negative meaning, helps to focus attention on the externalized segments of memory, which, detaching themselves from their own organic essence, enter into relation with inorganic and technological supports, useful to restore not only parts of the individual identity, but also entire collective areas. These types of mnestic practices no longer need to rely on imaginary places, but can count on real places with which establish a relationship of productive interdependence.

The constant externalisation of memory here introduced, together with the one of orientation, still feeds a lively techno-social issue (Montanari, 2019). This vivid debate finds in devices equipped with geolocation systems a focal point. For several years now, in fact, the precise and immediate territorial localization of information and contents is not only a matter of geographical coordinates and goes beyond the cartographic reason, becoming part of a more articulated discourse, negotiated by different disciplinary approaches, which
An answer to the complex representation of territory is generating a convergence between material and immaterial, between corporeal and localized (Montanari, 2019), surface and stratification. The protagonist of this intersection is certainly space, an aggregate of significant substance (Iacoli, 2017), in which reality, perception and elements of the imaginary densely coexist (Soja, 1996). A system of places (Norberg-Schultz, 1996) far from being considered mere positions, which manifest and develop as complex cultural agglomerations, made up of multiform data. The traditional conception of space as an inert void in which objects just exist, has given way to a new vision that considers it active and full (Kern, 1988), and for this reason the most advanced technological devices with geolocation have to deal with the territorial fixation of increasingly composite details. The principles of georeferencing are therefore no longer just a tool at the service of orientation, but become a new substance of expression, capable of producing original languages, contents (Montanari, 2019) and communication modalities.

Starting from these considerations, we can see that the deep and constantly moving flow of data coming from the content/location axis is generating an unexpected itinerary of personal memories punctually linked to the territory. A real underlying archive, not directly perceptible, of passages on places and spatial frequentations that can be interpreted as a generalized tracking of individual memories that enter into a collective narrative. A concrete example is the case of Google Maps, the main outsourced digital orientation tool, which allows to store and subsequently view all the places you have passed through since 2009. This process, most of the time not perceived, creates what we could provocatively call "the map of our life" (Lana, 2019), where you can see all the small movements, but also the long journeys archived with precision day after day. Let's see then how geolocation systems, not considering here the problem of compromised privacy, can become a useful tool for stabilizing memories and movements, which by their very nature would be fluid and difficult to understand, creating a new and original mnestic-spatial substratum of contents directly connected to the territory and fixed on it.

2. Mnemotope or mnemotopes?

Our preliminary discourse revealed the ancestral relationship between humans and geographical environment of which the connection between territory and memory is an integral and constitutive part. This theme, with a historically multidisciplinary vocation, has over the years seen the multiplication of reflections and debates in fields of knowledge such as cultural anthropology, geosemiotics, documentary photography and sociology. Maurice Halbwachs' (1997) considerations are involved in this last context. He strongly supports the importance of the localization of memory, affirming that places and the spatialization of memory play an important role in the stability of collective memory. The spatial substance in which memory is rooted, however, is not inert, but innervated by the thoughts and feelings of the people of the past (Truc, 2011) and the sociologist therefore distinguishes two different mnestic frameworks. On one hand we find the familiar and local past, “made of
objects, houses and stones” (Truc, 2011, p.149), which is therefore extremely vulnerable to the incessant passage of time. On the other hand, there is a more distant and less intimate memory, but consequently more robust and shareable. If, in order to have control of their perceptions, people usually need to get closer to the object, it seems that they need to move away from it to preserve a collective memory (Halbwachs, 2008). We can therefore define the first conceptual framework as "memory of places", a form of private remembrance, precisely linked to details of specific places, preserved in each individual, very exposed to temporal corrosion and subsequent disappearance. The second instead as "places of memory", less rich in details, but certainly more stable because subject to processes of institutionalization and constant symbolization (Truc, 2011).

A response to the singular relationship between places of memory and memory of places, can be conceptually found in the Greek calque mnemotope (Van Rookhuijzen, 2017), used by Jan Assmann (1997) to identify a culturalized object of territorial interpretation. The term lexically incorporates the source of tension highlighted by Halbwachs, making itself a potentially privileged reference point of a complexity hovering between reality and symbol, between individual and collective, between private and institutionalized. Mnemotopes, however, are not only traces, but real apparatuses (Agamben, 2009), mnestic devices that have a preferential relationship with the territories, going beyond the pure testimony and preservation of the past, to contribute to its active and complete reconstruction, as engines of renewed interpretations. These entities are susceptible to multiple formulations according to the specific sensitivities linked to different views, by culture, geographical and temporal determination (Violi, 2014) and this means that any general definition of the term mnemotope is, in most cases, definitely incomplete and sketchy, without recurring to a dynamic reflection on the different places and memories that may constitute a mnemotope.

Consider, for example, a preliminary, but significant, possible distinction. We are facing a proliferation of mnemotopes that we can call “with trauma”, the result of a paradigm shift of the very meaning of traumatic event. If in the past trauma was what cannot be spoken of, today it is all that is spoken of (Giglioli, 2011), because the events are increasingly seeking a sense that makes them feel worthy of being transmitted and communicated. The places of traumatic memories are most often institutionalized through monuments and transformed into museums and memorial sites in which coexist, not without difficulty, the mnestic and evocative power immanent to places and the desire to re-propose the invisible, chronologically disappeared, through dissimulation and reconstruction (Assmann, 2002). A particular case is represented by the Museo per la Memoria di Ustica in Bologna, created by the conceptual artist Christian Boltanski and inaugurated in 2007. It did not rise directly on the site of the trauma of which it wants to be testimony but was deliberately build in the city that saw the departure of the plane, then victim of the disaster. The museum is a "complex semiotic object, which interweaves different dimensions of reading: museum, place of historical memory, funeral memorial, work of art, civil and [...] political testimony" (Violi, 2014, p.307) and this peculiarity contributes to demonstrate the mnemotopic stratification, inhabited by intrinsic complexity, which can be manifested in different ways. The strong
An answer to the complex representation of territory
dialectic between material and immaterial also emerges, typical of memory itself, which in
this case is revealed through an installation that involves space and visitors. The wreckage of
the plane has in fact been entirely reconstructed and is located in the center of the museum,
all the other objects found have instead been taken out of sight, closed in black boxes that
surround the carcass of the aircraft. This operation excludes the physicality and materiality
of the objects-relics, of which only the idea remains.

A very different perspective is proposed by the mnemotopes that we can call “without
trauma”. Mnestic entities linked to positive aspects of the experience which, even if not
pervaded by controversial and conflictual memories, are equally characterized by strong
emotional experiences and that can be very important for the construction of cultural spaces
of memory (Assmann, 2002). Multifaceted microcosms, they are interdisciplinary
intersections in which territory, past, curiosity and technology coexist, often united by a
strong commitment to conservation. There are various mnemotopic types without trauma
that are not mutually exclusive, but enrich the places with further stratifications that, if
codified, allow the development of new models of territorial reading. In this way the
mnemotopes without trauma can remove the risk of illegibility of the places of memory
generated by the breaking of the interdependence between memory and its living
translation. We can identify as first category the cultural mnemotopes, places of
geoattraction and subsequent geoaggregation of varied cultural phenomena, usually
concentrated in a given time period. Points of transversal creative convergence are
phenomena with socio-cultural implications that have characterized entire eras. Think, for
example, of the Montparnasse district of Paris, which at the beginning of the 20th century
saw the migration of the artistic community from the overcrowded Montmatre. It became
what for Apollinaire was the neighborhood of les extravagates, the refuge of beautiful
and free gaiety, simplicity, and carelessness (Shattuck, 1971). A circumscribed area where, in few
years, collective ateliers multiplied, the hub of avant-garde experimentation, but also cafés,
such as La Rotonde or Le Dôme, a spontaneous meeting place for painters such as Amedeo
Modigliani and Chaïm Soutine, aesthetes, poets, patrons and art dealers, places animated by
an overwhelming expressive vitality.

The same creative energy accompanied the experience of Bar Jamaica, in Brera district of
Milan, which after the Second World War, lived the coexistence of important artistic
personalities who were regular customers. Not far from the Academy of Fine Arts and the
headquarters of Corriere della Sera in via Solferino, the bar became a catalyst for ideas and
design meetings between artists, journalists, critics, writers. The white tiles that still cover
the walls today, were the setting and stage for significant intellectual exchanges. Piero
Manzoni, Luciano Bianciardi, Lucio Fontana passed through here. The famous photographer
Ugo Mulas immortalized the bar and its clients in his black and white images, further
stratifying its identity with a new photographic memory of reportage, which still today
document the period with great expressive power.
Within the macro-category of cultural mnemotopes, there are literary mnemotopes, places where inspirations and intellectual efforts have been concentrated in order to generate remarkable works. They are physical spaces, inhabited and experienced by the protagonists of the history of literature that, if mapped, can highlight original itineraries of intersections between places and ideas that "could only be conceived where they were materially born" (Pagani, 2019, p.11). This typology also includes places narrated by writers particularly rooted in a territory. An example would be Giovanni Testori’s novels, concentrated in the streets of Milan’s post-war suburbs. Iconic is the case of Ponte della Ghisolfa, a railway overpass that the writer has made the protagonist of one of his most famous stories (Testori, 2013). His characters live this common place, relocating it from being a simple passageway and making it an agglomeration of memories in which urban and social, private and collective experiences merge. The Ponte della Ghisolfa has been further stratified over the years thanks to the cinematic and theatrical transpositions of Testori’s novels, including the famous movie Rocco e i suoi fratelli by Luchino Visconti, emphasizing even more how the mnemotope without trauma can be linked to creative experiences. In fact, this kind of mnestic-spatial entities invites to ask ourselves how much a place and its physical conformation can actually influence the generation of artistic and design contents, moving away from being a stage, but working as an active part in generative processes.

The same question can emerge when talking about project mnemotopes, historical places present and rooted in the territory, such as archives, museum-houses and museum-studios, protagonists of the past of industrial design. They represent important research centres, complex collections of materials of relevant scientific interest with great potential for dissemination, often unexpressed. This type of mnememotope is today at the centre of numerous attempts at systematization, useful to make them accessible to the general public. In this context, the “Design Storico” project was launched in 2019. With the support of Fondazione Cariplo and counting on a network of places of memory already active in the territory, it will map the relevant nucleus of Lombardy design activities and promote a series of events and exhibitions that will turn the spotlight on this heritage and on the territorial memory linked to the culture of the project.

Examples such as the one just mentioned, are the demonstration of a current proliferation of attempts to map not the works, but the places where they were thought or realized, itineraries between ideas and territories. These experimental processes demonstrate how much mnemotopes are involved in concrete and funded projects driven by the emerging need for memorialization and spatialization that engages various areas of knowledge.

3. Communication Design: a mnemotopic point of view

Communication design, “a mature discipline with its own identity that merges traditional know-how with technological innovation” (Baule & Quaggiotto, 2015), plays a significant role in this particular multidisciplinary context. In fact, it can deal with the description and
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visualization of mnemotopes, but also with their translation, transforming them into articulated communicative systems that introduce individual memories into a wider and collective narrative. This field of knowledge is able to visualize new mnestic itineraries and consequently laying the foundations for real maps of places of memories, but also for innovative mnemotopic archives.

Through the practices of mnemotopic communication design, in fact, we can uncover significant details and contents of the territories by showing them through communicative artifacts with great expressive potential. These products are made up of various types of linguistic formats whose characteristics vary according to the data to be transmitted.

A nodal language for the transmission of mnemotopes, given the ancient relationship between images and memory, is the photonarrative, a system of visual editing in which a particular spatial storytelling is concentrated. Gabriele Basilico’s urban photographic projects are a significant example of this process, in which the relationship between the past and places becomes the object of visual reflection, giving shape to a scenario that borders on the metaphysical and materializes in bright contrasts between light and shadow and in the precise choice of a monumental black and white that returns a city only apparently uninhabited. Roberta Valtorta (2012) writes that his works are sensitive investigations aimed at that complex object that is the city, with which he enters into dialogue as he would with a person, with a living organism, a reading of that urban experience that somehow remains entangled in its architecture. A moment of exchange between photos and geography that evokes a real commitment to memory that makes images able to look into the stratified past of a territory.

Another interesting case is the Memofilm used to reconstruct the individual stories of Alzheimer’s patients. Twenty minutes of audiovisual materials that help the self-construction of the patient’s identity through the editing and subsequent transmission of personal memories. Although this type of artifact is mainly related to clinical and neuroscientific research, memofilms are useful, within our discourse, to identify further formal characteristics for mnemotopic communication. In particular, perceptual aspects emerge as an important channel of remembrance, materializing in audiovisual systems. The union of sounds, static images and videos can be useful in the reactivation of mnestic contents also in the case of memory of places. An experimentation driven by the same objectives as the ones of Memofilm, has been recently designed in Gavirate, in the province of Varese, Lombardy. Before August 2020, in the square in front of the train station, there will be an old telephone booth, a bench and a mailbox, a corner of memories in which Alzheimer’s patients

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1 Memofilm is an experimental project born in 2008 in Bologna from the joint commitment of Asp (Azienda di Servizi alla persona) and directors from Cineteca. Each memofilm is a twenty-minute video made to measure for patients by drawing on their heritage of affection, loved ones and familiar objects, assembled together in an evocative way. They aim to improve the behavior disorders associated with Alzheimer and other forms of dementia, being a positive part of the therapy. For more info: https://memofilmontheweb.wordpress.com/.
can find fragments of the past world and feel reassured (Landoni, 2020). In this case, the mnemotopic artifact is not a media, is not digital, but is designed and built directly on and for the territory, showing the great importance that real places still have in reactivating memory.

Another practical case is “Distretto Testori”, a project of DCxT, the Design of Communication for the territory research group of Politecnico di Milano. The project started after the proclamation of Milan as UNESCO Creative City of Literature in 2017, a recognition that immediately set in motion reflections on the possible mapping of places linked to the literary memories of the city. The work is focused on the works of the aforementioned Giovanni Testori, who described the places where the narratives took place in detail, up to often mentioning the addresses. It was therefore decided to create an original map-based web platform, made up of several different microformats.

![Figure 1. “Distretto Testori” web portal homepage. From this page users can choose between three different digital itineraries: geolocalized photo-storytelling based on the novels, photo documentary of Testori’s life, archive map of Testori’s literary mnemotopes.](image)

Each of them is intended to be part of a collective archive of Testori’s literary mnemotopes that can be read at various levels. After an initial and fundamental archival research, which brought to light peculiarities of the memory of the places identified, the most useful and significant materials have been selected. The next phase saw the design of the singular artifacts, each one as an attempt to concentrate a particular level of the story by crossing literary memories with territorial ones. Three production lines were delineated: a geolocalized photo-storytelling, based on the quotes from the novel, the places described and the imaginary created by the writer, integrated with an interactive structure. A photo-
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documentary of Testori’s life fixed on a map, realized using original pictures and the author’s memoirs. An archive map of Testori’s literary mnemotopes, intended to be a new mnestic layer of Milan Creative City of Literature.

Figure 2. “Distretto Testori” web portal. Inside the photo-storytelling section, the user can interactively move in Testori’s places, accessing different types of contents (archive photos, quotes, videos).

The project was previewed at the Annual Conference of UNESCO Creative Cities, which took place in Fabriano in June 2019, and is currently being implemented. It aims to become a model for territorial communication systems, capable of offering an innovative approach to the topic of “mnemotopes without trauma” making them more active and easily perceptible, allowing even mute places to speak again.

4. Conclusions

Memory is intimately and indissolubly related to places. The aim here was to outline that this connection can be read through the principle of mnemotope, understood as a culturalized object of territorial interpretation. As emerges from the cases presented in the article, mnemotopoi can take many forms, from a bridge in Milan to a café in Paris, but they shared the capability to solve the tension concerning places of memory and memory of places. This duality is not a contradiction (Wüstenberg, 2019), is the way they take a position between the past and the future between individual and collectivity, between temporality and spatiality (Donohoe, 2013).
In this open context, Communication Design can supply tools and methods to design mnemotopes, metabolizing the metamorphic complexity of memory and places. As *images agentes* of the classical mnemonics techniques, could activate in mind a great quantity of memories, mnemotopes, technically dependent on communication design, are now able to interface with territorial past, interpreting its stratification. Considering the examples discussed above, what we have to study is how this discipline recalls the texture of the places (Adams et al., 2001), how it succeeds in translating and galvanizing mnemotopes, how it supports narratives for mnestic territories suffering from communicative insufficiency.

Under this perspective, mnemotopic communication design turns out to be a concrete cultural practice that, avoiding the stereotypes of nostalgic re-enactments, can open the doors to original multidisciplinary discussions on memory-places axis. In sum, designed mnemotopes are able to renew the experience of the territories, and the mnemotopic framework is a useful heuristic tool (Van Rookhuijzen, 2019) for understanding the topography of memory.

**References**


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About the Authors:

Clorinda Sissi Galasso Phd Candidate in Communication Design, exploring memory of places under a mnemotopic perspective. Author of the monograph Zone di memoria. Il design per gli archivi del territorio, she collaborates with the research group DCxT - Design of Communication for the Territory at Politecnico di Milano.

Giovanni Baule Full professor of Industrial Design at the School of Design-Politecnico di Milano, where he was President of Degree Course in Communication Design from its establishment, he deals with theory and methods of communication design, design history and criticism.
Attractive Factors in the Experience of an Online User-supported Learning Platform

Min-Yuan Ma*, Hsin-Yi Huang*,
Eric Chen-F Hsieh*

*National Cheng Kung University, Taiwan
*hanhan7777777@gmail.com

Abstract | The unprecedented growth in information and communication technologies (ICTs) has led to an expansion of online learning. Crowdfunding has been developed to increase self-learning to accelerate advancement in online learning. This research is conducted to understand attractive factors and users' kansei needs in user-supported online course platforms. Broadly, this research is performed in two steps. 1) Exploring user experience with the method of the user journey map (UJM) and the evaluation grid method (EGM). 2) Using a questionnaire design formed according to the map of kansei experience, two types of users, namely, with and without the experience of having taken an online crowdfunding course (experiencers and non-experiencers), are compared using quantification type I. The results show that both types of users highly value expectation as a primarily emotional component before the experience. However, experiencers care more for the sense of achievement during and after finding and taking crowdfunding courses.

KEYWORDS | ONLINE LEARNING, EVALUATION GRID METHOD (EGM), USER JOURNEY MAP (UJM), KANSEI EXPERIENCE
1. Introduction

1.1 Research Background and Motivation

Newly developed and innovative technologies have launched a new wave of a global industry. These new technologies changed the relationship between reality and virtuality and led to the integration of new digital information relationships among things. It is likely that technology will continue to become even more intelligent and indispensable in human life. In response, new learning styles are emerging. Digital instruction, no longer limited by time or space, now provides a range of courses that learners can take that are the product of successful virtual business practices. However, it has not yet been fully established how the needs of learners (users) of the online course platforms can best be met.

In recent years, as science and technology have rapidly developed, and the internet has penetrated ever further into daily life, work, communication and learning have all also changed (Chen, 2000). Demand for human development and professional competence has increased. The development of e-learning has changed how instruction is delivered and received. With technological support, users are less restricted by time and space. Learning, technology and the internet are now linked together, stimulating trends of integrating information into teaching.

According to the Digital Learning Output Survey Report produced by the Industrial Bureau of the Ministry of Economic Affairs of Taiwan, the annual composite growth rate of self-paced e-learning in 2015-2020 is 0.4%, indicating that the market continues to grow. According to the 2016 Digital Learning Output Survey Report, Taiwan’s online education market was about 100 billion Taiwan dollars in that year and was expected to grow. The digital learning industry is exhibiting enormous market potential, and digital style is a necessary and essential development direction for contemporary society (Deng, 2017).

Data published by the research institute CB Insights in 2015 indicate that the scale of investment in global educational technology has been rising since 2009. The total investment through 2014 reached 1.866 billion US dollars. In the field of educational technology, the online education platform is a popular investment project, showing that online educational platforms have excellent market potential.
Along with the public interest of e-learning, the recent trend of crowdfunding is inspiring creative new models of online learning. Crowdfunding provides a web platform for a creative person or organization to propose ideas and leverages the power of individual funders who can provide relatively small monetary donations to support the proposals (Antonenko, Lee & Kleinheksel, 2014). The user-supported structure for the Taiwanese online school Hahow, which was officially launched in 2015, is a good example. Hahow provides alternative types of experts and instructors with a platform that gives classes to learners for free or for a fee. The courses include subjects like design, business, technology, language and culture. Because learners are free to choose their paths of interest, the threshold for learning is relatively low, and learners are enabled to learn at any time. This enables learners to pursue self-study, self-enhancement and improvement of their professional skills.
Thus, user-supported online learning platforms demonstrate good business prospects and market potential. How to increase learner use of online course platforms and develop an improved learning experience is set as the research goal.

1.2 Purpose of Research

This study explores the factors that attract learners for a user-supported online course platform and assessed user experience with the design perspective of the user journey map (UJM), combined with the Miryoku Engineering, to summarise the users' Kansei experience in online user-supported courses.

To divide participants into those who have experienced the entirety of a course (experiencers) from those who have not (non-experiencers), this study divides interaction with the platform into three phases: before, during and after the course. This will allow the researchers to determine which qualities of the three-stage process are the most attractive elements and which feelings most typify learners at each stage. Using this, we can determine how to ensure the user-supported online course platform is in line with the users' Kansei needs.
2. Literature Review

2.1 User-supported Online Learning Platform

Digital or online learning originated in 1996. It has been defined as part of information and communication technology (Higher Education Funding Council of England, 2005), applied to support learners and improve their learning. This idea forms part of a conception of continuous development and evolution, using a range of understandings and interpretations of information technology. Normark and Cetindamar (2005) interpret digital learning as a system that electronically transmits, manages, supports and supervises education. Specifically, in this context, digital learning is the use of digital teaching technology by learners to break through barriers of time and space and obtain needed information; that is, it represents the opportunity to learn over the internet using computer equipment, regardless of location or time. Urh and Jereb (2014) argue that in digital learning, an essential relationship appears between learning time and average achievement. Today, online learning platforms and web-based applications provide users with direct access to information over the internet (Zamfiroiu & Sbora, 2014).

According to Schwienbacher and Larralde (2010), crowdfunding rests on acts of donation through the internet. In other words, crowdfunding is obtaining necessary funds by tapping a group of individuals rather than any professional institution as such, pooling amounts to support proposed projects or entrepreneurial actions. The crowdfunding platforms that these acts occur on are considered bilateral, meaning that there is an interaction between the two parties (funders and fundraisers) that is coordinated by the platform (Belleflamme et al., 2016). Crowdfunding provides a web platform for individuals or organisations to propose ideas and leverages the power of dispersed funders who provide relatively small monetary amounts to support the proposals (Antonenko, Lee & Kleinhekkel, 2014). Such a platform reduces the previous need for cumbersome intermediaries, itself being the transparent intermediary between fundraiser and sponsor (Ordanini et al., 2011), bringing user sponsorship to the significant central position.

2.2 Kansei Experience

Kansei is a Japanese term which by definition from many dictionaries refers to sensitivity, sensibility and feeling (Lokman & Noor, 2006). Kansei deals with people’s emotions, feelings and moods. It is about subjective, personal and self-centred experiences (Salem et al., 2009). Kansei also is interpreted as a combination of consumer perceptions, preferences, and attitudes towards objects.

Experience is a combination of various elements, such as the user’s outcomes and their internal state (such as emotions, expectations) over time, with a clear beginning and end (Hassenzahl, 2006). User experience is a dynamic and continuous state because it is exposed to a variety of different systems, and the context and circumstances that follow, under changing usage conditions.
2.3 User Journey Map (UJM)

A User Journey Map (UJM) is a way of visually presenting user experience in relation to a product or service in stages. Design tools allow users to make individual assessments and improvements through interactions at every moment in their journey (Bruce Hanington, 2012). UJM is widely used in practical service management and design, including service process and experience. In the field of user experience design, it allows the analysis and understanding of user experience from the user perspective (Mangiaracina et al., 2009). It visualises all possible touchpoints between the user and any product or service (Alves, 2012), and each touchpoint relates to an attitude or feeling held by the user (Samsel, 2013), which enables the systematisation of user experience and design to obtain new customer experiences (Customer Champions Ltd., 2014).

The structure of a UJM varies depending on the designer because their design is not yet standardised (Samsel, 2013), so it can be designed in various ways, depending on the goal and scope of the project. UJM's framework is based on what the user does and can define a grinding process based on the user's daily activities (Heekyung Moon et al., 2016). This study uses UJM to take inventory of and organise the history of the subject's experience of the learning platform.

2.4 Evaluation Grid Method

The evaluation grid method (EGM) is used for personal interviews. It is an important research method for Miryoku Engineering and has been studied by the Japanese scholar Sanui. Kelly (1995) proposed the original method of construction, also known as the square method or the repertory grid method, which was developed to improve respondents' understanding of respondents. This method fundamentally involves in-depth interviews in highly dedicated groups, with the results of the interviews extracted using characteristics of paired-comparison products. The product's psychological cognition, perception and existence value are assessed, and then the traits of the target product are categorised (Kelly, 1955).

This research method is divided into two steps. First, the product is evaluated. The respondent's expression of product preferences enables differences in product to be understood views on the positive and negative aspects of the product to be presented. The second step is to clarify the meaning of the original concept or the understanding of the product through additional questions, then guiding the respondents to analyse their original evaluation concept and their feelings, as well as specific responses. The elements of the product that fascinate the respondent are investigated as well (Sanui, 1986). Using repeated series of questions and answers, the three levels of abstract feeling (upper), original evaluation item (median) and specific conditions (lower) that constitute the median are extracted, a network diagram of a hierarchical evaluation structure is gradually created.
2.5 Quantitative Theory Type I

Hayashi’s quantification methods is a unique multi-dimensional data analysis method developed by Chikio Hayashi. Hayashi’s Quantitative Theory Type I is a Categorical Multiple Regression Analysis Method, which aims to find independent variables of a specific objective variable and other qualities (1950). Take the approximate (linear) function relationship between the virtual variables of 1 or 0 and use the qualitative regression analysis to determine the intensity of the influence of each "quality project" on the "target variable". Each qualitative project consists of several categories and assumes that all samples are mandatory in each project (and only one of them can be selected), which can be used to establish regression formulas to predict data and event variability. The regression formula can be expressed as a function as follows:

Formula: \( y = \sum bX + e \)

- \( y \): Experimental predictive value
- \( b \): Class coefficient (weight score)
- \( X \): Different categories
- \( e \): Random variable

In the quantitative statistical results of category I, the "larger the value" of the Partial Correlation Coefficient indicates that the "category" affects the "target item" to a higher degree. The larger the value of the Multiple Correlation Coefficient (R), the higher the degree of reliability of the analysis.

<table>
<thead>
<tr>
<th>( R )</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00~0.19</td>
<td>Predicted values exhibit &quot;low&quot; correlation</td>
</tr>
<tr>
<td>0.20~0.39</td>
<td>Predicted values are relevant</td>
</tr>
<tr>
<td>0.40~0.69</td>
<td>Predicted value exhibit &quot;strong&quot; correlation</td>
</tr>
<tr>
<td>0.70~1.00</td>
<td>Predicted value exhibit &quot;very strong&quot; correlation</td>
</tr>
</tbody>
</table>

3. RESEARCH METHODS AND EXPERIMENTAL PLANNING

The primary purpose of this study is to explore the attractive factors and KANSEI experience of the online learning platform. The steps used follow a UJM to check the learner's online course learning experience and combined with the EGM to reinforce attractive factors and
summarise the experience process table. Then, the perceptual experience table is used to design a questionnaire to further compare the needs of the experiencer and non-experiencer with quantitative type I analysis.

3.1 EGM Interview

Before the interviews, an online questionnaire is used to collect the outlines of the in-depth interview and conduct face-to-face EGM interviews. For the EGM interviews, seven highly involved learners on the user-supported online course with the experience of more than three user-supported online courses were selected. The average study time is more than three years. Each person’s interview lasted about one hour. To enable the interviewees to focus on the content effectively, an interview outline was prepared and assessed according to the EGM evaluation construction method. The outlines are divided into two parts.

The first part compares the respondents' preferences to the online user-supported platforms they have used. It compares the respondents' feelings and specific answers to capture what factors of online platforms are attractive to the respondents. The second part investigates the respondents' feelings about the use of the online course platform. Therefore, during this interview process, the use of the online user-supported platform is taken to guide the respondents to think about their user experience.

3.2 Mapping the User Journey Map

To organise the learner's Kansei experience, this study uses a UJM as a framework. To compose a UJM, the focus group method is adopted to divide the overall process of using the user-supported online course platform into three phases: before, during and after the course to better understand the user and unify the original evaluation projects (median). Finally, the interviews are performed to establish the overall usage history.
3.3 Questionnaire Construction

This study uses a combination of UJM and EGM to draw a Kansei experience process table and to ask about certain subjects in order. The questionnaires are sent to respondents by email.

The questionnaire is divided into four parts. The first part acquires subject information, including their history of taking online user-supported courses. The second, third and fourth sections cover which items are attractive for the before, during and after course stages. Within the attractive factors item, abstract feelings at different stages are used as the central axis, and the corresponding original evaluation objects (median) and specific conditions (lower) are used for the item scores and category selection.

4. ANALYSIS

This study transforms the attractive factors extracted into quantifiable terms, combined with a UJM. The questionnaire and its analysis use quantitative means to understand the learners' most important feelings and attractive factors for the use of a user-supported online course platform, as well as the weighted of relationships among the attractive factors.
A total of 137 questionnaires were collected, of which 132 were valid, with 65 completed by male and 67 completed by the female; 62 respondents had taken courses on an online user-supported platform, and 70 had not. The analysis is divided into two parts:

1. The first part analyses experiencers in relation to the entire process of the use of the online user-supported platform.
2. The second part provides an analysis of the non-experiencer results. Because these learners have never taken a course on an online user-supported platform, and the overall process is not transparent, only the attractive factors before class are analysed to present that preferences and feelings of the non-experincer.

4.1 Experiencers: Learning Experience Before Class
The combination of EGM and UJM presents the experiencers' three main feelings for the use process before class, which are termed "Security", "Expectation" and "Consideration". The multiple correlation coefficient of Expectation is the highest among all feelings, and 0.782 indicates a very strong correlation.
Table 2. The weighting of "Security" among experiencers before class

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Category Points</th>
<th>Partial correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Professionals' Information</td>
<td>Professionals’ Experience</td>
<td>0.086</td>
<td>0.461</td>
</tr>
<tr>
<td></td>
<td>Professionals’ Background</td>
<td>-0.002</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professionals’ self-introduction</td>
<td>-1.671</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Showing Professionals’ Facebook</td>
<td>-5.949</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide Professionals’ works</td>
<td>0.501</td>
<td></td>
</tr>
<tr>
<td>Clear Introduction of Courses</td>
<td>Provide Course Outline and Planning</td>
<td>0.090</td>
<td>0.108</td>
</tr>
<tr>
<td></td>
<td>Explain what you will learn after taking courses</td>
<td>-0.308</td>
<td></td>
</tr>
<tr>
<td></td>
<td>List the software and skills needed in the course</td>
<td>0.644</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explain who would be suitable for the course</td>
<td>0.106</td>
<td></td>
</tr>
<tr>
<td>Free Trial Class</td>
<td>Provide Free Trial</td>
<td>0.208</td>
<td>0.345</td>
</tr>
<tr>
<td></td>
<td>Know in advance the teaching style of courses</td>
<td>0.644</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Know in advance the visual effect of teaching video</td>
<td>0.106</td>
<td></td>
</tr>
<tr>
<td>Private information</td>
<td>Do not reveal the lessons you take</td>
<td>-1.018</td>
<td>0.236</td>
</tr>
<tr>
<td></td>
<td>Prevent others from seeing the amount of class taken</td>
<td>-0.638</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Be able to choose the personal information which you want to present</td>
<td>0.262</td>
<td></td>
</tr>
</tbody>
</table>

Multiple correlation coefficient: 0.498  
Coefficient of Determination: 0.248

The multiple correlation coefficient for Table 1 is 0.498, which indicates that the attractive factor "Security" has a strong correlation with the user-supported online course platform before class. Clear Professionals’ Information has the most significant impact on the sense of security, followed by Free Trial Class. The category points indicate that in the Free Trial Class, knowing the teacher's class style in advance has a higher effect on the experiencer and allows the learner to feel the attractiveness of security.

Table 3. The weighting of "Expectation" among experiencers before class

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Category Points</th>
<th>Partial correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>A course that can be “wished”</td>
<td>Can leave messages to the course you would like to learn</td>
<td>-0.499</td>
<td>0.459</td>
</tr>
<tr>
<td></td>
<td>Can click on others’ wishing course to give heart</td>
<td>3.509</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Invite relevant teachers for taking the course which is highly recommended</td>
<td>-0.359</td>
<td></td>
</tr>
<tr>
<td>Hidden courses that can be unlocked</td>
<td>Show fundraising numbers for unlocked courses</td>
<td>-0.817</td>
<td>0.381</td>
</tr>
<tr>
<td></td>
<td>Show the not unlocked courses</td>
<td>0.437</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can know which courses have been unlocked</td>
<td>1.815</td>
<td></td>
</tr>
<tr>
<td>Fascinating Title of Course</td>
<td>Vocabulary for getting started</td>
<td>-3.925</td>
<td>0.582</td>
</tr>
<tr>
<td></td>
<td>Vocabulary for professional</td>
<td>1.573</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Course name includes “Guaranteed to get started.”</td>
<td>0.111</td>
<td></td>
</tr>
<tr>
<td>Reasonable and Preferential Price</td>
<td>Less than two thousand TWD</td>
<td>-0.442</td>
<td>0.504</td>
</tr>
<tr>
<td></td>
<td>Fill in the questionnaire and send a discount coupon</td>
<td>3.538</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Early Bird Discount</td>
<td>-0.074</td>
<td></td>
</tr>
</tbody>
</table>

Multiple correlation coefficient: 0.782  
Coefficient of Determination: 0.612
Thus, it can be seen that for the experiencer, professional vocabulary has the most substantial positive impact on the attraction of a course title. Therefore, the online user-supported platform can strengthen the description of professional vocabulary for the experiencer in during the course, such that learners can feel the attraction of expectation. In relation to reasonable and preferential prices, the learners reported that filling in a questionnaire and sending a discount coupon was the most attractive feature to them.

### Table 4. The weighting of "Consideration" among experiencers before class

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Category Points</th>
<th>Partial correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>A course that can “be wished”</td>
<td>Can leave messages to the course you would like to learn</td>
<td>0.309</td>
<td>0.334</td>
</tr>
<tr>
<td></td>
<td>Can click on others’ wishing course to give heart</td>
<td>1.670</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Invite relevant teachers for taking the course which is highly recommended</td>
<td>-0.980</td>
<td></td>
</tr>
<tr>
<td>Special Columns of the Course</td>
<td>Learn more about teachers’ professional fields</td>
<td>-1.312</td>
<td>0.472</td>
</tr>
<tr>
<td></td>
<td>About the course information</td>
<td>0.928</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Show the current trend</td>
<td>0.846</td>
<td></td>
</tr>
<tr>
<td>Collectable Courses</td>
<td>Tags of course which can click to collect</td>
<td>-1.135</td>
<td>0.285</td>
</tr>
<tr>
<td></td>
<td>can review the lessons you have collected</td>
<td>0.530</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Learners could classify their courses’ collection</td>
<td>0.698</td>
<td></td>
</tr>
<tr>
<td>Customized learners’ course recommendation</td>
<td>Recommend courses you might want to learn</td>
<td>0.126</td>
<td>0.315</td>
</tr>
<tr>
<td></td>
<td>Recommend courses that may be of interest</td>
<td>-0.565</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recommend courses you might enjoy</td>
<td>1.831</td>
<td></td>
</tr>
</tbody>
</table>

Multiple correlation coefficient: 0.572
Coefficient of Determination: 0.327

From the category points, it is clear that for experiencers, information about the course shows the most substantial positive influence in the item of Special columns. Therefore, the user-supported online course platform can include course-related information in its column section and allow learners to learn whether the courses are in line with current trends. For the desired course, learners report that being able to click on another’s desired course to give heart would be an attractive trait for them.

### 4.2 Experiencers: Learning Experience During Class

Through a combination of EGM and UJM, it can be seen that the experiencers have three main feelings during the course: "Practicality", "Consideration" and "Achievement". Among these feelings, the multiple correlation coefficient for inspiring achievement is the highest.
Table 5. The weighting of "Practicality" among experiencers during class

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Category Points</th>
<th>Partial correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple learning methods</td>
<td>Learning with videos</td>
<td>0.040</td>
<td>0.220</td>
</tr>
<tr>
<td></td>
<td>Learn by only listening</td>
<td>2.694</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Learning through slides and texts</td>
<td>-0.410</td>
<td></td>
</tr>
<tr>
<td>Arranged homework</td>
<td>Assignments for each class</td>
<td>0.047</td>
<td>0.150</td>
</tr>
<tr>
<td></td>
<td>Must submit required assignments</td>
<td>1.662</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can review the assignment of each class in advance</td>
<td>-0.319</td>
<td></td>
</tr>
<tr>
<td>Platform for timely submission of assignments</td>
<td>Upload assignments instantly</td>
<td>0.310</td>
<td>0.079</td>
</tr>
<tr>
<td></td>
<td>Will know whether the job was uploaded successfully</td>
<td>0.156</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Will know whether the teacher received the homework</td>
<td>-0.155</td>
<td></td>
</tr>
<tr>
<td>Immediate evaluation</td>
<td>Open-ended question</td>
<td>-0.425</td>
<td>0.233</td>
</tr>
<tr>
<td></td>
<td>2-3 multiple choice test</td>
<td>0.974</td>
<td></td>
</tr>
<tr>
<td></td>
<td>True / False question</td>
<td>0.644</td>
<td></td>
</tr>
</tbody>
</table>

Multiple correlation coefficient: 0.314  
Coefficient of Determination: 0.099

The category shows that for the experiencer, in the item of immediate evaluation, the 2–3 multiple choice has the most substantial positive influence. Therefore, in this item, the user-supported online course platform should incorporate tests with 2–3 multiple choice questions during the course to allow learners to develop a more robust understanding of the content during the study.

Table 6. The weighting of "Consideration" among experiencers during class

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Category Points</th>
<th>Partial correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed handout of courses</td>
<td>Can download handout’s pdf file online</td>
<td>0.352</td>
<td>0.117</td>
</tr>
<tr>
<td></td>
<td>Provide critical points of the course</td>
<td>-0.213</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can fill in the blank to complete the content of the handout</td>
<td>-0.186</td>
<td></td>
</tr>
<tr>
<td>Interactive lesson</td>
<td>The platform mascot will appear as a reminder</td>
<td>0.042</td>
<td>0.022</td>
</tr>
<tr>
<td></td>
<td>The teacher will pretend that someone is in class</td>
<td>-0.095</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers have a joking tone in the film</td>
<td>0.015</td>
<td></td>
</tr>
<tr>
<td>Hand in homework privately</td>
<td>Teacher gives private feedback in addition</td>
<td>0.334</td>
<td>0.322</td>
</tr>
<tr>
<td></td>
<td>Another platform for hand in homework</td>
<td>0.926</td>
<td></td>
</tr>
<tr>
<td>The complete answer of the assignment</td>
<td>Provide complete answers for assignment</td>
<td>-0.223</td>
<td>0.143</td>
</tr>
<tr>
<td></td>
<td>Provide information relevant to the answer</td>
<td>0.429</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide additional supplementary information related to the answer</td>
<td>-0.302</td>
<td></td>
</tr>
</tbody>
</table>

Multiple correlation coefficient: 0.334  
Coefficient of Determination: 0.111

As shown in Table 5, for the experiencer, within the item, hand in homework privately, another platform to hand in homework is the most influential. An online course platform could incorporate a private platform for handing in homework during the course so that homework is not be made public, which will enhance the learner's willingness to hand it in. In relation to complete answers for the assignment, learners report that the platform should provide information relevant to the answer to be attractive.
The multiple correlation coefficient reported in Table 6 is 0.452 for the experiencer, indicating that achievement has a strong correlation with the user-supported online course platform during the course. It appears from the partial correlation coefficient that immediate testing has the most significant impact on the sense of achievement.

The category shows that for the experiencer, in relation to immediate evaluation, feedback will be given after the test has the most substantial positive impact. Therefore, in this item, the feedback given after the assessment is most attractive to learners.

4.3 Experiencers: Learning Experience After Class

The combination of EGM and UJM shows that experiencers have two main feelings in the use process after the course, namely "Achievement" and "Affability". Among these, the multiple correlation coefficient for achievement is the highest among all feelings.

The multiple correlation coefficient in Table 7 is 0.537 for the experiencers, indicating that the achievement has a strong correlation with the user-supported online course platform.
Attractive Factors in the Experience of an Online User-supported Learning Platform

after the class. The partial correlation coefficient shows that ranking has the most significant impact on the sense of stimulating a sense of accomplishment, followed by completion sign of the course videos. The category shows that for the experiencer in the ranking results, provide a global ranking in the course evaluation has the most substantial positive influence.

Therefore, for this item, the user-supported online course platform provides a global ranking in the course evaluation, such that the learner can be motivated to complete more courses as a result of the ranking, thereby enhancing the attractiveness of achievement.

Table 9. The weighting of "Affability" among experiencers after class

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Category Points</th>
<th>Partial correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heartedly managed social media</td>
<td>Interactions between employees through social media</td>
<td>0.86</td>
<td>0.421</td>
</tr>
<tr>
<td></td>
<td>Can see the plan in progress through the social media</td>
<td>0.055</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Know about upcoming events through social media</td>
<td>0.089</td>
<td></td>
</tr>
<tr>
<td>Sending notification email</td>
<td>Notify of new events</td>
<td>-0.048</td>
<td>0.168</td>
</tr>
<tr>
<td></td>
<td>Notify to start a course</td>
<td>0.245</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Notify of purchased courses</td>
<td>0.089</td>
<td></td>
</tr>
</tbody>
</table>

Multiple correlation coefficient: 0.423
Coefficient of Determination: 0.179

The multiple correlation coefficient in Table 8 is 0.423 for the experiencers, indicating that affability is strongly correlated with the user-supported online course platform after class. The partial correlation coefficient for personally managed social media demonstrates that it has the most significant influence on the sense of affability. From this category, it can be seen that for the experiencers, in the personally managed social media, interactions between employees through social media are the most influential.

Therefore, in this item, the user-supported online course platform should create more posts on interactions between employees through social media, where learners will see the dynamics of the platform, thereby enhancing the affability.
4.4 Non-Experiencers: Learning Experience Before Class

Because non-experiencers have never taken courses on an online user-supported platform, and the overall process is not transparent, the attractive factors for these users are only analysed for before class, from which we can understand their preferences and feelings.

The combination of EGM and UJM shows that the non-experiencers have two main feelings in the use process before class, namely, "security" and "expectation". The multiple correlation coefficient for expectation is the highest among all feelings, and 0.591 indicates a very strong correlation.

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Category Points</th>
<th>Partial correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Professionals’ Information</td>
<td>Professionals’ Experience</td>
<td>-0.026</td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>Professionals’ Background</td>
<td>-0.944</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professionals’ self-introduction</td>
<td>0.342</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Showing Professionals’ Facebook</td>
<td>-1.201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide Professionals’ works</td>
<td>0.526</td>
<td></td>
</tr>
<tr>
<td>Clear Introduction of Courses</td>
<td>Provide Course Outline and Planning</td>
<td>0.217</td>
<td>0.334</td>
</tr>
<tr>
<td></td>
<td>Explain what you will learn after taking courses</td>
<td>0.138</td>
<td></td>
</tr>
<tr>
<td></td>
<td>List the software and skills needed in the course</td>
<td>-0.022</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explain who would be suitable for the course</td>
<td>-0.657</td>
<td></td>
</tr>
<tr>
<td>Free Trial Class</td>
<td>Know in advance the teaching style of courses</td>
<td>0.761</td>
<td>0.334</td>
</tr>
<tr>
<td></td>
<td>Know in advance the visual effect of teaching video</td>
<td>-0.313</td>
<td></td>
</tr>
<tr>
<td>Private information</td>
<td>Do not reveal the lessons you take</td>
<td>0.943</td>
<td>0.342</td>
</tr>
<tr>
<td></td>
<td>Prevent others from seeing the amount of class taken</td>
<td>-1.863</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Be able to choose the personal information which you want to present</td>
<td>0.157</td>
<td></td>
</tr>
</tbody>
</table>

Multiple correlation coefficient: 0.519
Coefficient of Determination: 0.269

The multiple correlation coefficient shown in Table 9 is 0.519 for the non-experiencers, indicating that security has a strong correlation with the user-supported online course platform before class. The partial correlation coefficient shows that private information has the most significant impact on the sense of security, followed by the free trial class and clear introduction of courses.

This shows that the private information, do not show the course you took has the most substantial positive impact. Therefore, for this item, the user-supported online course platform should hide the courses taken by learners when it presents personal information and prevents other users from knowing this, thereby enabling a sense of security.
Table 11. The weighting of "Expectation" among non-experiencers before class

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Category Points</th>
<th>Partial correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>A course that can be “wished”</td>
<td>Can leave messages to the course you would like to learn</td>
<td>-0.820</td>
<td>0.225</td>
</tr>
<tr>
<td></td>
<td>Can invite relevant teachers for taking the course which is highly recommended</td>
<td>0.067</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can click on others' wishing course to give heart</td>
<td>1.580</td>
<td></td>
</tr>
<tr>
<td>Hidden courses that can be unlocked</td>
<td>Show fundraising numbers for unlocked courses</td>
<td>-0.889</td>
<td>0.108</td>
</tr>
<tr>
<td></td>
<td>Show the not unlocked courses</td>
<td>0.199</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can know which courses have been unlocked</td>
<td>0.138</td>
<td></td>
</tr>
<tr>
<td>Fascinating Title of Course</td>
<td>Vocabulary for getting started</td>
<td>-0.405</td>
<td>0.354</td>
</tr>
<tr>
<td></td>
<td>Vocabulary for professional</td>
<td>1.258</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Course name includes “Guaranteed to get started.”</td>
<td>1.683</td>
<td></td>
</tr>
<tr>
<td>Reasonable and Preferential Price</td>
<td>Less than two thousand TWD</td>
<td>-0.606</td>
<td>0.195</td>
</tr>
<tr>
<td></td>
<td>Fill in the questionnaire and send a discount coupon</td>
<td>0.149</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Early Bird Discount</td>
<td>0.407</td>
<td></td>
</tr>
<tr>
<td>Special Columns of the Course</td>
<td>Learn more about teachers' professional fields</td>
<td>-0.318</td>
<td>0.469</td>
</tr>
<tr>
<td></td>
<td>About the course information</td>
<td>4.465</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Show the current trend</td>
<td>-1.465</td>
<td></td>
</tr>
<tr>
<td>Clear Professionals' Information</td>
<td>Professionals’ Experience</td>
<td>0.142</td>
<td>0.078</td>
</tr>
<tr>
<td></td>
<td>Professionals’ Background</td>
<td>-0.337</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professionals’ self-introduction</td>
<td>0.462</td>
<td></td>
</tr>
<tr>
<td>Clear Course Introduction</td>
<td>Showing Professionals’ Facebook</td>
<td>-0.216</td>
<td>0.121</td>
</tr>
<tr>
<td>Clear Introduction of Courses</td>
<td>Provide Professionals’ works</td>
<td>-0.458</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide Course Outline and Planning</td>
<td>0.939</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explain what you will learn after taking courses</td>
<td>0.513</td>
<td></td>
</tr>
</tbody>
</table>

Multiple correlation coefficient: 0.591
Coefficient of Determination: 0.349

The multiple correlation coefficient in Table 10 is 0.591 for non-experiencers, indicating that expectation has a strong correlation with the user-supported online course platform before class. The partial correlation coefficient shows that special column of the relevant course has the most significant influence on the sense of expectation, followed by the fascinating course title.

It can be seen that for non-experiencers, in the column for the relevant course, talking about the course information is the most influential. Therefore, user-supported online course platforms should refer to the course information taught by a teacher in the column of the course to allow the learner to better understand the content of the course, increasing expectation for the learner.
5. DISCUSSION AND CONCLUSION

This study explores the attractive factors of a user-supported online course platform through interviews and data analysis. It addresses user experience through the design approach of a UJM, combined with the Miryoku Engineering, to summarise the users' kansei experience in the online user-supported courses.

The above analysis indicates similarities and differences between non-experiencers and experiencers and summarises the learning experience of learners in the stages before, during and after the course to meet learning needs among learners and construct positive learning experiences.

5.1 Learning Experiences for Experiencers and Non-Experiencers Before Class

Multiple correlation coefficients show that for the experiencers and non-experiencers, the highest degree of feeling before class is the sense of "Expectation". The creation of a sense of expectation is significant for learners before class, and it affects whether learners join the learning platform and begin online learning.

<table>
<thead>
<tr>
<th>partial correlation coefficient</th>
<th>Original Evaluation Item (Median)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experiencer</td>
</tr>
<tr>
<td>High</td>
<td>Fascinating Title of Course</td>
</tr>
<tr>
<td></td>
<td>Reasonable and Preferential Price</td>
</tr>
<tr>
<td>Low</td>
<td>Clear Introduction of Courses</td>
</tr>
</tbody>
</table>

Although both experiencers and non-experiencers focus on expectation before class, they focus on different aspects to create the sense of expectation (See Table 11). According to the partial correlation coefficient, the user-supported online course platform must provide column information on the course before the class to allow non-experiencers to understand the course contents better, thereby increasing their expectation. This can increase their willingness to use the platform to choose and purchase courses. On the other hand, experiencers may wish to have professional vocabulary descriptions to the course names to develop the attraction of expectation and enhance their learning experience.

5.2 Learning Experience of Experiencers in Overall Process

The sense of expectation before class is relevant for the experiencers. Consequently, the creation of a sense of expectation can enhance the learning experience for the experiencer. The highest degree of correlation between abstract feelings during and after the course is the sense of "Achievement". It is clear that the sense of achievement is vital for learners
Attractive Factors in the Experience of an Online User-supported Learning Platform during and after the course, and it also further affects whether experiencers continue to purchase courses and learn on this online course platform.

Through the analysis, we can know that an online user-supported platform should provide immediate evaluation during the course. Furthermore, giving feedback is more attractive for experiencers.

After courses, the user-supported online course platform can provide a global ranking for the course evaluation, so that learners are motivated to complete due to the ranking, thereby enhancing the motivational achievement. If the sense of achievement is encouraged, the experiencers can thus complete the overall course content, avoiding stopping halfway, to achieve the goal of self-learning online.

References


**About the Authors:**

**Min-yuan Ma:** Min-yuan Ma, Ph.D., is a professor of Industrial Design Department of National Cheng Kung University. Currently, he is the Vice-Dean of the College of Design and Planning, NCKU. Research focuses mainly on Design Evaluation and Tools development, Innovation Education, Kansei & Miryoku Engineering and Product Innovation & Design.

**Hsin-Yi Huang:** Hsin-Yi Huang is currently a graduate student at the Industrial Design, National Cheng Kung University (NCKU) in Taiwan. Her research interest focuses on Kansei Experience and Evaluation.

**Eric Chen-F Hsieh:** Eric Chen-F Hsieh is currently a doctoral student at the Industrial Design, National Cheng Kung University (NCKU) in Taiwan. His research interest focuses on Kansei Experience and Evaluation, Design Education and Product innovation & Design.

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City Branding and Fictional Layers: Reading Istanbul through Filming Locations

Zeynep Arda\textsuperscript{a}, Onur Mengi\textsuperscript{b}, Deniz Deniz\textsuperscript{c}
\textsuperscript{a} Izmir University of Economics
\textsuperscript{b} Izmir University of Economics
\textsuperscript{c} Izmir University of Economics
\textsuperscript{*onur.mengi@ieu.edu.tr}

Abstract | Triggered by the strategic use of filming locations for city branding, and with a specific focus on Istanbul, this research investigates the role of movies on shaping the image and perception of cities. It aims to consider how a city is depicted in different movies/genres and discuss how such representations affect the traditional image previously constructed through the cultural heritage and the built environment. Through the analysis of twenty-one international movies that were produced between 2000-2020, and were selected out of 3586 movies, the comparison of fictional layers with the traditional tourist attractions of the city were carried out. This research approaches Istanbul’s urban visual culture and its many meanings, through Lynch’s aspirations for imageability, visibility and legibility in the design and perception of urban environments. The findings underline the influence of the film industry on city’s branding processes and perceptions through representations and imaginary layers.

KEYWORDS | FILMING LOCATIONS, CITY IMAGE, CITY BRANDING, FILM-INDUCED TOURISM, PLACEMAKING.
1. Introduction

Recent literature in placemaking underlines the importance of quality of life, amenities, and the social or cultural environment as major drivers for cities (Aubry, Blein, & Vivant, 2015; Glaeser, 2011; Markusen & Schrock, 2006; Storper & Scott, 2009). Placemaking provides tools including hard and soft layers for urban planners, designers and policymakers, for economic development and community enhancement through creative industries.

Traditional literature in this field, have always presented hard layers as tangibles that are primarily regarded as the main drivers of economic development. However, recent studies (Bontje & Pethe, 2010; Edmonds, 2017; Murphy, & Redmond, 2009) underline the soft layers that are intangible in nature, and influence the identity of place, such as diversity of population and place, openness, tolerance, networking, as well as cultural and leisure facilities. Highly acclaimed authors, like Ezio Manzini and Richard Florida, consider creativity as a driving force for the global economy and for creation of new jobs, as “human creativity is a limitless resource of human capacity and a real source of economic value-creation” (Florida, 2005, p.4). In Manzini’s technical definition of resilient societies “diversity, redundancy and continuous experimentation” are highlighted as the key elements to bring social innovation; nonetheless, he also maintains that such a resilient society “must be a diversified, creative one” (Manzini, 2015, p.21). The film industry as one of the creative industries plays a crucial role in processes of place branding and urban development, particularly by “shaping the physical and cultural renderings of place in material and imaginative ways” (Mathews, 2010, p.171).

Through this perspective, this research explores the ways the cities are depicted in different movies and how these representations affect the traditional image previously constructed through cultural heritage and the built environment. Our approach considers both the hard (tangible) and soft (intangible) layers of placemaking, and explores the pathways to city branding. This conceptualization allows us to discuss the role of visual culture, ranging from instances of art history to very recent movies, in affecting the visitor decisions of experiencing a new city. As the methodology for this approach, literature review, online desk research for data collection and mapping techniques for data processing were used. The case study selection criteria were based on the MasterCard Global Report, and the selection was narrowed down by the cities where the film industry is growing and that were listed in the Globalization and World Cities Research Network. Regarding these two intersecting lists, Istanbul was chosen as the focus of this case study in Turkey.

Therefore, the essential questions raised are as follows:

- How are the filming locations and their narrative values incorporated into perceptive constructions of place and place identity?
- How do the use of World Heritage Sites as filming locations, Istanbul in our case, and television series influence visitor decisions for travelling to such sites? How do they affect the perceptions of the visitors once they are at these locations?
2. Placemaking for City Branding through Film Industry

Placemaking has many definitions and aspects. It is widely associated with planning principles that focus on spatial interventions, urban design, morphology, public realm, landscape and infrastructural qualities. Silberberg et al. (2013) describes placemaking as a practice to improve the quality of a public place and the lives of its community in tandem. When integrated to practice, placemaking aims at improving public spaces, civic pride, creating connections within the community, cultivating health and safety, enabling social justice, encouraging environmental sustainability, and it brings out the authenticity of place as well as a sense of ownership (Silberberg et al., 2013). It appears as both a design strategy and an urban design practice for improving a neighborhood, city, or region, enabling people to collectively create public spaces by re-imagining and re-inventing (Project for Public Spaces, 2007). As mentioned by Pancholi et al. (2018), a comprehensive understanding of place enables us to rethink the layers in urban environments beyond hard factors. It is significant to consider intangible and soft factors in the form of social processes and interaction, as well as meanings created by the users and their perceptions (Pancholi et al., 2018). In the context of globalization, especially along with the one-fits-all strategies that have made every place feel and look the same, the role of physical and cultural assets becomes crucial to create distinctiveness and competitive advantage. The meaningful placemaking decisions and their acceptability have essential roles to play for the image continuity of a city.

The film industry, as one of the creative industries, plays a crucial role in processes of city branding and urban development, particularly by “shaping the physical and cultural renderings of place in material and imaginative ways” (Mathews, 2010, p.171). It provides a viewpoint through the representation, and the place it shows becomes a part of a broader strategy for placemaking, and “something other than what is captured at any present moment” (Mathews, 2010, p.185). Previous studies on a similar topic (Basset et al., 2002; Gasher, 2002; Beeton, 2006; Durmaz et al., 2008) assert that the film industry contributes to the development of cities, and boosts the growth of tourism, through the cultural and heritage quarters, which indicate historical and symbolic context and building types. Countries and cities where the film industry significantly contributes to creative development are listed as City of Film project as part of the wider Creative Cities Network (UCCN) launched by UNESCO. One of the common characteristics of these film cities is the availability of infrastructure related to cinema, such as film studios and filming locations. Durmaz et al. (2008) claim that while the film industry improves global networks, social and economic interactions of creative people, it brings uniqueness and distinctiveness of that place, and enhances its reputation and attractiveness (Durmaz et al., 2008). Their findings,
such as Vancouver’s success as a result of geographical proximity to Hollywood, and the government funds, or Auckland’s popularity as being the filming location of ‘Lord of the Rings’ due to its natural assets, prove the essential roles of both hard and soft layers in placemaking through filming locations. Furthermore, the Distillery Historic District in Toronto, which is a famous space for arts and creativity in the city, also became an important resource to the film industry. For the same filming location, Mathews’ research (2010) reveals that filming locations affect the way we see the site and show a different, possibly re-inventive, viewpoint “affected by the lure of film” (Mathews, 2010, p.173).

Moreover, since the South African film industry is clustered in the metropolitan areas, the city of Cape Town has gained a reputation of being an ideal location for the feature film and commercials market abroad (Visser, 2014).

Considering these recent film city examples, the awareness for the city image and its attractiveness became crucial for tourism-induced development. Recently, there is an increasing attention to city image within local governments and public authorities (Hanna & Rowley, 2011) where they aim to create uniqueness in order to differentiate a city from the others. Ashworth (2009) emphasizes that one of the main objectives of city branding is to improve the quality of public spaces as well as the wellbeing of the residents. Similarly, Baker (2007) mentions that city image and identity are crucial for making a city remarkable among various alternatives. He emphasizes that the aim of city branding is to create a better image for the city in the competitive world with its culture and history. Anholt (2016) also highlights that image and identity of cities closely related to places, safety, public opportunities and other variables affecting the city brand. City branding and image have crucial roles that help to increase the sense of ownership and identity. In this respect, crucial actors can be mainly defined as stakeholders, local people and visitors (Van Gelder, 2011). Dinnie (2010) mentions that city image is important both for city identity and branding.

There is a link between the image and attractiveness of a city as a place to travel and invest (Dinnie, 2010) since the city image creates a sense of identity, that attracts attention and makes a place remarkable (2018). The combination of hard and soft infrastructure integrated into historical and cultural amenities and qualities, especially a blend of a symbolic production of culture and vernacular spaces is hard to quantify, and changes with different viewpoints of residents and visitors, however, it presents an alternative dimension to placemaking. Moreover, urban environments in the twenty-first century are rendered attractive with a vast array of graphic objects, ranging from graffiti to billboards, serving many functions. They inform, persuade, entertain and educate, as well as contributing to what Kevin Lynch called the “city image” (1960). Lynch sought to define the image of the city, through identity, structure and meaning, with the concept of “imageability” indicating the qualities of physical objects that give “high probabilities of evoking a strong image in any observer,” which he had based on the earlier ideas about the attributes of an artistic object.

Analyzing the city image represented in movies is a complex process involving an understanding of hard and soft layers offered by the placemaking strategies as well as fictional urban experiences presented in movies. The shortfall of one-fits-all strategies, the
lack of distinctiveness brought by globalization and also previous examples of film cities reviewed in the literature lead us to consider how these features play a crucial role in terms of city image, as investigated in the case of Istanbul.

3. Analysing Filming Locations: Istanbul as a Backdrop for Movies

In this analysis, the movies that were (partially) filmed in Istanbul were investigated (Table 1). For filming locations in Istanbul, we use the IMDb (Internet Movie Database), the database of information related to films, television programs, home videos, video games, and streaming, as part of our online research. The search enabled us to list 3586 results including documentaries, short movies and so forth that have been filmed in Istanbul. Data collection was conducted in November 2019. We refined our data set based on three criteria: a) the production year that ranges from 2000 to 2020, b) feature film as a type, and c) being produced and/or promoted as an international movie. Turkish movies were excluded from the search. Hence, our focus was limited to eighteen movies filmed in Istanbul. In the following analyses, the movies shot in Istanbul were listed and reviewed for the exact locations and how they depicted Istanbul. Later, the two spatial distribution maps, 1) Top Tourist Attractions Map and 2) Filming Locations Map, given below as Figure 1 and 2, were created.

The movies analyzed for this particular study that are filmed in a certain period of time (2000-2020) have wide variations in terms of their genres including; documentary, drama, romance, mystery, action, adventure, comedy, thriller and crime. Though recent research indicates the significance of certain genres for creating the touristic appeal of different types of destinations, and indicates that the role of movie genres define the appropriateness of movies for promoting such destinations, for the case of Istanbul, it can be said that this theory did not match the expected results. Istanbul is mostly depicted in action movies, which does not greatly appeal to city tourists (Redondo, 2012, p.724). The Basilica Cistern has the highest score in terms of the distribution of the filming locations in Istanbul. The Basilica Cistern was used five times as a filming location in the Accidental Spy (2001), The International (2009), Skyfall (2012), The Water Diviner (2014) and Inferno (2016). Following that, Grand Bazaar, Süleymaniye Mosque and Hagia Sophia share the second rank by appearing in four different movies.

<table>
<thead>
<tr>
<th>Movies*</th>
<th>Year</th>
<th>Genre</th>
<th>Filming Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>In July</td>
<td>2000</td>
<td>Adventure, Comedy, Romance</td>
<td>Ortaköy Mosque</td>
</tr>
<tr>
<td>The Accidental Spy</td>
<td>2001</td>
<td>Action, Comedy, Crime, Mystery</td>
<td>Hagia Sophia Ziya Kalkavan Vocational School</td>
</tr>
<tr>
<td>Title</td>
<td>Year</td>
<td>Genre</td>
<td>Locations</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
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<td>------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>A Touch of Spice (Politiki Kouzina)</td>
<td>2003</td>
<td>Comedy, Drama</td>
<td>Galata Tower, Pierre Loti, Four Seasons Hotel Istanbul at Sultanahmet, Galata Bridge, Tophane Mosque, Haydarpasa Station, Hagia Sophia, Kadikoy Neighbourhood, Sirkeci Neighbourhood, Church of St. Mary of the Mongols</td>
</tr>
<tr>
<td>Head-on</td>
<td>2004</td>
<td>Drama, Romance</td>
<td>The Bosphorus, The Blue Mosque, Grand Hotel de Londres</td>
</tr>
<tr>
<td>Crossing The Bridge: The Sound of Istanbul</td>
<td>2005</td>
<td>Documentary</td>
<td>Bosphorus Bridge, Maiden’s Tower, Suleymaniye Mosque, Grand Hotel de Londres</td>
</tr>
<tr>
<td>American Assassin</td>
<td>2007</td>
<td>Action, Thriller</td>
<td>Kennedy Street, Galata Bridge, Eminonu District, Beyoglu District, Fatih District</td>
</tr>
<tr>
<td>The Edge of Heaven</td>
<td>2007</td>
<td>Drama</td>
<td>Ataturk Airport, Zincirlikuyu District, Tarlabasi District, Kadikoy District, Taksim Square, German Consulate, Gumusluğu, Faik Pasa Street, Beyoglu, Grand Hotel de Londres</td>
</tr>
<tr>
<td>The International</td>
<td>2009</td>
<td>Action, Crime, Drama, Mystery, Thriller</td>
<td>Suleymaniye Mosque, The Basilica Cistern</td>
</tr>
<tr>
<td>Tinker, Tailor, Soldier, Spy</td>
<td>2011</td>
<td>Drama, Mystery, Thriller</td>
<td>Istiklal Avenue, Karakoy Neighbourhood, Taksim Neighbourhood</td>
</tr>
<tr>
<td>Movie</td>
<td>Year</td>
<td>Genre(s)</td>
<td>Filming Locations</td>
</tr>
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</tr>
<tr>
<td><em>Argo</em></td>
<td>2012</td>
<td>Biography, Drama, Thriller</td>
<td>The Grand Bazaar, Bakırköy Neighbourhood, Hagia Sophia</td>
</tr>
<tr>
<td><em>Skyfall</em></td>
<td>2012</td>
<td>Action, Adventure, Thriller</td>
<td>Eminönü Square, Grand Bazaar, The Basilica Cistern</td>
</tr>
<tr>
<td><em>Taken, II</em></td>
<td>2012</td>
<td>Action, Thriller</td>
<td>New Mosque, The Grand Bazaar, Çemberliţaş Turkish Bath, Galata Bridge, Legacy Ottoman Hotel</td>
</tr>
<tr>
<td><em>The Water Diviner</em></td>
<td>2014</td>
<td>Drama, History, War</td>
<td>The Blue Mosque, The Basilica Cistern, Süleymaniye Mosque</td>
</tr>
<tr>
<td><em>The Two Faces of January</em></td>
<td>2014</td>
<td>Romance, Thriller</td>
<td>The Grand Bazaar, Istanbul University, Istanbul Transport Museum (Rahmi K. Museum)</td>
</tr>
<tr>
<td><em>Innocence of Memories</em></td>
<td>2015</td>
<td>Documentary, Drama</td>
<td>Museum of Innocence, Istiklal Avenue, Golden Horn, Süleymaniye Mosque</td>
</tr>
<tr>
<td><em>The Murder on the Orient Express</em></td>
<td>2017</td>
<td>Crime, Drama, Mystery</td>
<td>Sirkeci Railway Station</td>
</tr>
</tbody>
</table>

*The following movies have been excluded from the analyses due to the lack of identifiable and sortable data: Iranian movie Hatred (2012), American movies Hitman (2007) and The Rebound (2009).*
The locational analysis presents how the above mentioned movies are distributed and their filming locations created attractions within the city. Istanbul Top Tourist Attractions Map (Figure 1) shows that firstly the “sights and landmarks”, and secondly the “museums” category of Trip Advisor, attract most of the tourists in Istanbul. As we reconsider the top tourist attractions correspondingly with the spatial distribution of the filming locations - Istanbul Filming Locations Map (Figure 2) the analysis highlights three major concentrations: 1) Bosphorus Bridge and its adjacent neighborhoods, 2) Historic Peninsula including the most famous landmarks such as the Topkapı Palace, Basilica Cistern, Grand Bazaar, and Süleymaniye Mosque, 3) Taksim and Galata area. In general, the filming locations coincide with the the spatial distribution of the top tourist attractions, and they spread through the entire metropolis, nevertheless, they expand on to many other subcenters and neighbourhoods to add a glimpse of everyday life of inhabitants on to film.

Figure 1. Map of Top Tourist Attractions in Istanbul.
4. Discussion

When we consider the perspective of visual culture, with its strong emphasis on cultural identity and its “weaker” sense of the visual that also considers social factors (Barnard, 2001), the scope of objects, devices or experiences that contribute towards an understanding of the city image is very wide. Urban visual culture emphasizes the products of advertising by foregrounding its relationship to architecture and design (Ward, 2001). This partial perspective takes a narrow view of design for visual communication in urban contexts, expanding the need for the further consideration of what urban visual culture might be. Through such an attempt, we can consider the role of movies in enhancing the city image, and the intricate relation between the filming locations and the fictional worlds that they portray through the use of actual urban settings. This relationship highlights the existence of an imaginary layer, or yet another soft factor of placemaking, that works through the visual perception of the inhabitants of an urban settlement, its visitors and the audiences of such movies.

This analysis provides an introductory exploration of Istanbul’s urban visual culture and its many meanings, in relation to Lynch’s aspiration for imageability, visibility and legibility in the design and perception of urban environments. Barnard (2001) had divided research and
Theoretical work in visual culture into a “strong” sense, which focuses on the cultural production of values and identities, and a “weak” sense, which focuses on the visual aspects of contemporary culture, and the plethora of visual images and media available in the society (Serafini, 2017, p.8). Juxtaposing this distinction with the soft/hard factors suggested by earlier placemaking theories, this research aims to assess the appropriateness of movies for the promotion of tourist destinations, while it also undertakes the evolution of Istanbul’s city image from an oriental, imperial capital to a modern day, metropolitan center of attraction.

The difference lies in a Lefebvrian reproduction/representation of space in two different contexts: The oriental image of Istanbul, belongs to an era in which an image was conveyed and conserved through the visual arts, mainly oil paintings. As John Berger would emphasize, beyond being a demonstration of the virtuosity of an artist, these works of arts were also channels of communication that conveyed “owner’s wealth and habitual style of living,” as well as “what gold or money could buy” (Berger, 1972, p.131-132). Through depictions of the palaces, the Turkish baths and the harems, the wealth of impressive sultans, in older mediums of art, Istanbul was inscribed as the oriental dream, fascinating, ephemeral and unattainable. This image was maintained in earlier depictions of Istanbul in movies, such as Topkapi (1964) and the earliest James Bond movie to set scene in Istanbul, From Russia with Love (1963), and furthermore, it was fortified and engraved, so much that every time an oriental detail was needed in a storyline, the scene would jumpcut to a silhouette from the Bosphorus with the minarets of monumental mosques reaching to the sky, or a crowded scene of prayer in the patios of the Blue Mosque, all enhanced with a fade in to the sound of ‘ezan’- call to prayer.

Figure 3. Daniela Bianchi and Sean Connery in ‘From Russia With Love’ (1963) with the majestic Suleymaniye Mosque in the background, crowning the oriental city image.
However, in today’s world, the way cities are depicted in movies stands more in line with the social media images, creating the sense and immediacy of everyday life. Though intertwined with a fictional plot, at least on the visual level, film scenes create the sense of attainability of the depicted experiences, locations and characters. In the sense of characters, this process is the well-known phenomena of identification and parasocial interaction with the hero/protagonist, yet in the sense of experiences, this phenomenon can trigger a tourist attraction value through filming locations. The sense of reality that only films can achieve, creates a feeling of proximity in the viewer, who in turn would come to think that visiting the same location could be an imminent way of owning the experience portrayed as well.

This research, by taking into account only the movies produced between 2000-2020, aims at understanding the transition from the imperial capital, to the contemporary metropolis. Based on the impact of movies and TV series on the global image of Istanbul, a city of outstanding universal value, we aim to compare the geographical locations of the filming locations with the map of top tourist attractions of the city, as identified by the most popular site for touristic advice, Trip Advisor, ranking number 270 in all web sites and number 1 in tourist advice, in terms of global internet engagement according to Alexa review.

Such comparison, juxtaposed with an analysis of the tourist poses tagged with #Istanbul on Instagram, brings about a new culture that is being designed through our contemporary, narcissistic culture, fueled by the social media: On online social networks, or mobile applications like Facebook, Foursquare or Instagram, capitalist competition dictates the communication of what is being consumed via digital images on a daily basis. This race of sharing triggers constant comparison and further competition. Yet social status today is determined by these images – digital images that lack even “the status and power of being a proper image” (Baudrillard, 2009).

Similar to the way that the oil paintings have inspired advertising photography, currently, advertising photography influences our social media photographs. Publicity, by showing us that people have “apparently been transformed” through the products that they have consumed, persuades us to believe that such transformation is possible. The state of being envied is what constitutes glamour. And publicity is the process of manufacturing glamour (Berger, 1972). This process of identification and envy is the driver of the social media/influencer impact, hence the correlation between the impact of movie scenes as they transform into social media posts. A regular tourist pose in front of a monument is no longer enough to trigger the envy, an imitation of the movie scene, through seven veils of fantasy, ignites the desire to possess that experience and make it one’s own.
Figure 4. Tourist pose on Instagram, resembling scenes from James Bond movies.
Interestingly, this shift in the oriental image of Istanbul has created a much bigger impact in the Orient, rather than the Occident, with incredible rises in the numbers of visitors from the Arabic peninsula in the last decade. Among other regions, the visitors from Middle East countries rose up to 22.6%, in 2019 (İstanbul İl Kültür ve Turizm Müdürlüğü, 2019). This rise, obviously, does not only depend on the international movies filmed in Istanbul, but also on the soft power attained through the popularity of the Turkish TV series in the Middle East, as well as in many other parts of the world. Yet, this phenomenon can be read in many different ways: On the one hand, the Turkish interpretation of Islam, which has always been relatively progressive than that of the Arabic countries, allows for a more “Western” lifestyle that creates an “attainable attractive” experience for the audiences in these countries.
5. Conclusion

Cities as filming locations, create imaginary interfaces for the viewers, and different perspectives for the people who experience the city and for the tourists who would like to experience it. In this regard, city branding provides opportunities to create distinctive qualities to represent and to narrate a place, to embrace the stories of those who shaped the place, to generate the meaning of time in a place. The main approach is to consider both the hard (tangible) and soft (intangible) layers of placemaking while exploring the pathways of city branding. This research investigates the ways cities are represented in different movies and its reflections on the cultural heritage and the built environment. It allows us to reconsider the importance of visual culture and its reflections for the decisions of possible visitors in terms of experiencing the city. Our case study for the city of Istanbul, Turkey, presents a long history of being a site of cultural assets that are significantly depicted in many movies for decades.

The analyses of filming locations in Istanbul illustrate different genres filmed in different locations. Although genres vary, the main representations of Istanbul do not differ, it remains as it is in many ways. Directors of the movies do not introduce their own interpretations of Istanbul, so the places in these movies are used as they are, with their genuine identities. This mainly shows us that Istanbul has a unique and strong city image with all its rich historical, cultural and vibrant qualities. Nonetheless, the soft power exerted by both the movies and the TV series, by strengthening a less Oriental image, increases the value of the fantasy in the other direction as well: Once the orientalist dream of the West, Istanbul somehow becomes an occidental dream of the East, as an eternal bridge between the two, in political, geographical and cultural terms. While most related research approaches the analysis of filming locations from their contribution to the placemaking, city branding and destination marketing processes, this research takes another path to determine the role of movies in the evolution of Istanbul image, mostly in the Western eye. Though such evolution would eventually influence the way the city is perceived and have an impact in the above mentioned processes, shifting the focus from the Süleymaniye Mosque to Grand Bazaar, from the religious emphasis to the urban daily life, create bigger ripples in the overall perception of Istanbul as an orientalist fantasy, than it does in its touristic charm. Our findings also prove that the clustering of filming in the city reflects the cultural assets existing in the urban fabric.

The role of city branding and city image is a crucial aspect of upgrading the investment oriented city attractiveness. In this respect, attention should be paid to the cities attractiveness for investment and it is clear that, positive city image leads to create new job opportunities as well as innovative design and service solutions for cities. The practical implications of this study refers to city branding as a part of a cultural planning approach to the city by being a matter of cultural governance and comprehensive mapping of a city’s cultural assets. These assets would have a considerable impact on placemaking, and policy implication needs to address the visual culture to construct an identity of distinction. Policy
makers should consider these (filming) locations in accordance with the current and prospective goals and objectives for Istanbul, particularly related to cultural planning and tourism. Future studies might approach this phenomenon from a more quantitative perspective, and explore how these locations contribute to tourism development and social engagement as well as the ways in which they reshaped the place.

References


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Figure 1. Designed by the authors.
Figure 2. Designed by the authors.

About the Authors:

Zeynep Arda Dr. Europaeus CL in Communication Sciences, her research interests are shaped around online social networks, self-presentation, anonymity/identity and city branding. Since 2017, she’s been working on “The Artistic Migrant Persona” in Turkey and abroad, funded by the European Union Horizon 2020.

Onur Mengi PhD in City Planning, his focus in design thinking underpins his appreciation of design as a catalyst for social change. His creative industries research gives him ability to pioneer new ideas in design, using multi-level perspectives to generate innovative design strategies.

Deniz Deniz PhD in Regional Planning, her research agenda includes crime prevention through design and design for sustainability. She was endorsed by TUBITAK to complete her post-doctoral research at University of the Arts London, Central Saint Martins College of Art and Design.
Co-Design processes for the inclusiveness of Rome's temporary communities

Gianni Denaro*, Luca D’Elia*, Safouan Azouzi*

*Sapienza Università di Roma
*gianni.denaro@uniroma1.it

Abstract | Social complexity is placing the role of Design in rethinking sociability in cities at the center of the debate. In contexts such as Rome - where urban communities are formed that share traditions, habits and ideas (Weber, 2005) - there is a need to build a change aimed at inclusion and integration. In fact, although these communities have managed to make some places their own, they still suffer from the lack of favorable environments for social innovation (Manzini, 2015).
From 2015 to 2018, the Research investigated this context by putting design good practices in contact with the temporary communities of Rome. Design becomes infrastructure (Morelli and Sbordone, 2018) to support initiatives that have developed products and services through Co-Design and Design Thinking approaches (Liedtka, 2018), resulting in a series of operations that have highlighted the role of Research in Design in connecting universities, citizens and municipalities.

KEYWORDS | INCLUSIVENESS, SOCIAL INNOVATION, TEMPORARY COMMUNITIES, CO-DESIGN, DESIGN THINKING
1. The city of Rome as a participatory Research field

The current political and economic condition, based on Capitalism and on the Neoliberal model, (Kempf, 2013; Klein, 2014) is progressively transforming the social models as known so far. This fact is favoring the social model of the commons, which veer towards a post-capitalist economy (Ostrom, 1990; Dardot & Laval, 2014; Hardt & Negri, 2014). Capitalism thus becomes both the cause of the Capitalistic model fall and the original point of the collaborative production growth that spontaneously came through network technology (Rifkin, 2014). In fact, technology has facilitated the formation of this model since it has given the possibility, quoting Mason (2016), to the educated and connected human being to act as "a new agent of change in history" (p. Xvii), tracing the footsteps of Cosmopolitan Localism (Manzini, 2014) and the interregional and planetary networking of place-based communities that share knowledge, technology and resources. This is contributing in make Design an autonomous discipline capable of "building the common as a design space" (Escobar, p. 186), thus overturning its capitalist and modernist heritage.

However, according to Fry (2015), lots of leaders and decision makers do not understand this quality of Design, making the communication work of academics and professionals more complex than it could be. The reflection on the methods and approaches that Design can adopt towards the different living communities starts from the hypothesis of Manzini (2018) that a virtuous circle can be triggered between social planning and "Politics" [1], in a set of various experiences that produce a change in the system where they operate (Transit, 2017). Consequently, designers would have to transform themselves into politicized agents of change (Fry, 2010) to overturn many deeply rooted political, economic, ideological and technological foundations. Self-generated movements provide practices and models that, with a view to preserving their social identity, must be able to be protected and cultivated by generating public services or even public policy (Selloni, 2018). In this sense, Design and Research are involved in the construction of co-design processes aimed to produce different outputs, depending on the reference context, in a form of social activism that develops a counter-narrative for social innovation (Fuad-Luke, 2009). Thus, a sort of Design activism develops that, according to Thorpe (2012), can become a tool in the public domain and a cultural, spatial and governmental tool.

Speaking of Commons, it is necessary to understand how the role of the designer, in a context of distributed and collaborative making, can design, modify and adapt products (like in the case of hacking design) and make them available to everyone.

Research tries to investigate the collaborative capacity of Design and its tools in a social context where the citizen is the core, but they have not been able to aggregate in a consistent form. This specific context is defined by the temporary communities of the city of Rome, where groups of people set up activities related to their interests or simply to their culture.
In this sense, Rome becomes an ideal field of investigation. Over the years, the City has in fact become a multicultural and multiethnic city. According to the 2015 CENSIS report, Rome has considerably increased its reception, as shown by the numbers that have described an increase in the number of foreigners registered in the registry, around + 115% compared to the same census in 2000 (Censis, 2015). This fact has consequently increased the constitution of temporary communities thus becoming an adequate experimentation field for this Research.

Figure 1. Mapping of the temporary communities involved by Design IN’ Rome.
2. Design as a tool for the Capitoline temporary communities

According to a World Bank report (2013), social inclusion is the process of improving the conditions for the participation of individuals and groups in society, improving their skills, opportunities and dignity regardless of their identity. In other words, a given society becomes inclusive when all individuals are valued. It is in the face of situations of marginalization and exclusion that social innovation initiatives make sense in offering new alternatives. In recent years, this theme of social innovation has become an integral part of the vocabulary of urban regeneration, where space plays a radical role in the production of this innovation (Ostanel, 2017). Savoldi (2006) associates this inclination with a common distrust of institutions due to a reduction in forms of public investment.

Cellamare (2019) considers Rome as a paradigmatic case of this great process of retreat of the welfare state by insisting on the widespread and consolidated presence of alternative cultures and social experiences. Rome, as a "self-produced city" (S.M.U.R, 2014), constitutes an interesting context for developing reflections on redevelopment processes and forms of self-organization seen as a structural fact of contemporary cities.

In Rome, multicultural and cosmopolitan city, numerous urban realities and particular local actions were born; different forms of appropriation and reappropriation of the city and collective and organized urban practices, as forms of latent planning, in search of new conditions of mutualism. Public space and common goods - in a context that thrives on the delicate relationship between lawful and illegal - become informal places of change and innovation. Urban regeneration is a panacea for those solutions from above which over time have proved to be inefficient or deleterious, generating on the other hand a commodification of social life (Cellamare, 2018) which is accompanied by processes of gentrification (Semi, 2015) and disintegration of local cultures (Uitermark et al., 2007).

The Design’IN Rome workshop series promoted by the Faculty of Architecture of the University of Rome Sapienza has worked in close relationship with local communities on research-action projects, co-designing in different areas and neighborhoods of the capital. Design’IN Rome started from the Roman context, where urban communities share traditions, habits and ideas (Weber, 2005) with the aim of involving local communities in the design of specific solutions by exploiting technological discoveries (Smart objects and IoT) to improve livability in their areas.

From the assumptions thus presented, Design’IN Rome proposed to apply a series of design-driven methodologies for the design of solutions, including technologically advanced, for and with 13 temporary communities in Rome (fig. 1); the Aguzzano Garden, the agricultural community of Zappata Romana, the Little Free Library initiative, the Book Crossing community, the Thai Chi Chuan association, the Pattatatori del Pincio, the Critical Mass collective, the non-profit organization Retake Rome, the Isola Felina cat colony, the Valletta dei Cani municipal dog park, the independent outdoor gym Giostra del Benessere, the
independent sports community Cricket in villa Doria Pamphili and the collective of the flashmob Tango Clandestino initiative. 3 designers were assigned alongside each community.

In a highly self-organized context such as that of Rome, design becomes a useful tool for understanding and developing social innovation by mediating public and private needs (Manzini, 2015). The city becomes a sort of laboratory for the development of ideas, products and services starting from the bottom and to support new behaviors and ways of aggregation to promote different forms of more sustainable urban life (both at an environmental and social level).

3. Ethnography, Experience and Speculation: action strategies for social innovation

Designers operated on three specific design levels, which guided the projects through three stages of evolution; a first phase of investigation, analytical and taxonomical of the context and of the assigned community, a second phase of experimentation and prototyping of project proposals, and a final phase of finalizing the new narratives established and project perspectives (fig. 2). Each design phase has been divided as follow.

![Figure 2. Schematic of the design methodologies applied during the Design IN’ Rome laboratory.](Image)
3.1 Ethnography of Design

In the first phase the designers identify the narratives of the communities by adopting a restricted series of methodologies aimed at the ethnographic study by looking, interviewing and experimenting, developing a scenario that is as precise as possible. A man-on-the-street interview may not be immediately effective; therefore, a first phase of Desk Research is useful for the designer to prefigure timely and relevant questions for the reference community. People, places, actions and behaviors are then systematized by describing a general scenario of the community and highlighting the flows of interactions with objects and people, where micro-gestures become evidence of a lifestyle that reveals perceptions and values. The ethnographic study of the dynamics, rituals and meanings related to activities and artifacts results in intelligible storyboards, concept maps, behavioral archetypes (or personas) and moodboards composed of pre-existing artifacts.

Figure 3. Concept map of the Nomi project by C. Rotondi, Anoop and M. Vasilena for the community of Cricket Players in Piazza Vittorio in Rome.
The Noki project by C. Rotondi, S. Anoop and M. Vasilena, has been able to identify the ethical and moral values of the historic game of Cricket, and the popular will of the community of Piazza Vittorio who practices this sport. The purpose of the community is to popularize sport and through this, to teach respect and integration among the people of the Roman community. The research activity of the team has identified within the game dynamics a potential connection with the younger generations who cohabit the surrounding public space, in search of leisure activities that know how to adapt to the frenetic rhythms of their daily lives (fig. 3).

3.2 Experience Prototyping

For the second phase, through fast implementation practices of physical models, experiential prototyping tools are introduced, through "dirty" and fast actions. Designers cannibalize and hack pre-existing products by operating through a series of iterations, bringing field experimentation together with communities through different research tools including Workshops, Empathy tools, Shadowing and Role play in order to produce a stimulating range of information fundamental to the of the project (Villari, 2013). Experiencing first-hand the difficulties of Roman cyclists during their own rally events, Critical Barrier, designed by D. Allotta, S. Ramezani, I. Demirsu and S. Negarestani, wanted to experiment with different ways of aggregation and reporting on the road, in order to make community events more visible in traffic and above all safer for its participants (fig. 4).

Figure 4. Sketching and prototypes of the Critical Barrier project by D. Allotta, S. Ramezani, I. Demirsu and S. Negarestani for the Critical Mass cycling community.
3.3 Fictional Scenarios

These documented experiences open up to new scenarios of use and behavior, identifying in the third and last phase "Fictional Scenario" the social and technological implications that the project brings with it. The designer therefore looks at the complexities of the community in a critical way as a prolific pool of behaviors and contradictions useful for an action of speculation that allows communities to visualize the real problems that are usually faced and considered as inevitable (Dunne & Raby, 2013), thus offering new possible solution scenarios. The critical view of the context implies a new awareness that is externalized and communicated through the products, services and systems generated by the co-design processes. The technological dimension takes over in response to the need to evolve and intensify an energy network (Rifkin, 2014).

The U.S.O. (Unidentified Skating Object), designed by L. D'Elia, S. Doustani and A. Sayifi, wanted to speculate on the feeling of alienation experienced by the community of Pincio Skaters in their relationship with a public management that does not recognize the skater in the spaces shared neither as a pedestrian nor as a vehicle (such as a scooter or bicycle). Feeling "alien" and proud of this peculiarity, the project is dressed in attributes coming from the science fiction world to encourage new members and curious to a completely different

Figure 5. U.S.O. project poster (Unidentified Skating Object) by L. D’Elia, S. Doustani and A. Sayifi for the community of Pincio Skaters in Rome. Photo courtesy: Paolo E. Cenciarelli.
exercise activity, supported by new technologically enhanced actions and interactions (fig. 5).

4. Conclusions

The research and experimentation activities applied during the workshops have brought out from the Capitoline social fabric a latent planning of the communities and new design spaces which, together with the theme of social inclusion and the active role of the citizen, are issues addressed marginally by the Public Administration when it comes to social innovation (Balbo, 2015). In this open scenario, design can operate in order to reveal the needs and will of the community, transforming them into possible solutions of public utility. In 2016, the exhibition "Design'In Rome" at Casa della Città (fig. 6) exhibited the design results of the course, highlighting the role of academic research and design in connecting universities,
citizens and municipalities, and in applying design knowledge in real contexts (Meyer & Norman, 2019). It is emphasized that research in design, in order to face the new ways of living in a social and innovative space, searches in the built spaces (both physical and virtual), products and services capable of taking into account the cultural value of the ethnic variety present in a cosmopolitan city like Rome, applying the best practices of Co-design and Action Research. This contribution presents an overview of alternative scenarios that are emerging and evolving on a global scale.

Note

[1] Ezio Manzini in the working paper of the conference "Social and Political Planning", organized by cheFare at the Milan Triennale on 19 October 2018, defines Politics (with a capital P) as “the set of contents, organizations and methods that allow a company diversified and complex to exist and, if possible, progress towards higher forms of civilization”.

References

Co-Design processes for the inclusiveness of Rome's temporary communities


About the Authors:

Gianni Denaro He is a product designer and PhD student in Design at the Department of Planning, Design and Architecture of Technology at Sapienza University of Rome. His research themes are related to digital design in the fashion field, to the effects that current enabling technologies are bringing to processes, strategies and products, as well as to the relationships between industrial and digital production.

Luca D’Elia He is a designer and PhD student at the Planning, Design and Technology of Architecture Department of Sapienza University of Rome. His Research activity is focused on digital manufacturing technologies and co-design processes within the Makers community and how the latter are defining their role as producers within urban contexts.

Safouan Azouzi My research interests focus on the relationship between design and socio-political issues, in particular the theory of the commons and its relationship with the territory and the resilience of communities to climate change.
Co-designing the future of a public space and its related services. The case of the Reggio Emilia Ducal Palace and its park.

Marta Corubolo, Anna Meroni, Daniela Selloni

Politecnico di Milano, Dipartimento di Design
daniela.selloni@polimi.it

Abstract | This paper describes an extensive co-design process conducted by the authors, a group of researchers of the Polimi DESIS Lab, to imagine the future of the Reggio Emilia Ducal Palace and its park, in Italy. As an effort to co-design urban commons, it implied two main challenges: the first one deals with how urban commons might be co-designed, being characterized by diversity of actors and interests; the second one is connected to exploring how urban commons can be complemented including (public) services as an integral part of them, and thus, how to deal with their ‘intangible’ facet, that is about the interaction that will take place. The paper concludes reflecting on the opportunity of including the expertise of service design in creating the social and infrastructural conditions to foster the development of urban commons and to make it a standard for any project, since it contributes defining the public interest activities that shape an important part of the commons.

KEYWORDS | URBAN COMMON, CO-DESIGN, SERVICE DESIGN, SCENARIO BUILDING, MULTI-STAKEHOLDER ENGAGEMENT
1. Background knowledge: on urban commons, co-design and service design.

In the last decade, we assisted to the emergence of a variety of activities labelled as ‘co-design processes’, ranging from urban planning to community building and conducted under the auspices of the private, public and third sectors (Meroni, Selloni, Rossi, 2018; Trischler, and alt. 2018).

In this paper we discuss a co-design process developed by the authors for the Municipality of Reggio Emilia, a mid-sized town in the centre of Italy: its main objective was to imagine the future of the Reggio Emilia Ducal Palace with particular reference to its park, a huge public space in the outskirt the city.

This park is considered by the city inhabitants as an urban commons: a place of shared interest, critically important to the city environment, perceived as a symbolic space that gives a community its identity and facilitates social interactions (Ostrom, 1990; P2P Foundation, 2019).

The notion of urban commons is central for our argument, because we discuss one of the main challenges that urban commons currently face: i.e. how they might be co-designed, since, more than traditional commons, they are characterized by great heterogeneity of interests and participants, and need a support process to reach alignment and consensus (Foster, 2011; Iaione, 2012; Seravalli, 2018).

Urban commons may be considered ‘new commons’: Hess (2008) mapped the new commons out, identifying numerous categories, such as tangible and intangible commons, cultural commons, knowledge commons, global commons, infrastructure commons and many others. According to Hess, urban commons fall under the wider category of ‘neighbourhood commons’ that incorporates “both urban and rural commons where people living in close proximity come together to strengthen, manage, preserve, or protect a local resource” (2008, p. 16).

In particular, she argues that theories and practices of neighbourhood commons draw especially on the so-called literature of ‘reclaiming the commons’. In the same line of thinking, Marttila, Botero and Saad-Sulonen (2014) identify a strand of commons as the activist/practitioner movement, which considers commons as a means for social change and democratic governance (Bollier and Helfrich, 2012; Bauwens, 2009). Therefore we can assume that urban commons are conceived not only as shared resources, but also as processes: set of practices focused on how to create (other) commons, how to support and govern them, that is a set of “collaborative arrangements for value production processes” (Seravalli, 2018 p.1.).

On the one side, we build on this approach to commons to discuss an experimental programme of co-design activities for the Reggio Emilia Ducal Palace and its park, conceived and implemented to design a place intended to be part of the urban commons. It is consolidated (Pór, 2012) that aligning interests between participants and educating people to participate in processes aiming at this are today two of the main challenges to co-design
Co-designing the future of a public space and its related services.

urban commons. We can interpret this approach as an evolution of the concept of ‘community-centred design’ (Meroni, 2008), in which design is recognised as a way to facilitate a process of engagement and progressive learning between the members of a community and between it and the whole society. The continuous work of activating and structuring strategic conversations on the future is, in fact, a way to exchange value between people: this is functional to design a scenario, to find opportunities of reciprocal interest, to create relationships and develop mutually beneficial solutions (Pahk, Self and Baek, 2018) in a value co-creation logic that has network orientation and contextual nature (Vargo and Lush, 2016). Paraphrasing Vargo and Lush (2016), we can say that an effective community-centred design should support the actors of a given context to engage in a process of benefiting their own existence through benefiting the existence of other actors with service-for-service exchange or the provision of some output. The value so created is therefore an element of the ‘new commons’ and we assume it is maximised by the diversity of interests and views that find a way to co-exist.

The multi-stakeholder co-design process conceived and implemented for the city of Reggio Emilia involved actors from the private, public and third sectors, experts from the academia and associations from the civil society. They were selected and activated by the public administrators in order to consider different perspectives on the present and future of the Palace and the park. As Iaione and Foster (2016) state, in urban commoning implies having someone that plays the role of ‘enabler’ in managing negotiations and cooperation between participants with divergent interests. Here it comes the opportunity to conduct co-design activities with diverse methods and tools in order to allow multiple participants having different voices collaborate in a design process, applying an adaptive and iterative design approach (Meroni, Selloni, Rossi, 2018). This way, the activation of co-design initiatives can be seen as a service that the public administration offers to nurture the birth and flourishing of new commons.

On the other side, we explore, through this experimentation, possible relations between service design and urban planning, aiming at testing at the city level two of the very axioms of the service dominant logic (Vargo and Lush, 2004; Vargo and Lush, 2016):

- Service is today the fundamental basis of exchange and, therefore, goods are distribution mechanisms for service provision. In the Reggio Emilia project we assume “goods” to be spatial arrangements.
- Service-centered view is inherently beneficiary oriented and relational. In the Reggio Emilia project the value co-creation was intended to activate processes of reciprocity of exchange, facilitated by shared institutions (here intended as “rules, norms, meanings, symbols, practices, and similar aides to collaboration” Vargo and Lush, 2016, p. 6) that coordinate this exchange.

In fact, the challenges around the design of urban commons are not only connected to the related participatory process, but also to reconsideration of the idea itself of urban commons: the co-design process outlined for the project was aimed at conceiving the future
activities to be carried out in the park in terms of functions and services, rather than and prior to designing the public space in its physical aspects. This implies that the future common denominator of the production and exchange of value in the Ducal Palace and park was the application of specialized knowledge, mental skills, labour and the sharing of assets, “embedded” by the spatial arrangements.

Therefore, the starting point of the Reggio Emilia project was that an artful design of the activities that might take place in the future and qualify the area would have informed the design of the space with an increased awareness of the final users and of the visions of possible future stakeholders. This approach to urban commons, also, assumes that (public) services and relational activities are integral parts of urban commons, since (public) spaces are so. Not by chance, Iaione (2012) in defining urban commons not only includes physical resources as parks, squares, local streets, and public spaces in general, but also a diversified number of services, including public transportation, water service, urban health, gas and electric distribution and many others.

Overall, we assume that the Reggio Emilia project’s combined approach of structuring collaboration processes, putting the service perspective prior to the landscape design and adopting a relational perspective, is a way to envision new ways to integrate and beneficially apply potential resources for a shared purpose.

2. The case study of “Rival(u)ta Rivalta”

“Rival(u)ta Rivalta” (a title that can be translated as “Re-value Rivalta”) is the project we delivered as researchers of the Polimi DESIS Lab of the Department of Design of Politecnico di Milano for the Municipality of Reggio Emilia, which is part of the wider Ducato Estense development financed and promoted by the Italian Ministry of Cultural Heritage. Its specific objective was to renew and reinvent the Reggio Emilia Ducal Palace and its huge park, in the suburb of Rivalta.

It consisted of a process of strategic codesign of scenarios for the future of this space, conducted with local actors. It initially explored the varied and often conflicting perceptions, experiences and wishes of the stakeholders for the area (phase 1), and then defined, in a dialogue with the public administration, a first interpretative framework to orient the following design phase. On the base of this, through a sequence of co-design workshops (phase 2), 6 service-based scenarios were produced to inform the first phase of a landscape-design international competition concurrently launched (phase 3). As a final stage (phase 4), a codesign workshop, involving the designers and the team of the winning project (a group made up of Openfabric, Casana, F&M Ingegneria) was organized to develop 2 macro-scenarios, following the criterion of integrating the characteristics of the spatial proposal with the emerged imaginary. These final scenarios have the aim of stimulating a strategic dialogue around the Reggio Emilia Ducal Palace and its park and of guiding the final implementation of the project.
2.1 Phase 1: Generative listening

The expression ‘generative listening’ refers to the goal of broadening the scope of the initial analytical phase from the collection of information, in the traditional sense, to the stimulation of conversations about the perceptions, desires and expectations on the Ducal Palace Park. The process was structured as a series of interviews to 26 local stakeholders, selected in collaboration with the Municipality of Reggio Emilia among the most active and relevant actors in the cultural and associative field as well as among experts in more technical sectors.

In order to provoke and enable a generative conversation, each interview was structured by using a set of tools that had the goal of exploring both present and past conditions related to the area, as well as possible activities to be carried out inside and outside the palace. More in detail, the tool named ‘The Ducal Palace park: yesterday and today’ guided the dialogue around the map of the place, investigating distinctive positive and negative elements in terms of potential resources, barriers and criticalities. While the set of cards ‘The Ducal Palace park: tomorrow’ has been used as a stimulus to explore 6 thematic clusters of activities: agriculture and production, work and employment, art and culture, entertainment and recreation, sport and wellness, landscape and nature. Building on the expertise, knowledge and network of the actors involved in this phase, each thematic area was then discussed in terms of impact on the management and revenue model, on the accessibility and on the identity of the place.

The choice of identifying 6 themes emerged from the initial scoping phase carried on with the Municipality and from the analysis of existing data and reports. Results of the generative listening phase were, indeed, a baseline knowledge framework and an orientation towards different design hypotheses, which have been re-discussed with the Municipality and served as inputs for the following steps.

2.2 Phase 2: Co-design sessions

The second phase was planned as an intensive programme of workshops with diverse stakeholders to explore multiple service areas. Building upon the results of phase 1, we elaborated a preliminary map which was then implemented and adapted to the strategic orientations and policies set by the Municipality.

From this dialogue, a Scenarios’ map emerged (Fig. 1). It presents 4 main directions: the central one represents the core theme (Park of the Nature), while the surrounding areas support the exploration of alternatives (Park of the Agriculture, Park of the History and Park of the Wellness).
Figure 1. The Scenarios’ Map developed to guide the co-design sessions.

In addition to the map, we produced a catalogue of cards (Fig. 2) representing potential services and activities, thanks to a preliminary study of existing case studies. This deck of cards, together with the Scenarios’ map, were the main tools designed to conduct the workshops.

Figure 2. Example of the cards designed to explore services and activities and of the elaboration of a personal vision.
Co-designing the future of a public space and its related services.

This phase comprised 5 co-design sessions and involved a total number of 42 participants, partially identified among the participants to the first phase, and partially among new relevant stakeholders belonging to cultural institutions, NGOs, universities and local authorities. Each session was organized around 3 main steps.

Step 1: the creation of a personal vision. After introducing the Scenarios’ Map, each participant was invited to select, from the deck of cards, 4 activities, that combined together presented a personal vision for the future, in the form of a consistent series of services for the Ducal Palace park. Additionally, participants were asked to evaluate, for each card, some characteristics that might impact on the service model (type of infrastructure, location, duration and scale of attractiveness) and to enrich or modify the cards according to them (Fig. 3). Finally, the personal visions were placed on the Scenarios’ map and discussed, merged and combined in a collective session. In this circumstance, participants have been aggregated in couples according to links between their visions, in order to start thinking to the stakeholders involved or impacted by the future arrangement.

Figure 3. The co-design sessions.

Step 2: the evaluation of the qualifying elements. The second step was focused on assessing the resulting visions according to 4 main qualifying elements. The Ducal Palace park should indeed also comprise the following qualities:

- Digital: the park is enabled by advanced technological solutions;
- Educational: the park has a strong didactic and popular approach;
• Recreational: the park offers opportunities for entertainment, conviviality, meeting;
• Sustainable and circular: the park is based on elements of ecological sustainability and circular economy.

These qualities emerged from the generative listening phase and from the dialogue with the Municipality: they contributed to characterize the range of activities chosen by each group.

Step 3: the analysis of the transversal areas and the definition of the Actors’ map. The last step of the co-design session aimed at including into each vision a number of additional activities that relate to transversal areas and complete the map of the Ducal Palace park. These transversal areas are linked to the perception and imaginary associated to the park, and emphasise its being a place of relief and conviviality, active and inclusive participation, of accessibility, of openness, of entertainment and recreation.

As a last activity, groups focused on the identification of the stakeholders to be involved into the implementation of the scenario and on the various management models to be foreseen. The output of this phase was an Actors’ map for each group in which they identified the key-protagonists of their scenario, outlined a hierarchy and a set of connections between them.

2.3 Phase 3: Scenario development and integration to the international landscape design competition

The third phase of the process was aimed to inform the international landscape design competition that was meanwhile conceived and launched to select a spatial design for the area. For this purpose, we developed 6 main scenarios (Fig. 4) building upon the results of the previous co-design process:

• The Mindful Park: a place of silence
• The Water Garden: history through engineering and nature
• The Active Park: sport and social agriculture in action
• The Innovation Garden: an agricultural landscape to live and experience
• The Climate Oasis: a piece of nature within the city
• The Welcoming Garden: a path toward a collective wellbeing.

The description of these scenarios was further elaborated in a report that included: the narrative aspects of each scenario, a series of activities to be included as potential functions and services and some distinctive features with reference to architectural guidelines provided by the competition’s brief. The report became therefore an integral part of the brief made available to the 5 finalists of the international competition. This way, the take-up of elements selected from the scenarios was assured, since they were supposed to be embedded in the final design of the proposal.
2.4 Phase 4: integration to the landscape design-winning project.

The connection of the results of the co-design process with the landscape design competition was further elaborated in this last phase. After the selection of the winners, we engaged them in a co-design activity in order to converge towards a consistent and integrated proposal. More in detail, the 6 service-based scenarios were reviewed with reference to the characteristics of the winning project.

Figure 4. The 6 scenarios developed to inform the international landscape design competition.

Figure 5. The Wellness Park offering Map (Polimi DESIS Lab) applied to the spatial project by ©Openfabric, Casana, F&M Ingegneria.
By using an expanded Offering Map (Fig. 5), primary and secondary levels of activities were identified. Then, building upon this work, the design researchers elaborated 2 macro-scenarios (Fig. 6):

1. The Wellness Park, which elaborates the themes of health and living well, mainly resulting from the scenarios ‘The Contemplative Park’ and ‘The Active Park’.
2. The Habitat Park, which refers to the themes of landscape, nature and harmony between humans and the surrounding environment, mainly resulting from the scenarios ‘The Circular Oasis’ and ‘The Contemplative Park’.

After being discussed with the landscape designers, they resulted in a comprehensive plan for services and solutions, meant to orient the final design of the park. At the same time, they can be seen as a powerful means to keep the narrative, vocational and poetic dimension of the initial scenarios within the project.

![Figure 6. Visualization of the final macro-scenarios: the Wellness Park and the Habitat Park](image)

3. Reflections and conclusions

The outcomes of this co-design process aiming at the generation of future scenarios for the Ducal Palace and park are, now, constrained by the stage of the work of the entire project, which is in the final development of the executive project. Yet, they can be discussed with regard to the effectiveness of the co-design process that brought about the activation of a dialogue with the stakeholders, the generation of service-based scenarios that informed a landscape design brief, and the integration with the spatial design project.
Considering the whole experimentation as the first step toward the design of new urban commons, it can be first assessed against its capacity to generate strategic dialogues and outputs (specific scenarios) that could integrate different interests, perspectives and resources in a mutual beneficiary exchange. The evidence of the above can be summarised in the following points:

- The variety of perspectives emerged from the interviews (conducted in the first phase of the process) that we grouped in a set of reflections on the present situation, of opportunities for the future and of possible criticalities are a good evidence of the openness of the process that guided the participant throughout a reflection without imposing perspectives. In fact, the topics emerged as qualifying the present and the future of the place, transcended or sometimes neglected those suggested by the interviewers to prompt the conversation: topics as ‘food’, ‘hospitality’, ‘technology’ or ‘sociability’ emerged, while ‘work’ or ‘job’ were not considered as relevant.

- The even bigger variety of visions generated during the workshops (one for participant, for a total of 42, conducted in the second phase of the process) eventually grouped by the designers in 6 scenarios (in the third phase of the process), came out easily, often in a positive flow of conversation with the other participants of the same session, alternating individual and collective thinking. We can assume this variety to be encouraged by the numerosness and diversity of the activity cards provided for the co-creation: nevertheless, the nature and distinctiveness of the 6 scenarios is completely transversal to the proposed orientations and extremely rich of inputs that neither came out from the previous interviews and conversations, nor were provided by the designers.

- The criteria with which the different visions were clustered and arranged in scenarios were based on the actual and logical possibilities to combine a variety of comparable or complementary inputs in meaningful wholes. Each input represented an individual view and the related interests, including the resources (competences, assets, skills, and much more) that each participant explicitly or implicitly wished to put in the future system. By combining them together, we aimed to draft future service ecosystems (Vargo and Lusch, 2016) meant to generate value for all the stakeholders and for the citizens or visitors; this accomplishes the abovementioned logic of the urban commons as valuable because of the way they have been generated and because of their very nature. This work has been facilitated by initial reflections on the possible combinations of actors that could manage the activities in the future.

- The people involved in the co-design process, stakeholders and experts identified by the Municipality of Reggio Emilia, often knew already each other, but most of the time did not: whatever their condition was, the workshops were for them opportunities, often the fists, to talk together in a constructive and creative way about the future of the Palace and the park. As such, we may assume they were
also opportunities to ignite future processes and purposeful connections, including the discourse about the future co-governance of the place.

Another way to assess the whole experimentation is against the relevance and the ‘dominance’ of a service design perspective and orientation in the design of the landscape and in the spatial design. This turns into evaluating how the scenarios, which were made part of the brief received by the 5 finalists of the international competition, actually influenced or even informed their final design proposal.

The scenarios were described as a consistent mix of temporary and permanent activities (and therefore services and relations) and in terms of requirements for the natural capital and the built environment. Looking at the material delivered by the team of architects and experts that won the competition, we can find a systematic review and elaboration of future activities to be implemented in the area, freely chosen from the proposed scenarios and organised by typologies and fields that draw from the them. The same are described in their duration in time, extension and possible economic return for the future management and the public administration. They are also narrated in terms of occupation of the space and needs for dedicated infrastructures and arrangements and are sketched in the design of the place, which has been actually conceived to change according to them. This made the design unique and notable for its liveliness and dynamicity, and let us deduct a good degree of permeability of the landscape design to the proposed scenarios. This descriptive material delivered for the competition was the basis for the following collaboration, aiming at merging the service and the landscape design.

In fact, as described in the section 2.4, by matching this design with the 6 scenarios produced in the third phase of the work, we proposed 2 “merged” scenarios that could have been better materialised by the design of the park. From here, we organised a final workshop with the project leader of the winning team of Openfabric, Casana and F&M Ingegneria. For the workshop, a very peculiar service design tool, the Offering map, was adapted to the circumstance by hypothesizing a placement of the different activities and services into the spatial characters of the landscape design, the so-called ‘intensità progettuali’ roughly translatable as ‘design concentrations’. During the workshop, we acknowledged a good alignment of the visions with the architect, yet had to make an effort from both sides to merge, through the tool of the Offering map, the different mind-sets: one ‘space driven’, the other ‘service driven’. Hence, the activities presented in the map were finally associated to the ‘design concentrations’, so to create a fully integrated space and service artefact. In the view of optimising the interaction for a future activity, this integration could be better designed in the template of the tool.

As a conclusion of the experience, two macro-scenarios have been delivered, each one characterised by slightly different meanings and activities and both suitable to be materialised by the landscape design. The very reason for being two rather than one is the acknowledgment that the civic process of development of the whole project of regeneration of the Ducal Palace and park is still far to finish. In fact, in parallel to the construction of the
landscape arrangement, the future management system and its ‘institutional arrangements’ will be defined: we may assume this will be a public-private partnership that is likely to start-up with a set of rules “that together constitute a relatively coherent assemblage that facilitates coordination of activity in value-co-creating service ecosystems” (Vargo and Lusch, 2016, p. 18). The two scenarios, therefore, are intended to activate and steer this future conversation, which will be coordinated by the public administration, following the logic to establish collaborative processes as an imperative for the creation of urban commons. Notably, the guiding and coordinating role of the public administration has been crucial throughout all the process with different strategic decisions:

- to carry out this process in order to contribute nourishing the projects produced by the teams of architects and expert. This decision was central, because it builds upon the idea that the design of a (public) space could be informed by the design of (its) services, and so the development of specific activities builds the identity of a space- an urban commons - in every aspect;
- to select the participants to the process, intentionally excluding citizens in this phase. They engaged, instead, subjects that aggregate different interests and experts, in order to start a conversation about the future on the base of knowledgeable and informed experiences and views;
- to dialogue closely with the researchers, in order to progressively define orientations and making decisions according with what was emerging from the co-design process, yet having a broader view on the city development as a whole.

In the perspective of creating the social and infrastructural conditions to foster the development of urban commons, we deem that the expertise in service design is crucial: in fact urban commons are shared resources and, at the same time, the collaborative arrangements that design them, the institutions that regulate them, and “the community that devises the institutions, both shepherding and benefiting from the resources” (Huron, 2017, p.2). Acknowledging that service design is the activity of planning and organizing people, infrastructures, communication and material components of a service (Sangiorgi and Prendiville, 2017), the systemic and collaborative approach embedded in service design as the one developed for the Reggio Emilia co-design process, could be considered a case to start from in order to make it a standard for any project, and in particular for those regarding public interests.

These activities are a “continuous process of building relations with diverse actors and by a flexible allotment of time and resources” that qualify the contemporary strategies of infrastrucuring (Hillgren, 2013 p.81). Furthermore, it might help creating in (not only) public organizations the social infrastructures that empower human beings to creatively and continuously support each other and taking projects forward (van der Bijl-Brouwer, 2017).
M. Corubolo, A. Meroni, D. Selloni

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Co-designing the future of a public space and its related services.


About the Authors:

Marta Corubolo, PhD in Design, research fellow and adjunct professor of Design at the Politecnico di Milano – Polimi DESIS Lab: her research focus is on design supporting incubation processes of innovations and ventures, aiming at achieving a social impact.

Anna Meroni, PhD in Design, full Professor of Design in the Department of Design at the Politecnico di Milano – Polimi DESIS Lab: her research focus is on service and strategic design for sustainability to foster social innovation and local development.

Daniela Selloni, PhD in Design, research fellow and adjunct professor of Design at the Politecnico di Milano – Polimi DESIS Lab: her research focus is on the co-design and co-production of public-interest services involving multiple stakeholders.

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Collaborative Futures: a pedagogical model for delivering future-focused and citizen-centred design education

Marianne McAra*, Kirsty Ross*

*The Glasgow School of Art
*m.mcara@gsa.ac.uk

Abstract | The authors present a pedagogical model for delivering future-focused design education, drawing on “Collaborative Futures” as a case study. This project brought together a cohort of final year design students and early career design graduates who worked in collaboration with the Glasgow City Council to explore and prototype future-based, citizen-centred scenarios set in the context of Glasgow 2030, which focused on data experience, people, place and practice. The collaborative nature of the project extended learning beyond the higher education design studio – providing the students with the opportunity to engage in professional practice through collaborating with early career graduates, and with an external organisation and industry-experienced designers. The authors critically reflect on the context-led project process, the collaborative design culture fostered, and the future-focused outcomes – theoretically unpacking the value and challenges of studio-based learning and multidisciplinary collaboration, insights from which are shared as a transferable pedagogical model for design educators.

KEYWORDS |: FUTURE-FOCUSED, DESIGN PEDAGOGY, CITIZEN-CENTRED, COMMUNITIES OF PRACTICE, KNOWLEDGE ARTEFACTS
1.0 Introduction

In this paper the authors present a pedagogical model for delivering future-focused design education, drawing on Collaborative Futures – a project delivered as part of the Masters of European Design programme at The Glasgow School of Art (GSA). This project brought together a cohort of final year design students and early career design graduates, who worked in collaboration with the Glasgow City Council (GCC), professional designers, and civic and academic stakeholders to explore and prototype future-based and citizen-centred scenarios set in the context of Glasgow 2030. With a focus on data experience, people, place and practice, the aim was to explore, evaluate and prototype emerging frameworks for open innovation so to inform GCC’s strategic aim to be recognised as a well governed city that listens and responds to its citizens. The collaborative nature of the project extended learning beyond the higher education studio context – providing the design students with the opportunity to engage in professional practice through collaborating with early career design graduates, and with an external organisation and industry-experienced designers. This pedagogical model, now in its sixth iteration, has been implemented in a range of contexts. The first (in 2014-15) explored the future of social services in collaboration with the design division of Hitachi; the second (in 2015-6), third (in 2017-8) and forth (2018-19) explored the future of banking in collaboration with the Royal Bank of Scotland (Ross, 2018). This latest iteration (2019-2020) is the first time, however, that a researcher (Author A) has been embedded in the project. Based on this research conducted alongside the project delivery, the authors critically reflect on the context-led project process, the collaborative design culture fostered, and the future-focused outcomes – theoretically unpacking the value, impact and challenges of studio-based learning and student-graduate collaboration in a multidisciplinary team. The relational and experiential proximity highlighted in this project is discussed through the lens of Communities of Practice (Lave and Wenger, 1991; Wenger, 1998) and Boundary Objects (Star & Griesemer, 1989; Binder et al., 2011; Brandt, 2006), insights from which are shared as a transferable pedagogical model for design educators. The paper begins by describing the evolution of the model and the key design practices informing it before setting out the research framework employed to gain an empirical understanding of the pedagogical process. The authors then present the case study and, through discussion, unpack their key insights. The paper concludes by the authors summarising the implications and value of their findings for delivering future-focused and citizen-centred design education.

2.0 Evolution of the Pedagogical Model

Design Innovation seeks to address complex social, cultural, political, economic and technological challenges through context-led collaborative and creative engagement with communities and individuals. As a practice, Design Innovation is underpinned by the ethos of
social design (Bannon & Ehn, 2012; Manzini, 2015) and participatory design (Binder et al., 2011; Björgvinsson, Ehn & Hillgren, 2010; Frauenberger et al., 2015; Simonsen & Robertson, 2013); drawing on co-design and speculative design approaches and principles as a critical exploration, examination and evaluation of the opportunities that may lead to preferable futures. Key here is recognising users and potential users of design and other stakeholders as experts of their own indigenous knowledge and “experience domain” (Sleeswijk Visser, 2009: 5), and their repositioning in the design process as equal collaborative partners with the designer (Sanders, Brandt and Binder, 2010). Collaborative Futures points more specifically to speculative (Dunne, 2008; Dunne and Raby, 2013) and transition (Foth, 2018; Irwin, 2015; Irwin, Kossoff & Tonkinwise, 2015) design approaches. As described by Dunne and Raby (2013: 3–6), speculative approaches are used to explore alternative futures so to better understand and critically reflect upon the present, whereby design is used to provoke and open up debate. Centred on embedding these approaches, the curriculum framework underpinning the project has evolved over a series of iterations. The intended learning outcomes for the students centred on developing professional practice through collaborating with external partners, creatively engaging with users and stakeholders, producing a range of designed deliverables, and communicating the outcomes of the project to a range of audiences.

At GSA, pedagogy is centred on the principles of social and collaborative learning in the shared and immersive environment of the studio (Lynas, Budge & Beale, 2013) that scaffolds a culture of exploration, experimentation and prototyping (Bull, 2015), and which seeks to foster a Community of Practice (Leve and Wenger, 1991; Wenger, 1998). Within this, as learners become more fluent in their design practice, they are engaging in a tacit sense-making and reflective dialogue between themselves and the making and problem-solving process, and with their peers (Budge et al., 2013; Schön, 1985; Shreeve, 2015; Zehner et al., 2009). Drawing on these key tenets of studio-based learning, the pedagogical model presented in this paper supported the student-graduate team to work on a live project, undertaken over three discreet phrases, and which required the generation of a series of designed deliverables described below.
2.1 Phase 01: Discover and Define

The aim of Phase 01 is to scope the context through combining quantitative and qualitative research methods – conducting desk research in parallel to ethnographic engagement and interviews with expert stakeholders. Research insights are then translated into a visual data bank that can be contributed to by the collaborators, as well as drafting emerging themes into a set of Research Cards. Research Cards have become a key component in this phase of the model over the last six years. Converting research themes, which at the early stages of the project can feel conceptual and abstract, into physically designed artefacts provides the student-graduate teams with analytical lenses through which to view, sort, and interrogate subsequent data through (see Figure 1). The Research Cards are subsequently iterated over the course of the project (used as an analytical tool in Phase 02 and presented to project partners as a designed outcome in Phase 03).

2.2 Phase 02: Develop

The aim of Phase 02 is to translate the research themes into a family of knowledge artefacts and refine these through conducting primary research. In-line with speculative design approaches, this includes prototyping a future world (in this project, an imagined Glasgow 2030), a suite of future citizens who would populate neighbourhoods in this world, and a set a scenarios forecasting narratives that characterise the citizens’ behaviours, beliefs and
interactions. These knowledge artefacts are also used as speculative tools in the design of creative engagement workshops with participants (citizens and stakeholders) to further exploration. At touchstone points during this phase, expert input is provided by faculty, and by external designers and researchers, to support the student-graduate teams to synthesis and evaluate their research.

2.3 Phase 03: Deliver

Following the engagement workshops, the student-graduate team undertake formal analysis so to generate the final, fully realised, suite of knowledge artefacts. Other key project deliverables include producing a set of indicative design directions for the project partners, a range of materials setting out the project design process and the student-graduates evaluation and reflections of this, and a digital archive.

3.0 Research Design

In seeking to gain an empirical understanding of the pedagogical process, the embedded researcher (Author A), gathered experiential insights from the teams, with the aim to inform the design and delivery of the next iteration of the project and to answer the following research questions:

- In what ways does the pedagogical model support interdisciplinary collaboration between the student-graduate team, the Glasgow City Council, expert stakeholders, and external participants?
- In what ways can Design Innovation be embedded as an approach to future-casting the experience, needs and opportunities of Glasgow’s citizens in 2030?

The insights presented in this paper were collected through observations, student-graduate feedback, reflective project blogs (with contributions from the students, graduates and GCC team) and from an evaluation group interview with the student-graduate team. In section 5, the authors draw on the theory of Communities of Practice (CoP) (Lave and Wenger, 1991; Wenger, 1998) to unpack key learnings pertaining to the relational proximity of collaboration that took place across the teams. As described by Wenger, CoP positions the social and collective nature of “learning as social participation”, whereby communities are predicted on practice (1998: 4). As described in section 2.0, establishing and sustaining a CoP is core to studio-based learning – theory which underpins the pedagogical model presented in this paper. Building on this, Boundary Object theory (Star & Griesemer, 1989; Binder et al., 2011; Brandt, 2006) will be drawn on to sense-make the role knowledge artefacts played in future-focused engagement and the experiential proximity of exploring the near and distant future so to critically reflect on the present. As Star and Griesemer explain, Boundary
Objects can communicate across and connect diverse social worlds whilst retaining distinct and idiosyncratic meanings, as “their structure is common enough to more than one world to make them recognisable” (1989: 393).

4.0 Case Study: Collaborative Futures

In this section the authors present the Collaborative Futures case study before discussing the key learnings, implications and value of the project as a pedagogical model in response to the underpinning research questions set out in section 3.0. The case study is structured by the key touchstone activities that occurred in each phase, evidencing the relational proximity concerning the nature of collaboration, and experiential proximity concerning the role of knowledge artefacts in the context of future-focused, citizen-centred design education.

4.1 Discovering and Defining: knowledge landscapes

The Collaborative Futures project launched in September 2019 with an induction, where both teams collectively unpacked the project brief. As a key objective was to explore and prototype what a well-governed city might look like in 2030 pertaining to the role of data and how GCC could support greater citizen-centric decision-making, a panel of expert stakeholders were invited to speak on the key community challenges in Glasgow. This included a community engagement officer, a corporate service reform manager, a digital officer, a cancer-care expert, and a city development planner; key project stakeholders who were consulted through the project. Following the launch day, the student-graduate team immersed themselves in a period of desk research in the studio as well as engaging in site visits to observe community council meetings and interviewed a range of expert stakeholders. Over the course of Phase 01, the research was iteratively layered upon as the student-graduate team worked in a process of collective sense-making. This included moving between insights, interview transcripts and photographs that were physically tangible (see Figure 2), to digitally translating these into a shared online data bank. Here a process of thematic analysis and mapping took place and led to the construction of, what the student-graduate team referred to as, knowledge landscapes (see Figure 3). As the topic of the brief remained broad in Phase 01, this cyclical process was described by the team as intuitive and tacit in nature, whereby a “feely-ness” was needed when “swimming” in the research. The landscapes were shared with and contributed to by the GCC team, which became an online platform for exchanging ideas and knowledge between the teams. However, when reflecting on efficacy of this distributed way of collaborating, the student-graduate team highlighted the challenges of managing the virtual working space, with the need to often sift through and filter out content so to demarcate key lines of inquiry.
Figure 2. 2020. Collected Insights, Interview Transcripts and Photographs.

Figure 3. 2020. An Example of a Digital Knowledge Landscape.
4.2 Developing: design knowledge artefacts

During Phase 02, an additional cycle was introduced into the process in the form of synthesising and, as described by the student-graduates, “re-physicalising” the knowledge landscapes. One form this took was the first iteration of the Research Cards. The cards were used in subsequent workshops with the GCC team as a baseline to measure emerging insights against and to finally frame the project through the over-arching lens of data, governance and citizenship (see Figure 4). Another form this took was the development of designed artefacts to materialise the research into a tangible world with four neighbourhoods, each containing a range of prototyped objects that critically personified the neighbourhood themes. These artefacts were used to facilitate a co-design workshop with both teams, which become a key cornerstone in the project. Reflecting on this workshop in particular, the student-graduate team recalled how the artefacts themselves, in their unfinished form, were able to scaffold collaboration and a coalescence of ideas and consensus across the teams. Up until this point, the student-graduates had observed how the highly explorative and emergent nature of the project and studio-based working differed to the other team’s working practices; reflecting on the need to align expectations around, as described by the student-graduates, “embracing ambiguity”.

Figure 4. 2020. Research Cards and Co-designing the Landscapes.

Phase 03 centred on collecting primary research through the design and delivery of two workshops where the student-graduate team engaged with groups of citizens and expert stakeholders. The aim of the workshops was to explore with participants this future world, with activities framed around, as described by the student-graduates, “collective
envisioning”. The knowledge artefacts developed in the previous phase were translated into a suite of workshop engagement tools. This included artefacts to enable participants to be metaphorically transported to the future neighbourhoods, where they could explore and reflect upon their values, fears and desires for the future of citizenship, modes of governance and data experiences, as well as explore their own ideas of a preferable futures (see Figure 5). The student-graduate team translated their research into a selection of tokens to connote, for example, data use in decision-making, digital applications, working practices, trust and perceptions of governance, and community participation. Participants were asked to build a picture of their values by choosing tokens that resonated with their present-day self. At the end of the workshop, the participants were invited to re-visit their pictures to reconstruct a 2030 vision of themselves. Following the picture-building activity, the participants explored each neighbourhood with the student-graduate team, facilitated by the use of design artefacts and narratives that embodied key tenets. As an example, in one neighbourhood narrative, citizen’s emotional reactions are passively monitored by the council through skin micro-chips, a future concept that was role-played in the workshop by giving each participant a medical bandage to wear that had a chip (taken from the inside of a subway ticket) attached to it.

Figure 5. 2020. Workshop Engagement Tools.

Evaluating the workshop activities and their future-focused nature, the student-graduate team reflected on the participants’ readiness to engage in speculative imagining and ideation. In some cases, the envisioned neighbourhoods, whilst based on collected evidence, were experienced as too far removed from reality for the participants to relate to or see as plausible. Or, conversely, in some cases participants found the neighbourhoods to be too close to reality and struggled to look beyond the present-day. Reflecting on the role of the
engagement tools as conduits to support the participants to suspend their disbelief, the student-graduates described the need for the tools to be more performative, sensory and “visceral” – so to provide participants with an immersive and empathic experience that could enable them to transcend their assumptions, perceptions, and boundaries of the present day.

4.3 Delivery: Glasgow 2030

Returning to the studio, the student-graduate team spent time analysing insights from the workshops, and, in collaboration with the GCC team, distilled these down into three core themes: *understanding data through citizens’ experiences, data inequalities, and value exchange*. These themes were used as propositions in the final iterations of the neighbourhoods (see Figures 6). Within each neighbourhood belongs a suite of citizens who engage in a series of scenarios – knowledge artefacts used to communicate potential future narratives of Glasgow 2030.

The first neighbourhood was *Choicetoun*, which explored the theme of understanding data through citizens’ experiences, where the council maps citizens using data from multiple sources and various methods of engagement. With *Choicetoun*, the council has resources and a database to analyse streams of data using a range of tools but allows people to have control in designing their level and mode of engagement and have the choice of what data to input. The second neighbourhood, *Localtoun*, explored the theme of data inequalities and the proposition of the council supporting citizens to take on more responsibility for their neighbourhoods through making data more transparent. Within this neighborhood and citizen narratives, the student-graduate team explored decentralised decision-making, and how citizens could be empowered by data. The third neighbourhood, *Efficiencity*, explored the theme of value exchange, where data has become a conduit between citizens and the council facilitated through online interactions and AI technologies in the home.
5.0 Discussion

In this section the authors discuss their key insights pertaining to the collaborative design culture fostered in the project and the future-focused outcomes – theoretically unpacking the value, impact and challenges of collaboration and the role of design knowledge artefacts. Returning to the underpinning research questions (see section 3.0) and based on the student-graduates’ own recommendations, the authors reflect on the implications and value these insights have for the pedagogical model for delivering future-focused, citizen-centred design education.

5.1 Relational Proximity: cross-cultural collaboration

Reflecting on the relational proximity of collaboration, various forms and degrees of collaboration took place in this project – between the student-graduate team, between the student-graduate and GCC teams, and between the student-graduate team and the participants (which the authors will return to in section 5.2). Establishing a culture of social
learning within the studio-based context is a fundamental aspect of the project. However, and as evidenced in the case study, challenges emerged in sustaining this across the two teams. As reflected on by the student-graduate team, the relational proximity of collaboration was both geographical (as, for the most part, the two teams were based at different locations) and occupational in terms of understanding the value, conventions and structures of each other’s working practices. Based on their shared educational experiences at GSA, the student-graduates have collectively developed a repertoire and instinct for handling the emergent, and often ambiguous, nature of an inductive project. Whilst this project’s approach held a level of familiarity to the student-graduate team, this intuitive and shared understanding, at times, assumed a similar level of connection with the partner team, taking for granted that this was the partner’s first time in engaging with this project.

Furthermore, the internal working structures of the two teams seemed to differ. Whilst the industry partner appeared more traditional in terms of defining roles and responsibilities, the student-graduates’ was less hierarchical, enabling members to test out roles, rotate positions and work more freely together. When the two teams came together, usually in the format of a workshop, these factors could either lead to lively debate or inertia. It seemed that the project had brought together two diverse communities of practice, whose practices often remained independent as opposed to inter-dependant of one other. Over time, however, a shared project language became equally used by both teams as key deliverables began to materialise. This exchange of knowledge and adoption of language aligns with Wenger’s theory of CoP and how boundaries of discrete communities can begin to cross and permeate each other through a process of brokering (1998: 105). As proposed by the student-graduates in their Design Recommendations, designing in mechanisms early on in the project to articulate and demonstrate to the partnering team the value of embracing ambiguity could have incited more meaningful collaboration. As a learning opportunity, the student-graduates recognised the potential benefits of designing a cross-team ice-breaker session at the start of the project as a way to unionise the two CoPs from the offset. Here individual working practices and assets, as well as anxieties, could be raised and externalised; and, based on these, a project trajectory could be negotiated and mapped out together so to align expectations more effectively.

### 5.2 Experiential Proximity: knowledge artefacts

The authors will now unpack the brokering role the design knowledge artefacts played as tools for engagement with the project participants, discussing the experiential proximity of speculative, future-focused co-envisioning by drawing on Boundary Object theory (Star & Griesemer, 1989). As set out in the case study, the engagement workshops brought together groups of citizens to critically reflect on their experiences and values based on the themes of citizenship, governance and data. The engagement tools were designed to support the
participants to test out their assumptions and to bridge these futures so to reflect on the present. Across the workshops, various degrees of participation took place, evidenced in how the participants were able to connect with, or not, to the future narratives and propositions contained within them. A key challenge highlighted by the student-graduate team was the provocative nature of the tools, which, in some cases acted as metaphorical vehicles to transport participants into the future, and in other cases became road-blocks.

As each participant brought with them their own latent subjectivities, the student-graduates had designed the tools with the aim of being generally understood by the wider workshop group as well as being reflexively interpreted on an individual basis by each participant – characteristic of Boundary Objects. The tools were most effective when they supported participants to go beyond how these narratives pertained to their own life-worlds, to explore as a group inter-subjective envisioning for the future. However, the student-graduates described the challenges of presenting new “variations on reality”, suggesting that participants seemed less engaged in narratives proposing changes to intangible structures (such as alternative economies or societal models), as opposed to more tangible forms (such as technological devices and digital applications). In conversation with the student-graduates, they identified several short-comings in their workshop design and the degree to which the tools could facilitate a meaningfully experience for the participants in parallel to gathering rich research insights. In particular, whilst the tools acted as a form of consciousness-raising, they were limited in supporting more radical forms of speculation. The student-graduates recognised that suspending disbelief needed to be carefully calibrated as, in some cases, the tools asked participants to engage with narratives that were either too close to present-day phenomena or, conversely, too far removed from their realities to be conceivable. The tools were having to not only mediate the metaphorical proximity between present and future, but also between the believable and mythical.

5.3 Key Learnings for the Pedagogical Model

This iteration of Collaborative Futures has raised valuable insights that will inform the underpinning pedagogical model for future delivery in terms of how cross-cultural collaboration is set up and then sustained as a project unfolds; mechanisms to support cross-team knowledge and skills exchange; and the role design knowledge artefacts play in facilitating participation. Returning to the underpinning research question (as set out in 3.0), as a learning experience, it provided the student-graduates with the opportunity to engage in interdisciplinary collaboration with an external professional team, stakeholders and participants. Furthermore, it was equally an opportunity for them to build upon their design practice through undertaking a design-research process to future-cast the experience, needs and opportunities of Glasgow’s citizens in 2030. A key area for future research is to track, measure and evaluate the impact of the project outputs in terms of informing GCC’s future
work, and if and how they plan to adopt the proposed design directions presented by the student-graduates. Furthermore, the authors observed the development and confidence of the student-graduates’ own critical voice – through prototyping, testing and evaluating their design approaches – arguably developing student-led contributions to the field of Design Innovation. Thus, this iteration of the pedagogical model fostered both deeply methodological learning as well as contextual learning. A future opportunity to extend professional practice as a learning outcome is to explore the potential of supporting the student-graduates to theoretically unpack their insights, which for them often felt tacit in nature, and mentor them in authoring their own academic outputs.

6.0 Conclusion

To conclude, the aim of this paper was to evidence the authors’ key learnings for delivering future-focused and citizen-centred design education, drawing on Collaborative Futures as a case study. Framed around the themes of relational and experiential proximity, and drawing on theories of CoP and Boundary Objects, the authors have reflected on the challenges surrounding cross-cultural collaboration and employing speculative design approaches in a live project. As a transferable pedagogical model, the authors argue that this studio-based, phased project approach elevated the student-graduates’ design and professional practice by developing their research skills, teamwork, capabilities in creatively engaging participants, and nurturing their criticality in evaluating their design approaches. So to position this model within the wider design pedagogical landscape, and whilst out with the scope of this paper to more fully explore, in future research the authors seek to further document and evidence the value and impact of Collaborative Futures (the next iteration taking place 2020-2021), in parallel to undertaking a comparative analysis of the previous iterations (building on the work of Ross, 2018) as well as researching models being delivered by other higher institutions.

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About the Authors:

Dr Marianne McAra (PhD, MDES, BA, PG Cert) is the Creative Engagement Research Fellow at the Innovation School at The Glasgow School of Art. Through a participatory Design practice, Marianne works in the areas of engagement and creative education.

Kirsty Ross (MA RCA, BA (Hons), PG Cert) is a design academic within the Innovation School at The Glasgow School of Art, teaching across the Product Design undergraduate programme and leading the final year curriculum for the BDes and MEDes pathways.

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Communicating social values to children using design solutions.

Laura Giraldi a, Marta Maini b, Francesca Morelli c
a University of Florence  
b University of Florence  
c University of Florence
laura.giraldi@unifi.it, marta.maini@unifi.it, francesca.morelli@unifi.it

Abstract | This research addresses the role of children in society as key players able in the next future to influence adults' behavior as ambassadors of good causes. The main objective is to propose an innovative approach to design products to be used by children in public spaces. These communication products have to improve children's experience, facilitating social inclusion and cultural education on social and sustainable issues and local and territorial values. According to the sustainability point of view, the design solutions might teach children to respect people and the environment and take care of local tradition and culture to pass on in the future. Moreover, this paper intends to individuate open rules that could help designers, professionals, and authorities to work together to involve young people as active citizens of the future.

KEYWORDS | CHILDREN, PUBLIC SPACES, COMMUNICATION DESIGN, INCLUSION, CULTURAL VALUES
1. Introduction

1.1. Children: learning “good practices”

Since birth, the child is naturally curious; he observes and interacts with everything around him. He learns new practices and values through various experiences and activities using communication tools suitable for his psycho-physical and emotional development. Furthermore, children have an unstoppable need to experiment and learn, and adults represent their main point of reference. At the same time, the adult learns from the child; as a matter of fact, often the child becomes a little ambassador of "good practices" and sustainable behaviors that he has had the opportunity to experience, for example, at school, where he spends most of his daily time. In this sense, the child can even change the behaviors and habits of other children and parents, and adults in general.

School and education are decisive in transmitting acceptable practices and values, as listed in the "National Indications for the nursery school and first cycle curriculum". Already from the early years of school, the child learns the first behavioral rules to promote the development of identity, autonomy, and competence to start them towards the concept of citizenship (Ministero dell'Istruzione, 2012). A school with this approach allows the child to grow up in a recognizable pedagogical environment, where he can understand what surrounds him, learning both social and cultural values. The same document aims to promote and consolidate children's necessary cultural skills. Making our culture known to the younger means knowing values and learning more advanced and not limited knowledge. Although the ministerial indications refer to the school environment, it is possible to apply these indications to other areas. Even living places, as shown (Montessori 1970), have considerable influence on the people's behaviors and, therefore, children.

As a consequence, it is essential that even public and collective places where children spend their time could be designed in such a way to reproduce the same acceptable practices and knowledge that children have experienced in the protected and safe educational places, such as at school. In this way, they have the opportunity to consolidate and test their knowledge, learn to use it, and apply it daily in order to develop civic awareness and respect for places and people. In truth, the practice of learning by doing (Dewey, 2008) is the best-known method of learning widely used.

Therefore, the research focused on public and collective spaces in the urban environment and sought to identify graphic elements, tangible and digital products capable of connoting collective spaces by creating experiences and interactions. These aim to make children more respectful of people's environment, and be aware of social issues, inducing collaborative behavior respecting rules. This purpose follows the "National indications and new scenarios", "citizenship education is promoted through meaningful experiences allowing to learn concrete taking care of oneself, others and of the environment encouraging forms of cooperation and solidarity" (Ministero dell'Istruzione, 2012).
1.2 Children rights and participative research.

The ONU Children Rights Agreement, signed in 1989 for the first time in history, established references and guidelines for sustainable development of "children centered" cities. The agreement took effect on 2nd September 1990, and it was deposited in ONU on 5th September 1991. To date, the convention is in force in 196 States. The document describes, through 54 articles, the economic, social, and cultural rights of children.

This agreement profoundly changed the way to consider and respect children in society. Successively the concept of "children participation" in social life was introduced, and thanking this, the child became an active part of the community.

"Designer must be a good citizen and participate in the shaping of our government and society. As designers, we can use our particular talents and skills to encourage others to wake up and participate as well".

(Katherine McCoy, 2003)

In the last couple of decades, the design research got closer and closer to the user. As a result, the term "co-design" was born during the early 1970s (Stalberg, Sandberg, Soderback, & Larsson, 2016). Designing together with users means involving final users and their creativity in the design process (Sanders & Stappers, 2008). The participative approach is a central tool in the design research because it allows understanding the impact that a given project could have on the community and how the actors interact in the scenario. It is necessary to develop a project for the community working together with the community to make it feel "owner" of its places.

Symbolic values and social relationships always qualify the space. To understand the needs of a specific space, it is not enough to observe the different users; above all, it is necessary to dialogue and work together with them. As users of a place, children represent the determining factors to involve in a design process to reach sustainable solutions. Although referring to children, the ministerial guidelines refer only to the school environment, it is possible to apply the same concepts to different public spaces in which the child lives, and he can learn good practices and social values such as inclusion and respect for the environment.

During the last years, designers have realized that children can be viewed as essential participants with valuable knowledge and experiences. Nowadays, society more and more considers children's needs even if it was mainly adult-centered until a few years ago.

In order to design according to a child-centered approach, it is evident and necessary to involve little users in the design process. The co-design is a method useful to make children active social actors. Children can communicate in many different ways, and they are capable of influencing people with whom they interact, becoming vehicles for the transmission of good practices and social values. The territory and the cities should be emotional and interesting places for children to feel safe and at ease. According to this point of view,
children should easily enjoy public spaces because they are designed to consider their needs (Giraldi, L., Benelli, E., Vita, R., Patti, I., Filieri, J., Filippi, F. 2017).

Concerning this perspective, in fact, in Italy's last decade, the awareness of children's social importance increasingly spread. Therefore, in the design of public and private indoor and outdoor spaces, more and more attention is paid to children and family needs to improve as much as possible the experience in the environment.

In Italy, article n. 7 of the Law n. 285/97 provides measures and interventions aimed at promoting the participation of children and adolescents in local communities life through actions that facilitate the use of urban and natural spaces, removing obstacles to mobility, spreading the use of environmental, cultural, sports and social goods and related services. Since 1996, these themes have been developing by the Ministry of the Environment to promote the Sustainable Cities of Girls and Boys Project, to encourage a new childhood culture based on the important assumption: a "children centered city" is more suitable for everyone. The participation of children and adolescents is essential in creating projects for the urban environment. This one designed for and with children is better for the whole community and are an enrichment for the society.

The participative approach with children is widely used in designing a public place, especially in northern Europe, even if it is quite used as a design method and Italy, starting from the last years. A very interesting case study of participative research with children is the "Design for Outdoor spaces" project, carried out in Rotterdam (Holland) in 2016. The project aimed to design strategic solutions to be included in the outdoor public spaces of a defined neighborhood to create open rules applicable to different collective spaces. The research highlighted some guidelines to design strategic solutions to improve the security and the usability of neighborhood public spaces where children usually spend their free time.

2. The aim of the research

This research aims to propose a new approach in designing communicative products for children belonging to different cultures to be used in public spaces of various urban scenarios. These kinds of products have to improve children’s qualities of experience facilitating their relationship and cultural education on social and sustainable issues and, at the same time, on local and territorial values.

According to this previous statement, the research aims to individuate a series of open rules as a concrete referring tool available to be used by designers, public authorities, and professionals for different designing purposes and taking into account a multi-cultural language.

All the products designed following these open rules will have in common the capability of easily interacting with children communicating them with a different kind of practical and intangible information and at the same time exiting them in a pleasant way. These design
solutions have also to teach children to respect people and the environment, taking into account local culture and traditions to pass on in the future according to the sustainability point of view.

Consequently, the research proposes a new collaborative approach in designing for public spaces to integrate practical information, and intangible social and cultural values in pleasant emotional experiences, improving awareness among children helping them learn values.

Moreover, this work highlights the strategic role of design and communication, able to pass on practices and intangible values suggesting behaviors, relations, and interactions among young people and places, making them familiar and engaging them as active citizens of the future.

3. Methodology

The design research used a transdisciplinary approach to believe that solutions depend on the wise evaluation and analysis of all possible factors connected to the problems and related to the kind of main users in specific contexts.

Nowadays, children spend most of their life outside the home by living in outdoor or indoor public spaces. During this long everyday time, they live meeting and socializing with the others. Even if their experiences could be very different according to many factors, all the children have in common a series of recurrent needs.

Starting from these considerations, the design research follows a transdisciplinary method involving many disciplines as pedagogy, cognitive perception, education, economic, history, engineering. Besides, the design used the Human-Centered Design (HCD) approach and the co-working method to involve different actors, including children as main users in the design processes.

Allison Druin adapted the participatory design theory to suit children to have their direct input, thoughts, and feedback in the design process (Druin, 1998). According to the author, children can be involved in the design process in four different ways: a user, a tester, an informant, and a design partner (Druin 2002). Furthermore, Iversen, Smith, and Dindler also identified the role of "protagonist," according to this role, children have much more power during the design process (Iversen et al., 2017).

Lastly, Fenne Van Doorn theorized that, during the design process, children should have the task of "co-researcher." As a consequence, children are both researchers and final users (Doorn, 2016).

During the co-working activity, some important factors should be considered, such as children’s age (Piaget,1970), the environment, and the activity itself. Because children’s’
abilities and skills change according to their age, it is necessary to choose the type of activity suited to the characteristics of children involved and related to the final goals.

The environment is the second factor to take into consideration the success of the activity. For this reason, the choice of well-known places such as, for instance, schools may be reasonable, so that the child feels at ease during the activity.

Referring to the kind of activity as the third factor, low-tech methods, such as paper, clay, Lego, and crayons, represent a good practice to encourage all kinds of children to communicate according to Druin’s theory. Moreover, during workshop activities, it is important not to judge the children; thus, they can feel free to express themselves.

Finally, the co-working activity should be ludic to entertain pleasantly and, at the same time, should make the child responsible for the project. Besides, the co-working activities with young people result strategically also for underlining the connections among children, behaviors, and emotions during a life experience in public spaces. The co-working approach has experimented with as described below during the development of the present work.

Due to the broad context of reference and different experiences, the research analyses children's behaviors and needs from the referring literature and through different activities with children 7-11 years old.

Reggio children approach (Edwards & Gandini & Forman, 1993), Montessori (Montessori, 1970), and Piaget (Piaget, 1970) gave us the basic referring theories on children's skills, needs, and behaviors at different ages and information on their psychophysical and cognitive development.

3.1 Applied method

The research has been divided into two main phases, and each one has implemented different kinds of activities.

The first phase was carried out involving two classes of children (from 8 to 10 years old) at Gianni Rodari primary school in Florence.

The activity concerned direct observations of children in different contexts, then it concerned co-working activities with young people. The co-working activities were found strategic not only for the contributions to the design research but also for underlining the relations among children, behaviors, and emotions during a life experience in public spaces. All the scheduled activities have experimented with as described below during the development of the present research.

1. Direct observations. The direct observation aimed to identify children's behaviors and needs during free time activities at the public garden near the school, including their walk along pedestrian paths (about 500 meters) between the school and the public garden and vice versa.
2. Co-working activities. Children were asked to describe and draw what they would expect to find on the path walk and at gardens to feel safe and autonomous from adults during an outdoor activity. Moreover, they had to indicate what could help them to live their experience pleasantly.

Besides, they had to describe in a few words what they would like to find in the gardens to play in security and make friends with other children also belonging to other cultures. During the activity, a special focus was devoted to the best methods to communicate and pass on local habits and traditions to children to make them understandable and applicable. In this way, one should unconsciously educate to respect the environment and to build a civic conscience, creating a sense of belonging to a place. Finally, they were invited to draw their ideal public space. During the activities, the children were supported by experts such as teachers, pedagogists, cognitive psychologists, and designers. The activities lasted for about two months.

The second phase of the experimentation activities was carried out with fifty students of the master design course at the University of Florence. The activity's object was to design strategic solutions, such as material and digital products, graphics, wayfinding systems, and services, to be easily used and understood by 7-11 years old children. The requested projects aimed to improve children's experience in public spaces, suggesting them good practices in relation to the respect of social values, environment, local culture, inclusion, and a more sustainable future.

The activities with students were structured into two steps and lasted for about five months. During the first step, students were asked to study children (7-11 years old) needs and behaviors concerning their psycho-physical development. During this step, they were supported by pedagogists and psychologists. Moreover, they investigated children's products and collective and public spaces dedicated to children or children used to visit. Finally, they studied the participatory approach and co-working as design methods, referring to significant examples.

Following these theoretical studies, students designed the "concept of products" for children to be used in collective spaces according to the set goals. The material and immaterial "concepts" aim to make the new generations more satisfied with their experience in collective public spaces.

During the design process, some of the students directly interfaced with associations and local authorities of the involved territory to use new solutions to welcome children in public spaces.

During the workshop, young designers proposed design solutions to be included or used in outdoor and indoor public collective spaces, which could teach children good practices regarding the context of reference. In particular, the proposals aimed, on the one hand, to make the child responsible for the place itself and, on the other, to encourage them to relate
to each other. In the proposals, the child becomes the essential active element in the place. Through some of the proposed experience, the child actively respects the environment by taking care of the plants.

4. Results

The design research process started from a transdisciplinary approach, involving various disciplines collecting different knowhow with the same final goal.

This approach believes in an essential exchange of techniques, methodologies, and knowhow towards innovative design research. In particular, this method allowed us to find innovative solutions to educate children, communicating them with good practices related to passing on local values, respecting the environment, and including people in public and collective spaces.

According to these aforementioned purposes, designers should take into account the following design solutions using design elements for public/collective spaces:

- Orientation elements. Children need recognizable elements to guide their behaviors, feeling themselves at ease also outside familiar such as iconic graphics and pictograms, indicator signs, minimal use of words, simple, colorful shapes, and use of primary colors. All the products have to be placed on the decking and at a height not exceeding 1,2 meters.

- Information elements about practical and immaterial topics, such as iconic and symbolic signs, minimal use of sentences, illustrations. Children need to clearly understand all the rules to respect and good behavioral practice to act in public spaces. Moreover, these kinds of products are responsible for passing on local values and traditions, contributing to improving all the children's knowledge.

- Entertainment elements. The use of ludic and experiencing elements, as signs, texture tiles, interactive screens, and park equipment, allows children to interact with fun.

- Emotional elements: Multipurpose elements made of different colors, shapes, textures, functions, and materials allow for stimulating the child's creativity and imagination, making the environment reassuring and engaging through their synesthetic involvement.

- Inclusive elements: capable of improving collaboration among children, sharing of values and emotions, facilitating relationships, and welcoming of all kinds of children. These elements should have undefined shapes, capable of being interpreted by children according to their culture and origin.
All the above solutions can influence children and their behavior. They result strategic in designing products to be used in public and common spaces, and in all places where these goals are primarily.

In conclusion, the research aims to improve children's educational experience on important themes of inclusion, respect for the environment, sustainability, and cultural and traditional values. This research identified a set of open rules to design products to identify and render public and collective spaces children centered. The final purpose aims to improve children's educational experience on important themes of inclusion, respect for the environment, sustainability, cultural and traditional values. The research underlines that all the material and digital elements inside public and collective places determine children's living experience.

The more these elements result familiar and recognizable, the more the experience will be friendly and amusing, thus improving children's education and growth. According to this consideration, children's experience inside this kind of public space becomes a pleasant training for their future life. In summary, the research results point out that design solutions have a decisive influence on people's quality of life and particularly on children inside collective places. For the future, we hope that these design inputs could be of inspiration and advice for designers, researchers, public authorities, and professionals for the design of collaborative child-friendly environments. Moreover, the proposed design approach based on children's needs trains the community to be more proactive and explore new solutions to solve future problems. Finally, we would like to share these results in order to apply and to develop the proposed open rules for designing not only public spaces but also all kind of living collective places in order to diffuse the "children-centered" design approach.

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**About the Authors:**

**Laura Giraldi,** architect and associate professor in Design at the Department of Architecture, DIDA, University of Florence Italy, is president of Master’s degree in Design and scientific coordinator of KYDE, Kids and Youth Design Lab at DIDA Department. Currently, her main research interest areas are the design for children, product systems, product communication and design for emergency in hazard scenarios.

**Marta Maini,** graduated cum laude in Design Master Degree. She is a PHD student in Sustainability and innovation for the design of the built environment and the product system at the University of Florence. She is a member of KYDE, Kids and Youth Design Lab at DIDA Department.

**Francesca Morelli,** graduated cum laude in Design Master Degree. She is a PhD student in Sustainability and innovation for the design of the built environment and the product system at the University of Florence. She is member of KYDE, Kids and Youth Design Lab at DIDA Department.
Creating an inclusive learning environment to support transformative learning and encourage upward educational mobility opportunities for economically or academically under-resourced design students

Michal Rotberg, GD MFA
Department of Film & Digital Production,
Miami Dade College, Miami, Florida, USA
mrotberg@mica.edu

Abstract | While select students are groomed within design-driven learning environments, exposed daily to forward-thinking practices, many of their less fortunate counterparts lack the means or acumen to access those resources. The emphasis on inclusivity in the field of graphic design education assumes even greater importance in institutions serving economically or academically under-resourced students such as junior colleges, tribal colleges, and many other public institutions. This paper presents modifications to graphic design foundation courses developed to meet the needs of students whose educational, cultural, social, or economic situations hinder their educational process and make it hard to pursue their educational and professional goals. It is a portfolio of tools adaptable to different levels of preparedness that supports transformative learning and develops self-efficacy in students, along with a solid baseline in critical thinking, design processes, and technical capabilities. The goal is to support and encourage upward educational mobility opportunities for such students.

KEYWORDS | INCLUSIVE LEARNING ENVIRONMENT, EMPATHETIC CLASSROOM, STUDENT-CENTERED DESIGN EDUCATION, UPWARD EDUCATIONAL MOBILITY, TRANSFORMATIVE LEARNING ENVIRONMENT
1. Introduction: The journey of growth for economically or academically under-resourced students

New data published by The Brookings Institution indicates that in the USA only 46% of students from low-income households enroll in four-year institutions (Reber, Sinclair, Van Drie, 2020). At the same time, more localized research based on data from the state of Georgia, USA estimates that four-year-university students show a 20% household income growth by the age of 30 (Smith, Goodman, Hurwitz, p. 1). In reality, the journey of economic growth and mobility may be much more complicated and often can feel unsurpassable to economically or academically under-resourced students, especially in the field of graphic design, since it may not be commonly represented or supported within their social circle. City and community (junior) colleges provide a necessary opportunity for “(41 percent) of all postsecondary students (especially low-income and underrepresented students)” (P. Loprest, C. Hyman, 2018 p. 4) to obtain the credentials and knowledge base for transferring to four-year-institutions. These programs play an instrumental role in educating economically or academically under-resourced design students.

Students who come to junior colleges often have many exhausting responsibilities in addition to their studies, such as working more than one job to support their families, taking care of siblings or relatives, and having parental responsibilities. In addition, they may have limiting living conditions, access to food, technology, and medical care.

Many such students may also be underprepared. In 2016, for example, two-thirds of students came to community colleges not ready for college level work (CCCSE National Report, 2016 p.2). Therefore, maintaining an inclusive and empathetic learning environment that supports transformative learning practices and develops self-efficacy at the institutions and programs serving those students is very important.

1.1 Why this article

The design field today presents different types of challenges and opportunities. If only for this reason, we need different types of designers. We need designers who understand and practice diversity, and who possess diverse education and skills. As much as new designers should be ready to uphold the mantle of social and environmental responsibility that comes with this multifaceted occupation, they should also “share a core set of fundamental principles that sets it[design] apart …” (M.W. Meyera D. Norman, 2020 p. 14)

While select students are groomed within a design-driven atmosphere, exposed daily to the most forward-thinking design practices, their counterparts from under-resourced communities lack the means or acumen to access the same resources. These young designers often graduate before they are ready to take on responsible roles in shaping sustainable and formative systems for our future.
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Under the weight of current global issues that affect everyone, as well as specific local issues amplified by the global pandemic, the need for change in the educational system, and design education specifically, has become imminently necessary. While Meyera and Norman, in general, call for “a program to move the design profession capable of fully realizing the value of design in the 21st century” (M.W. Meyera D. Norman, 2020, Highlights), the author hopes for a program that will specifically address the needs of students from underrepresented, vulnerable, or under-resourced areas and communities.

This article arises from the author’s own experience teaching a demographic that includes academically underprepared students, students from different linguistic backgrounds, first generation students, and students with financial, personal, medical, or other hardships. These students’ needs often go unmet within a typical design program because of their circumstances. This is why in her own classroom the author adjusts the program to fit those students specifically. That said, the challenge of serving students with needs arising from generations of disadvantage can be found in classrooms all over the world.

2. Methodology

The following are the methods the author currently uses to help students develop a solid baseline in critical thinking, design processes, and technical capabilities. This educational model aims to support transformative learning and develop self-efficacy. The goals of this effort are to assist and encourage educational mobility opportunities and help provide a clear pathway to a four-year-institution for students.

This adaptable portfolio includes the following educational methods: building on strength, developing professional awareness (the tactical consideration mindset), spiral course structure and content integration, no failure grading systems, tools to solidify general, cultural, and professional development, and other techniques such as progress grades, checklists, in-class and online collaboration assignments, lead-ins to facilitate constructive critique, design vocabulary and other practical resources, and extracurricular opportunities within the design classroom.

3. Building on strength: first projects should showcase students’ natural talents and abilities

Since the skill range within one classroom may vary greatly, it is best to start a course with a short assignment that requires students to experiment with their skills, like an image making project. The goal is to allow each student to discover what design skills they are good at and then develop them further. After deciding which skillset to use, students can start a slow burn project (semester or half-a-semester-long) that relies on those skills. This project should only require thirty to forty minutes a week, so students have time to work on other
shorter assignments. Such a project creates the opportunity for students to utilize their best talents on a weekly basis, supporting their efforts in other areas of the program that might not be as easy or emotionally fulfilling yet. This method encourages students to deepen their perception of design, evaluate their own talents, and imagine their future within such a broad discipline from the get-go.

3. 1. Example:

*My Alter Ego’s Collection of Great Stuff.* In this project, students are asked to select a style of image creation that showcases their strength and reflects their personality. The *Alter Ego* approach to the repetitive task of creating images in a selected style makes said task more interesting, and inspires students to create unique and thoughtful processes. It teaches them to follow a design process, pay attention to details, regard the project description carefully (it is the *Alter Ego*, not the student, who chooses the style, so the style should reflect the “author”), and curate their work for their final presentation. A semester long collection project is sometimes issued in traditional design schools in the United States. However, in a shorter junior-college level program, it is more difficult because of the time constraints. In a course that aims to prepare students with a wide range of abilities and skills, such a project serves as the glue for otherwise smaller and more technical assignments that students work on to advance their understanding and command of graphic design principles.
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Figure 1. My Alter Ego’s Collection of Great Stuff project, part 1, an OC (original character) creation, Alter Ego OC example: The Evil Queen.

3.2. Reflection:

When students discover that they can produce quality work through careful analysis and thoughtful use of their existing talents, they learn to continue developing those talents and start looking at the world with a designer’s eye. They tend to dig deeper into the program, discovering new interests and actively striving to develop their skills; they also learn to productively utilize them. They better identify the weaker areas in their own work. This method helps students to see their own worth as designers. From the author’s experience, the Building on Strength approach is especially helpful for design students who begin their journey from an academically disadvantaged position to become capable professionals.

4. Developing professional awareness:
the tactical consideration mindset

The vocabulary used in the classroom to discuss personal qualities, talents, abilities, advantages, and disadvantages is constructive and optimistic. It is essential for the students to develop their ability to recognize and acknowledge their own weaknesses. This is done through positive reinforcement and encouragement, as well as using a proactive and optimistic vocabulary that fosters professional and personal growth. Phrases like ‘tactical..."
consideration’ help students understand that there is something that needs to be re-evaluated, but they also teach students that all those ‘considerations’ are a part of every professional designer’s process, and such critique does not have any negative connotation. In a non-judgmental atmosphere, with the help of educational materials based on their particular needs, the students easily learn to take the actionable steps needed to address different challenges.

4. 1. Example:

A student is not schooled in academic drawing techniques, but unconsciously creates images in a style similar to works of primitivism. When this student is encouraged to develop their unique style of illustration, they begin to apply their newly acquired theoretical knowledge and compositional skills while effectively evoking elements of primitivism in their visual interpretations. As a result, this student’s interest in their work increases, their projects are of higher quality than before, and they learn to embrace their personal style.

4. 2. Reflection:

Searching for possibilities hidden within students’ own work, emphasizing them, and developing them into growth opportunities alleviates comparison anxiety and teaches students healthy critique strategies. When students receive positive guidance in strengthening their talents, unrelated to their level of preparedness, abilities, or aspirations, they begin paying attention to their weaknesses as well. However, they concentrate on the positive aspects of learning. They understand the value of their own work rather than comparing their work to the work of others, which expedites students’ academic and creative development. This method teaches students some elements of design thinking and human-centered design.

5. Spiral progression and content integration

Usually the spiral approach is best employed as a long-term educational process. However, the timeframe and circumstances discussed in this article do not allow for that. Although there is no clear empirical evidence for the effectiveness of a spiral based curriculum (J. Howard, 2012, p.1), due to its nature, the spiral structure of learning process improves Transfer During Learning and Transfer of Learning (D. Sousa, 2012) directly by reinforcing and refreshing the understanding of concepts, gradually introducing complexity in a shorter period of time (a single course) (Figure 2). If combined with some elements of content integration, a spiral progression prepares students for a four-year institution. Transfer processes, according to the neuroscientific education theory, allow the brain to reorganize itself upon receiving new stimuli. The student’s brain discovers new connections between old and new knowledge, leading to creation of new networks and patterns of thought and action, thus “add[ing] beauty and clarity and... forge[ing] isolated ideas into spectacular
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visions." (D. Sousa, 2012). By integrating related materials from other disciplines and courses to a graphic design foundation course, the author builds on the transfer abilities of the brain (D. Sousa, 2012). For students dealing with the challenges described at the beginning of this paper (1.1), spiral progression and content integration can alleviate stressors like fear of failure or the pressure of learning a new academic subject. Because students revisit new concepts often, review and test them with different levels of complexity, they know that they have time to understand and practice any topic. An approach based on transfer qualities of the brain also allows the instructor to analyse the class’s strengths and weaknesses regularly and adapt the rest of the program accordingly.

Figure 2. Typical spiral order of content presentation: A. Independent work: concept exploration – Typographic Contrast. B. In class lesson: Typographic Contrast. C. Independent work (homework): assignment based on the topic of Typographic Concept, etc.

5. 1. Examples:

An integrated assignment can be an overview of a design movement connected to a specific period in history (including but not limited to design history), with principles of visual composition originated or best represented during that time; or a visual analysis of a project by a current designer of choice from a provided list, related to a topic in a visual composition course. Other possibilities may include building connections made through learning technical skills specifically related to the history of typography (setting text for a specific reading process, or choosing a typeface most suited for small screens, etc.); or understanding typographic classification through hands-on activities that help explain the reasoning behind their design (block printing using compositions with modern serif vs slab-serif typefaces); or studying basic principles of trade, psychology of collective memory, and cultural meaning of images as a part of an introductory course on brand and identity design. A more specific example based on current affairs might be the following topic: How the protest posters from
the American Civil Rights Movement (1950 – 1960s) inspire the work of designers today, and what other examples of such relationships we can investigate.

5. 2. Reflection:

*Instilling an ability to connect ideas and use those connections productively is the final purpose of content integration.* Rather than studying a single concept in depth (the depth of understanding can be achieved later in educational process), we build the skills to cover a wide breadth of investigation and the ability to transfer the learned tactics to other projects.

6. Grading system to inspire student’s success

If students struggle with attendance or class/homework, they often have a history of academic failure and rejection. These are usually the reasons why said students encounter problems and why they haven’t mastered the executive skills to maintain a good record. This situation becomes a never-ending cycle where one issue leads to another. Failing such students in the classroom will not serve them well in the long run. They are accustomed to failure. It does not motivate them to do better next time. “Personal relevance, some control of the learning process, and a sense that one can master—and is mastering—the material.” (C.Wieman, 2013, p. 1) affect students’ learning success going forward. Therefore, instead of failing, the students are encouraged to make small efforts, implement minor changes in their approach to school, and if necessary, are provided with a personal learning plan that allows students to move forward, to clearly recognize their accomplishments, and finally, to finish the course successfully. This approach helps the students restore their sense of purpose and desire to succeed again.

6.1 Progress grade:

One of the most difficult habits to break for students with emerging visual literacy and limited ability to engage in the culture of design is the tendency to rush through the design process. It is not that the students do not want to explore the design challenges in depth, but rather that they have never independently done a thorough investigation of any kind before and cannot yet comprehend how to approach it. Therefore, when a student shows great effort and substantial progress in their process, they are assigned an extra grade for such achievement. This grade usually allows the student to raise their final grade and motivates them to continue developing their design process capability by widening and deepening their field of investigation. Progress grades can also be assigned to acknowledge formal or conceptual growth based on the exerted effort.
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6.2 Reflection:
There are, of course, cases when no support or encouragement is enough to help a student to overcome their situation or circumstances, but even then, students learn to look for solutions rather than give up. Persistence is not only an important personality trait, but also a catalyst for successful design methodology or an educational endeavour.

7. Tools of the trade
Following is the list of educational tools, techniques, and activities that the author has found helpful and productive for both in-person and online classroom environments.

7.1 Checklists
Original checklist, compliments of Inna Alesina (Stevenson University School of Design).
When the author began the process of adapting her program for graphic design fundamentals to meet the needs of junior college students, she received an example of a Project Checklist from a colleague and friend (I. Alesina). Since then, the author has realized that her students react better to checklists than rubrics, and a well compiled checklist can serve as a multifunctional tool in design learning and critique processes.

Checklists are very handy for students who have just began to practice abstract thinking, visual conceptualization, formal principles of graphic design, and rules of composition. Checklists help students to receive a clear and concrete critique, as well as provide the ability to refer to the components and requirements of a successful assignment at home in the simplest form (Figures 3, 4). They also assist in peer critiques by helping students self-reflect.

<table>
<thead>
<tr>
<th>CHECKLIST FOR ALTER EGO CHARACTER CREATION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAFT 1</td>
</tr>
<tr>
<td>YES  NO  COMMENTS</td>
</tr>
<tr>
<td>FINAL</td>
</tr>
<tr>
<td>YES  NO  COMMENTS</td>
</tr>
<tr>
<td>Originality of the concept and literary style:</td>
</tr>
<tr>
<td>Language consistency:</td>
</tr>
<tr>
<td>Design consistency:</td>
</tr>
<tr>
<td>Relevance to the project description and all the requirements (file naming, titles, etc.):</td>
</tr>
<tr>
<td>Clarity of communication:</td>
</tr>
<tr>
<td>Relevance of the object selection for each archetypal quality:</td>
</tr>
<tr>
<td>Is the object selection specific enough to create a focused image collection?</td>
</tr>
<tr>
<td>Accessibility/availability of the objects to the designer (how easy will it be to ‘collect’)?</td>
</tr>
<tr>
<td>Extra, non-commerical elements:</td>
</tr>
<tr>
<td>Copyright issues, attributions:</td>
</tr>
</tbody>
</table>

Figure 3. Alter Ego: character creation checklist.
7.2 Extra opportunities within the design classroom:

Learning the basics:
The competencies for design foundation courses do not include many hands-on skills. Usually those skills as well as other design related techniques are offered in separate courses, like photography or printmaking. Since some students often need to decide between coming to class and going to work, the author has included projects and workshops that involve elements from other creative disciplines. The only three considerations in the selection of which course flourishes to include are: the role of the technique in graphic design, the logistics of producing the work during the class period, and the price of the materials.
Creating an inclusive learning environment to support transformative learning and encourage upward educational mobility opportunities for economically or academically under-resourced design students.

**Collaboration for an inclusive classroom environment:**
Collaboration is a crucial part of an inclusive classroom, in-person or online. The following are examples of in-class collaboration for different projects (*Figures 5, 6*).

**Figure 5.** A. Words & Meaning, research. Spring/Fall 2020. Group exercise. (B: Online whiteboard, Miro.com). Students investigate different meanings of a set of antonyms, to help choose the meaning that inspires the best visual interpretation of those concepts.
Design vocabulary
In the beginning of a course, students are provided with a design vocabulary file. It is an ongoing interactive list with links to external references and resources. Students are encouraged to use it in discussions and verbal critiques. Among other benefits, it is a great help in learning new design terms.

Questionnaire-based readings and video lessons
To help students with different levels of reading comprehension, the author employs reading and video questionnaires. Each questionnaire is compiled to help with text/video analysis and develop a mindset for independent analysis (Figure 7). This approach helps students on different levels: students who need support with informational analysis use the questionnaires as a guide, as well as a checklist; students with an aptitude for informational analysis always use open ended questions to add different perspectives to class discussions. This helps all groups to learn from each other and supports the diversity of opinions in the classroom.
Creating an inclusive learning environment to support transformative learning and encourage upward educational mobility opportunities for economically or academically under-resourced design students.

Figure 7. **A.** Learning color. An example of a simple questionnaire. **B.** Introduction to Design Thinking, video lesson. The video used, by Posner, Mars, & Barton for Vox.com, 2016, includes an interview with Don Norman. A single question questionnaire, lesson created using Edpuzzle.com.
8. Conclusions

In addition to a multidisciplinary knowledge base, graphic design education builds on formal and visual skills like cultural awareness and critical thinking. The author’s initiative is meant to create a transparent graphic design classroom through empathetic learning practices, real-time program modifications, and other student-centered methods of instruction that help students to improve their visual literacy and reach other milestones in their professional growth.

Adapting methods of information delivery, critique, and evaluation to the needs of a specific group of students brings the freedom to introduce more complex topics and substantial studio assignments. Building on students’ strengths helps them deepen their perception of design, evaluate their own talents, and realize their potential place within the industry.

Spiral progression in learning ensures students’ ability to retain and connect complex topics. Content integration (e.g. cultural, ecological, historical, etc.) lays a contextual foundation for the students’ conceptual and formal growth.

A systematic approach to analysis and evaluation tools, like reading/video questionnaires and checklists, teach clear and actionable steps to address design challenges.

All of these strategies are student-centered and aimed at creating an empathetic learning environment. Originally, the author developed them for junior college design students with different levels of preparedness, who undergo many external stressors that hinder and sometimes prevent their educational progress. Because the author’s approach is focused on inclusive methodologies and flexible content, these strategies can be tuned to other areas of design education and educational communities to help students with similar needs.
Creating an inclusive learning environment to support transformative learning and encourage upward educational mobility opportunities for economically or academically under-resourced design students.

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**About the Author:**

Michal Rotberg, GD MFA. Michal has worked as a designer in four countries. She taught human-centred product design at Maryland Institute College of Art. Today, Michal teaches graphic design in Florida. Her interests include design pedagogy and relationship between cognitive bias and design.

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Cultural Differences as Challenges and Design Drivers in the Development of Smart Assistive Technology for an Ageing Society

Danying Yang*, Louise Moody

*Centre for Arts, Memory and Communities, Coventry University, Coventry, UK
*danying.yang@coventry.ac.uk, yangdanying2007@yahoo.co.uk

Abstract | Cultural differences are important in terms of working processes and practices, and in order to achieve innovation and market success. The MATUROLIFE project is seeking to explore, understand, and embed cultural differences when designing smart assistive products to improve the independence of older adults. As a case study, the project explores cultural differences between user groups and stakeholders in different European countries, as well as in the collaboration of partners from different disciplines and organizations. Co-creation and service design have been employed to mediate these differences. The case study outlines a design management process that has accommodated scientific innovation and complexity whilst acknowledging cultural diversity in end-users and between disciplines and partners. This paper demonstrates how design can be understood as a culturally situated practice where cross-cultural differences can provide challenges but are also opportunities to drive changes in practice, innovation and enable positioning in a European wide market.

KEYWORDS | CULTURAL DIFFERENCES, ORGANIZATIONAL CULTURES, SERVICE DESIGN, CO-CREATION, DESIGN MANAGEMENT
1. Introduction

Culture has extensive and various definitions. From a wide ethnographic viewpoint, Edward Tylor (1871) interpreted culture as an umbrella term embracing the social behavior and norms of human societies, also including knowledge, belief, art, law, customs, and any other capabilities and habits acquired by those within a society (Bennett, 2015; Tylor, 2010). Hofstede et al. (2010) defined culture as “the collective programming of the mind that distinguishes the members of one group or category of people from others”. National culture refers to similar individuals, institutions and organizations across countries (Hofstede, 2011). Organizational culture is a mixture of organization practices and management structures arising from the interactions of people with their work environments and it may vary per country (Tomek, 2011; Weiner, 2005). Despite the classification of culture, many studies have indicated that cultural differences are significant and influential but the effect may not be conscious and well recognized (Lachner, Saucken, Mueller, & Lindemann, 2015; Stahl, Maznevski, Voigt, & Jonsen, 2010).

Hofstede (2001) argued culture and cultural values play an influential role over almost all aspects of human life, and the realm of design is not an exception. The impact of cross-cultural differences has been discussed in research areas such as sociology and psychology with a growing interest in design (Halskov & Christensen, 2018). When an organization successfully integrates design, a design culture can emerge. This may be rooted in design thinking and be characterized by design activities as well as through the interaction of actors as well as local norms, values and assumptions (Elsbach & Stigliani, 2018; Manzini, 2016).

Comparative research on cross-cultural differences in design is often considered from a theoretical perspective rather than in terms of practical application (Lachner et al., 2015). This paper explores the impact of both working and living cultures on design. Cross-cultural differences are considered within the context of the EU funded MATUROLIFE (Metallisation of Textiles to make Urban living for Older people more Independent and Fashionable) project. The project is making use of innovations in smart materials, and techniques developed to metallise fabrics to develop new assistive technology products for older adults across Europe. In this case study, cultural differences have been considered in two dimensions:

1. The work or organizational cultures of the project partners
2. The country-based cultural differences between our product end-users

The product development process adopted within the project considers cultural sensitivities and differences amongst the potential users of the MATUROLIFE products. Whilst the project management approach adopted considers cultural differences between partners and their working approaches. The project consortium is comprised of 20 partners from 9 European countries and includes a range of subject expertise including electronics, printing, electrochemistry, material science, design, clothing, footwear and furniture manufacturing.
The project team is developing assistive technology prototypes to help older people age independently at home through the use of smart materials and big data. In order to equip everyone in the project with the necessary design tools to prioritize human needs and interactions, co-creation and service design have been employed through an iterative process. The approach seeks to align and connect end-users, different organizational partners and a variety of disciplines and stakeholders.

2. Literature Review

The working environment has become multicultural, cross-generational, and multidisciplinary in order to address new and emerging challenges in a globalized world (Tomek, 2011). As posited in Erez & Earley’s theory (1993), culture is a shared meaning system. Individuals working in the same team have a common cultural ground, whilst team members working in a multicultural work environment may need to develop a shared meaning system beyond their different national cultures (Erez & Gati, 2004). New forms of organizational cultures have emerged through projects from international to multinational and transnational levels, requiring high levels of interdependence and team-working (Ochieng & Price, 2010; Shokef & Erez, 2006; Tomek, 2011).

Increasingly research explores multicultural team work from a globalized cross-cultural perspective, for example the experiences of project managers from a case study of UK and Kenya (Ochieng & Price, 2010); or multicultural groups involving participants from American and East Asian cultures (Aritz & Walker, 2014). However, Gobel et al. (2018) argue there has been little research on cultural diversity in terms of meanings, values, and identities in the European context. European culture is not simply “western culture”, the majority of EU citizens conceive their continent as distinct and unique in its diversity whilst sharing elements of collective culture (CAE, 2018; Eurobarometer, 2007). In fact, existing cultures in the European context are broader and defined by different historical, political and economic circumstances, with many national cultures co-existing under the European umbrella (Gobel, Benet-Martinez, Mesquita, & Uskul, 2018).

Cross-disciplinary, collaborative research and innovation is a prominent theme in the 21st century. There has been a shift in research from an individual endeavor to a team effort due in part to the multidisciplinary skills required to create novelty and innovation. Multidisciplinary collaborations are seen to develop new knowledge and address complex problems through diverse expertise (Klein & Falk-Krzesinski, 2017), alongside interdisciplinary and transdisciplinary collaborations (DeHart, 2017). These forms of collaboration add new dimensions and considerations in the understanding of a work culture, and bring new challenges and opportunities to project delivery in a European context. Through funding schemes such as Horizon 2020, researcher collaboration across disciplines and with other stakeholders is encouraged to heighten innovation, as well as bridge the academic and industry sectors for improved impact, sustainability and
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competiveness (DeHart, 2017; Klein & Falk-Krzesinski, 2017; Stokols, Hall, & Vogel, 2013). Whilst varied intellectual and disciplinary cultures can spark innovative responses, the research and practice process can be challenging (O'Rourke, Crowley, Eigenbrode, & Wulfhorst, 2013). The combination of different perspectives and the complexity of implementation can highlight issues of communication across disciplinary boundaries, and linguistic and cultural differences (DeHart, 2017; O'Rourke et al., 2013).

It has been argued that the application of design increasingly represents the uniformity of mass globalization rather than cultural difference and diversity (Carlson, 2011). In addition to the multicultural and multidisciplinary work environment in which design may be undertaken, cultural differences and diversity are also important to inform design. De Souza and Dejean (1999) argued that end-users are not just physical and biological beings, but socio-cultural beings, hence cultural diversity appears in all human action, including in the products designed and developed by humans. Szántó (2001) further argued that “innovation starts with people, not with enabling technologies, and the designers’ main role is to mediate between technology and culture and to add ethics and aesthetics to technology”. Knowing whom you are designing for and the reasons why users would or would not want, need and use the end product are critical for effective innovation and market success.

Designers typically consider a range of human factors issues when designing for, and with people, including their physical needs, social behavior, emotional requirements, etc. A key factor often ignored is culture variation (Bettio & Plantenga, 2004; Kokkoris & Ku’hnem, 2013). The consideration of cultural factors could facilitate product innovation and help achieve product acceptance and user satisfaction (Moalosi, Popovic, & Hickling-Hudson, 2006).

When considering ways to embed cultural awareness into design, one might consider service design as a means to reflect an awareness of the importance and impact of innovating customer / end-user experience (Stickdorn, Hormess, Lawrence, & Schneider, 2018). Service design is rooted in design thinking, and utilizes knowledge from other disciplines focusing on services. It brings a creative, human-centered process to service improvement or designing new services and offers a holistic, multidisciplinary and integrative approach (Miller, 2015; Moritz, 2010; Segelström, 2010). In the MATUROLIFE project, service design has been considered as tool to not just enable product innovation but to enable partners who are not traditionally involved in design to be involved in, and improve the design and development processes within the project.

In many service design projects, user-centered and participatory design approaches have been used to investigate user needs. Co-design integrates different perspectives to understand both the requirements and demands from users and customers, and how technologies and processes can be employed by partners and collaborators. A wide range of benefits is attributed by co-design, such as improving customer relationships, reducing costs, increasing wellbeing and helping to organize innovation processes more effectively (Steen, Manschot, & Koning, 2011). Co-design and co-production between designers, technologists
and end users are increasingly used for new product design and service development as well as high technology research and development in a range of domains (Freire & Sangiorgi, 2010; Rahmani, Roels, & Karmarkar, 2017; Steen et al., 2011). Here it is applied in the integration of advanced materials into products to support older adults, whilst service design has helped consider the wider service to sit around those products and to enable our multidisciplinary team development approach.

3. MATUROLIFE as a cultural case study

The MATUROLIFE project aims to develop and integrate smart materials to enable discrete and effective collection of health and well-being data to guide user behavior and support independent living by older adults. The design process whilst accommodating scientific innovation and complexity acknowledges cultural diversity across Europe as well as factors associated with ageing and later life. The project brings together a multicultural and multidisciplinary team of 20 partners from 9 countries (Belgium, France, Germany, Italy, Poland, Spain, Slovenia, Turkey, and United Kingdom). The team has 9 different first languages and represents a range of different types of organizations (including Small and Medium Enterprises, Research and Technical Developers, Manufactures, Non-Government Organizations and Higher Education Institutions).

Following desk-based design research to understand user needs, semi-structured interviews were undertaken with 37 older adults from six countries (ensuring representation of Northern, Southern, Eastern and Western Europe). During these interviews cultural differences between older adults were explored from different perspectives such as economic status, social cognition, approaches to the care of older adults, digital literacy, design preferences, fashion trends and technology adoption.

To build on this initial understanding, co-creation and service design were employed as the main design methodologies. Through the co-creation process, team members from different organizations and disciplines came together with end-users to conceptualize design ideas for desirable assistive technology products for older adults. Concepts were centered on assistive clothing, footwear, and furniture, as products that could utilize smart materials and areas in which the consortium held manufacturing capability.

Service design activities were undertaken within workshops attended by partners (designers alongside other disciplinary specialists, e.g. material science, engineering, human factors) to develop working processes, resolve technical decisions and balance conflicting requirements.
3.1 Co-creation workshops

The co-creation workshops built on insights and functional requirements collected during 37 interviews. In order to cover all project partner countries, ten workshops were scheduled with one in each partner country and two in the UK (as illustrated in Figure 1).

![Diagram showing two sets of co-creation workshops scheduled with each partner country]

Figure 1. Two sets of co-creation workshops scheduled with each partner country

The first four workshops was used to explore participant perceptions of independence and scope initial requirements for smart assistive technology products that would address real needs identified by the users themselves. The team was interested to understand if there were differing needs or priorities in different countries. This led to a first version design brief for a product, furniture and clothing based product that focused on shared needs, but also identified country-based differences. The second set of six workshops, focused on prioritizing product requirements (for each of clothing, footwear and furniture) and co-creating design ideas in response. Prior to these workshops the design brief was translated by the designers into a series of initial ideas which were used in the workshops to prompt and encourage participants to develop ideas together with the designers. The process from semi-structured interviews to co-creation workshops is summarized in Figure 2.
With both MATUROLIFE team members and participants coming from different national and subject backgrounds, the workshops were refined and adapted to the local needs. For example, images of existing products country-sold were used to prompt discussions. These were selected by local partners to represent local tastes and trends. The workshops were run and captured in the language of the participants and translated after the session.

It was understood during the co-creation process that people contribute at different levels depending on their level of expertise, creativity and personality. Therefore, the workshops aimed to encourage discussion and participant ideas. Initial ideas were presented by product designers in sketch form communicating their status as works in progress and therefore encouraging comment and involvement from participants.

The workshops employed various design tools (a workshop setting is shown in Figure 3 and explained further in Callari et al. 2019) (Callari, Moody, Magee, & Yang, 2019) to provide a framework to encourage collaborative exploration and dialogue between workshops participants. These tools aimed to be readily translatable for use in different countries and enable comparison of outcomes between countries.

Figure 2. Design process from semi-structured interviews to co-creation workshops
After design ideas were generated for product lines in footwear, clothing and furniture, the project partners refined the designs to embody the color, style and material preference specified by the older adults, whilst planning how to develop and embed the required assistive functionality in an effective, safe and usable way.

3.1.1 Reflections

The design research and semi-structured interviews highlighted regional variations in cultures and traditions, and key differences in how older adults are cared for in different countries. There is limited design research exploring trends and attitudes in terms of design and technology for different regional older adults, yet their needs in terms of maintaining independence and potential spending power should be acknowledged.

The four exploratory workshops demonstrated that although the participants have different national cultures, they reached a consensus on the understanding and definition of an independent living that involves good health, mental capability, physical wellbeing, autonomy and social connection. A number of common challenges were also identified by the participants in terms of age-related factors, environmental factors, societal factors and economic factors that may affect their well-being and independence. As a result of aligned views, health-related priorities could be formulated and taken to the second set of workshops to be validated by participants from different countries.

Concept ideas were then further developed through the six product-focused workshops. In order to reduce stigma and likely abandonment rates, these solutions focused upon
improving independence (including safety, health and/or security), at the same time being inclusive, light, comfortable, attractive and desirable – priorities for all.

There was found to be no significant differences in the contribution made by participants from different countries or based on age or gender. Similar needs were identified, however the co-creation workshops highlighted some cultural differences between countries in terms of style preferences and tastes, and in terms of acceptance of technology with some examples below.

- Clothing workshops: France and Slovenia

Participants in France and Slovenia showed quite different responses to the examplar images presented. In France, participant ideas included adding removable layers to enable something to be worn in different seasons or adding a higher collar to cover the neck in winter. They preferred designs that were adaptable and ‘stretchy’, not tight or restrictive. Participants emphasized the needs for clothes to remain elegant. “When you are elegant you stay young”. [FR, Workshop #5] In Slovenia, participants wanted the garments to be shaped to the silhouette, and dresses and skirts to fall over the knee. In contrast, a looser shape was preferred in Paris.

- Furniture workshops: Poland and Turkey

Differences in interior furnishing emerged. In Turkey, participants preferred to consider the design of a multi-functioning sofa with a flexible head cushion, integrated storage, and encouraging the user to get up and be active. They explored embedding functions to detect air quality, contact family members when needed, and give visual feedback on household dangers. In Poland, participants were more concerned more about the furniture providing ergonomic support and the size of it “lightweight and easy to move around” [PL, Workshop #4] rather than additional functionality. The nature of soft furnishing and desire for removability of covers etc. appeared to vary in different countries.

- Footwear workshops: United Kingdom and Germany

Despite the common requirements for footwear, there was contrast in how receptive participants were to technology. In the UK, there was a lot of discussion about technology and how it could be used to address the requirements by embedding functionality in the shoe. In Germany, there was less emphasis on using technology to solve these issues whilst participants focused more on the physical structure design of the shoe and the selection of materials as a way of addressing aches and pains in terms of feeling steady on one’s feet. German participants indicated more distrust in relation to how their data might be used.

The process of co-creation was in some senses used here as a means to reach consensus rather than design for difference. However, through the process, differences in preferences, attitudes as well living conditions in different countries (e.g. temperature) were found to affect how a design might be developed and packaged for the user.
Following the co-creation workshops, three multidisciplinary sub-teams (Figure 4) were formed to enable the ongoing product development focusing on assistive footwear, clothing and furniture. Smart materials, sensor and electronic technologies, associated data processing and user feedback were collaboratively incorporated in co-designed product concepts with continuing users and stakeholder involvement. The ongoing development was supported by a service design approach.

![Figure 4. Three multidisciplinary sub-teams for three product design and development](image)

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<th>Design Management</th>
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3.2 Service design workshops

Service design was used as an approach to align the varying cultural perspectives of partners through design tools that would prioritize user needs and build these into a shared set of interactions which the project team could work to. It is argued that with the growing complexity of products and product services (Norman, 2011), innovation and competitive advantage is best achieved through a shared understanding across a diversity of stakeholder knowledge (Self, 2019). This was achieved through both the co-creation process and through the use of service design.

The MATUROLIFE consortium is large (40+ people) and varied in partner backgrounds and working practices (20 organizations). Each of the partner groupings (e.g. origination type, size, subject discipline, language) have different ways of working and communicating and bring different perspectives to the development of the technology. A collaborative working approach was embedded through a series of design and development workshops supported by regular virtual meetings (i.e. Convene and Zoom calls). An online shared working platform was created to share work in progress (MATUROLIFE SharePoint) and to create a working culture and synchronized knowledge.
Service design was employed as a tool iteratively through the project lifetime during consortium meetings and development workshops. Service design approaches have typically focused on one system level at a time (Patrício, Fisk, Cunha, & Constantine, 2011). The way it was utilized here was focused on two levels:

1. Designing for the user experience
2. Integrating differing working cultures between partners (as illustrated in Figure 5).

3.2.1 Reflections

The service design approach led to a series of maps or blueprints of the assistive product functionality and accompanying service. These were supported by detailed user journeys that interpret the interactions between the end users and proposed products. These provided the basis for future development. They have been reviewed at each consortium meeting to remind partners of the shared vision, to be updated according to necessary design changes, and to provide the framework for future planning (for example the data management structure for the emerging products).

The project team has reflected regularly on their working approach and the role of design management and service design within that. Some of the biggest challenges in the project were perceived by partners to be “scale” [TR, Partner #a] and “communication, because these are subject areas that are not normally put together” [UK, Partner #c]. It was felt that this type of large-scale and multidisciplinary high-tech project could constrain the imagination of designers and challenge non-designers. Feedback from partners after workshops suggests that the design approach has been effective in bringing people together to create a shared vision and direction.

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**Figure 5. Service design crossing exemplar discipline boundaries**

Cultural Differences as Challenges and Design Drivers in the Development of Smart Assistive Technology for an Ageing Society

[Diagram showing Multidisciplinary Teams, Working Approaches, and Service Design]
“With a project as ambitious and complex as this to deliver, methods to bring together and align the consortium and our research and development goals are essential. We see effective design management as a way to optimize our vision and ensure the user remains at the center of our development approach and ongoing delivery strategy.” [UK, Partner #b]

Some of the key working differences that have been addressed through this approach are:

**Partner languages:** English is not the first language of most partners. Both English and a partner’s local language are used during day to day project work. Reporting and email communication are undertaken in English. The discursive, diagrammatic and visual ways of working have enabled minimal use of text and supported partner communication.

**Subject-specific language and terminology:** Subject-specific language (knowing what we meant by specific terms e.g. scientific processes, design approaches) has proved another communication challenge. This is further compounded by country differences in meaning. For example early in the project, there was a significant debate about the definition of assistive technology. A co-creation approach was adopted to reach an agreed definition. The use of visual maps and icons has enabled a shared understanding.

**Decision making and working approach:** Partners demonstrated different ways of thinking, planning and decision making. For scientists this may be heavily evidence-based. Other disciplines are able to rely on more intuitive approaches and less structured. The service design approach created alignment and identification of elements of the project that had to be evidence and user-driven, and others that enabled creative expression.

**User-focus:** Whilst the focus on the end-user and customer is central to organizations working in design, it is not necessarily a central consideration in chemistry or electronics. The MATUROLIFE project is centered on the needs of older adults and the service blueprints that have emerged hold the partnership to the needs and journey of users when making decisions.

**Organizational/ company priorities:** Organization types vary in their capacity to be nimble and adapt, and in terms of the support infrastructure and bureaucracy. There is also variability in the capacity and inclination to innovate away from existing processes. The service design approach placed limits on the product scope that were necessary to manage resources and deadlines.

### 4. Conclusion

In this paper cultural differences from several different perspectives have been considered within the context of the MATUROLIFE project. Although the impact of these factors in
design has been studied in previous research, how they interact with each other in has received less consideration. Co-creation and service design approaches were employed in the project to reconcile these differences, in order to build understanding and empathy for older adults across the partner countries in terms of their acceptance and expectation of assistive technology products and services, also to establish a collaborative working relationship between different disciplines and various groupings within the project consortium.

The findings reveal that cultural differences were presented at multiple levels, encompassing end-user perception, design activities, work environment and product values. The co-creation workshops highlighted differences between the tastes of participants from different cultural backgrounds, and the varieties due to geographical and socio-economic factors. Exploring these differences more extensively is not the core focus of the study but does have critical implications for design. Project collaboration and communication has been supported by a service design approach and this has helped overcome some of the challenges to working across countries, disciplines and organizational cultures.

Design is not only about crafting products and systems, but an approach to open innovation that enables complex and interactive experiences, processes and systems (Freire & Sangiori, 2010; Moritz, 2010). Design in this context is complex; culture can be a resource for design innovation and inspiration. It is hard to design with a range of cultural factors intertwined, but it is argued that through the MATUROLIFE project these challenges can drive innovation by using design management as a strategic tool.

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**About the Authors:**

**Danying Yang** is Researcher in Design. She engages in the design and research activities of the Centre for Arts, Memory and Communities at Coventry University. Her research interests lie in the area of Smart Fashion and Wearable Technology associated with innovative materials and textiles to
promote the design and development of a variety of products within interdisciplinary collaborations and through non-traditional approaches.

Louise Moody is Professor of Health Design and Human Factors. She leads the Arts and Well-being strand within the Centre for Arts, Memory and Communities at Coventry University. Her interdisciplinary research is focused on the development and evaluation of technology and interventions for health and wellbeing. With a background in Psychology and Human Factors she employs a range of research methods as well as art-based approaches to ensure that new products, systems, services and interventions are effective as well as being desirable and acceptable to end-users and stakeholders.

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Data visualisation and knowledge sharing in participatory design to improve people liveability in urban places.

Giovanni Borga*, Massimiliano Condotta*, Chiara Scanagatta*

*Università Iuav di Venezia
*borga@iuav.it

Abstract | People living in urban areas are expected to highly increase in future. Society in urban context becomes more complex, and newer social, cultural and economic challenges occurs while decision-making processes become more difficult due to the increase of actors involved and plenty of information flowing by ICT networks and media. In such crowded environment, people can be very close to each other and, at the same time, might not know about urban issues due to different backgrounds or lack of knowledge. Looper demonstrates how an ICT and Urban Living Lab integrated approach can be enforced by environmental design methodologies that start from user needs and improve knowledge proximity and physical proximity. The Verona study case, described in the paper, shows how a collaborative usage of ICT allows a better comprehension of different points of view, enhancing a fertile co-design process avoiding the creation of “cultural bubbles” that hinder cultural proximity.

KEYWORDS | CO-DESIGN, KNOWLEDGE SHARING, DATA VISUALISATION, INTERACTION DESIGN, USER CENTERED DESIGN
1. New challenges in the design of urban spaces

Since the ratio of people living in urban areas is expected to increase from 55% in 2018 to 68% by 2050 (United Nations, 2018), it is becoming always more important to understand how to design - and transform - urban spaces to realise the most liveable urban environments for this increasingly population.

Due to this growth forecast, nowadays the design of urban spaces is characterised by different tasks that need to be faced. Following the SDGs from the United Nations it is possible to see how a main challenge - SDG 11 - is that of creating more sustainable and liveable cities, by also reducing their adverse environmental impact. This has to be done both with regard to the impact that a city has on global terms, and both with regard to the community level. SDG 11 target 11.3 says: “By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries” and its indicator says: “Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically”.

To reach this goal then it is necessary to apply participatory approaches - that have been used since the ’70s but are only now becoming more widely diffused - that can help to trigger changes in the built environment. To have a successful participatory approach then there is the need of a wider involvement - or the creation, depending on the existing socio-cultural environment - of the bottom level, since changes with participatory methods are triggered with bottom-up approaches - as further shown by theLooper project described in this paper.

Our idea is to check how these challenges can be faced by using culture of proximity to approach environmental design to create more liveable urban places.

2. Culture of proximity for liveable urban places

To manage and deal with the abovementioned new design requests, there is the need to evolve an organic methodology based on the bottom level approach. The features needed to create this new environment are:

- urban phenomena knowledge, not only on a larger urban scale but mostly at a small local scale that allows a better knowledge of the neighbourhood. This knowledge of urban phenomena needs to be not only theoretical but more direct, practical and material;
- exchange and transfer of knowledge, to be combined with knowledge storage not to disperse what was done previously;
- avoidance of “cultural bubbles” to create a fertile ground for the exchange of knowledge between parties.
In our vision the cultural environment that is created by these features is a possible interpretation of culture of proximity. This concept of proximity can then be understood in two different ways, and both ways are complementary to define culture of proximity.

Proximity can be:

- “proximity of space”
- “proximity of people”

*Proximity of space* is related to the knowledge of the local area in which someone lives. This proximity aspect is about the nearness of someone to the investigated area. Residents of the investigated area are then the main actors when *proximity of space* is triggered.

*Proximity of people* is about the ability to exchange knowledge between users of the same space - the closeness allows the reciprocal learning between people living and using same places. This proximity allows people to feel closer one another as they are working towards a common goal and they have a mutual understanding.

When both a *proximity of space* and a *proximity of people* is found, then it is possible to activate a functional - and functioning - culture of proximity.

An example of triggered culture of proximity are Urban Living Labs (ULLs) were residents, that have a more direct understanding of a certain urban place, can share their knowledge - by allowing a *space proximity*. In the same way, since different stakeholders are involved in ULLs, a wider knowledge sharing can take place within ULLs. This then allows a *proximity of people* since individuals with different backgrounds, and that use the project area for different needs, can gain deeper knowledge on the place and can share a different point of view from the resident’s one.

Urban Living Labs are not the only expression of culture of proximity, they are more of an example of organised triggered culture of proximity. The contemporaneous existence of proximity of space and proximity of people can take place also in a more organic way, when people are willing to make a place more liveable even for a short period of time, or to allow others to take back their places - e.g. festivals, events. This need to retrieve public places to create a better urban reality based on physical and cultural proximity was partially expressed by Michael Sorkin (1992) that talked about proximity to encourage cultural creativity triggered by these fluid connections.

This paper will then focus on how to activate culture of proximity for designers that are willing to create more liveable urban places through participatory design.

### 3. Strategies to activate a culture of proximity

How is then possible to activate this culture of proximity inside a design process? To benefit of the culture of proximity what can be used are Urban Living Labs - as aforesaid - and
different tools for data storage, data visualisation and knowledge sharing. These two approaches are suggested to be used simultaneously to reach better results.

Like said before, Urban Living Labs are a fertile ground for both proximity of space and proximity of people. This can happen because ULLs are able to create a neutral terrain for people living close-by, where they are able to share their knowledge with other actors of the urban environment change, but they can also allow the exchange of knowledge between other stakeholders that might not be residents.

The involvement of cultural proximity in urban design then gives better results when the new shared knowledge basis - given by the presence of both residents and other actors - allows the mitigation of social, cultural, technical and economical differences. Once these differences are mitigated then the cultural proximity can be used to work towards a shared goal.

To create the necessary background for the growth of culture of proximity, also different ICT tools can be used. Indeed, to share knowledge - when it comes to urban environment changes - there is the need to have both visualisation tools, that can allow an immediate sharing of information, and storage tools, that can allow a longer-term sharing. ICT tools usage starts from a carefully designed data collection phase - that gives better results if it is centred on a participatory approach, that then allows the visualisation of the acquired knowledge - based on a combination of qualitative and quantitative data. The information gained with both the data collection and data visualisation, are then used to co-design and co-evaluate possible solutions to make urban places more liveable.

4. Culture of proximity’s activation strategies as applied in the Verona case study within the Looper project

This concept of culture of proximity has been applied and tested in a European research project. The Looper project is co-founded under the JPI Urban Europe program and it focuses on three pilot cases: Manchester, Brussels and Verona. In this section, to better describe our concepts, the Verona case study is used and in particular the area of Verona Sud is considered in the framework of the project.

The area of Verona Sud (Figure 1) is mainly influenced by air quality and noise pollution issues, and there are multiple neighbourhood associations which have a conflictual relationship with public partnership and policymakers. This contrast is due to misunderstandings which are raising from lack of shared knowledge by both parties.

Hereinafter a real-life application of the culture of proximity concept to Urban Living Labs and to different tools is described.
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Figure 1. Verona location with reference to the Venice and Milan, and a zoom-in of the Verona Sud area that is divided from the city centre by the Verona former freight yard

4.1 Urban Living Lab

Within the Verona ULL the actors where linked by both a proximity of space - i.e. residents - and by a proximity of people - i.e. between residents and public administration, NGOs, commutes and other final users. Verona ULL’s actors were: citizens and citizens’ associations as bottom level stakeholders; Verona City Council as public administration and local governance stakeholder; Legambiente - an NGO actively working on environmental issues - with the role of stakeholder and of support to organisers; Università Iuav di Venezia in the role of researchers and organisers.

Having all these different actors working together was challenging in the beginning, because there were many different points of view at the same table, but once all stakeholders understood the benefits they could gain, the meetings started to be more constructive. The knowledge sharing given by culture of proximity was the one thing that triggered the willingness of actors to actively participate at meetings, because they understood they could be empowered by what was happening during the meetings.

Different activities were done during each ULL meeting, and to support culture of proximity within these activities different tools were used. Activities faced topics of data collection, data visualisation and analysis and design of possible solutions to improve the urban environment liveability. The tools that supported the ULL activities allowed a levelling of knowledge between different actors.

4.2 Data driven design of support tools

The tools used within Looper ULL differed based on the activity they supported. They can be divided into three main groups: data collection tools, data visualisation dashboard and co-design tools.

Data collection hardware tools were low-cost and official body sensors to collect quantitative data about pollutants, and these quantitative data were integrated with a web
app to collect qualitative data about the perception of urban spaces. This app has been very helpful to better understand the knowledge of residents, allowing to link objective data to the knowledge shared by people. This stage was essential to the process because it was possible to support with quantitative data the space proximity knowledge. Indeed, at the same time it was possible to link space proximity and proximity of people because some misunderstandings about pollutants were repressed.

Moving on with the process, the visualisation dashboard was an interactive web map were all data previously collected were freely accessible to allow an exchange of knowledge between all actors of the process, and not only a sharing of knowledge between people with a proximity of space. This tool showed not only data collected with official body sensors, but also data collected with participatory sensing. This data visualisation was the first real moment of confrontation were proximity of space and proximity of people gathered together to benefit of the culture of proximity concept.

Then, for co-design, both online and offline tools were used. For what it concerns a culture of proximity point of view, the online part is of more interest. The used online co-design tool was developed by a third party, and it allowed to link the proposed solutions with a particular location within the project area. This online tool allowed both a share and a storage of knowledge. The knowledge sharing was intrinsically possible due to the online characteristic of the tool, this meant that anyone could propose their idea even if they could not attend the offline meetings. The tool also worked as storage of knowledge, because it was possible to upload the solutions proposed during ULL meetings. This possibility to store, and not only share, is a focal point for culture of proximity because it allows to reach new participants.

5. Data driven tools for co-design

5.1 Looper data driven tools design strategy

For the design of the Looper platform, a multidisciplinary team was formed involving architects, digital technologies experts and design experts (all partners of the Looper project). Particularly, technical developers worked alongside with visual/data interaction designers who also held specific technical skills that helped in avoiding one of the typical problems in this kind of scenario that is the delegitimization of the role of designers in the development of ICT tools. This issue is clearly investigated by Gasson (1999); during the implementation of IT tools, which are “purely technical” tools, the technical developer does not take designer’s contribution into consideration, neither in terms of defining the data model nor of interaction design.

Gasson (1999) argues that, in many cases, the User Centred Design (UCD) approach can be adopted in a more formal than substantial way; in the case of Looper, UCD was applied from
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the very beginning in the conceptual modelling phase of the platform by using a special survey aimed at knowing what data and knowledge were needed for the three ULLs.

Following the first step of user research, a UI mock-up was designed and developed (Figure 2). The first prototype was then presented to participants of ULLs to get feedback about it, and it was then implemented following the suggestions collected from this second round of user experience observation. This participatory UCD was done following the typical Living Lab approach of design, test and implementation inside the real environment.

Figure 2. Looper platform mock-up. Here the initial design of the UI is shown

The issues that can arise in trying to obtain an optimal proximity of people within ULLs are manifold; some of them are related to the use of technological tools and digital interfaces by very different users with very uneven digital skills while others are more related to the
specific content, sometimes very technical, that the ULL must deal with. These issues can be summarized as follows:

- Language differences in actors with more technical profile and non-technical ones, belonging to different contexts or ordinary citizens;
- Usability and understanding of rich-content information and possible excessive cognitive load;
- Differences between datasets collected by different ULLs, and the complexity of defining a data model that allows to manage them in an integrated way;
- Previous mistrust between involved actors.

Differences in cultural backgrounds are strictly related to the proximity of people aspect. In Looper, actor’s cultural inhomogeneity in some ULLs was an underlying design condition and it has imposed the development of a multilingual platform as well as a special data structure capable to manage contents in four different languages. However, in most cases, verbal language is not the only key point; indeed, also for the graphic language and maps visualization a special approach is needed to improve proximity of people. In map visualization symbols are frequently used, while styles’ meaning is explained with a legend; when users have very different cultural backgrounds, this can be an issue and a limitation of graphic effectiveness. Therefore, minimizing the use of symbols whose meaning is not immediate is mostly recommended.

The problem of the too high cognitive load generated by graphic visualizations is known and well described by Mazza (2017) who argues that to achieve “good communication goals in HCI we aim to lower cognitive load on an interactor because this better support information memorization”. Using map visualization, the too high cognitive load can be a more severe issue since there is often a tendency to overlap several information layers to obtain a more comprehensive synoptic view about different aspects or to highlight their mutual correlation.

The three study cases give us a scenario with a wide variability of themes data to be collected for monitoring tasks. The indeterminacy and variability of the data to be managed by the Looper platform forced to design a “flexible” data model that would allow to access different types of georeferenced data in different ways. The risks highlighted by Gasson (1999) relating to the technical approach in the development of Information Systems, have been mitigated by the strategic choice to subordinate the technical development to the content design and the definition of multi-actor data collection methods creating an effective “peer cooperation” between IT team and design team by involving a designer with specific technical skills. As Curtis et al. (1988) said while arguing about the “expert designer”, the cohesion of the team can be greatly improved if the designer holds special IT skills because this allow him to proficiently and effectively interact with the technical developer.

The last identified main issue concerns frequent situations of distrust or contrast between actors that hinder fruitful cooperation. As well described by Mayr et al. (2019), issues about
“trust” in data usage is mainly related to provider credibility and its good relationship with the final user. However, also transparency is a key factor, and it is related to the possibility to access original data from which a processed information is obtained. This means that the willingness of actors to positively accept some provided data is related both to the acceptance of the source and to the way data were processed.

5.2 A user-centered data model

Bertin (1977) has clearly shown that information has a multi-layered structure. Basically, the main layers are two: entities and relationships - concept also known in database theory. This means that to design new IT tools, information designers must work very closely with technical developers. Cases such as Looper demonstrate a key point: the database structure modelling phase belongs to the content design, rather than the container design; this means that it is a task that designers must carry out, rather than the technical developers, as happens in most cases.

As already mentioned, the User Centered Design approach in developing the data model in Looper specifically aims at improving proximity of people. The first method used for this purpose was called “Problem Framing” and focused at designing the data structure needed to store and process the data coming from the multitemporal monitoring campaigns carried out by ULLs. As shown in Figure 3, the Problem Framing is fuelled by the results of a preliminary phase aimed at finding the issues on which the ULL wants to work.
Figure 3. Data model of the Verona case study. Here data to be uploaded in the database are defined to allow a common framework for the three study cases.

A two-layer - issues/data-type - data structure came from the results of a special survey aimed at finding needs of each ULL. The semantic relationship between the two layers is the capability of each data-type to support decision process about one or more issues. More in depth, the data model structure is further divided into other entities: from data-type to raw-data, sensor-type, campaigns, sensors and, as regards geolocation, measuring-spots (for point geolocation) and grids (for distributed geolocation).
5.3 Data visualisation tools

Designing the Looper platform, as result of the problem framing, some choices have been made regarding the data model definition, however, other choices made are more related to visualization and interaction concerning map layers structure, data processing, interactive tools and maps symbology.

In terms of map layers structure, the choices were basically two: the separation of all data into simple layers by type of measured phenomenon (only one type of information for each map layer) and the layers grouping by source. The separation of different sources helps to perceive the difference in data accuracy implicitly related to the collecting methods, and it allows to simplify the symbology as much as possible so to reduce the cognitive effort endured by the user (cf. Ware, 2004).

The choice not to process and integrate datasets, providing simple and direct - uninterpreted - layers is intentionally aimed at increasing credibility of the source and trust in the end user-provider relationship (cf. Mayr et al., 2019). It also eases to apply quantitative symbols according to Rensink’s “carriers’” definition: “visual property that conveys quantitative information” (Rensink, 2018), which maximizes the effectiveness of visual communication of measured phenomena.

As regards to interaction, according to Kirsh (2004), the goal is to “reduce the complexity of choice” in the perception of how to explore data and better understand map content. Furthermore, to reduce the usability gap between more and less digital skilled users, map based interaction has been limited to the two basic actions: "click to get info" and "drag to pan", leaving out other typical functions such as "drag to select", "drag to zoom-in" etc.
Figure 4. Example of visualisation of data collected with a participatory sensing tool that works with a continuous in movement method. Each hexagonal cell shows one value that is the average of all data collected within the area defined by the cell, and in the timeframe defined by the scrollers on bottom left.

In some cases it was necessary to make some data pre-processing because of visual and technical ineffectiveness of displaying raw datasets; this is the case of all distributed monitoring campaigns resulting in millions of point data that had to be interpolated upon a fishnet layer (Figure 4) and styled using the colour carrier (Rensink, 2018). In this particular case, a special tool has been developed in order to enable users to customize styles in real time - mitigating the perception of viewing already interpreted data.

5.4 Co-design tools

Like the display section of the Looper web platform, the co-design section is also designed as an asynchronous multi-actor remote repository, that is a dynamic and implementable storage system of useful digital resources that can support ULLs decision processes.

Even if hosted on the same platform, the two sections have been deliberately kept independent; no data available in the co-design section is dynamically linked to any other stored in the monitoring section, precisely to enhance interpretation of live data during ULL
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activities carried out in a participated way leading to the development of solutions through direct interaction of the actors.

Technically, the online co-design tool, developed by Urbanista, was developed using a WordPress plug-in (Figure 5). This tool was chosen due to the possibility of adapting styles according to the main website, its easy integration and user-friendly mode with few steps needed to insert a new idea.

Figure 5. Example of the online co-design page that firstly shows a map with the proposed ideas localised in the project area, and by scrolling down shows a grid with the ideas and their description.
The proposed solution or ideas can be easily uploaded by filling few fields of the format as per the following Figure 6. Out of the seven fields only four are mandatory - 1. Category, 2. Title, 3. Description and 4. Name or nickname - while the others are optional. The category field is a drop-down menu from which to choose a category, this allows to later evaluate the proposed solutions easily as they can be grouped. The title and description fields instead are free fields and have no minimum or maximum number of characters.

The structure of this online co-design tool also allows a storage of the solutions proposed during the offline meetings, as it is possible to mark them by using a nickname that refers to the meeting date.

![Figure 6. Ideas upload format. From the map, users can add the location for the proposed solution.](image-url)
6. Conclusion

Within this framework, ICT and interactive tools need to be designed and inspired not to support activity of collaboration between people further away - and to create a global network, but need to be designed to support a culture of proximity that is focused towards the improvement of people’s liveability in urban places.

Within the Looper project it was possible to have an evaluation of the platform from a co-creation process point of view (Figure 7), since the aim of the platform itself was that of enhancing participation even for users who could not come to offline meetings.

ICT tools are then of mixed use due to the proximity concept, meaning that they are feasible both in their online version and in their collective usage during offline meetings.

Figure 7. Platform evaluation for the Verona ULL
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About the Authors:

**Borga Giovanni** Adjunct professor of Web Design and Geographical Information System at Università Iuav di Venezia. His research focuses on the application of digital technologies and data visualization techniques in the field of product and communication design.

**Condotta Massimiliano** Assistant professor of Building Technology at Università Iuav di Venezia. His research focuses on the application of IT in architectural and urban design, on environmental design and on sustainable building design and technologies.

**Scanagatta Chiara** Temporary research fellow at Università Iuav di Venezia. Her research focuses on participatory design for urban transformations, with an eye to air quality and noise pollution related issues, on sustainability and on building technologies.

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Democratizing design: lessons from a case study in the Alpine area

Daniele Busciantella-Ricci*, Ilaria Argenziano*, Marta Gandolfi*, Michela Ventin*

*Design Research Lab, Department of Humanities, University of Trento
*d.busciantellaricci@unitn.it

Abstract | This paper focuses on the democratization of the design culture through the design knowledge transfer (DKT) analysing the empirical activities of an academic design research laboratory as a case study. The analysed laboratory is born as a research and development project, mainly funded by the local government for introducing the human-centred design culture through service design at a local scale. As a result, a strategy for introducing service design in the local systems is identified. The strategy can be also considered a scale of complexity for transferring the design knowledge and a possible way for democratizing design to the local entities that do not systematically use design. Despite this aspect needs more investigation, the strategy is actually adopted by the laboratory as their free offering system to be experimented with the local entities by envisioning and following the conceptual framework of ‘Research through Transfer through Design’.

KEYWORDS | DEMOCRACY; DESIGN KNOWLEDGE TRANSFER; SERVICE DESIGN; COMPLEXITY; PUBLIC POLICIES
1. Design and democracy: a premise

The interest of the design community in the convergence between design and democracy is giving the opportunity to defend democracy as a value through the design culture (see Manzini & Margolin, 2017, 2018). Using design as a tool for democratization in the way of design of, for, in, as democracy (Manzini & Margolin, 2018) also means spreading the design culture in all the complex contexts the contemporary society is involved.

The authors of this paper argue the transfer of design research activities helps to work on the convergence between design and democracy. From this, transferring design knowledge facilitates the spreading of the design culture; consequently, it facilitates the use of design as a tool for democratization.

1.1 Democratizing design

The concept of democratizing design can be addressed according to different perspectives such as:

- democratizing knowledge; in terms of knowledge transfer, its generation process through participative experiences and its meanings under democratic principles (for a further understanding of this perspective see Elden, 1983; Gaventa & Cornwall 2008; Ginwright, 2008; Guzman et al., 2016; Zamenopoulos & Alexiou, 2018);
- democratizing innovation that moves from the market-oriented concept of product (or service) innovation addressed by von Hippel (2005) to a different approach related to long-term, situated and “on the go” participatory approach (for a further understanding of this perspective see Björgvinsson, Ehn, & Hillgren, 2010) that improves collaborations between bottom-up initiatives and against an elitist control of innovation;
- democratizing design; in terms of the democratization of the design discourse through the design practice; in other words, the process of democratizing the design knowledge.

The concept of democratizing design, in this paper, differs from the way of understanding the democratization of design as the democratization of technologies that facilitate the processes of designing and producing artefacts; not even with the meaning of social product development (Forbes & Schaefer, 2017). Neither it is treated as a topic for investigating the states and future of the designers and/or the design education (see Fleischmann, 2015; Kelly, 2019). For democratizing design, the authors mean the act of rendering democratic (Democratization, n.d.) the design knowledge. Democratization as a systematic open-ended series of processes (Ciprut, 2009) for spreading the knowledge related to design research and opening the design culture through the democratization of the design discourses and practices.
1.2 Why democratizing design

Knowledge can be considered a resource of the power (see Gaventa & Cornwall 2008); and, sometimes it is a monopoly of expert knowledge producers (see Fals-Borda & Rahman, 1991; Hall, 1992 in Gaventa & Cornwall 2008). In this way, design knowledge can be considered a resource for breaking the monopoly in designing in a culture and preserving the democracy of designing. This concept drives the authors in considering the democratization of the design knowledge as a way for breaking this monopoly and spreading the design power for preserving the convergence between design and democracy. These are the reasons why this paper focuses on the democratization of the design culture through the design knowledge transfer (DKT), analysing the empirical activities of an academic design research laboratory (lab) as a case study.

2. Methodological approach

How is it possible to democratize design at a local scale to support the relationship between design and democracy and introduce the design culture in complex contexts?

According to this question an academic design research lab was considered as a case study for hypothesizing relevant discussions for the answer. Therefore, the actions of the analysed lab were considered the phenomena to be studied within its real world context (Yin, 2018) with the aim of understanding if it is a case of democratization of design at a local scale. The DKT process of the lab, its potentialities and limits, and future developments were analysed with an inductive approach. The early years of the lab activities were critically analysed with the support of empirical data emerged during the activities organized in collaboration with the local stakeholders, design partners and entities.

Therefore, the establishment of the lab, the evolution of its research process and the activities provided with the local agents were considered as a set of empirical data. With the aim of providing a critical analysis based on data triangulation (Denzin & Lincoln, 2018; Yin, 2018) the empirical data were compared with different resources in design literature through references related to (i) design ladders (Design Council, 2013; Kretzschmar, 2003; Nusem, Wrigley & Matthews, 2017; Ramlau, 2004; Wrigley & Straker, 2017); (ii) cases of governmental innovation labs (Puttick, Baeck, & Colligan, 2014; Selloni & Staszowski, 2013); (iii) models of orders of design (Buchanan, 2001), design domains (Jones & Van Patter, 2009; Jones, 2014) and levels of design content (Young, Blair, & Cooper, 2001; Young, 2008).

3. The case

The analysed academic lab was born as an experimental project of research and development, mainly funded by the local government to introduce the human-centred
design culture through service design in the education, production and public policies systems at a local scale. The laboratory is hosted by a humanities department at the local university and its mission is to transfer design knowledge encouraging the usage of service design among entities that do not systematically adopt design. The goal is to support the transition of the local agents from a product-based economy to a service and knowledge-based economy.

From a global perspective, this project can be framed in a wide and contemporary discussion related to the growth of fields such as design for public and design for policy (Bason, 2016; Kimbell, 2015; Buchanan, Amatullo & Staszowski, 2019) where design thinking (often service design) can play a determinant role in the innovation process of complex public and governmental contexts (Buchanan, Junginger & Terrey, 2017; Junginger, 2013; Kimbell & Bailey 2017; McGann, Blomkamp, & Lewis, 2018; Rebolledo, 2016). Despite the relationship between design and the public sector is growing (Buchanan et al., 2019), it is still difficult to identify systematic ways to embed the design culture from a public perspective on small scale contexts (such as rural and urban Alpines areas) where design is still not systematically used. However, fostering service design thinking throughout the organizations is in line with the recognised relevance of service design given by the European Commission as a “key driver of service innovation, social innovation and user-centred innovation” (Dervojeda et al., 2014). Therefore, the analysed lab adopts service design as a strategic stimulant to encourage innovation in public and private organizations. Also, this follows the Action Plan for Design-Driven Innovation of the European Commission (2013).

3.1 The context of the lab project

The regional context of the analysed lab is under an autonomous province jurisdiction, in the northern side of Italy. The province is characterized by low population density, due to the mountain territory (Alps), its remote valleys and the high number of small-dimensions villages. In this province, there is no presence of specific entities advocating to spread the design knowledge and improve the local design culture. There are only specific courses in some degree programmes and two different small academy branches, which have not the DKT as the main purpose.

3.2 Design research and design knowledge applied at a local scale

Among the definitions of design research (Archer, 1981; Findeli, 2010; Jonas, 2014), the analysed lab deliberately refers to Manzini’s (2009, 2015) working definition on design research i.e. “an activity that aims to produce knowledge useful to those who design”; this kind of knowledge is ‘design knowledge’. As suggested by Cross (1999, 2006), design knowledge resides in people; processes and products. They are “three sources of design knowledge as research loci” (Cross, 2006). Therefore, the analysed lab refers to Cross’s design research taxonomy (design epistemology, design praxiology, design phenomenology) to identify what to transfer to the local entities. Respectively the transferring process
focuses on (i) the designerly ways of knowing (Cross, 1982, 2001, 2006) and the design attitude (Boland, Collopy, Lyytinen, & Yoo, 2008); (ii) practices of design; (iii) form and configuration of the artefacts (services and systems in the case of the analysed lab). And service design is assumed as a strategic resource to be transferred.

3.3 A knowledge transfer point of view

The knowledge transfer activity of the lab is partially framed in studies related on how to embed design capabilities (often related to service design) in different kind of contexts and organizations (cf. Bailey, 2012; Giordano, 2019; Junginger, 2015; Lima & Sangiorgi 2018; Malmberg & Wetter-Edman, 2016; Mortati, Villari, & Maffei 2014; Warwick, & Djaelani 2016). However, “capability is an integration of knowledge, skills, personal qualities and understanding used appropriately and effectively [...]” (Stephenson, 1998; also in Mortati et al., 2014) and “transmission of design knowledge throughout organizations is expected to support non-professional designers to increase their design competences” (Lima & Sangiorgi 2018). Therefore, it is possible to frame the lab activity from the perspective of the knowledge transfer as a way to support the spreading of human-centred design capabilities paying attention to understanding how other entities design, what is their own design knowledge and their design legacies (Junginger, 2015).

3.4 The knowledge transfer process

It is possible to understand the DKT process of the analysed lab through the Nonaka and Takeuchi (1995) model of knowledge conversation. Indeed, observing design knowledge in two forms i.e. ‘tacit’ and ‘explicit’ (Polanyi, 2009; Liyanage, Elhag, Ballal, & Li 2009), the lab found a proper balance between its tacit and explicit knowledge transfer according to the key components “i.e. the source or sender that shares the knowledge, and the receiver who acquires the knowledge” (Liyanage et al., 2009). Canonically, the sender is the lab body of resources (e.g. the lab researchers and their tools) and the receivers are the local actors that collaborate with the lab through the provided design actions. However, it is also possible to observe an alternation of roles between senders and receivers that is when the lab body of resources convert the design knowledge acquired from people, processes and ‘products’ through activities exploited with the local actors.

3.5 The lab research approach and the action model

The research approach of the analysed lab can be framed in the design research studies adopting the research through design (RtD) (Frayling, 1993; Findeli et al., 2008; Jonas, 2007; Manzini, 2015) approach as a form of action research (Archer, 1995; Reason, & Bradbury, 2008; Stewart, 2014; Swann, 2002).

According to these premises, the lab designed a proper set of actions for transferring design knowledge to local entities in three phases i.e. (i) setting-up; to improve the interest in
service design; (ii) experimenting; to improve the autonomy in service design; (iii) modelling; to embed service design.

Each action can be applied according to an action model (figure 1) that the lab designed with the aim of engaging local agents, understanding and analysing their needs, designing and applying specific actions, evaluating the experiences. The phases of the model are:

- Engaging, to build design partnerships with local stakeholders;
- Analysing, to optimize design praxis and theoretical activities;
- Applying, to implement a series of theoretical seminars, workshops and design experiences (DXs);
- Evaluating, to analyse and reflect about the data gathered through in-field activities.

![Figure 1. The action model adopted by the analysed lab.](image)

3.6 The lab project development

The case presented in this paper refers to the early years of activity (‘setting-up’ step) of the analysed Lab. What follows summarizes the main activities provided through the action model.

In the ‘engaging’ phase the lab promoted service design at a local level with the aims to (i) engage potential stakeholders; (ii) collect interest for consecutive design partnerships from public and private entities; (iii) understand opportunities and needs of potential stakeholders; (iv) acquire human resources (such as design researchers).
In the ‘analysing’ phase, the lab started an intense programme of analysis with the aim of building shared theoretical foundations, research approaches and a practice framework for the design activities. Events such as seminars and theoretical workshops were designed with the aim of spreading a local design discourse among the local actors.

In the ‘applying’ phase, the lab team implemented the activities designed in the previous phases in contexts where design is not systematically applied according to the following main set of actions (figure 2). All the activities were provided to involve (for free) as many local actors as possible.

Theoretical Experiences (TXs). With the aim of supporting local design discourses and professions, thirteen TXs were organized among (i) seminars in collaboration with national and international speakers about different topics such as innovation, design research, service design, philosophy of design, interdisciplinary research; and (ii) intensive workshops with professionals and researchers in design about data visualization, design thinking, service design.

Design Experiences (DXs). Six DXs were organized with five local design partners from the public and private sector among the three systems (education, production, public policies). They were engaged in collaborative design practices (e.g. co-design workshops, design ethnography) simulating human-centred design processes (in service design) applied to real problems, needs and contexts through a learning-by-doing approach.

Stand-alone (one-off) project. A stand-alone project was developed in collaboration with the local government and their stakeholders in the field of public policies. The lab provided design-based visual tools to help a forum of experts engaged to identify strategies for the innovation of the local research and development policies.

Pilot study. The stand-alone project is a case study of an undergoing pilot study addressed to explore (i) how the local policy makers design public policies; (ii) how service design can contribute in this context; (iii) how the findings can be applied for the renewal of the local public policy sector.

Design probes. Following the directions previously identified in a forum of experts organized by the local government, experimental design probes were designed and applied to explore the design context of the local cultural sector in favour of a future redesign of the public cultural policies.
In the ‘evaluating’ phase, the lab team evaluated all the activities provided in collaboration with the local actors through mainly qualitative techniques. The participants’ feedback, comments and suggestions were gathered through unstructured and semi-structured interviews, questionnaires, and focus groups. Also, data gathered and design results were analysed in the lab and data related to the DXs were deeper investigated with the Logical Framework approach and a gap analysis. The results were discussed comparing them with
the design research literature and the needs emerged through the experiences with the local actors.

3.7 Early results and impact

The main result of the early years of activity is the identification of strategic details that facilitate the DKT process. There were identified:

- a dissemination framework with different areas of interventions (i.e. discourses, publications and design formats);
- five design formats for the DXs (i.e. Design Check; Design Seminar; Design Workshop; Design Review; Design Studio);
- a format (theoretical framework, approaches, processes, toolkit and guidelines) for the application of the design probes for the DKT;
- fifty-three gaps, eight critical areas and five criteria for developing DXs with the design formats;
- ten requirements to develop DXs with inclusive criteria.

More than 200 people among the education, production and public policy systems were involved in collaborative design-based activities and more than fifty activities among the three areas of the Dissemination Framework were provided. Around 180 hours of collaborative activities were provided as part of the knowledge transfer process. As a main impact, the participants increased the interest in service design and requested 320% more collaborative hours in respect to the total amount of hours exploited during the firsts months of the lab activities.

4. Results and findings

The main results of the analysis of the lab as a case are (i) the identification of an overview of the main features that allow to recognize the laboratory as a strategic place for the local development; (ii) the identification of a strategy for introducing service design in the three local systems.

4.1 The lab overview

The analysed lab focuses on delivering activities with and for stakeholders in contexts where design is not part of the organizations and communities culture. Therefore, it operates with an inclusive approach in contexts where there is no use of design (see Kretzschmar, 2003; Nusem et al., 2017; Ramlau, 2004); or the use of design is recognized for a specific need in a one-time project (see Nusem et al., 2017) for solving discrete problems (see Design Council, 2013) and in general where design is perceived as ‘styling’ (cf. Kretzschmar, 2003; Ramlau, 2004). Moreover, the lab could potentially play a strategic role at local scale as a part of
innovation teams (see Puttick et al., 2014) in public innovation spaces for research, communication, networking and capacity building (cf. Selloni & Staszowski, 2013). Finally, the lab refers to (see figure 3); (i) the third order of design focusing on experiences, activities and services; (see Buchanan, 2001); the design for value creation, focusing on services (see Jones, 2014); the design of systems and services (the D2 level in Young, 2008).

Figure 3. The analysed lab in relation to three different references.

4.2 The strategy for DKT

The analysis of the lab as a case study allowed the identification of a strategy for implementing a DKT process. The strategy is built in three macro-categories i.e. (i) discrete design tasks; (ii) training formats; (iii) projects. All the three macro-areas follow the goal of the laboratory with different specific objectives and complexity for each activity. All the three categories (except for one activity - see Figure 4) are supported by empirical cases previously provided by the same laboratory.

Indeed, the categories of the strategy are the result in observing the activities provided with the local agents and their feedback in terms of design needs related to what they experienced and what they were called to provide.

<table>
<thead>
<tr>
<th>MACRO-CAT.</th>
<th>DISCRETE DESIGN TASKS</th>
<th>TRAINING FORMATS</th>
<th>PROJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Discrete probes</td>
<td>Stand-alone design-driven tasks</td>
<td>Theoretical experiences</td>
</tr>
<tr>
<td>Experienced</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sought</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cases</td>
<td>1</td>
<td>1</td>
<td>13</td>
</tr>
</tbody>
</table>

Figure 4. An overview of the strategy background.
4.3 Discrete design tasks

The first category is based on activities that allow the laboratory to activate processes for probing and exploring the design contexts through in-field design-driven experiences. It contains:

- (a) design probes to understand specific design contexts with design-based methods for probing and exploring;
- (b) stand-alone design-driven tasks to solve discrete problems with a specific design discipline, also used as probes for gathering in-field data about the design partners’ approaches in designing.

4.4 Training formats

The second category is a set of different training formats. It includes:

- (a) theoretical experiences (i.e. theoretical seminars and theoretical/practical workshops);
- (b) design experiences (i.e. simulations of human-centred design processes through a learning-by-doing approach).

4.5 Projects

In the third category there are structured projects addressed to change a situation, piloting and developing design solutions. It includes:

- (a) pilot projects;
- (b) research and development projects.

5. Discussion

The identified strategy can be considered as a scale of complexity for (i) designing the strategy actions; (ii) transferring design knowledge to the local entities that do not systematically use design and (iii) understanding how the local entities generally design and what they need in order to introduce a human-centred approach to their design process (figure 5).
Figure 5. The DKT scale of complexity.

As a discussion of the main result, the following reflections are related to the application of the strategy. In fact, from the knowledge transfer perspective it is still not clear if this strategy should be applied according to a specific sequence. The authors provide an early evaluation about this aspect in the following considerations:

- If the strategy is applied as a structured process according to a sequence of actions, its application starts from the design probes and rigorously follows the subsequent actions (figure 6). For instance, if the main goal is developing a pilot project, the design of this set of actions for DKT should consider specific actions that precede the pilot project in the scale.

- If the strategy is applied as a semi-structured process according to a sequence of categories, its application starts from the first category but not necessarily from the first activity of the category (figure 7). Therefore, while the sequence of the categories follows the steps of the scale, the sequence of the actions is randomized and it depends on a case-by-case evaluation.

- If the strategy is applied as an unstructured process according to any given sequence, the actions are applied randomly (Figure 8). This means that the sequence of the actions is collaboratively selected and designed case by case with the partner of the knowledge transfer through the design process.
Democratizing design: lessons from a case study in the Alpine area

**Case 1: Structured process**

- **Discrete design tasks**
  - Design probes
  - Stand-alone design-driven tasks

- **Trainings formats**
  - Theoretical experiences
  - Design experiences

- **Projects**
  - Pilot projects
  - Research and development projects

*Figure 6. Case 1: structured process.*

**Case 2: Semi-structured process**

- **Discrete design tasks**
  - Design probes
  - Stand-alone design-driven tasks

- **Trainings formats**
  - Theoretical experiences
  - Design experiences

- **Projects**
  - Pilot projects
  - Research and development projects

*Figure 7. Case 2: semi-structured process.*

**Case 3: Unstructured process**

- **Discrete design tasks**
  - Design probes
  - Stand-alone design-driven tasks

- **Trainings formats**
  - Theoretical experiences
  - Design experiences

- **Projects**
  - Pilot projects
  - Research and development projects

*Figure 8. Case 3: unstructured process.*
Every case presents advantages and disadvantages. For instance; the last case is the most participative and democratic among the hypotheses because it gives more decision power to the local agents.

However, according to the experiments conducted in the analysed lab, the actions of the macro-categories should be considered sequentially. Furthermore, it is still not possible to consider the strategy as a customizable instrument and additional data needs to be gathered through more in-field experiences. Moreover, according to the logic of the scale, all the activities can be considered a tool for probing the local contexts and refining the offering actions step by step.

From a practical perspective, if an action of a macro-category is assumed as the final objective of the transfer process, the previous actions need to be considered as previous steps of the DKT process. Every category is conceptually the container of a set of activities that work as medium for the DKT process with different levels of complexity. For this reason, the identified categories allow to apply a strategy for transferring knowledge through the practice of design.

6. Conclusions

In conclusion, according to the findings described in this paper, it is possible to proceed with experiments of democratization of design at local scale in the case that all the actions of the strategy are correctly applied by the identified sequence. However, this aspect needs more investigation and it is part of the agenda for future inquiries. For this reason, the strategy is actually adopted by the same analysed lab as its free offering system to be experimented with the local entities as an open-ended, inclusive, participative and free instrument for a design-driven local development in the three systems.

Also, the analysis of the lab as a case study for the democratization of the design culture, opened two working concepts that are (i) the DKT through design; and (ii) the democratization of the design culture through DKT. Both the concepts require investigations from a design research perspective envisioning an innovative conceptual framework. Indeed, the analysed lab is mainly adopting the RtD approach with the aim of transferring the design knowledge to the local systems. Therefore, the lab is adopting ‘research through design’ where for ‘design’ is meant the design of the ‘knowledge transfer process’. As it is mentioned before, the ‘DKT process’ can be considered a ‘DKT through design’. Consequently, the lab is following a ‘Research through Transfer through Design’ (RtTtD) approach for developing design research and democratizing the design culture.

Finally, a generalization of the RtTtD concept allows to conceptually envision its design research extension that is the ‘Research for/through/about Transfer for/through/about Design’. This can be the subject for future inquiries in DKT.
References


Design for Promoting Pro-environmental Behaviours of the Georgian Domestic Workers in Ankara

Ayşe Kaplan*, Lilyana Yazırlioğlu*a,b,

*a Middle East Technical University
b Ted University
*ayse.kaplan@metu.edu.tr
*lilyana.yazirlioglu@tedu.edu.tr

Abstract | In this study, we worked with Georgians coming to Ankara, Turkey as live-in domestic workers whose work and private life was tangled. There are many layers to investigate in this case, like the adaptation process to the new culture and country. Another layer is the transfer of knowledge and behaviours between home and migrated country. The design proposal we made with Plentifulness Cards aims to ease the knowledge sharing process and strengthen the relations between immigrant domestic workers so that the pro-environmental behaviours would be encouraged and spillovered from the private domain to the work domain. Narrating on this research through design project, the article demonstrates how boundaries between places, roles, and cultures can be reawakened and reshaped with the help of designed artefacts.

KEYWORDS | DOMESTIC WORKERS, IMMIGRANTS, PRO-ENVIRONMENTAL BEHAVIOUR (PEB), SPILLOVER, CULTURAL IDENTITY
1. Introduction

The increased pace of life and high workload change the everyday life patterns of individuals (Muster, 2012). As work and private lives interpreted with another, the line between them gets fuzzier. Dissolving borders have resulted in the diffusion of behaviours and values from the private life sphere to the work-life sphere and vice versa - as defined as spillover effect in the literature (Edwards & Rothbard, 2000). As one of the diffusing behaviours, pro-environmental behaviour (PEB) - actions that will benefit the environment or make the least harmful impact as possible (Steg & Vlek, 2009) - can be spillovered in different spheres of life. Elaborating the effects of the transgression of behaviours and understanding the motives behind the pro-environmental behaviours (Kollmuss & Agyeman, 2002; Steg & Vlek, 2009) of sustainability-oriented employees will be the topic of this paper.

Interestingly, in the case of the live-in immigrant workers, one place (house) becomes a setting both for work and private life, and these two became inseparable from the other, which lead us to focus on the spillover of PEB of immigrant domestic workers in this project. Almost all of the studies in the sustainable consumption in the workplace setting targets the office setting, and non-office work setting remained undiscussed. Because of this gap in the literature, we preferred to work on domestic workers' sustainable consumption behaviours.

This paper presents the process and outcomes of research through design project as a part of a graduate studio course in the Industrial Design department of Middle East Technical University. The research project aims to promote PEB of the Georgian domestic workers in Ankara, Turkey through design practice. The research questions of the project are:

1. How cultural differences between the worker and the employer affect workers' PEB in the case of an immigrant worker?
2. How the workers' PEB spillover when a place (house) becomes setting for different life spheres?

The topic consists of many different layers because it grounds where the boundaries between places (e.g., home, work, country), roles (e.g., householder, worker, immigrant), and cultures are highly blurred.

To find answers, we conducted field research with five Georgian domestic workers who live in their employers' houses as caretakers or helpers, using semi-structured interviews and observation methods. According to Nair and Little (2016), domestic workers' cultural background determined their behaviours and sustainable consumption patterns since consumption - which constitutes a critical role in the identity construction - can be traced back to the culture. Consequently, identifying the characteristics of this group; their educational, economical, family background, and the way they reflect their own culture and identity in "X" city become essential for the sake of this research.
2. Literature Search

This literature review will start with the definitions of keywords in this context, such as sustainable consumption (Cohen, 2001; Muster 2012), pro-environmental behaviour (Steg & Vlek, 2009), and spillover effect (Edwards & Rothbard, 2000). Next, sustainable consumption in the workplace setting will be examined as discussing the interactions between work and private life. How this interaction affects people's pro-environmental behaviour in different workplace settings (Kirk & Barton, 1982) will be discussed. Finally, it will conclude with underlining the knowledge gap in the sustainable consumption behaviour at non-office workplace literature.

2.1 Background of the Sustainable Consumption

Sustainable consumption has been defined differently by a myriad of authors, and there is a rich terminology used for describing similar terms. Sustainable consumption, (Cohen, 2001; Muster 2012), conscious consumption (Ellen, Wiener, & Cobb-Walgren, 1991), socially responsible consumption (Roberts, 1995), responsible consumption (Marchand & Walker, 2008) and green consumption (Nair & Little, 2016) are some of these terms used in the literature. Pro-environmental behaviour (PEB) is the term used by Steg and Vlek (2009) to describe the activity that aims to have a positive impact on the environment, or if it is not possible, do the least harm. According to Kollmuss and Agyeman (2002), PEB is a conscious act that is performed to reduce the negative outcomes of one's action on the environment. Although there is various terminology used to define sustainable consumption, they all indicate quite similar things that lead to PEB.

2.2 Spillover Effect

As Tudor, Barr, and Gilg (2007) highlighted, there are various studies on PEB in different settings, but most of them focused on the house rather than the workplace. Tudor et al. (2007) also stated that how environmental behaviour is affected when people change the setting from home-to-work or work-to-home has a little place for itself in the literature. In that point, spillover effect, which defined as the transfer of mood, behaviours, skills, and values from one domain to another (Edwards and Rothbard, 2000), is a valuable term to explain how PEB can spillover between homes and work settings. Viola and Ulf (2011) demonstrated that when environmentally friendly behaviour learned and performed in one domain, similar actions can be triggered and strengthened in the other domain.

As an extension to Viola and Ulf's (2011) assertion about spillover of people's environmental behaviour from private life to working life, Tudor et al. (2007) stated in his study findings that a strong connection between sustainable environmental practices of people in home and work settings exists; moreover, fundamental pro-environmental behaviours and values of people mainly determine that secure connection. Therefore, it can be concluded that spillover of PEB can be seen both from home to work and from work to home.
2.3 Pro-environmental Behaviours (PEB) in Different Workplace Settings

In this section, sustainable consumption behaviours in the workplace setting will be discussed in two parts, which are office and non-office settings. Starting with the office setting, Felstead, Jewson, and Walters (2005) defined the office work setting as working in a defined place for a prescribed period - more specifically "sitting in an office, or at a desk, with a name-plate on it" (p. 2). Companies which operate in office-based settings develop strategies for promoting pro-environmental behaviour of their workers. Both employees and companies tend to perform PEB, and the motives behind these behaviours are examined by Harland, Staats, and Wilke (1999). They found that ethical norms are among the most critical motives behind employees' PEB in the workplace.

Even if it is limited, there are some studies on sustainable consumption behaviours in the office setting. However, in a non-office work setting, the examples are even fewer - almost none. Since the visibility of non-office work setting as a workplace is very low, we focused on this area. Therefore, in this part, a non-office setting will be investigated for domestic paid work, which breaks the boundaries between work and home since it keeps being a home for the house owner while it is a working environment for the domestic worker (Cox, 2013). In addition to the place, domestic work signifies different meanings for different roles. Cox (2013) stated that "The employment of paid domestic workers highlights the close relationship between consumption and work in the home. Work for one person, the employee, is the consumption for another, the employer." (p. 821). Additionally, Nair and Little (2016) looked from the perspective of sustainable consumption and said the roots of behaviours and sustainable consumption patterns need to be searched in the cultural background of people.

3. Methodology

We conducted field research with five Georgian domestic workers who live in their employers' houses. Two of the participants are taking care of older people, one of them taking care of a bedridden person. One of the participants is the helper for housework, and one of them is unemployed. We used personal connections and snowballing for recruitment.

In the study, interviews (semi-structured) and observation methods were used. Most of the interviews took around two hours; therefore, they were long and dense enough to comprehend the user group's characteristics and their approach to PEB. After the interviews, participants showed their house and their homemade products, which we talked about during the interview. Interviewing in their house and work environment during their work time was a challenge and an opportunity for us at the same time. It was a challenge since they must take care of their employers during the interviews. Consequently, interviews were interrupted a couple of times. On the other hand, we had the chance to observe them while...
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they were working and interacting with the employers and doing their regular work at the house.

After all interviews were transcribed, researchers coded transcriptions on hard copies, mostly using process coding and motif coding methods for analysing. During the coding process, the first and second cycle coding were used simultaneously because researchers had already known the data very profoundly from participating in all the interviews together and transcribing them in a short time. Therefore, finding connections and patterns between interviews was possible in the early stages.

4. Field Research

Data gathered from the interviews and observations helped us to understand the living conditions of a Georgian domestic worker in Ankara whose private life and work-life dissolve into one another. For that reason, we investigated the nature and level of PEB among these employees and its transference to other domains of their life (spillover effect). When we use the term PEB, we are referring to the behaviours that respect nature, producing on your own, buying locally, supporting drug-free agriculture and consuming natural products, and so forth. Questions were asked about resource consumption, waste management methods, repairing habits to learn the types of PEB that participants execute. After learning the types of PEB, factors affecting the spillover of it is examined comprehensively.

4.1 Types of PEB

As the interviews are analyzed, PEB of participants were gathered under the categories of cleaning, gardening, shopping, cooking, waste management, resource management, DIY, reusing, repairing, second-hand, homemade. Since some of the categories were emphasized more than the others, researchers chose five of them to work on, which are cleaning, gardening, shopping, cooking, and DIY.

To start with the cleaning category, participants were highly concerned with the hygiene of the house since they are working for people in need of nursing due to their age and sicknesses. They are both responsible for residents' hygiene and health and also house's hygiene and order; consequently, lots of different cleaning products are required, but some of them find a way to make their product to make it more "natural" and less "harmful" as they indicated. For example, P1 showed us her homemade cleaning cream consists of soft soup, hot water, and some readymade cleaning cream. Moreover, P1, P2 and P3 indicated that they are using white vinegar regularly for cleaning the floors, washing the curtains or disinfecting greens or vegetables. However, P2's employer does not approve the use of vinegar and wants her to use detergents instead.

When it comes to gardening, most of the participants seemed to had experience about it back in their home country: however, some of them cannot maintain their habit because (1)
in the migrated country they live in the crowded city where there is no place for gardening, (2) their employer does not want to consume vegetables grown in the pot, (3) or employer already has a gardener for these tasks. On the contrary, the ones who have access to soil, use this opportunity to grow their vegetables and herbs like P3 and in the case of P1 pick fruits from trees to make marmalade for the winter or let them dry for later consumption as P2.

When researchers asked their shopping habits, P1 stated her preferences for going to the bazaar for vegetables and fruits while buying eggs, milk, and related products from local producers, which she finds healthier and more natural than the market products. Also, P5 said that she is buying groceries from the bazaar with her employers. P3, on the other hand, used to buy from bazaar rather than market back in Georgia, but since she has a language barrier and does not feel comfortable communicating with stallholders, she preferred to go to the market in Turkey.

For the pro-environmental cooking habits, researchers found out that participants tended to use methods for containing food for longer periods of time, like preparing canned food such as pickles or making jams from the fruits in the employer's garden or simply drying the fruits. P2 stated that in Georgia, they are not used to find vegetables or fruits in every season, that is why they are canning or drying most of them at the end of the summer. It is seen that these behaviours are also taking place in Turkey where they are spillovered.

Lastly, within the DIY theme, participants' repairing and reappropriating behaviours are exemplified. For example, they are finding alternative ways of using old towels as a dust-cloth or making them cleaning gloves or using old clothes for patchwork, as in the case of P2. P5, on the other hand, said she is saving leftover soap pieces to make a mixture for washing clothes. P2 was also interested in repairing things in the house like a broken iron and a chair, while P1 also wanted to repair instead of throwing away but did not know how to repair broken stuff.

4.2 Factors affecting PEB

It is found that Georgian domestic workers living in the migrated country are having concerns like buying locally produced food, using "natural" and handmade cleaning products, decreasing waste by making second use of old, unused products, which are indicating that they have certain PEB that spillovered from their home country. These kinds of behaviours are mostly spillovered from their home/private life to work life, from their own country/culture to their new environment. While some of the participants easily keep practicing their PEB, some of them having difficulty to do so. Here in this section the factors affecting the PEB of Georgian domestic workers will be discussed. When data gathered from interviews is analysed, it has been found that there are several factors effecting PEB and its spillover which can be listed as follows:
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Personal background of workers includes information about their family, education and worldview. Also, we found out that their settlement place in their home country have a significant effect of PEB practices. For example, if they were raised in the village, performing PEB is more likely compared to city settlement. In the village life they mostly have their own garden in front of their house where they produce their fresh food and use homemade goods for cleaning instead of buying commercial products. This is also related to financial concerns of participants which is another factor affecting PEB. They expressed that homemade products and producing their own food in the garden or in the pots are cheaper than buying from the shops.

Moreover, since they were using employers’ money for shopping, they were feeling more cautious about spending it for house expenses. Situational factors cover the accessibility to farmer’s market, availability of recycling boxes, and infrastructures related to gardening activities. Health concerns of workers related to cleaning of the house and food consumption were also affecting their PEB because they were responsible for not only their health but also residents of the house who includes ill or older people and children.

4.3 Someone between employer and family

The relationship between workers and employers can have different levels and modes. When employers provide a space for workers to express their personality and culture, workers feel belonging and commitment to their employers and consider them as their family. Therefore, worker-employer relation becomes a family relation. In the case of a positive connection between worker and employer, the employer can have different roles such as supporter, mediator, and teacher in terms of helping workers in the process of learning a new language and adaptation to another culture.

However, in the condition of a negative relation between Georgian domestic workers and employers, workers experience difficulty in performing their habits. The attitude of employers towards workers has a significant effect on employers' daily life practices. For example, two of the participants said that they had challenging experiences when employers have strict rules for their shower time and frequency and washing machine usage. Finally, it is seen that the relationship between employer and worker and matching or clashing personalities has a significant effect on the spillover of workers' behaviours from their life in the home country to the migrated country.

4.4 Somewhere between work and home

In addition to Georgian domestic workers' relations with their employers, they form an attachment to the house they work in. The mode of the link between worker and house depends on various conditions, and according to that, workers' behaviours change in the house setting. For example, one participant feels like the house is hers, and she prefers to stay there on her leave day instead of going out because she feels very comfortable in the house. Also, she hosts her guests at the employer's home. When it is the worker who
provides the order and control over the house, the possibility of spillover of her PEB practices is increased because the worker feels a kind of ownership over the house and feel free to express her culture and bring own practices to the house. For instance, a participant said that she brought special spices from her home country and used their traditional cooking recipes in the house she works. Also it is identified that if a worker lives only with the employer, work and home settings become more inseparable because she considers the whole house as living space. However, if relatives of the employer like grandson or daughter live together with them or stay over so often, the worker divides the house visibly as our bathroom/daughter's bathroom, as one of the participants stated.

4.5 Something between cultures

The transition between countries also means a transition in language, culture, and lifestyle. In the case of migrant domestic workers, adaptation to this transition can be challenging, especially in their first months of arrival. The adaptation process may even be longer since some participants feel insecure about their residence or work permit. To add more, having the language barrier to communicate with their employers makes it harder for a Georgian domestic worker to feel attached to this new country. It is found out that when it is difficult for the worker to reflect her own culture and identity, then the possibility of PEB spillover is less likely. On the other hand, when the workers are supported by their employer or by the other Georgian domestic workers in the same city in the process of learning the language and traditions, their adaptation period is faster and more peaceful.

Having (Georgian) friends and creating a network can help to promote PEB and spillover of them. To illustrate, P2 indicated that she learned a lot from her other Georgian friends over the phone or their weekly meetings on Sundays and exemplified as "I have learned that beans are served with pickles in traditional dining culture here thanks to my friends here". Also, knowing neighbours and expanding the network seemed to have a contribution for a better adaptation process. Again, P1 was telling us that their neighbour and market owner in the neighbourhood are mediators for giving leftovers to animals. Here is where we realize social relations and network effect PEB positively since it eases the sharing of tips and tricks, experience, methods, and knowledge -which have a significant effect on the spillover of PEB.

5. Design Phase

5.1 Plentifullness Cards

It is concluded that some Georgian domestic workers face the problem of reflecting their cultural identity and adapting to a foreign country's culture. In the adaptation process, workers' PEB is hard to spillover since there is a subtle conflict between employer and employee about having control and creating an order in the house. If the former has power,
then the latter has no space to keep up her PEB and culture. Contrarily, when the workers have a chance to share their knowledge and strategies about daily PEB practices with their employers and friends, the possibility of the PEB’s spillover is more likely.

In order to ease the knowledge sharing process and strengthen the relations between immigrant domestic workers, which lead spillover of PEB, we developed Plentifulness Cards as a design proposal. We chose our target group as Georgian domestic workers in Ankara; (1) who live in the employer’s house permanently and (2) whose working and private life become tangled.

We created the design process by setting our design brief which is informed from the field research analysis. Then, we developed personas for creating design ideas for our user group. Afterward, we made some mock-ups for promising ideas and took them to our participants for testing. According to feedback and further exploration of the concept, we improved our design proposal.
Cards are given in five categories: cleaning, gardening, DIY, shopping, and recipes which consist of tips and tricks about the new place Georgian workers migrated to and, more specifically, the neighbourhood they will work and live in. One can use the cleaning card for sharing the making process of natural cleaning handmade products: which ingredients to
use, how to make it and where to use it etc. With a gardening card, one can share her experiences and suggestions about these topics: what is the right time for planting, how to plant and how to grow it. The shopping preferences: where to buy fresh vegetables, where to find second-hand goods and more can be shared through that card while DIY card helps to share the knowledge about repurposing and reusing unused stuff. Lastly, recipe cards are for sharing the natural and healthy food recipes.

Each card is written in two languages - Georgian and Turkish. On the front page of the card, the category is explained and the postcard info is expected to be filled by the sender of the card. In inner pages following information is given: ingredients, how to prepare, where to use, the tips & tricks and lastly, the experiences of the sender while applying the recipe. On the back page, the Plentifulness Cards is explained, all the categories are shown and how to find these cards is described.
When it comes to the usage scenario, it all starts with the receiving of the Plentifulness Cards Box. They can be found in the companies which are mediators between Georgian domestic workers and their employers. Within the box, Plentifulness Cards and card display are found. In the cards, it is explained what these cards are for and how to use them. When a worker has something to share about her PEB activities, she fills a card and even can add a relevant gift to it. For example, if she is filling a gardening card about how to grow greenery in the pot, then she may also add some seed along with it. After filling the card, she can give the card to her employer, colleagues or neighbours. On the other side, as a card receiver, the worker can put her favourite card to the card display in various ways to try them later or keep them as memories. Moreover, if she has something to add to the card, there is a space for writing her own experiences about that recipe.

![Usage Scenario](image)

**Figure 4. Usage Scenario**

### 6. Conclusion Remarks

In this research through design project, we experience the strong connection between research and design phases and we benefited them iteratively. When design proposals are based upon the real connections between designer and people, ideas are articulated in a meaningful way. The design proposal we made by Plentifulness Cards aims to ease the understanding of status-quo rather than being an absolute answer to the problems that immigrant Georgian domestic workers struggle on. In a way, our role as designer was to be
Design for promoting pro-environmental behaviours of the Georgian domestic workers in Ankara

the navigator of the complex situation, and we try to see the user as experts of their own daily practices and find a way to materialise the insights gathered from the users’ experiences. Therefore designed artefact –Plentifulness Cards- was a tool to reflect on the problems and communicate with our user group more easily without a barrier. Because we experienced some limitations like participants’ insufficient knowledge of Turkish language. Also, they mostly feel insecure about us questioning their work in a migrated country. Also, we could only reach Georgian domestic workers who have better living conditions and the number of participants was limited. Since we had restricted time for the project at the time of the course, we did not allocate more time for increasing the number of participants. Therefore, that topic can be further studied with more Georgian domestic workers since it is such a fruitful area for including different actors, cultures, and lifestyles into the research through design area.

References


**About the Authors:**

**Ayşe Kaplan** is a master student and teaching assistant in the Department of Industrial Design, Middle East Technical University at Ankara, Turkey. Research interests are sustainable design, social design and sustainable food practices and communities.

**Lilyana Yazırılculoğlu** is a master student in Middle East Technical University and teaching assistant at Ted University at Ankara, Turkey, author is studying on how to extend product lifespan and enhance user-product relationship through product care activities.

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Design projects as drivers for organisational change in the public sector.

Felicitas Schmittinger
Alessandro Deserti*, Francesca Rizzo
Politecnico di Milano, Department of Design
*alessandro.deserti@polimi.it

Abstract | The demand of a new generation of public services is leading to a systematic exploration of what design can do for public organizations. The article presents and discusses, through the analysis of two design projects conducted in the Municipality of Turin, a design-based theoretical framework for organizational change based on the conduction of long-term processes of engagement and exposition of public sector employees to the design culture. The two cases show that the growth of innovation capacity in the public sector based on service design practices must consider the necessity of coping with long-standing challenges, i.e. the innovation of/in public bodies; the peculiarities of organizational learning processes and of the absorptive capacity of the organizations; and the overall resistance to change in people and organizations.

KEYWORDS | PUBLIC SECTOR INNOVATION, CO-CREATION, ORGANIZATIONAL CULTURE, EXPERIENTIAL LEARNING, INNOVATION CAPACITY, DESIGN THINKING
1. Introduction

Confronted with a range of complex challenges, public administrations (PA) are faced with increasing pressure to improve their innovation capacity (Cavenago et al., 2016; Potts & Kastelle, 2010). The emergence of the “co-society” paradigm, nurtured by open innovation and digital technologies, has given way to completely new citizen behaviours (Géraud, 2016), such as mobilization for the “commons”, data sharing and service sharing. Hence, the user is no longer simply a receiver or a spectator but an actor (Fluicity, 2015). This new trend is questioning both the decision-making and the implementation processes in the public sphere and is putting increasing expectations of greater citizen participation in the design and delivery of public services meant to address societal challenges that require new solutions.

As a response to these challenges, many PAs have introduced design practices as a tool, with a particular emphasis on the development of a more citizen-driven approach to innovation in order to build a better society (EU commission, 2013; Bason, 2010; Puttick et al., 2014; Tõnurist et al., 2017). However, many barriers continue to prevent the development of an agile citizen-centric approach to innovation.

The difficulties and barriers that arise from public bodies adopting new and alternative principles like co-creation that are rooted in design and represent a more “horizontal” approach, are notably linked to their complex, vertical and often fragmented structure as well as their organizational culture. Participatory activities for their nature contain a high potential to tackle exactly this complexity faced by governments and public institutions. Moreover, they have the capacity to include unused knowledge and ideation resources into innovation processes despite - or exactly because of - their contrasting nature, typically clashing with the existing culture and processes. On the basis of these premises, we argue that the focus on end-user/citizen’s innovation skills (Bason, 2010) to address the need for an agile and citizen-centric culture in PAs poses the problem that little reflection is being made on how public organizations can internalize and integrate the new knowledge, and how the transformation process can be fostered or managed: this omission could easily lead to reject the new practices, or confine them to a cosmetic role (Deserti & Rizzo; 2015).

In this article the authors present and discuss the results obtained from a long-term programme of design projects that they are developing in the Municipality of Turin. The programme is based on the assumption that the introduction of a user centric innovation culture (Deserti & Rizzo; 2019) in the public sector can rely on developing a long-term process of interaction between the culture of the public sector and the culture of design.

In the following, the theoretical framework at the basis of the implementation of the design programme in the Municipality of Turin is presented. Consecutively, the development of the programme through the implementation of two projects is discussed examining the results with respect to the previous findings and the theoretical framework. Finally, conclusions are identified for the long-term experimentation and validation of the framework.
2. Expanding innovation capacities in the public sector through Design Thinking

Even though there are evidence of an increased rate of experimentation of user centred innovation methodologies within the public sector (Bouwman & Grimmelikhuijsen, 2016), it remains unclear under which conditions these become institutionalized practices. How organizational environments authorise and legitimize innovation practices by way of learning and education remains one of the most relevant challenges. To address this issue, the authors propose a programme of design projects that relies on the idea that introduction of innovation capacities in the public sector, should be based on their practice, or else in a learning-by-doing framework that can be complemented with reflection to achieve a sustainable transformation. This is not only in line with generic organizational learning principles (Schein, 1999), but also with the construction of innovation knowledge and culture, which is historically bound to practice. In such a context, the role of experience, a core ingredient of the design disciplines, can be regarded as key to knowledge creation and appropriation.

The programme under development in the Municipality of Turin proposes to combine advanced human centred service development with a learning framework to set up a learning environment (Beckman & Barry, 2007) in which to make possible for a range of diverse actors operating in the organization to experience the processes of innovation.

Design Thinking (DT) is particularly effective in this perspective because of two main reasons:

- it grounds the innovation process in co-design activities that are human centred and involve multiple actors and perspectives, which is not only useful to better develop new solutions, but also to enable interaction, sharing of information and mutual learning.
- it is based on an experimental design/prototype/test/redesign loop that can be effectively connected with triple loop learning, which is particularly valuable within complex settings and organisations.

DT is today becoming a mantra in the different areas of innovation (Owen, 2007), including social and public-sector innovation (Manzini & Rizzo, 2011; Deserti & Rizzo, 2015). Design-led innovation approaches are currently being experimented to tackle societal challenges, trying to better manage complex participatory processes involving many actors and stakeholders in a frame of tensions or open conflicts. These processes go beyond the established principle of designing for context-dependent problems, extending the idea of participation to include: 1) the relationship between the context of the problem to be addressed and the design of the network that will co-produce the solution; 2) the experimentation of different configurations of that network until a robust partnership is individualised and established in some institutional form. In this perspective, DT emerges as a suitable approach to user centred innovation.

The DT innovation cycle is based on 2 main pillars: (i) a human oriented approach to innovation that considers the end users of the solutions those who possess the fundamental expertise on the problem/challenge to be solved; (ii) a context based approach to innovation.
that considers actors from the external environment as well as the tangible and intangible PAs infrastructures and resources (people, processes, technologies, procedures, knowledge) as enablers or barriers to innovation (Deserti & Rizzo, 2019). DT pursues the activation of the ecosystem as strategic in the process that move from innovation ideation to its real implementation. The design programme developed for the Municipality of Turin interprets the real practice of the iterative design cycle as key for the introduction of design methodologies and tools to support the development of a co-creation culture in public organizations. To reach this objective, the programme integrates the DT methodology, in the form of an iterative design cycle, with Kolb’s (1984) model of experiential learning. In other words, the programme is based on the idea that design-led innovation processes can be exploited to set up and pilot experiential learning within organisations.

3. The Design Programme in the Municipality of Turin

In the following sub-sections, the description of two design projects implemented by the authors in the Municipality of Turin are reported. The projects have been conceived as a learning by doing experience: the adoption of the DT cycle (from ideation to implementation) for the development of two new services has been observed and monitored as a process of implicit development of innovation capacity in the Municipality. Impacts affecting both the culture of the organization and the competences of its employees have been detected and are discussed in section 8.

3.1. First project. TO-Home: a service for vulnerable citizens at risk of eviction. 2016-2017

Turin is the third largest Italian city well known in the world as the hometown of FIAT automobiles. The crisis of the automotive sector that started in 2007 led to the delocalisation of the production and to a relevant increase in the level of unemployment, which has become the biggest challenge for the city. Under these premises, one of the objectives of the Municipality in 2017 was to develop TO-Home a service meant to responds to the complex needs of vulnerable citizens at risk of eviction (families or individuals that received an eviction notice or are at risk of receiving it) due to insufficient income.

Politecnico di Milano mentored the Municipality through a service co-design process as a way to develop innovative solutions based on an integration between the employment, housing and social services, which are traditionally approaching the risk of eviction with different perspectives (a labour issue vs. a housing or a social one). The mentoring run through 4 phases: analysing the challenge, envisioning new solutions; detailing the design, prototypes. In phase one participants were supported to understand the challenge from the end user perspective. In the second phase participants were guided to the envisioning of new solutions with end users and the co-design of initial concepts for the new service. In phase 3 the focus was on moving from ideation to implementation in the context of the
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organisation. The last phase included the support to prepare the tender to implement the service and the design of the service experimentation with end users. The analysis of this first experience shed light on a few critical issues: (i) the employees’ difficulty in assuming the point of view of the end users as an alternative perspective from which to analyse the current services and design the new one; (ii) the employees’ difficulty in overcoming internal resistance to change and barriers bound to the current organizational structure; (iii) the employees’ difficulty in reconnecting the design of the new service with its real implementation. In particular, during the design of the service blueprint - the synthesis tools used to represent the final configuration of the service - participants were unable to come out with effective solutions to four main problems, which could ultimately affect the delivery of the new service:

1. Individualising competences of the operators that should deliver the new service.
2. Making the service visible and how to communicate it to the end users.
3. Obtaining the availability of enough houses to accommodate fragile families.
4. Engaging the users of the services in co-production mechanisms.

3.2. Second project: the redesign of the register services. 2019-2020

Being reputed one of the Italian excellent centres of innovation, the Municipality of Turin aims to improve the general access to fundamental services for citizens, also providing new ways of accessing them remotely. The Central Register Office in Turin provides a range of services directly to the citizens that involve a wide range of public entities at the regional and national levels. Services provided regard the civil status, the registration and change of residence and the issue of identity cards. Offering a range of fundamental services not just for Italian citizens but for all residents in the city, the context is multi-ethnic, multilingual, and hosting citizens of all ages. Following the growing need of citizens to carry out procedures remotely, different from most other Italian cities, several services to the citizens are offered online supported by the national digital authentication system, but the system still lacks integration with the services provided on-site, that are left behind. Having a strong connection behind the scenes of on- and offline procedures, conflicts cause all operations to slow down or face obstacles. Long waiting times for service delivery are paired with more practical problems on site linked to the building itself, its organization, and spaces. Having been constructed as a psychiatric hospital the monumental building has been reconditioned to host the central public offices of the registry office. Hence the architectural structure of the building itself bears a challenge in managing and organizing the spaces according to its new purpose without changing the landmarked structure itself. The project aims at facilitating the citizen’s access to the offered services and the comprehension of the procedures. The project, divided in different phases starting from an introductory workshop with employees, followed by a period of user research, further workshops to co-create the new services with the stakeholders and a final phase of development and implementation.
The potential and critical issues identified in the first project conducted in 2016-2017 have been used as a foundation of this new one. Having already gained a set of insights on existing and potential barriers in the systems of the Municipality, a knowledge base was available for the set-up of the following activities. Different from the first project, the second one, extensively reported in the following, is aiming at improving and eventually complementing a wider range of existing services in the Registrar’s Office in Turin. The entire project is informed by different techniques of co-design applied to innovation in the public sector following 4 key principles:

1. Co-design with users
2. Analysis of the context of interaction
3. Approach based on piloting
4. Service design as a driver for organizational change

3.2.1. Project description

The entire project is oriented towards a redesign of the access to the public services in the central Register’s office in Turin set up as collaboration between Politecnico di Milano and the Division of Innovation of the city of Turin. The reason for this is that major difficulties have been found in citizens facing difficulties in identifying, accessing, and comprehending the services leading to dissatisfaction and confusion. The main services provided by the Register’s office are the change of residence, the issuing of identity cards and official certificates. The services are offered in the central office in the city centre and 13 smaller, decentralized offices in the city. All these services are producing documents do not just allow citizens to identify themselves and benefit from other services in the city, but the services themselves, their organization and planning is therefore closely linked to various entities and designed and delivered by different and specialized team of employees not connected among them. These highly specialized teams are usually focused on one specific element rather than working in groups with mixed competences. With respect to these observations the aim, beyond improving the actual services, is breaking out from old schemes of designing services and introducing new ways and instruments that are following the key principles described in the previous chapter. The project for the register office was set with a duration of 13 months, from January 2019 until February 2020 including execution and testing. The objectives were on one hand to redesign the access to the services provided in the building while introducing competences for design-driven innovation and collaboration across co-design processes inside the organization. The project developed from 2 initial assumptions coming from literature (Cilliers & Greyvenstein, 2012; Stone, 2004) as well as from the evidence of the first project:

- the quantity of the entities necessarily involved in the entire service delivery is one of the main barriers in adapting to change.
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- the strong organizational culture characterizing public services based on silos is completely opposite to the principles of design.

The second project was also meant as a learning environment were to cope with these two main barriers to transformation. The entire project is divided in three main phases, now only the first 2 have been implemented specified as:

- Research and design.
- Execution.
- Piloting and testing.

3.2.2. Project outputs

As an outcome, three of the four suggested dimensions of intervention have been tackled. The first one linked to the physical space that creates discomfort for users and an improper working environment for operators. Dividing the spaces of the operators strictly from the waiting areas the issues with privacy, noise and distress are tackled (Fig.1). A system of digital and physical wayfinding is creating a friendlier atmosphere eliminating handwritten notices and supporting the user in finding his way through the labyrinthine building (Fig. 2). To support comprehension and transparency, the forms have been redesigned (Fig. 3) indicating the important elements for the user supported by an informative leaflet with a checklist of documents applying gamification for assistance throughout the procedure.

Figure 1: Waiting room developed for the intervention in space
Figure 2: Wayfinding system designed to improve the communication on-site

Figure 3: Form and leaflet guiding through the procedure
4. Main findings and issues emerged

Especially the research phase and the transition from design to implementation shed light on some issues demanding a closer look and analysis. Already the initial research phase zoomed in on the disconnected and highly fragmented structure of the public office that later appeared to be interconnected to several other obstacles found during the process. Some of these elements are listed in the following to be then explained further:

- Vertical hierarchical structure.
- Missing culture of holistic planning.
- High specialization.

For the first insight the authors notice that the structure being organized in a strictly vertical hierarchy did seem to hinder the building of new capacities especially at the level of civil servants. Having the impression of being purely executing other’s decisions and plans has found to be a barrier to the building of new capacities. Building the team/s with the skills and motivation to develop the solution/s was one of the biggest challenges for the project. The employees who had actively participated in the workshops did not feel enough incentive to keep developing the solution deciding to take a role in driving the development. In this second project the development of the innovations was taken on by a smaller group of actors, who were willing and asked to commit to a longer-term process of developing and testing the innovation. The larger groups of employees that participated in the phase of ideation did not take part in that of implementation, not only due to their will but also to the sheer lack of resources and the need to employ them in day-by-day practices. As consequence the project failed in creating a sense of ownership as the level of engagement decreased moving from ideation to implementation of the innovations. In particular, the top management of the register officer became the leader of the project. This insight reflects a larger issue in the process of co-creation, which often sees the phase of ideation being characterized by an intensive and active involvement of all the actors while - as soon as the process moves to implementation - decision, responsibility and power remain in the hands of the top management, impairing the opportunity to transform the organizational culture (Sangiorgi, 2010).

The second insight talks about the absence in the Municipality of a systemic approach to innovation at the level of the middle management, which could help oversee complex processes and think across organizational silos. Instead, an established approach to fragmenting and splitting competences and roles has found to be one of the main barriers in the adoption of the design culture, which claims holism as one of its pillars (Stickdorn, 2011). The redesign of the register office has been based on the attempt to match the grassroots experimentation with the larger strategic vision of the Municipality of introducing a user centric prospective in which the public actors, the citizens and the local stakeholders work together in envisioning and co-producing new solutions. This attempt has been driven by the
strategic dialogue with the top management of the organization and the Deputy Major to innovation. The implementation of this strategic approach has, in turn, questioned the cultural transformation of the organization as the development of new skills among staff and workplace innovation called for a need to overcome silos. The insight then shows that having a strategic vision and a plan to implement it can be not enough if the introduction of the new knowledge is not complemented with the management of systemic and organizational change.

The last relevant point the authors identified is the evidence that high specialization of departments, typical not just for public organizations (March 1991), hampered the adoption of different points of view (e.g. the perspective of users or other stakeholders) and the capacity to consider all necessary factors. This difficulty to change the perspective from where to develop services is closely linked to an issue that emerged mainly in the implementation phase of the project, i.e. the non-perception of the various parts of the project (as those presented in figures 1, 2 and 3) as interconnected elements of a whole to create a coherent experience for the citizens. The management of the register office has in fact decided to significantly modify what has been designed together with the researchers and the designers in the phase of ideation due to insufficient budget available for the implementation (the budget could not be defined in the beginning, even though the whole project was conducted with a “frugal” approach). Furthermore, extant public procurement procedures obliged to split the execution in parts realized by different subjects, which require a high level of attention and holistic coordination not always applied due to the necessity to involve different areas that are used to work in an independent fashion. The interconnection of the various elements and its importance for the functionality of the designed experience has hardly been perceived mainly because of the lack of experience of the management in new service implementation. As already seen in the first project, the passage from ideation to implementation (Deserti & Rizzo, 2018) is rarely run relying on internal competences of public organizations. The pervasive adoption of externalization as a strategy to cut costs in the public sector has negatively affected the capacity of the employees to follow a cycle of design-implementation and redesign, transforming them in mere executors of solutions conceived and implemented somewhere else. In quite a few cases, the same execution is externalised, leaving the organization with fairly limited knowledge about some of its processes. In this case especially the struggle to allocate human resources, overcome unplanned architectural hurdles and retrieve financial resources for the realization of fundamental elements of the service experience notably impacted on the executive phase and showed the difficulties in linking and uniting the research phase with that of project development and with putting ideas into effect.
5. Conclusions

This article discusses a design-based theoretical framework to face organizational change by conducting long term processes of engagement and exposition of employees from public sector organizations to the culture of design. The framework combines advanced human centred service development (DT) with a learning framework to set up a learning environment in which to make possible for a range of diverse PAs and actors to experience processes of innovation, building knowledge and fostering organizational change.

Considering the results of the experimentation conducted so far, and connecting them with existing knowledge, the authors recognize that the development of credible pathways and effective actions to support the growth of innovation capacity in the public sector must consider the necessity of coping with long-standing challenges, i.e. the innovation of public bodies; the peculiarities of organizational learning processes and of the absorptive capacity of the organizations; and the overall resistance to change in people and organizations (Albury, 2005; Brown & Osborne, 2013; Sørensen, & Torfing, 2012). The approach proposed shows that a possible solution to this problem is to reduce the gap between the strategic management and governance structures of public organisations and the everyday implementation of innovation by developing internal processes, spaces, procedures, profiles within public organisations to better integrate the two levels. This reflection will be at the core of further experimentation, for which the authors are currently preparing new research and innovation proposals, which will integrate the proposed design and learning framework with an organizational change framework.

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About the Authors:

**Felicitas Schmittinger** is a research fellow at Politecnico di Milano in the Department of Design graduated in Product Service System Design with a research thesis focused on the introduction of design techniques and tool in organisations. She worked on projects in healthcare and the public sector exploring the influence of design and organisational learning. She is part of the EU-funded research project SISCODE and a teaching assistant in the Department of Design.

**Alessandro Deserti** is full professor and head of the Department of Design at Politecnico di Milano. His research is focused on design-enabled innovation processes, methods and tools, with particular reference to their introduction in new fields and to the ways in which their adoption can be combined with systemic and organisational change. He has been actively working a researcher and coordinator for various EU-funded research projects.

**Francesca Rizzo**, Ph.D., is Full Professor at Politecnico di Milano, Department of Design where she teaches User Centred Innovation and Digital Design Studio. She is expert in Participatory Design applied especially on the fields of: service design, interaction design, social innovation and public sector innovation. She has been actively working as researcher for various EU-funded research projects and is author of many international publications in Journals and conference in the field of design research.
Design when you are the other 90%, a student’s perspective

Kyle Graham Brand

Tshwane University of Technology
brandkg@tut.ac.za

Abstract | Design for the other 90%? Design with the other 90%? But what does it look like when you are the other 90% trying to study design? South Africa is rated as one of the most unequal countries in the world resulting in the ‘other 90%’ sitting side by side with the ‘10 percent’ posing many challenges for educators. This paper interrogates the strategies, to assist disadvantaged students, implemented by an Industrial design program in South Africa, by hearing from the students and looking at projects. Lessons are captured around the topics of access, teaching and exposure. The area where the most opportunity for change appears to be is how themes, in a project-based pedagogy are chosen. A project determination model is proposed as a result and aims to produce more contextually diverse topic themes in Industrial Design education, making projects easier to engage with and improve learning for all students.

KEYWORDS | DIVERSITY, OTHER 90%, EDUCATION, PROJECT-BASED LEARNING
1. Introduction

Design as a profession has seen a growth trend toward human-centred, socially cognisant design processes and solutions. This could be described as a culture shift in design, from a focus on elite solutions to more democratised human-centered, self-directed solutions (Campbell, 2017, p. 31). In many ways answering Papanek’s call for design to solve real world problems (1984, p. xv). Many designers, design programs and design firms have begun to, and do tackle problems which typically fell outside of formal design practice. Some of these, bottom of the pyramid, design challenges and solutions were captured in the exhibition, and accompanying publication, Design for the other 90% (2010). This was then further humanised by a Cumulus Conference hosted in Johannesburg which borrowed and adapted the title to Design WITH the other 90% (Breytenbach & Pope, 2014). This conference and accompanying exhibition showcased various projects and strategies which saw design practitioners designing alongside the communities and people who the solutions where intended for. Although Sanders and Stappers show that co-creating as a design approach has existed for some time, but has been slow to be adopted (2008, p. 7). As they note it requires “… that one believes that all people are creative” (Sanders & Stappers, 2008). This concept is furthered by the book by Ezio Manzini, Design when Everybody Designs where Manzini shows that designer’s roles are becoming more how to assist others in designing better (2015, p. 2).

But what happens when the ‘other 90%’ are coming into the world of the ‘10 percent’ and are now being taught design? What does design, or more specifically design education look like when you ARE the ‘other 90%?’ The context in South Africa is somewhat unique as a result of high levels of inequality (World Bank, n.d.). Using the terminology of ‘the other 90%’, there exists two parallel worlds of both ‘10 percent’ individuals and ‘other 90%’ often side by side. This has become particularly evident in the tertiary education sector where there has been increased access to tertiary education by previously disadvantaged individuals (van der Berg & Gustafafsson, 2019, p. 34)(Padayachee, Matimolane, & Ganas, 2018, p. 289), i.e. ‘the other 90%’. The specifics of this dichotomy between the ‘10%’ and the ‘90%’ would be impossible to define as the concepts of rural and urban are somewhat underdefined (Atkinson, 2014, p. 5), with people moving between and still remain connected to rural areas even if they themselves are ‘urbanised’. However, many of the students who hail from more rural backgrounds face many challenges when coming to study design. Limitations in terms of exposure to technology, formal design and the economic challenges, have many consequences. These ‘other 90%’ individuals should be considered valuable as they can spread a culture of design, with its potential for bringing meaningful change, in areas seldom reached by the ‘10 percent’. There is the potential that these students could present an opportunity to adapt and extend the ‘design with’ approach taught in industrial design programs in South Africa (Campbell, 2008, p. 97). Some of these students have an experiential understanding of some of the typical challenges that many of the ‘bottom of the
pyramid’ projects aim to address. But with the odds stacked against them, how can those from rural areas, enter, learn and then bring about considered change (design) in the areas they hail from?

The tendency is for these students to transform and conform, thereby assimilating into the ‘10 percent’. However, this misses the opportunity for design to have a distinctive positive impact, and even be transformed by those doing it, both as a profession and in the training thereof. These students could be some of the “lay-designers” Campbell refers to (2017, p. 31). Improving access to formal training could lead to professionals from marginalised communities helping those communities design better.

This paper investigates the case of some students, who could be described as coming from the ‘other 90%’. These students come from more, rural areas in South Africa, but through mostly state funding systems were given the opportunity to study Industrial Design. The dramatic leap in exposure and learning that was required of these students, meant their journeys were not simple. For example, a student not having used a computer prior to the first day of class, is still expected to do 3D parametric computer modelling within six months. These students are not unique, with urbanisation and development in the global south, prospective students will continue to come from rural areas to cities for education, so this phenomenon is likely to increase. However, this inequality between the students who might be sitting side by side in class poses many challenges. As an Industrial Design program, various strategic choices have been made to address this diversity and inequality in terms of culture, exposure and wealth.

In order to refine and possibly improve these strategies feedback from the students was used. One could describe it as: redesigning, Industrial Design education with the ‘other 90%’, even if only in a small way. Various lessons are extracted and grouped into three themes: access, teaching and exposure. Some projects are also used as examples.

2. The University and Program

The Tshwane University of Technology is one of the biggest contact universities in South Africa, accepting about 60 thousand students annually (TUT, 2020). Located in the city of Pretoria also has geographic implications. As the most northern city of Gauteng, which is the most populous and urbanised province of South Africa (GCRO, n.d.), Pretoria, acts as a kind of gateway for the more northern provinces which are generally more rural. This has the potential implication that many of the students who attend the Tshwane University of Technology come from these rural areas.

The Industrial Design program was started in 2008 with the first graduates qualifying in 2010 (C Duff, personal communication, February 13, 2020). As a relatively young program with a focus on innovation and entrepreneurship, the program aims to produce graduates who have both theoretical and practical understanding of design. The emphasis on making and
the practical application of knowledge necessitates workshops, equipment and materials. In order to best accommodate students, especially those relying on student loans or bursaries (many of the disadvantaged students are often from more rural areas) the strategic choice was made to include as much of the costs as possible into the formal fee structure. This then reduces the need for students to go out and buy their own materials and these can be bought in larger quantities thereby reducing costs.

In order to increase exposure and access, the program aimed to provide each student with a workstation which includes a desk, computer with all the relevant software, and internet connectivity. The rest of the studio environment includes printers and scanners, 3D printers (although their use is restricted to specific projects) and what is called the concept lab. The concept lab is located adjacent to the studio and is a ‘light’ workshop with basic equipment. Then during working hours students have access to a workshop with a range of equipment for prototyping in wood, plastic, foams, metals etc. They also have access to a shared lab, which is loosely based on the FabLab principles and includes a flatbed CNC router and metal cutting laser. Specialised labs and equipment from other departments, can also be accessed for specific projects, resulting in the students having access to an enormous range of facilities. The acquisition and development of the facilities has been part of the strategic drive of the program since its inception with the aim and hope that students will be able to learn better, with greater access to equipment and facilities.

The teaching approach of the program is predominantly project-based. English and Kitsantas note that this type of pedagogy is useful for knowledge acquisition and in “supporting the development of important real-world skills such as solving complex problems, thinking critically, analyzing and evaluating information, working cooperatively, and communicating effectively” (2013, p. 29) which are all skills useful for Industrial Design graduates. Although it does rely on self-directed learning and motivation (English & Kitsantas, 2013, p. 131). The relatability of a project theme could be a factor influencing student motivation. This project-based learning is conducted in an environment like the studio-based teaching strategy used by many architecture schools (Kuhn, 2001, p. 349). The students spend most of their time in the studio area, at their workstations or in the various workshops, with the offices of the lecturers adjacent to the studio so that students can easily access to teaching staff. The projects that are given to the students are determined around specific learning objectives and planned and adapted continually. The learning objectives are defined as the factors of design originally defined by lecturer Philip Oosthuizen. These factors are use, business, manufacture, environment, society and design expression. Projects almost always include prototyping and ‘real-world’ testing as a focus of the teaching strategy.

3. Interrogation of Strategies

The program has been in existence for just over 10 years, it was therefore time that these strategies were interrogated. Also, as a result of student protests in 2016 there were many
calls to decolonise curricula (Padayachee et al., 2018, p. 289). Although the project-based teaching pedagogy of the industrial design program, teaches graduates many skills that allows them to adjust to the changing contexts and conditions that Padayachee et al. refer to (2018, p. 290), it was also important that the themes of projects also be contextually relevant to students.

In order to interrogate these, a series of informal discussion with students were conducted. Initially a key student, who has completed their undergraduate studies, was consulted on the concept of being the ‘other 90%’. This student, who can be described as coming from the ‘other 90%’, was the student referred to in the introduction who had not used a computer prior to the first day of class. This student then recommended other current students who could also be described as coming from the ‘other 90%’. The study is qualitative as it relied on the experiences and perceptions of specific students. Therefore, the lessons and recommendations cannot be applied universally although they still provide specific insights into how these strategies are working for the students they are aimed at.

The discussion questions were grouped into the themes of access, teaching and exposure. Students were often asked to give examples of projects, so that the lessons extracted can influence the types of projects given to the students in the future, and with that the teaching within the program. All participants had limited or no exposure to using a computer prior to coming to study (Participants 01, 02 & 03, personal communication, February 6, 2020). For many the exposure and use of the equipment was also a first time (Participants 01, 02 & 03, personal communication, February 6, 2020). As noted, these students come from a spectrum of rural to urban with those who participated coming from more rural environments. For example, one participant explained that where he grew up had unpaved roads and they still relied on wood fires for cooking as electricity was only recently implemented in the area (Participant 02, personal communication, February 6, 2020).

4 Access

The access to the studio environment was considered important although it was identified that the high level of exposure can have the potential to be a distraction. Students who did not have access before, and now have unlimited access, are potentially more susceptible to the distractions associated with the internet and digital media (Participant 02, personal communication, February 6, 2020). However, it also true that those with limited exposure to computers need more time with computers to ‘catch up’ to their more privileged, peers (Participant 01, personal communication, February 6, 2020) making this access very important.

The integration of the costs into the fee structure was seen by all participants as valuable and important (Participants 01, 02 & 03, personal communication, February 6, 2020). One participant noted that it is not just the costs associated with purchasing materials themselves, but also the ability to transport the materials. As most of these students would
have to use public transport (Participant 01, personal communication, February 6, 2020). Having access to these materials without having to bear the costs directly, means students have scope to make mistakes, remake and refine although this can lead to wastage (Participant 02, personal communication, February 6, 2020). This aspect of being able to make mistakes and learn from them, is a major motivating factor for the cost integration, as it aligns with the programs DESIGN, MAKE, TEST, REFINE (Brand, 2018, p. 91) process. This is a typical iterative design process and relies on making and testing.

The close integration of the teaching staff and students is also seen as important as the participants noted the relational nature of the program (Participants 02 & 03, personal communication, February 6, 2020). The small class sizes in the industrial design program (not more than 30) allows for what is described as “... makes us like a family... you are close to us, you can see if someone is lacking” (Participant 01, personal communication, February 6, 2020). This appears to be particularly important as it was repeatedly noted that students from more rural backgrounds are apprehensive and possibly intimidated or overwhelmed (Participant 01, personal communication, February 6, 2020). Implementing systems and processes that encourage this relational attribute of the program is important to overcome these potential hurdles for the students.

5 Teaching - Projects

The project focused teaching with its’ practical, making implications appears to be valuable and relatable to students. The familiarity with, what is being asked of the students to design, seems to either hamper or encourage students in those projects (Participants 01, 02 & 03, personal communication, February 6, 2020). Some of the projects highlighted as examples:
5.1 The Walking Stick Project

The students referred to this project as a more neutral project where almost everyone would be familiar with the concept of a walking stick (Participant 01, personal communication, February 6, 2020). The original brief for this project asked students to design ‘a device for assisting someone while walking’. This broadened what could be interpreted by the brief and did not limit the solutions to only walking sticks. This project aimed to teach user interfacing elements, as well as wood working skills and the properties of wood and its potential uses. The relatable nature of the project meant students could easily engage with the theme and only needed to overcome specific challenges around materials and interfacing using prototyping (Figure 1).

5.2 Rotation Moulding Competitions

Annually, the Association of Rotation Moulding in South Africa runs a student design competition (Armsa, n.d.). The competition is integrated into the curriculum for second year students. Participants noted that the potential for the students to learn and do well in the competitions is linked to how familiar the students are to the brief theme. For example, one of the briefs looked at sport (in general) as a theme for the project. This was cited as relatable and therefore easier to engage with by participants (Participant 01, personal communication, February 6, 2020). In contrast the theme of ‘the beach’ was not very relatable as many students, living in inland areas, had not seen or experienced the seaside (Participant 01, personal communication, February 6, 2020). This lack of experiential
understanding of the context and theme for the project put ‘other 90%’ students at a distinct disadvantage.

5.3 Umqombothi (traditional beer) bottle

The intention with this project was to teach principles of size and proportion as well as volume. The brief specified that students design a bottle for traditional African beer. Most of the students, who could be described as ‘other 90%’, have real-world experience with traditional beer. This, therefore, put them at an advantage and even meant their more privileged peers consulted them for information and insights. Participants highlighted this project as an example where they could better relate and therefore engage more easily (Participant 03, personal communication, February 6, 2020).

5.4 The Rocket stove project

Initially inspired by the Tshulu stove project (Makonese & Bradnum, 2017, p. 21), which was exhibited at the Design WITH the other 90% exhibition. This project aimed to embrace the concept of Design when you ARE the other 90%, by relying on students who have experienced the context where these wood fire stoves might be used. Students were divided into groups, consisting of both ‘rural’ and ‘urbanised’ group members. This distribution was self-determined by the students. Students were given the internal functional element of the stove, based on the dimensions and functional strategies of the Tshulu stove, defined by the lecturer in consultation with Chris Bradnum, the designer of the Tshulu stove. However, the
Design when you are the other 90%, a student’s perspective

The Tshulu stove was made into a two-pot version, as it was evident from the ‘design with’ research conducted in the development process of the Tshulu stove that often households needed to cook in two pots simultaneously (Makonese & Bradnum, 2017, p. 22). Students were asked to design and prototype the rest of the stove, including the interface and insulation (Figure 2). This project was one of the first experiments of a ‘design when you are’ as opposed to a ‘design with’ project brief. This needs to be further interrogated as a potential strategy for future projects.

6. Exposure

Students find visits to manufacturers and other excursions valuable (Participants 01, 02 & 03, personal communication, February 6, 2020). One observation noted by participants was the ability to talk to those working at a manufacturer in their home language (Participant 01, personal communication, February 6, 2020). These factory workers likely have a tacit understanding of a manufacturing process which they are then able to explain in a local dialect, thereby removing jargon and translations issues for students for whom English is a second language. This is a valuable insight as often the hosting individual taking students on a tour is not necessarily from a disadvantaged background and would be using primarily English to communicate. Requesting that student be allowed to interact more directly with those working at a factory is something that should be implemented.

7. Lessons

It appears many of the interventions are helping, even if only in a small way. Most of the students considered themselves to be at an advantage when comparing themselves to peers studying in other programs (Participants 01, 02 & 03, personal communication, February 6, 2020). The lower student numbers contribute to this, it should therefore be retained, as far as possible. The infrastructural challenges associated with providing adequate levels of access, in order that the ‘other 90%’ individuals have ample opportunities to catch-up, will always be present. The factors influencing these would be financial, institutional policy and simple practical implications of available space. Although many of these factors fall outside of the immediate control of the staff team, it should remain a strategic drive of the program and opportunities should continually be sought to improve access.

As noted above the value of excursions and visits to industry are clear. However, enhancing and encouraging interaction between the students and those on the ‘factory floor’ is something that should be further explored.

As noted above the value of excursions and visits to industry are clear. However, enhancing and encouraging interaction between the students and those on the ‘factory floor’ is something that should be further explored.

The area with the most opportunity for change, and the easiest to effect, is that of the projects given to the student as part of the teaching strategy. The projects need to be looked at in terms of their relatability and accessibility, in addition to the teaching objectives.
already established. Figure 3 is a proposed *Project Determination Model* based off the lessons of this research. Previously projects were predominantly determined by teaching staff members, with the staff member relying on historical precedents of projects and often choosing themes for projects haphazardly, mostly focusing on the teaching objectives. Often better projects were developed mostly as a result of the experience of the lecturer designing the project. This model provides a series of questions and a way to compare project briefs so that a diverse range of projects are developed not just in terms of teaching objectives, but also the thematic attainability of the project. Thematic attainability refers to the level at which students can actively engage with the project theme. A more diverse range of projects, in terms of theme, can easily be argued as fairer as well as better for learning.

![Figure 3 Project Determination Model – Illustration by author](image)

Looking at the model the first column is the *project source*. This is where or how the idea for the project originates. The different listed sources have their advantages and disadvantages but, by using a combination of these would once again result in better more diverse projects. Currently the project source strategy relies predominantly on reuse, teaching staff, competitions and external entities. The addition of students is something that will be implemented as a result of this paper. A system for project suggestions, based on specific teaching objectives, will be developed so that later year group students (who have already completed the proposed project, during their previous years of study) can propose project
themes. The hope is that unique and relatable projects will emerge. The teaching staff will have to then look at these proposals and adjust them as needed to fit with learning objectives.

The next column is the learning objectives. These as described earlier are a broad grouping of the various factors that influence the value of a design solution. Addressing these factors in various projects is, in effect, a key teaching strategy of the program. Interrogating these specific teaching objectives is not within the scope of this paper, but they are included in the model as they are currently used to determine projects.

The last column Theme Attainability was a major addition to the model. Here the theme of the project is dissected in terms of how relatable it is, as well as, how accessible it is to students. While interviewing participants, the relatability of a project (with its context) was a factor identified as making a project easier or more difficult to engage with, especially for students who could be considered as from the ‘other 90%’. The second attribute of access was determined from an example given by one participant. Recounting a project where they were tasked with designing wall sconces, the participant noted that hardly anyone knew what it was (Participant 01, personal communication, February 6, 2020). However, after being encouraged to search for images of wall sconces, they were able to quickly understand what it was and design accordingly. This example highlights the importance of access to information. Can information on the design problem be found? This information should not only be recorded information (books and internet), since self-amassed information is equally valid, and it would also teach students basic research skills. Another aspect of access is how accessible the context is for immersion and thereby allowing for experiential understanding of a problem or context. Using the example noted earlier of the project with ‘the beach’ theme. Effective immersion for inland based disadvantaged students was impossible. However, by asking the questions ‘what is similar?’ and how do you ‘facilitate/encourage immersion?’ will draw focus on the actual accessibility of the theme. This might mean the theme needs to be altered or designed around a specific immersion experience made available to students. Asking these questions, as part of the model means the selected themes for projects should have a wider variety. It could also have the effect of expanding the contextual scope of projects, thereby improving learning for all students.

Conclusion

Design, despite its increased humanisation and democratisation remains somewhat reserved for the wealthy or elite. Training and equipping students who could be described as ‘the other 90%’ is a strategic opportunity for a culture of design to spread in contexts that have little exposure to formal design. However, these students do face many challenges and need assistance. The interventions already implemented by the Industrial Design program are helping but could be further refined and adapted. The themes for projects appear to be the areas where the most change can occur. The Project Determination Model aims to address
this by drawing specific focus on the theme attainability of a project. By better selecting more diverse themes for projects, the culture of design, as a result of the complex proximity of the ‘other 90%’ alongside the ‘10 percent’ could change for the better.

References


Design when you are the other 90%, a student’s perspective


*About the Authors:*

Kyle Brand completed his master’s degree in Industrial Design at the University of Johannesburg and now teaches at the Tshwane University of Technology. His research interests span a diverse range of topics including, transdisciplinary, open design and social innovation.
Design with Social Justice in Mind. The Case Study of Furniture Design in Elementary Schools

Caroline Gagnon*, Claudie Rousseaub, Thomas Coulombe-Morencyc, Sonia Cadoret, Colin Coté
d

aUniversité Laval
bUniversité Laval
cUniversité de Montréal
dUniversité Laval
eUniversité Laval

*caroline.gagnon@design.ulaval.ca

Abstract | Many studies have demonstrated the importance of considering the physical environment, more specifically classrooms, as a significant factor of influence in academic success and educational experience. Within a social justice in mind, this paper presents a case study on furniture design in Québec’s (Canada) public elementary schools conducted over the past two years. The results show that classroom design is categorised by a spectrum of flexibility, from a classic layout to a flexible one. Issues of a variety of furniture models, overloaded classroom and disappearance of places for pupils are observed in classroom. While flexibility is important to consider in the design of a classroom, it must also be organized in such a way as to avoid excessive spatial and visual complexity. Therefore, it would be necessary to introduce a greater concern for harmonization as social justice principle into classroom and furniture design.

KEYWORDS | FURNITURE DESIGN, ELEMENTARY SCHOOL, SOCIAL JUSTICE, INCLUSIVE DESIGN, CLASSROOM DESIGN
"The evolution of a school system can only be properly directed if we begin by knowing what it is, what it is made of, what are the conceptions that underlie it, the needs it meets, the causes that have given rise to it." (Durkheim, 1999; 123)

"Spatial innovations, detached from their pedagogical sources and justifications, pose more problems than they solve." (Derouet-Besson, 2000; 27-28)

1. Introduction

Many studies, including the work of Peter Barrett at Salford University in Manchester, have demonstrated the importance of considering the physical environment, more specifically classrooms, as a significant factor of influence in academic success and educational experience (Barrett & al., 2019; Barrett & al., 2015). Barrett and Zhang (2009) indicates that the layout of a classroom should allow it to be adapted by a variety of teachers with specific, yet diverse groups of pupils. In this sense, a newly built school must account for the adaptations that take place in its spaces and classrooms. Only when spaces are conceived to support learning and creating a positive experience for both pupils and teachers can it be said to have been successfully designed (Barrett & Zhang, 2009).

Based on teachers' and pupils' perspectives regarding their classroom environments, Pointon and Kershner (2000) find that classrooms often reflect teachers' different pedagogical visions. Thus, the design of classrooms is generally left to teachers; and yet, by overlooking idiosyncracies, an apparent consistency emerges between the desire for flexibility in spatial layout, according to activities, the spatial and visual complexity of classroom environments more generally.

According to Barrett and Zhang (2009), the flexibility of elementary classroom layouts has a significant impact on learning. The level of flexibility of a classroom is related to the degree of adaptability that the space offers in accomplishing the various pedagogical activities undertaken at any given time. The level of complexity of a classroom's layout refers to the way in which the different elements of classrooms combine to create visual coherence and a structured environment. For example, Barrett and al. (2015) estimates the impact of spatial and visual complexity in classroom layout on pupils learning at approximately 12%, with flexibility of layout accounting for 17%. In this study, they also mentions organization as a meaningful factor to be considered. Roskos and Newman (2011) reports that the quantity, arrangement and organization of physical space influence human behaviour.

Therefore, while flexibility is important to consider in the design of a classroom, it must also be organized in such a way as to avoid excessive spatial and visual complexity.

More than the design issue, as the school system in Québec is mainly public funded, it must provide pupils from all backgrounds an equivalent learning environment that supports their
success. In this sense, furniture design in elementary schools should be oriented to support social justice as much as it can be.

“Social justice may be thought of simply as “the common good through the equalization of goods or services” (Sadeghi and Price, 2007: p. 4), or it may be more elaborately defined as “the fair distribution of opportunities, rewards and responsibilities in society, as well as principles and institutions for the distribution of meaningful social goods – income, shelter, food, health, education, the freedom to pursue individual goals (Hudson, 2013: p. 432)” (Barak, 2015).

With this perspective in mind, this paper presents a case study on furniture design in Québec (Canada) elementary schools conducted over the past two years.

2. The Context

SCHOLA is a 5-year, $2.5 million research project funded by the Ministry of Education and granted to a team of researchers at Université Laval (Québec, Canada). Led by Carole Després, professor at the School of Architecture, the ultimate goal of the research project is to develop a decision-making platform for school architecture and design based on scientific evidence (Després & al., 2016).

There are more than four thousand school buildings across the province of Québec. Facilities and infrastructure are aging and have reached the end of their useful life. The majority of elementary schools were built during the baby boom period between the 1940s and 1960s.

In response, the Québec government has recently undertaken an ambitious school construction and renovation project with major investments planned. These initiatives are part of a new Policy on Educational Success (MEES, 2017).

With the evolution of society and repeated reforms brought to the public education system that beginning in the 1960s, and which include the improvement of programs, the gradual inclusion of women into the labor market, the introduction of school daycare services, as well as the challenges related to integrating pupils with special needs and immigrant populations, schools are under increasing pressure to allocate their space in a functional way that take into account a wide range of needs (Després & al., 2017).

To meet these transformative challenges, the SCHOLA team has been formed to bring together researchers with expertise in architecture, design, education and partnerships from the educational, associative and professional sectors.
3. A Case Study of Furniture Design in Elementary School

3.1 Mixed Methods

The research adopts a comprehensive perspective and an inductive approach to portray classroom environments in relation to the educational experiences of teachers and pupils (Bisson & Gagnon, 2005). Based on an inventory of furniture in 66 classrooms in 19 elementary schools and semi-structured interviews with teachers, pupils as well as non-teaching staff, the team identified several issues related to the diversity of the facilities and furniture found in classrooms. A questionnaire for a web survey was also developed and a codesign activities with pupils. The web survey collected responses from 496 teachers from across Québec based on a simple random sample.

<table>
<thead>
<tr>
<th>Table 1. Data collection</th>
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<tbody>
<tr>
<td>Methods</td>
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<tr>
<td>Inventory of furniture</td>
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<tr>
<td>Non-participant observation</td>
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<td>Teachers Interviews</td>
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<td>Pupils Interviews</td>
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<td>Codesign activities with pupils</td>
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<td>Management staff interviews</td>
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<td>Material resource department director interviews</td>
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<td>Concierge interviews</td>
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<tr>
<td>Daycare service</td>
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<tr>
<td>Web Survey</td>
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</table>
The inventory method allowed to collect more than 2000 objects that were grouped into categories. In order to classify the numerous models, a characterization system has been developed, based on a syntagmatic relationship analysis of the objects whose main components that define them were divided: seating (seat, back, leg and glides), work surface (table top, leg, cabinet storage and glides), storage (cabinet, opening and glides) and communication material (format, orientation, support and chalk rail). An observation grid has also been developed to sketch class configurations. In order to facilitate the understanding of the educational experience, i.e., what is happening in the classroom, as well as the perception of these activities by teachers and pupils, 2 hours of non-participant observations were conducted. This observation period was followed by a semi-structured interview with the teacher and a selected pupil.

**Figure 1.** Syntagmatic analysis of seating. Source: Schola. Université Laval. 2019 ©

### 4. Results

The article will focus on general results. The codesign activities and experience of comfort are detailed in the study conducted by Coulombe-Morency (2019), the analysis of learning spaces are detailed in the study by Rousseau (2020) as well as the analysis of wall displays by Cadoret (on going).

#### 4.1 A spectrum of flexibility

Classroom layout in Québec schools is characterized by a spectrum of flexibility:

- from the classic classroom with a row desk layout,
- to the semi-flexible classroom with several dedicated areas for educational activities and a cluster desk layout,
- to a flexible classroom with a zonal layout and no place assigned to pupils.
Classrooms are generally organized into activity zones, the number of which varies according to the uses of the space: teaching space, teacher’s space, computer area, reading area, documents area, assembly area, active work zone, storage, collaborative work area.
Figure 4. Layout diagram and picture of one classic design classroom. Source: Schola. Université Laval. 2019 ©

A. Classic layout
The classic classroom layout is composed of furniture that can be described as traditional. It primarily consists of desks and chairs arranged in rows facing the teaching area and the communication board. Dedicated areas either are absent or very modest in the room, the teaching (or learning) space being largely occupied by individually assigned desks, i.e. the pupil's is typically assigned a desk, with the pupil's name on it, at the beginning of the school year. Furniture is relatively homogeneous with little variety with respect to seating and work surfaces.
Figure 5. Some dedicated areas of the classic layout and their typical school furniture. Source: Schola. Université Laval. 2019 ©

Issues of classic layout classroom:

- The layout offers little or no recess space.
- The pupil can easily identify with his/her own desk, but little with the rest of the classroom.
- Little or no space for collaboration, but desks can be grouped together for this purpose as needed.
B. Semi-flexible layout

The semi-flexible layout is a hybrid between classic and flexible layout. These classrooms tend therefore to be very distinct, but have similar characteristics, such as: 1) the presence of a desk and a chair for each pupil (although not necessarily assigned to each pupil), 2) a variety of seating and work surfaces, and 3) dedicated areas are more common and occupy the extra space left vacant by the tighter grouping of desks. In addition to the traditional furniture of the classic layout, there is also furniture for moving around (stability balls, wobble stools or floor seat), various objects imported from the domestic milieu, including tables and additional storage to meet the needs of a larger number of dedicated areas.
Figure 8. The semi-flexible classroom layout with additional furniture that are added to those present in the classic classroom. Stylistic referents from the domestic milieu and sporting environment are added to the classroom. Source: Schola. Université Laval. 2019 ©

Issues of semi-flexible layout:

- The introduction of additional zones causes distinct challenges for class management.
- The variety and quantity of objects in the space complicate the layout of the classroom both visually and functionally.
- Although the semi-flexible layout responds to all the functions of the classroom, there is no prioritization or hierarchy of its functions in space.

Figure 9. Some issues of the semi-flexible layout: overcrowded desks, need to add dividers for evaluation, bed lifts, different heights of work surface. Source: Schola. Université Laval. 2019 ©
C. Flexible layout

![Flexible layout classroom](image)

**Figure 10. Layout diagram and picture of the flexible layout classroom. Source: Schola. Université Laval. 2019 ©**

In contrast to the classical classroom at one end of the spectrum, the flexible classroom marks a disruption in the spatial organization of a classroom. There are only a few pupil desks and few or no chairs with typical scholastic references. The flexible classroom is characterized by the presence of a variety of seating and work surfaces of varying heights and dimensions. The school-type objects of the classic layout are abandoned in favour of furniture found or acquired by the teacher's own means, often coming from the sporting or domestic reference environments.

**Issues of flexible layout classroom:**

- The management of space has to be well structured by the teacher as pupils constantly change place. Some use a privilege system to grant place to pupils.
- The management of place by privilege could be discriminatory for some pupil.
- Some scholastic desks are reserved only for pupil with learning or adaptation difficulties and located apart in the space.
- Sharing the space, material and the equipment at the school material resource management are difficult. Introduction of distinctive models of furniture and very personal layout designed by the teacher is a problem of material resources management.
Figure 11. The flexible layout: household objects are more present in a flexible classroom than objects with scholastic references. Classroom has a very wide variety of seating arrangements. Pupils do not have a chair and a desk each. Source: Schola. Université Laval. 2019 ©

Figure 12. Some issues related to adjustment when writing in flexible layout classroom: in a bean bag, collaborative work in a couch, writing on an armrest, diversion of use and poor fit. Source: Schola. Université Laval. 2019 ©
4.2 A variety of furniture models

As the analysis of inventory confirmed, different stylistic references of school furniture appear in classroom layouts.

![Image of furniture models: Traditional, Flexible, Domestic, Sporty]

**Figure 13. Diversity of furniture in the classroom. Source: Schola. Université Laval. 2019 ©**

The traditional one refers to the kind of furniture that are generally associated to school and office: standard pupil chairs and desks, stools and teacher chairs and desks. Nevertheless, a new trend was observed in classic classroom: some teachers use some stability balls, wobble stools or floor seat to replace regular chair.

With the semi-flexible and flexible classrooms, two new stylistic references are incorporated in the layout: domestic furniture like sofa and ottoman and sports accessories and equipment.

The identification of different models in the space, according to the categories of objects, also appears problematic. For example, on average in a single classroom, it is possible to find 6 different models of chairs, 6 different models of tables, 5 different types of displays, and 9 models of storage units. The figure below shows the number of models observed according to the types of objects categorised in one classroom.

**Table 2. Number of different models of furniture in one classroom**

<table>
<thead>
<tr>
<th></th>
<th>Seat</th>
<th>Work surfaces</th>
<th>Communication material</th>
<th>Storage</th>
<th>Partitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>-</td>
</tr>
<tr>
<td>Maximum</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>22</td>
<td>2</td>
</tr>
</tbody>
</table>
4.3 An overloaded classroom

In addition to this, spatial organization is becoming more complex with the addition of dedicated zones. The semi-flexible classroom is being the most crowded with furniture.

A high visual load is also apparent through the many posters, display surfaces and decoration that leave little unused space and a rather dispersed visual organization. The team is currently completing the analysis of the visual organization of the walls displays based on visual parameters such as complexity level (quantity and organization), relevance (utility and quality) and flexibility (functionality and adaptability). The preliminary analysis shows a high to medium level of visual complexity in the room design. While studies show that a low to moderate visual load is desirable to promote attention and concentration, we observe a physical and visual over-crowding of the space generating impacts with respect to comfort (especially ergonomic issues and postures), maintenance and attention (Barrett & al., 2015; Fisher & al., 2014).

![Diagram and photo of wall displays. The visual density of this wall is 73%. Source: Schola. Université Laval. 2019](image)

4.4 Disappearance of assigned places for pupils

It seems that classrooms in Quebec schools are changing to make more room for collaboration and greater individual choices for both pupils and teachers: in rows with individual desks (13.6%), in rows of two to four desks (27.9%), in blocks of three or four (9.5%), in blocks of varying sizes (18.4%), in groups (15%), other (15.5%). Nevertheless, the mobility of the pupils in classrooms induced by a greater flexibility of space reveals a trend that means the disappearance of the assigned desk for the pupils. In other words, the pupils tend to lose their seat, and must learn to find a place according to the rules of the teacher’s classroom management and the change in pedagogical activities.
Although this observation emerged from the analysis of the observations and the inventory data, this concern did not emerge much from the interviews with the teachers, who seem to value their autonomy with regard to classroom design. However, the codesign workshop and interviews with pupils shows that they would like more privacy (Coulombe-Morency, 2019).

Figure 16. Examples of chairs designed by pupils with additions to allow more privacy for their chair. Codesign activity. Source: Schola. Université Laval. 2019 ©

Table 3. Issues of greater flexibility in classroom design.

<table>
<thead>
<tr>
<th>CLASSIC LAYOUT</th>
<th>FLEXIBLE LAYOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR PUPIL</td>
<td>Management of places by privilege</td>
</tr>
<tr>
<td>Assigned seat</td>
<td>Issues of stigmatization of special needs pupils</td>
</tr>
<tr>
<td>Appropriation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>FOR PEDAGOGICAL ACTIVITIES</td>
<td>Collaborative and autonomous activities</td>
</tr>
<tr>
<td>Individual activities, teaching lecture and</td>
<td>Issues of privacy and concentration</td>
</tr>
<tr>
<td>evaluation</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>FOR MATERIAL RESSOURCE MANAGEMENT</td>
<td>Difficulty in sharing spaces and uses</td>
</tr>
<tr>
<td>Ease of sharing spaces and uses</td>
<td></td>
</tr>
</tbody>
</table>

Figure 15. Spectrum diagram of classroom layout and the disappearance of assigned place. Source: Schola. Université Laval. 2019 ©
5. Discussion

Weinstein & al. (2011) based on Steele (1973) report six functions of a classroom: 1) security and shelter 2) task instrumentality 3) social contact 4) symbolic identification 5) growth and 6) pleasure and comfort. They argue that the physical, psychological, pedagogical and educational dimensions of learning environments for teachers and pupils are interrelated and materialize in the form of diverse spatial organizations. The spaces observed try to support these dimensions with different degrees of success and can sometimes conflict.

While these functions are part of different planning strategies that enable pupils to mobilize a set of learning activities, it must be recognized that the juxtaposition of all of their strategies without harmonization poses more challenges than one might think to the spatial and visual quality of the classroom.

We can wonder about the impacts of the pupil’s place, the privacy (the security and shelter function, and symbolic identification), concentration and cognitive load, as well as the privilege management in spatial mobility inflicted on a daily basis (task instrumentality).

Our observations also raise an important concern about the stigmatization of the most vulnerable pupils, because only children with special needs kept their desk in a flexible environment.

If flexibility is introduced in a classroom, it generally implies a more unique and idiosyncratic arrangement that also induces significant challenges on a larger scale. These arrangements are in fact not easily reversible and make it more difficult to share space, furniture and equipment on a school material resource management point of view. From that perspective, it should be important to consider year to year demographic variations that modulate the opening, twinning or closing of classrooms.

Finally, the addition of furniture to the classroom is currently based on a relatively limited supply source. In fact, two manufacturers across the province are ostensibly taking over the entire market for school furniture. To seek to diversify their facilities, teachers and school organizations must therefore turn to foreign manufacturers or equip themselves with non-institutional distributors such as IKEA, Walmart or Amazon, thus making inventories of school amenities very heterogeneous.

In this context, our team puts forward the idea that it would be necessary to introduce a greater concern for harmonization as social justice principle into classroom design. Design recommendations should be linked with the relationship of the classroom to pupil wellbeing and school material resource management overall.
How then, can we ensure that we design furniture that offers a certain degree of uniformity throughout the school material resource management, so that all pupils can benefit from the best facilities even if the pedagogical approaches are different?

How can we promote a form of unity in diversity that avoids individual discrimination of children and support the work of the teachers?

6. Design for Social Justice in Mind: A Need for Harmonization

Some will wonder why the team is addressing the school furniture design problem by taking a kind of universalist design stance. The designer’s responsibilities in a public context lead one to think about how to preserve equal opportunities and therefore to consider solutions that involve considering pupils who all have the same rights. In this sense, the effort of differentiation, which is strongly associated with one of the economic values in design, therefore deserves to be questioned, because it is strongly anchored in a market approach where design serves to sell rather than to serve social justice. In this respect, several design authors are beginning to highlight the links between design and inequalities, suggesting that such concerns should be addressed within the larger spectrum of social justice (Julier & Kimbell, 2019; Williams, 2018; Fisher & Gamman, 2019). Others call for reflection on design considerations in the context of public good where access to an equivalent service is needed no matter who delivers it (Gagnon & Watkins, 2017; Kimbell & Julier, 2019; Srinivas & Staszowski, 2019). Being caught between an industry that functions within a market framework and the government that works for the public good is a difficult position for designers. Finally, however contradictory the notion may seem, it may also be possible to orient the design of school furniture by allowing for stylistic and functional adaptations within a furniture system that can support several forms of teaching and classroom organization, while maintaining general criteria, such as a public purpose to be addressed and integrated into design propositions.

In this way, uniformization could be seen as a systemic design strategy for management, that addresses inevitable cost concerns, and in some aspect, equity between all pupils and teachers all across Québec.

Differentiation, on the other hand, should be seen an adaptive strategy to meet the needs of different types of learning and pedagogies, as well as distinctive identities of schools that can translate into stylistic changes or functional adjustments to the whole system. This strategy could be an easy way for the industry to appropriately service scholastic objectives. However, it should be initially important to consider an inclusive perspective as a prior design principle to avoid discrimination and eliminate segregation as much as possible, and finally to promote an equal delivery of public services to all pupils.

An effort at harmonization is certainly desirable at the classroom level, especially since some educational positions question the need for excessive differentiation from a pedagogical
point of view. According to certain studies, the notion that pedagogy must be differentiated to meet needs is not unanimously accepted: good pupils succeed almost within any pedagogical framework, because they already benefit from superior resources, those displaying more difficulty generally succeed with more explicit instruction. Explicit teaching, according to these studies, would therefore be beneficial to all (Gauthier & al., 2013; Gauthier & al., 2005). These perspectives on pedagogy are subject to debate, and the questions they raise can hardly be exhaustively detailed here. Nevertheless, bearing in mind these data, we should perhaps be concerned to promote, in all facilities, design that promotes explicit learning while allowing for adaptations.

It is therefore from this perspective that the team proposes to frame the design of the furniture by prioritizing design principles that allow a spatial organization permeable to the spectrum of flexibility observed while always allowing for classroom reorganizations, in such a way as to structure pedagogy in an explicit and more classical manner.

Finally, although the study focused mainly on space and layout, many parameters must yet be considered in order to harmonize school environments. In this regard, the analysis of colours, materials, technical considerations and environmental concerns should be addressed in further researches.

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**About the Authors:**

**Caroline Gagnon, PhD** is an associate professor at the School of Design (Université Laval, Canada) and director of the product design program since 2014. She is interested in social and public practices of design and their innovative role.

**Claudie Rousseau** has just finished his master's thesis. She is continuing her career at the Ministry of Education.

**Thomas Coulombe-Morency** is a PhD candidate in environmental design at the Université de Montréal.

**Sonia Cadoret** is a candidate for a master's degree in design research at Université Laval.

**Colin Côté** is an industrial designer.

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Evolving future city-based retailing via design thinking: A Chinese hybrid model approach.

Yujia Huang*a, David Handsb, Rachel Cooperb, Nick Dunnb

*aUniversity of Dundee
*bLancaster University
* yhuang002@dundee.ac.uk

Abstract | This paper forms part of a three-year on-going research project which critically examines how design thinking is integrated into the development of city-based retail models. Through the selected three Chinese hybrid retail primary case studies, by considering the higher level of human needs and social contexts, brands could develop a sustainable core value, and it will enable brands to continue to innovate. Compared to traditional product-focused strategies and brand storytelling strategies, this research identified a full-spectrum interaction strategy which leverages the brand core values and social interactions. It allows brands to plan city-based retailing activities with careful consideration of full-range of human needs from physical, emotional, personal and social needs. Followed by the author’s previous research, this paper examines design thinking methodologies into a brand analysis tool which allows key business decision-makers to plan the direction of a brand’s strategic development.

KEYWORDS | DESIGN & BUSINESS INNOVATION, DESIGN THINKING, NEW RETAIL MODELS, EXPERIENCE DESIGN, CHINA RETAILING
1. Introduction

Traditionally, consumers regard the in-store environment of retailers as space which layout product or hanging on promotion materials to present “what they sell”. From 2003, Apple store’s provocative ‘experience store’ model dramatically transformed the way that a company should utilise the physical interaction with customers. The natural advantage that physical stores can compete with virtual retail environments is that they can create “full-sense” experiences (Norman, 2005) which can stimulate consumer’s more in-depth responses and compelling brand associations. As one of the essential components of instore atmosphere, internal environments are attached with in-depth knowledge of the product and brand, contributing largely to consumer satisfaction (Mohan, Sivakumaran, & Sharma, 2012). The connection that a physical retail environment can create goes far beyond consumer satisfaction. Furthermore, real-life interactions dominate overall human wellbeing. Specifically, the interactions among human-human, human-social, and even human-culture that are carefully created by city-based retailers are not only can achieve the full-level of consumer satisfaction on consumption but also to the overall quality of everyday life.

The commercial decline of the city centre has forced businesses to reappraise retail trade activities; its planning seems behind the new economic era of demand (Léo & Philippe, 2002). Crawford argues in his paper ‘A Brief History of Urban Form’ “...Cities have been consistently arranged around a centre hosting commercial and social activities...” (2005). City high streets as ‘systems’ are directly associated with the life and death of the more extensive system of the so-called city (Dennis, Marsland, & Cockett, 2002; Hallsworth, 1995; Williams, 1996). Moreover, in competition between cities of creating their ‘brands’ (Coca-Stefaniak & Bagaen, 2013), city high streets development links with secure investment and to attract and retain businesses which determines the economic success of a city (Hodgkinson, 2011). From a city planners’ perspective, cities offer cultural, entertainment, healthy, social and more possibilities (Department of Communities and Local Government, 2013; Zhang, Zhu, & Ye, 2016). These should all be considered in the transition of city high street to shape future smart cities (Crawford, 2005; Fletcher, Greenhill, Griffiths, Holmes, & McLean, 2016).

Regarding the specific debate about the function and the role that a store places in the city and community activities, Mary Portas, in her acclaimed review (Portas, 2011) offered a comprehensive summary. She argued, “high streets are not just in commercial terms, but as dynamic, exciting and social places that give a sense of belonging and trust to a community, providing an important catalyst for both the investigation of and policy debate on, topics.”

How to involve social contexts into city-based retailing’s sustainable business model innovation through design thinking is the key aim of this discussion. This paper questions the traditional way of product foci and brand story foci strategy and provides a full-spectrum interaction strategy could allow brands to meet the full level of latent customer needs.
2. The Evolution of City-based Retailing

2.1 Physical and social interactions

The role of a store environment and elements that can foster or sustain pleasant emotional reactions becomes strategically more important (Sherman, Mathur, & Smith, 1997). Nearly 40 years after Kotler (Kotler, 1973) noted the importance of the retail atmosphere for purchase decisions, marketing literature has affirmed the importance of a range of environmental and atmospheric variables. From the customer relationship point of view, as discussed earlier, if a brand wants to achieve full-sense of consumer experience (Norman, 2005), physical attachments are needed. The experience commonly associated with emotions. The way that our emotions’ colour is strongly tied to environmental representations (Garling & Golledge, 1993; Golledge & Stimson, 1997). Furthermore, aesthetic preference represents part of the brand identity, which will automatically attract targeted audiences. Therefore, the data generated from the brand and consumer interactions in the physical space is way accurate than general online reviews. Secondly, research about retail business completed by Bell (Bell, 2014) shows that to understand consumer’s activities in different types of locations (regions in the city and types of cities) will also support online business model evolution. In the same kind or regions or similar size of cities, consumers tend to behave with similar consumption patterns and preferences. This information is highly invaluable for a brand, which aims to expand the market or develop new product lines for both online and offline activities. This influence is pervasive, and sometimes counterintuitive, with implications for our lives in both worlds (both virtual and physical).

2.2 The changing status of retail strategy

Reviewing the relationship between online and offline retailing in the past decade, it has undergone three distinct phases. The first phase was Online VS Offline. It features the freshness of cross merchandise and the exaggerated convenience of online retailing. With lower start-up costs, less capital investment, and selling channels straight afforded physical retailers a heavy blow (Shackleton, 2016). While an online store can be quicker and simpler to set up than a retail business, though in terms of the allocated target market and building meaningful interactions with consumers, it is still far from satisfactory than physical retail spaces. To overcome this, the second phase was to move to Online to Offline (O2O). It is a business strategy that “draws potential customer from online channels to physical stores”. The typical example of widely apply O2O is China (Pasquier, 2015), with the wide use of QR codes in local shops to make easy mobile payment and promotion coupons, branded and independent city shops achieved balanced benefits from the value of the internet.

As discussed earlier, customer journeys are increasingly complex due to multicomponent channels, online companies’ disadvantages and limits were slowly magnified. Without ‘touch-and-feel’, brands will not be able to fulfil the full sense of shopping experience for
customers (Haims, 2017). Therefore, the third phase Online mixes Offline channels. In-store IoT (internet of things) technology and big data gives offline channels more opportunities to digitalise consumer behaviours and discover emergent business models. Overall, the image of bricks-and-mortar retailers in this research study is involved with technological tools and Omni-channel interactions; therefore, innovative business models and strategies are in urgent need of reappraisal.

Peter Drucker’s definition in business model in 1994 (Jensen, 2013) was “assumptions about what a company gets paid for.” Joan Magretta refined Drucker’s definition and divided the meaning of business model into two parts. Part one associated with internal value proposition and capacity; part two is related to the external social and environmental context changes (Ovans, 2015). Especially to build a successful business in the Omni-channel retail era, establishing the core value proposition concerning the understanding of external context is the key to success.

2.3 Chinese ‘New’ Retailing: the new equilibrium

China is currently in the process of profound economic development, urbanisation acceleration and retailing evolution. The rapidly growing mobile internet market, emergent financial transaction technologies and new demographic segments afford Chinese city-based retailers both challenges and opportunities to develop new business models in achieving Omni-channel retailing and long-term survival (China International Digital Business Centre, 2017). With the support of the ‘13th Five-Year Plan’ (2016-2020) for National Economic and Social Development, significant progress was made in transforming and upgrading the retail industry. City-based retailers are witnessing signs of recovery. China is widely recognised as one of the most competitive markets for city-based retailers. Rapid business evolution is now demanding retail enterprises to react proactively to develop innovative business models to remain competitive (Ho, Poh, Zhou, & Zisper, 2019). Traditional singular product or service-focused design strategies are no longer sufficient for city-based physical retailers to attract and retain existing consumers in the pursuit of sustained commercial success. As such, the authors are witnessing the emergence of a growing number of Chinese retail entrepreneurs leveraging the power of design and design thinking in the development of new hybrid retailing models. Through critical interrogation of the new retail landscape in China, this paper aims to discuss and reflect upon the evolution of retail design, proposing a hybrid retail model for the future development of sustainable city-based retail design activities.

3. Design Thinking for business innovation

Design has and is continuing to play an increasingly important role in delivering business value propositions, often in a variety of subtle ways. Firstly, the proposition contains elements that are highly tangible to the consumers, which are manifest in both tangible and
intangible forms. These may include built physical environments, digital applications, graphics and a wide array of supporting promotional material, physical devices and complementary packaging elements. The intangible proposition is equally as powerful but requires far more consideration in both development and delivery due to its subtle nature; these could be achieved through the offering of memorable services, clearly defined policies and processes that are so heavily informed by and through design. Taken in entirety, the holistic application of design addresses all attributes of a product or service offering it physically or virtually or both; what is essential though, this activity has to be intelligently and carefully orchestrated at both strategic and operational levels of implementation. In essence, it could be argued that design and design thinking is the manifestation of strategic intent making the intangible values of the organisation visible to a wide variety of both internal and external audiences (Turner, 2016).

It is very hard to have a singular definition of design thinking. Looking back to the evolution of design thinking, the first strand sees design thinking as a cognitive style (Cross, 2001); the second strand defines design thinking as a general theory of design which refer as ‘human action in the realm of the artificial’; and the third sees design thinking as a resource for organisations (Kimbell, 2011, 2012). Tim Brown and Roger Martin, as a way to balance organisational tensions between exploration and exploitation (Abbing, 2010; Martin, 2009) or as a loosely-structured organisational process that stimulates innovation (Brown, 2009), design thinking that is gaining legitimacy among designers, organisations, and government bodies. Regarding the focus of this research within business contexts, theories from Martin and Brown toward business practice will be taking primary consideration.

It is commonly agreed (Cooper & Press, 1995; Hands, 2017; Turner, 2016) that the role, remit and responsibility of design and its overall management have considerably changed from an early stage to maturity and wider acceptance. As such, it is now considered a vital source of competitive advantage. Design thinking is increasingly gaining more attention within the organisation and that it is becoming increasingly strategic in its role as a mechanism to envision new futures for the company. Business leaders and key decision-makers drawn from traditional non-design backgrounds are exploring the numerous opportunities and challenges of this unlikely relationship with design. Brown (2008) argues that design thinking is “…a discipline that uses the designer’s sensibility and methods to match people’s needs with what is technically feasible and what business strategy can convert into customer value and market opportunities”.

Furthermore, Liedtka (2010) actively encourages organisations to engage more proactively with design arguing “…business strategy desperately needs design…” With this flourishing symbiotic and mutually rewarding relationship in the ascendency, designers are now extolling the benefits of design to new and traditionally highly sceptical audiences, thus developing a ‘design consciousness’ within the organisation and establishing design as a core competence. In conjunction with this growing recognition from and by business leaders, design and designers are increasingly well placed to initiate, develop and support business
model development, NPD (New Product Development) opportunities and wider innovation activities. A core competence has to provide a significant contribution to customer-perceived value, and indeed design has played a leading and direct role in the ‘value’ offerings from organisations.

4. Research Methodology

The primary research approach taken by this research study, adopted a strongly qualitative methodology to gain an in-depth analysis of the city-based retail business model innovation. The study started with a comprehensive literature review of scholarly articles focusing upon contemporary retail evolution, design thinking, and business model innovation. The developing theoretical framework is shaped and adapted to gain a detailed understanding of city retailing dynamics, social interactions and the role of design in business model development to understand the symbiotic relationship between retailers, design and the local social context in which the retailer sits.

In addition, primary research methods and tools were drawn from established social science methodologies to obtain initial insights and observations from early findings. The author conducted an initial in-depth primary research in Tier 1 and 2 Chinese cities from 2017 to 2019. Early research activities involved visiting and observing numerous city retail outlets within a real-life context to gain an initial understanding of retail dynamics and consumer behaviour patterns. In-depth interviews with retail entrepreneurs, retail professionals and interior designers helped gain a deeper understanding of city retail model evolution and future retailing developments.

A radar chart has been designed for this research which upgraded from the author’s previous developed design value framework inspired by Maslow’s Hierarchy of Needs (Maslow, 1943, 1998). It enabled the author to identify and illustrate the relationship between core product (and services), design, brand value propositions, and social context engagement.

In order to reflect and incorporate representativeness of Chinese retail cases, the decision also took into account data from Combined China mainstream online consumer reviews such as brands’ WeChat official account and Baidu, reports from international newsagents such as Tencent and Weibo. Three cases from field research were selected, WENHEYOU (catering and cultural brand), HUANYUE Art Space (art and aesthetic education institution), and 1200bookshop (24h bookshop). All three cases have its core value, albeit with different ‘experiences’ designed to represent their unique brand core value and to connect consumers through multiple dimensions. The hybrid functions well-orchestrated and crafted around the essence of their brand values directed towards their local communities and targeted user groups.
5. Case Studies

5.1 WENHEYOU

Brand core value: inheritance and disseminate Changsha city Culture.

WENHEYOU is a catering company, and cultural brand which located in the city in middle south China called Changsha. The founder started his business by selling local snack nine years ago and now became a cultural-driven brand and Changsha city landmark (WENHEYOU, 2018). Compare to traditional catering development model, WENHEYOU not only expanded in size and scale in the food-related category but most importantly, build a strong link with local culture and art. Different than most of the retailers try to design a high-end and modern style to fit with young group’s aesthetic values, the brand takes nostalgia as their design strategy to build a warmth and closeness atmosphere with the unique local culture. Eat and visit at brand stores; customers can feel the core spirit of Changsha city, which is welcoming and enjoying life. In 2017, the company opened an art museum in the famous tourist place Changsha ancient Taiping Street to display the works relate to the development of Changsha City and its local culture. Not long after, the brand opened a Stinky Tofu Museum in the same street to show tourists the history and making process of this unique local food.

In 2018, the brand presented its iconic architecture WENHEYOU Laochangsha Lobster Restaurant. It is a place located in a shopping centre with seven-floor high; the internal design replicated a typical Chinese community in the 1980s with various life scenes, such as barbershops, people’s living room, and video game room etc. (WENHEYOU, 2019). In 2019, they upgraded the space and invited many local SMEs to join the space together became ‘Super WENHEYOU Community’. It is a special place that could bring older generations memories of past times and refill the curiosity of young generations of the old city view. This project won reddot design award ‘Best of the Best’ 2019. The development of the brand is closely integrated with the local culture and the city’s characteristics, the brand has become a window and representation of Changsha city image.
5.2 HUANYUE Art Space

Brand core value: allowing everyone to become an artist of life.

HUANYUE Art Space is located in a place surround by living community and schools in Guangzhou city, China. Space’s division is relatively simple. The first floor is a combination of a bookstore and a coffee bar; the second floor is an open workshop space for handicraft and art teaching. The brand argues that the demand for art and aesthetic education should not be limited by age and occupation. They wish to create links through art education and activities to allow people in communities embracing art and joyful life. Therefore, they designed three categories of brand’ offerings (HUANYUE Art Space, 2019). Firstly, provide art and handicraft experience services for the surrounding residents such as children, older adults and housewives in store. These are the groups that are commonly ignored but could benefit from art activities.

Secondly, beyond the in-store space, the brand builds cooperation with various types of institutions to promote aesthetic education (HUANYUE Art Space, 2019). For example, the team visited regional libraries, middle schools, and kindergartens carried out art classes; organise pupils to explore their living regions. Thirdly, the brand also launches social welfare services and provide art activities to support NGOs and Red cross. For example, they designed art classes suit for the Deaf-Mute group, organised book sharing and donation activities. Leading by the brand core value, community bonding and social responsibility is
naturally integrated into their business model and brings the brand broader possibilities for future development.

Figure 2. themes involved in HUANYUE Art Space hybrid model. Pictures of HUANYUE Art Space store and art class for children.

5.3 1200bookshop

Brand core value: to light a city’s deep night.

1200bookshop was a start-up project after the founder travelled returned from a 1200-km round-trip in Taiwan. It is located in Guangzhou city. This 24-hour independent bookstore’s characteristics are closely related to the founder’s own experience and value (1200bookshop, 2016a). First of all, the founder thinks the bookstore is not only about books, but it is also about space and human spirit. For numerous reasons, there are many people still awake after midnight. Some people cannot sleep, some people nowhere to go, and some travellers waiting for their train. Therefore, the brand aims to give these people a safe and warm place to spend the night. Second, backpacker experience allows the founder understood that some travellers might not be able to pay for the hotel. Other people nicely provided a sofa for him in the past made he wants to return the kindness to society. Thus, each bookstore always has a room for people in need to stay temporarily.

Third, from years of store operation, he noticed that many people come to the bookstore reading books with a long-term study aim. One of customer explained that his daily routine occupied with work and take care of family, he wishes to have a study room for reading and personal reflection. He sees the bookstore as his unique study room and a break to find inner peace (1200bookshop, 2016b). Hence, the design of space reserved a lot of quiet seats.
Fourth, after a young man shared his story of 82 days walks to the city, a Late-night Story Sharing event has been continually held over a hundred times. Added to that, every day, store staff pick up a short in-store customer story with a paragraph post in the bookstore’s WeChat news account. More than 700 stories about ordinary people have been recorded and shared. Last but not least, deaf-mute people are welcomed to work in here, even though the bookstore is not a social enterprise, but incorporating public welfare into its brand strategy has brought them uniqueness and competitive advantages.

Figure 3. themes involved in 1200bookshop hybrid model. Pictures of a quiet space (during the night can transform to a bedroom for backpackers) in 1200bookshop and Late-night Story Sharing event.

6. Discussion

From the author’s previously published research findings (see Figure 4) (Huang & Hands, 2018), it approves design could drive business innovation through different levels of human needs which based on Maslow’s Hierarchy (Maslow, 1943).
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Based on the many scholarly articles and primary case studies of selected Chinese retail brands, this paper enhanced that by strategically planning design, including but not limited to product design, service design, in-store atmosphere design, and business model design. Retailers can achieve what business management aimed to meet consumers’ emotional and social needs; what marketing talked about to identify unique selling points; and what city planning emphasised to build stronger connected local communities. With innovative design thinking, city-centre based retailers can shift their focus on selling-and-buying competition with e-retailers to explore more possibilities by redefining “citizen roles”. Design can build different channels to allow brick-and-mortar stores and consumers to communicate with each other. During its process, the business model was moulded and adapted to fit new contexts of consumers’ city life. The reconfigured business landscape is on its way being rediscovered, and design will keep the equilibrium between the old and the new.

Similar viewpoint from a business development perspective, the Economic Pyramid which presented in the book ‘The Experience Economy’ highlights that companies can experience transformation from making goods, deliver services, stage experiences, ultimately, to guide transformations (Pine & Gilmore, 2011). ‘If you charge for the demonstrated outcome the customer achieves, then and only then are you in the transformations business.’ which rise the necessity of business shift their way of thinking and planning business.

The research used Maslow’s Hierarchy (Maslow, 1943, 1998) as a foundation to analyse the route of business development. Order and hierarchy do not affect business strategy; the design of business strategies is more likely to consider cross hierarchy. Six categories can be seen individually and combine freely to present a brand’s target and focus. Figure 6 showed categories placed with different positions in each brand that emphasises with distinctive percentage. The multiple services and products which the brand added over the years have

Figure 4. author developed design drive retail innovation categories fit with Maslow’s Hierarchy from previously published research.
always encircled or enhanced the core value (see Figure 5). The weakness of categorising retail types and vertical business development thinking is it could limit the brand’s possibility of developing higher offering and narrow the scope of ways to approach to innovation.

Figure 5. eliminate the hierarchy, transform the human needs into a design thinking tool for business opportunity innovation.

The Chinese-context-based case studies in this research paper provide a new perspective and development of the framework for business planning. It is evident that all three brands’ offerings were mixed between different needs with clear emphasises (see Figure 6). ‘Super WENHEYOU community’ created an integrated experience which fulfilled customers’ needs of eating local snacks and a sense of belonging with nostalgia. HUANYUE designed art activities for disabled group and communities that support both esteem and intrinsic values. 1200bookshop provide safety for backpackers and midnight sleepless people and create quiet space for people who wish to find inner fulfilsments.
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Figure 6. Based on developed radar chart, they are clearly shown three brands’ hybrid model covers different needs.

Furthermore, it is demonstrable that all three brands’ core value is not about what they can sell, but closely related to social contexts and personal values, this could also offer insight of how to define a brand’s core value and unique selling proposition.

7. Conclusions and further research opportunities

This discussion explored the realm of design thinking for business and in particular to business model innovation for city-based retailers. Through the selected three mix-category Chinese city-based retail brands cases; research demonstrated a hybrid retail model. Which allows the retail business strategy to evolve from a foci point (traditional advertising strategy) to storyline (brand storytelling strategy), and currently towards a full-spectrum Plane (brand core value and social context interactions). Furthermore, by illustrating the values of design as a subtle mechanism to explore new business opportunities and fulfil different levels of consumers’ needs, this research contributes a ‘radar chart’ tool for retailers to discover and refine their retail design strategies. Therefore, to foster a long-term sustainable approach to their commercial business planning activities.

As this research study only extracts limited data from three years of design for business planning activities, initial findings may not be considered ‘generalisable’ to a broader sample of business contexts. However, the currently prototyped hybrid-model has been developed within an experimental scope for further refinement and subsequent testing. The authors acknowledge the current limitations of the model in its current developmental form. Further studies could focus on how to apply the developed design for business innovation tools into wider business contexts that allow them to use and adapt design thinking into their business innovation processes and planning activities.

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**About the Authors:**

**Yujia Huang** is lecturer in Design Enterprise at DJCAD, University of Dundee. She has worked extensively in the creative industry as branding strategist and research director. Yujia's academic publications and research are focus on design thinking for business innovation and higher education; experience design; and user-centred design.

**David Hands** is Course Leader for MA Design Management and Associate Director of Teaching and Curricula at ImaginationLancaster, Lancaster University. He has written and published extensively on all aspects and themes embracing strategic design management theory and practice.

**Rachal Cooper OBE** is Distinguished Professor of Design Management and Policy at Lancaster University. She has published extensively and leading international research projects on themes of design thinking; design management; design policy; and a specific interest in design for wellbeing and socially responsible design.

**Nick Dunn** is Executive Director of ImaginationLancaster where he is also Professor of Urban Design. Nick has worked with the Alliance for Healthy Cities, European Commission, International Dark-Sky Association, World Health Organization, and sits on various scientific committees and advisory boards.
Feeling Endem. How travel enhances applied-autonomy in spatial design.

Hans Venhuizen
Royal Academy of Art The Hague
h.venhuizen@kabk.nl

Abstract | Spatial design is a complex matter by nature. At various scales from cities to interiors, there is always a context with many preconditions that the designer has to take into account. In developing the ability to deal with the specific context from their own perspective, to act with an autonomous mind in an applied context, it plays a key role where designers themselves are situated. TRAVEL is an educational programme that enables future spatial designers, by means of travel, to discover their own preconceptions, to critically examine them, and to get to know their own position from the way they perceive their environment. Subsequently, the programme also enables them to use their own observations as personal special features in their designs. Through encounters, explorations and experiments in four successive phases, TRAVEL gives future designers curiosity, confidence and skills in gathering and interpreting information and developing personal design strategies from that.

KEYWORDS | SPATIAL DESIGN, TRAVELING, APPLIED-AUTONOMY, BUILT ENVIRONMENT, EXPLORATION
1. Introduction

Spatial design is a complex matter by nature. After all, at various scales from cities to interiors, there is always a context with many preconditions that the designer has to take into account. Ideally, the design of space is neither dominated by the preconditions of others nor by the autonomous perspective of a designer. Spatial design is applied autonomy. The virtuosity of the designer lies in the way she/he manages to deal with these preconditions and how she/he sorts, interprets, places in a hierarchy and depicts preconditions. In developing the ability to deal with the specific context from their own perspective, to act with an autonomous mind in an applied context, it plays a key role where designers themselves are situated. Their backgrounds and opinions that emerge from that, the preconceptions that came out of it, determine to a large extent how they themselves see the world and act as a designer in that world accordingly.

TRAVEL is an educational programme that enables future spatial designers, by means of travel, to discover their own preconceptions, to critically examine them, and to get to know their own position from the way they perceive their environment. Subsequently, the programme also enables them to use their own observations as personal special features in their designs. The programme has four successive phases and starts with ENDEM, the albanian concept of being happily lost.

2. Traveling to observe trivialities

2.1 Search images enable navigation

In her book On Looking, Eleven Walks with Expert Eyes, New York psychologist Alexandra Horowitz observes her urban environment 11 times through the eyes of others. (Horowitz, 2013) Through her walks with a field biologist, an urban sociologist, a geologist, a typographer, a doctor, but also with a dog and her two-year-old son, she learns to see her urban environment from completely different perspectives than hers. Her fellow walkers all turn their eyes to other things; from a thirty thousand year old stone, a traffic light, a soup kitchen or a façade lettering, they all make their own connections and recognize their own systems. With the description of the walks, Horowitz shows our world as a pluriverse, an endless collection of small 'own' worlds. The various experts taught her to look at the city in a different way, adding various universes to her own universe. They gave her a bit of their expertise which now allows her to identify the genesis of some old stones, to catch aphid colonies in certain situations and to recognise the origin of some façade lettering. Horowitz shows that knowledge of a place is determined by the gaze of the person observing and the moment of observation. Horowitz calls the specific frameworks with which a person perceives the world around her or him and which in turn arise from her or his expertise of someone, search images. (Horowitz, 2013, p.124) Everyone needs a mechanism to choose from everything the world has to offer, those things she or he has to look for, or look at, and
what to ignore. "Thanks to the search image in your head, you're able to recognize a friend in the middle of the crowd getting off the train at Grand Central," says Horowitz. "It's the visual form of expectation that allows you to sense meaning in the chaos." The human brain also has to sort out information from the environment, because it is not able, it does not have the capacity, to give equal attention to all visual perceptions in the environment, including sound and smell.

2.2 Perception is determined by situatedness

Search images guide us through the jungle of the built environment. They filter out irrelevant observations so that our brain capacity does not have to succumb to the constant flow of information from our environment. A downside of this survival mechanism of the search images is that once they are successfully installed and the user can navigate reliably through the city, they do not quickly replenish or change. Your head does with impulses from the urban environment the same thing that Google does with your searches. Like Google, which interprets your preferences using an algorithm, your head thinks it knows what is relevant to you. Then your brain makes sure as much as possible that you only perceive the information that comes through that filter. The extraordinarily useful tools that our brain has developed to enable us to deal with complex spatial situations immediately ensure that our perceptions are filtered and therefore impoverished.

By filtering for relevant information, the ability to allow the impulses that are out there is limited. This makes our image of the world much more superficial and limited, we put it together especially for ourselves. Contrary to the worldwideweb, where the information assessed by the algorithm as irrelevant remains invisible to us, the information that our brains classify as irrelevant in the built environment and therefore do not allow us to perceive, remains visibly present in the built environment. We simply filter it out of our perception. We don't need a digital manual to conjure up this information, but an analogue instruction to see better what we don't perceive from automatism. The walks with experts provided Horowitz with such an instruction that gave her many new search images. The experiment made the urban environment more layered and richer for her and showed her how limited her view of her piece of city had been before. The knowledge gained from observations and the transfer of knowledge by experts never provides a reliable and universal 'complete' picture of the city. At the same time, it shows how endless the perspectives on the city are.

Horowitz book reveals that knowledge of a place is by definition determined by the moment of perception and the person who perceives it. Biologist, philosopher and feminist theorist Donna Haraway argues that objective knowledge by definition does not exist. (Haraway, 1988, Autumn). Knowledge is never objective and is always determined by the character of the observer. Knowledge can thus simply never be neutral, instead it is determined by the gender, race, cultural background, nationality, economic position and social status of the person formulating it. Haraway states that it is necessary to make the origin of the
knowledge clearly visible before you can assess its value. What is the background of the person who has gathered the knowledge and what are the points of view that this background has led to, how and where can you place the knowledge, i.e., where is it situated?

2.3 A catalogue of spatial awareness

Following Haraway’s observation about the character of knowledge and the experiences of Horowitz, I argue that all observations are by definition situated: they are somewhere at some point in time and are made by someone, from a specific point of view. This concept of situatedness implies a relativization of the intended objectivity of spatial analysis, if at all. At the same time, however, it enhances the possibilities for personalisation for the world of spatial design. Spatial design is a creative process in which the designer applies his or her creative capacity to a spatial situation that is about to change. Spatial design is obviously not an autonomous process, but ideally it is neither entirely determined by the preconditions of others. Spatial design is applied autonomy. After all, there is always a context with spatial, social, legal, cultural, practical and financial preconditions that the designer has to take into account. The virtuosity of the designer, however, lies in the way how she/he manages to deal with these preconditions and how she/he sorts, interprets, places in a hierarchy and depicts preconditions. In order to do that successfully, spatial designers must first and foremost determine where they themselves are situated. Their backgrounds and opinions that emerge from that, determine to a large extent how they see the world.

How the future designers’ perspective on the world is shaped by their backgrounds, is best discovered by constantly exploring the world that surrounds them. By travelling, and thus stepping outside their familiar situation, they confront themselves with other situations with which they are unfamiliar. This confrontation, followed by analysis and reflections, make these designers aware of how a specific space was created. According to the nineteenth century German architect Gottfried Semper, the creation of new spatial forms emerge by definition out of the interaction between all the relevant agents or forces that dominate the spatial context. (Moravánszky, 2018, p.53) By travelling future designers can explore these agents and establish where these preconditions for the creation of the explored spaces differ from their own points of view. In this way they gain insight into the starting points, preferences, but also the automatisms and prejudices that determine their world view. TRAVEL enables designers to collect these insights in their own perspective and thus build up a catalogue of their own search images. This catalogue, this awareness of their own perspective on the world around them, is for spatial designers a crucial component of their own design position.

2.4 Collecting and interpreting evidence

Through TRAVEL future spatial designers practice observations as a tool to explore their situatedness and through that define their own design position. TRAVEL can start with an
extensive examination of the history and topicality of the context to be visited, but it can also start completely knowledge-free. The insights of the participants do not start from knowledge of a total overview, but are built up from the observations of fragments. In her conclusion, Horowitz describes this approach as follows:

"In the nineteenth century, skilled anatomists insisted that they could recognize an animal and even reconstruct it on the basis of a single bone. But the 'animal that is the city' can be traced in the same way by means of small pieces of evidence. One aspect of perceiving all that is on a simple block of streets, is the realisation that everything that is visible has a history. At some point it ended up in the place where you found it, at some point it was put together, cut out or forged, and it has fulfilled a certain role or existed for a certain function... It is evidence." (Horowitz, 2013, conclusion)

By collecting and interpreting evidence, future designers build their personal catalogue with search images. They use this catalogue to be aware of their own perspective on the world around them and act as a designer in that world accordingly. TRAVEL does not aim to automate one's own actions so that they can avoid unwanted confrontations in the future. By observing and analysing their environment, designers are confronted with their own starting points and prejudices. They map out their own perspective and formulate their own design position in which confrontations do not have to be avoided, but rather can lead to brilliant particularisations. Horowitz ends her book with a quote from Sherlock Holmes: "You know my approach. It is based on the observation of trivialities". This observation of trivialities is the core of every enlightening TRAVEL.

3. The TRAVEL programme

3.1 Intuitive analysis of a spatial context

TRAVEL is a course that takes about 28 days spread over a period of 8 months. (Venhuizen, 2019) TRAVEL starts with ENDEM and ends with STOFFWECHSEL. ENDEM is the Albanian concept for feeling happily lost and invites participants to gather all sorts of impressions without actually knowing for what reason. In the next phase of TRAVEL, 好奇 or HÀOQÍ is the key emotion. HÀOQÍ, the Chinese word for curious, challenges participants to reflect on what they actually saw and to discover all kinds of fascinating observations that stimulate their curiosity. In the third phase participants limit their observations to the core idea framed in various PADIDEH, the Persian word for phenomenon. These PADIDEH will be confronted with design tasks through placing them on two sides of a matrix, thus creating a field of change. Finally participants explore the possibilities that are hidden within this field through combining seemingly irreconcilable elements, exploring the observations by merging them and thus applying these to their metamorphism, or STOFFWECHSEL as Semper framed this phenomenon in architecture.
The TRAVEL approach originated from my artistic practice, which is within the cultural dimension of the built environment. I develop proposals for spatial changes based on intuitive analysis of the context that is about to change. To this end, I developed a method that makes it possible for the results of that analysis to play a guiding role in the design of spatial proposals. With TRAVEL I made the method, which I implicitly applied in my own practice, also applicable to others. In practice it quickly became apparent that the participants needed much more than a mental introduction within a diverse programme of travel. Because of previous experiences participants had with excursions, which were generally more knowledge based and focused on specific visits of highlights, I determined that they needed clear instructions and a framework within which a broader intuitive spatial analysis could lead to results. This gave rise to the 4-stage approach introduced here, each phase with its own name and character. The identity of the phases, which is formed by the naming and the specific interpretation thereof, contributes to enticing the participants to question and immediately expand their palette of existing search images. With this, TRAVEL serves as the aforementioned analogue instruction needed to allow the exploration of the built environment to transcend the familiar perception.

3.2 TRAVEL: an exploration without preliminary research

The method of exploration I developed and applied shows great affinity with the way geographer JB Jackson approached the built environment. Jackson did not feel hindered by a lack of expertise in spatial planning, and relied entirely on his own observations and the knowledge that this gave him. He recognized the essential traces of man's survival strategies in the landscape and was able to test this knowledge with further literature study, expand it and place it within a broader framework of the culture of settlement. (Brinckerhoff Jackson, 1997, xxiv)

I argue that an exploration is best started without preliminary research. Each preparation provides guidance in answering the research question that has been opened up, thereby steering the observation in the direction of the data that has been mapped out in advance. An exploration that has been carefully prepared carries the risk that mainly the clues established in the preparation will subsequently be recognised and therefore the serendipitous clues will not be recognised. Scaling up your understanding of the context by determining meaningful details gives you the opportunity to see your own explanatory lines and structures instead of following those drawn up by others.

3.3 TRAVEL phase 1 - ENDEM

As you might expect, the TRAVEL consists first and foremost of a collection of travels. These travels can be short or long and far away or close to home, it doesn’t matter. A number of principles are important when putting together and undergoing these travels. First of all: - go there. It sounds ridiculously superfluous but in practice it turns out not to be. Many designers find their inspiration and references from second-hand information. On the
Feeling Endem, How travel enhances applied-autonomy in spatial design.

internet and in magazines you can find beautiful photos and striking text descriptions of many inspiring places. It is tempting to believe and use them. That brings me to the second principle: - **only believe what you see for yourself**. This too sounds preposterous but turns out not to be either. The images of familiar places put in our heads by the internet and magazines are so strong that they can even survive a disappointing confrontation with reality. In the past, participants in TRAVEL sometimes appeared to be forgiving towards that disappointing reality and continued to cherish the second-hand image already present in their heads. But situations are - **as they are**. And also, or especially, from - **bad examples, there is a lot to learn**. Therefore, information about places only matters the moment you think it matters. When a participant notices something in an observed context, or feels a need for information, that information is quickly found by means of your smartphone. The last principle for ENDEM is: - **look in between**, that is to say, not only orientate on what you think is a highlight, but also study the front and back and everything in between. Travelling is a mental state and starts as soon as you leave your home and not only when you arrive at alleged highlights.

The design of the travels; the locations to be visited, the planned meetings, the modes of transport, the moments and places of stay, the **in-between**, etc, is a crucial part of the travel experience. The instruction participants receive is simple: photograph what you notice and load those photos onto your travel blog. However, the instruction turns out not to be as simple as it seems. Such openness frequently leads to uncertainty and also causes ingrained reactions. Participants generally start by taking **magazine photos or instgrammable images**. In addition, they sometimes try to see what they think I, as a course leader, want them to see. From the uncertainties came the name and design of this phase. Once, when I explained the intention to a group of international participants, who had been confused by the proposed openness, a participant from Albania came up with the word ENDEM, which in the Albanian language stands for travelling and being on the road, but above all has a meaning of **feeling happily lost**. In other words, a positive approach to the fact that you don't know what you're looking for. ENDEM turned out to have a strong reassuring effect on the participants who were looking for a precise definition of the desired outcomes of the programme. Reassured that there was no such definition, they were free to observe and take photographs.

After about 15 days of travelling, I ask the participants to fill their blog with at least 100 photos. The selection they have to make is so broad that it can never contain only the beautiful architectural photos or the observations that were made strategically just to meet the conditions. I consciously ask the participants to take photos and not drawings because with the wide selection of photos comes much more information than the participant can direct. Moreover, although the photos are focused on a certain point, they generally contain a lot of additional information that could be lost with a focused drawing. As a result, participants take information with them that they didn't even know they had seen. This catch, and especially the bycatch, is an important topic of conversation during a first travel-talk that I conduct individually with the participants. Because of the uncertainty about the
In the course brings about, I prefer to have individual talks. In my experience individual talks can easier lead to understanding, trust and insight and tend to be less strategic than group talks. In these conversations participants are willing to see the prejudices with which they inevitably photograph, but they are also able to recognise other fascinations in their observations. New fascinations with which they become more aware of and can expand their catalogue of search images.

Figure 1. A small selection from the total collection of about 1500 photographs that resulted from the ENDEM phase of a TRAVEL course in 2018-2019 with 10 participants from 7 countries in Europe, Asia, and South America. These and also all other images in this text, are from participants Devina, Samantha, Shripal, Keyi, Mary, Sebastian and Ausra and were taken in Spain, Germany, the Netherlands, Portugal, India and Greece.
Feeling Endem, How travel enhances applied-autonomy in spatial design.

3.4 TRAVEL phase 2 - HÀOQÍ

The name of the second phase resulted from a long discussion with a Mandarin speaking participant. Our conversation kept going back and forth about the question of what to observe when there is no concrete design assignment. It may be a somewhat romantic idea, but I myself assume that spatial designers are always 'on', permanently searching their surroundings for interesting situations and their special histories. Not a paying client or an assignment but their curiosity is the most important client. With the Mandarin word for curious I convinced this participant of that. And the word remained connected to the second phase of the TRAVEL course.

好奇 or HÀOQÍ begins with an exploration of the self-composed travel blog. The instruction is simple: after traveling look back at what you have found. Try to distinguish what you think you saw, what you think you should have seen from what turned out that you actually saw. Let your intuition guide you through your documentation and see combinations, things that are fascinating, things you did not notice before, things that are out of the ordinary, or just especially common. I explore with them, allow myself to be carried away in the interpretations of the observations made by the participants, but also draw their attention to the wondrous situations that they may not immediately perceive. In doing so, I constantly ask the question: "what happened there, what is going on, how did it come about, what ambitions and strengths were at work there, what's your personal perspective on that?" I ask them to name the elements that could have caused the situations they observed, distinguish the decisions, ambitions, coincidences, accidents, designs, geographical contexts, cultural habits, political decisions, financial possibilities, social preferences, etc. etc. I let them speculatively fathom the origins of the observed situations and make sure they don't focus too much on the results they've observed. Participants go in search of this background information of the situations they find intriguing. They add this information as comments to their travel blogs.

As a fellow explorer, I pay special attention to the presence of prejudices and simple disqualifications in the descriptions that could be revealed by the use of words as • exiting • inspiring • amazing • disgusting • ugly • intense • impressive • surprising, etc. I encourage the participants that with these ratings, observation does not stop, but begins. Then the confrontation with one's own preconceptions begins and can be generated and supplemented with new search images.
Figure 2. A selection of the previous selection with short reflections from participants added.
3.5 TRAVEL phase 3 - PADIDEH

Contrary to Brinckerhoff Jackson, the TRAVEL explorations do not aim at mapping out and interpreting the contexts that we visit as a final goal. Ultimately TRAVEL focusses on action and spatial design. What has emerged from phases 1 and 2 are speculative analyses of processes of spatial change based on personal interpretations of intuitively collected evidence. But understanding a spatial situation in your own way is not the same as being able to change it. To this end, the pieces of evidence gathered need to be transformed from 'passive' observations of situations, to 'active' instructions. In other words: in phase 3, we swap the perspective of interested consumer of space to that of producer of spatial transformations. When the 'activated' instructions are strategically positioned within a process of spatial transformation, they are able to add personal interpretations of the designers to the newly-built or refurbished built environment. They do this not by determining the form in which the future built environment should manifest itself, but by playing a guiding role as a determining precondition within a field of preconditions within which that future form arises.

This is how it works. From the large amount of pictures from the ENDEM phase, the participants in the HÀOQÍ phase have added their personal analyses to about 40 observed situations. The study continues with this selection of 40 observations. The participants identify similarities and striking differences. They combine the observations where possible to create groups. Subsequently, the observations are 'reformulated'; from the description of a situation a rule is drawn up that could cause similar qualities of the described situation in a different context. In the example of the almost sculptural accumulation of posters shown above, the participant chose to translate the form abstractly into 'visible layers of use'. The example of the staircase for ducks over the temporary drain in the field above was also dissociated from the context in which it was found. The participant has chosen to focus on the actual users of a space and to realise facilities that are explicitly recognisable for them. By separating the perception from the place in which it was found, by defining the core phenomenon behind the situation in a rule, this phenomenon can also become a quality for other situations. Although these rules are still based on the situations depicted, these examples are let go here. The examples fade away (literally applied here) and the words of the instruction, the language of the rule take over from here.

The name PADIDEH for this phase, like the previous names, comes from discussions with participants. Because the observations do not have an established appearance, they can consist of objects, space arrangement, but also colours, sounds, smells, soil conditions, climate, use of space or even laws or traditions, I called the rules distilled from these observations in the first place phenomena. In the Merriam-Webster online Dictionary, phenomenon is described as 'an observable fact or event', an open description for an observable event without the need to categorize it directly. Phenomena are a tool to frame a situation in a personal way and accompany a designer during the process from understanding to designing a spatial change. But it was precisely this openness that blocked
the participants who appeared to need a more detailed description of what they had to comply with. Because such a description would undeniably limit the openness, I adopted the word PADIDEH, the Farsi word for *phenomenon* that is also used as a maiden name, from a participant from Iran. The use of PADIDEH instead of *phenomenon* had the same effect as the word ENDEM, it invited participants to search for the rules behind their observations without wanting to know in advance exactly what the final outcome should be.

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*Figure 3. A selection of the previous selection turned into rules, to enable the observed phenomenon to become a quality for other situations. Examples fade away, words take over.*
3.6 TRAVEL phase 4 - STOFFWECHSEL

From phase 3 at least 5 PADIDEH per participant arise which are applied to a design context in the fourth and final phase. I called this phase STOFFWECHSEL, a name that refers to the theories of the German architect Gottfried Semper. Semper adopted the concept of STOFFWECHSEL, or metabolism, from the natural sciences in the mid-nineteenth century to interpret his basic principles. (Moravánszky, 2018, p.163) STOFFWECHSEL is the collective name for all biochemical processes that take place in living organisms. It contains all processes in which raw materials from an environment are absorbed and converted in a body into substances relevant to that body. With the introduction of this term Semper stated his view that spatial design is a continuous reinterpretation of known forms in new contexts. According to Semper, cultural relevance arises in spatial design when a former dependence on materials no longer exists, but is 'thematized' by means of STOFFWECHSEL. This theming gives the objects the ability to remember and thus gives them a cultural significance that far exceeds their everyday usability. (Moravánszky, 2018, p.189)

STOFFWECHSEL takes place within TRAVEL by confronting the collected PADIDEH in a matrix with design tasks that have no relationship to the locations in which the PADIDEH were found. With their application the PADIDEH function as deliberate limitations to the design. I argue that the most decisive for the form that the results of a spatial transformation process take are the limitations that the ambitions for that transformation have to deal with. It is precisely the limitations that give creative design processes an impulse. (Biskjaer&Halskov, 2014, p.57) In designing spatial changes, these limitations can be welcomed as creative constraints.

I apply a matrix because it enables a structured inventory of the components of an investigated situation and its form invites a thorough, systematic exploration of new possibilities. The application of a matrix is inspired by the theories of the General Morphological Analysis developed in 1967 by the Swiss astronomer Frits Zwicky. (Ritchie, 1998, revised 2013) Zwicky applied a three-dimensional matrix to systematically explore all confrontations between agents of a context in change. My matrix is much simpler than Zwicky's. My matrix is two-dimensional and contains on one side the formulated PADIDEH and on the other side (elements of) the design context. The fields between the entered parameters on the x and the y-axis are left empty. The matrix with its combinations of personal PADIDEH and design assignments that come together on its empty fields, is then the surface on which the possibilities for stacked transformations can be explored. In this way, the personal interpretations of the intuitively collected evidence, contained in language, are brought into relation to design assignments and explored in order to finally be materialized again, in a different form.
Figure 4. In the final STOFFWECHSEL workshop, the collected PADIDEH are confronted in a matrix with design tasks. In the image shown here four participants of a TRAVEL course in 2019-2020, Aaron Kopp, Natalia Posnik, Julia Holmgren and Hugo Lopez Silva, literally took the image of the matrix as a drawing board to explore the combinations.
The TRAVEL course ends with a matrix exercise in which all participants explore the PADIDEH formulated by them in relation to current design assignments for that context. The first sketches were commented on by the participants and selected, after which participants made models of the most promising results of the matrix exercise. As a final part the participants further developed proposals from other participants, which they found most appealing to the imagination. With this they confronted the original creators with a new layer of possibilities.

Because the TRAVEL program is an exercise, it ends here. The participants have gone from ENDEM to STOFFWECHSEL and will be able to apply the insights they have gained in their own way in their future as a spatial designer.

4. Conclusion

Search images successfully guide us through the jungle of the built environment. They filter out irrelevant observations so that our brain capacity does not have to succumb to the constant flow of information from our environment. The extraordinarily useful tools that our brain has developed to enable us to deal with complex spatial situations immediately make our image of the world much more superficial and limited. We put it together especially for ourselves. In order to access the information that our brains classify as irrelevant in the built environment and therefore do not allow us to perceive, we need an analogue instruction to see better what we don’t perceive automatically.

TRAVEL provides that instruction. Through encounters, explorations and experiments the programme enables future spatial designers, by means of travel, to discover their own preconceptions, to critically examine them, and to get to know their own position from the way they perceive their environment. By collecting and interpreting observations, future designers build their personal catalogue with search images. They use this catalogue to be aware of their own perspective on the world around them and act as a designer in that world with an autonomous mind in an applied context.

The prerequisite for being able to compile this catalogue of search images is the ability to explore the built environment with an open mind. This open mind does not necessarily appear to be present among future spatial designers. A designed programme of experience is necessary to invite them. By giving the various phases in the process of exploration and analysis of the built environment a name that appeals to the imagination, TRAVEL succeeds to remove the uncertainty in the confrontation with the unknown. Subsequently, the programme also enables them to use their own observations as personal special features in their designs. TRAVEL gives future designers confidence, curiosity and skills in gathering and interpreting information and developing personal design strategies from that.
The examples in this text come from TRAVEL courses in 2018-2019 and 2019-2020 with 20 participants from 13 countries in Europe, Asia, and South America at the INSIDE, master interior architecture course of the Royal Academy of Art in The Hague. The programme lasted 8 months and included 28 travel days of which 2/3 were taken together and 1/3 individually. In addition, the programme consisted of 3 individual talks and 1 group workshop. The photos in fig. 1-2-3 are from participants Devina Amelia, Samantha Vosse, Shripal Shah, Keyi Xiang, Mary Farwy, Sebastian Koukkides and Ausra Cesnauskyte and were taken in Spain, Germany, the Netherlands, Portugal, India, and Greece. The matrix images in fig. 4 are made by Aaron Kopp, Natalia Posnik, Julia Holmgren and Hugo Lopez Silva in a TRAVEL course in 2019-2020. (http://enterinside.nl/magazine-2/)


Global Proximity: case studies of international and interdisciplinary collaboration between the USA, Italy, Guyana and Japan

Valeria Albani*, Paolo Cardini

*Rhode Island School of Design (RISD)  
*valbani@risd.edu

Abstract | Engagement with local communities and diverse traditions of making, support to off-campus academic initiatives, promotion of art and design’s relevance within a global context, all must aim to a crucial goal: the creation of proximity. This idea of proximity within global learning is a concept that can assume multifaceted identities.

In this paper, we will specifically focus on three layers of cultural interaction in which different parameters contributed to ensuring a rich and mutual learning experience. Tokyo, Rome, and Guyana’s rainforest are the contexts in which those experiences happened through the setting of international and collaborative art & design studios. At the foundation of each of those case studies, there is the idea of “reciprocity,” between US students, foreign realities, and local partners. Fostering global proximity means aiming for a double beneficial effect: the most immediate, and tangible one, is clearly represented by the work and thinking produced during those workshops. However, the most meaningful, and yet hidden effect is reflected by how students will reframe, and expand their creative practices and inquire in the future. A truthful global engagement that broadens perspectives, decentres experiences and reframes assumptions will allow a new generation of art & design leaders.

KEYWORDS | GLOBAL PROXIMITY, INTERNATIONALIZATION, CULTURAL RECIPROCITY, DESIGN EDUCATION, STUDY ABROAD
1. Introduction

Design is a form of culture, well seeded, interpreted and constantly revamped by the specific society in which is rooted and embedded. Social, historical, political and economic dynamics of each society heavily influence the way design, and design culture is spread, developed, taught, expanded, and even controlled. The current global context, in its complexity, often pushes for cultural homogenization and the multitude of local design identities are developing toward new and unexpected paths. Moreover, the ways of sharing design knowledge, within and outside specific cultural contexts, are unpredictably shifting. “The more tradition is weakened, the more subjects must learn to design their own lives and shift from a prevalence of activities carried out in a traditional way to one in which choices are mainly of design” (Manzini, 2015). The decay of local heritage systems forces designers and design educators to make choices that are no longer informed by strong local design identities, but rather are based on cultural cross pollination.

In this paper, the concept of “proximity” is identified as a critical tool for expanding the idea of design cultures. Gertler (1995) defines proximity as a necessary condition for partners to engage in an exchange relationship of knowledge sharing, transfer and acquisition. Social proximity refers to the “closeness between partners in an interaction” (Buchan et al, 2006), which affirms that the inevitable gap existing between two partners, in our case design cultures, must be physically bridged through unequivocal messages, and proximity plays a crucial role in building trust between collaborators willing to share knowledge. In the past decades, cultural proximity has grown in an effort to respond to global issues of cultural imperialism (Schiller, 1969) that are becoming more and more relevant for the contemporary academia, and that west-based higher education institution can’t ignore anymore or exclude from their teaching philosophy and values.

But how about design proximity? Where does it place itself within the act of sharing design knowledge between faraway cultures? The idea of design proximity within global learning is a concept that can assume multifaceted identities. Design proximity is meant to somehow interrupt that expected one-way flows of culture between western countries and the global South. When different design perspectives enter in proximity from different part of the planet, the consequent exchange of knowledge and experience can help the reciprocal design cultures to evolve, acknowledge themselves, foster cultural belonging, reinforce their peculiar identities, and avoid to be kept in stagnant, monolithic structures and cultural silos that might not able to evolve, and sometimes survive.

Design proximity assumes new and deeper nuances when paired with a pedagogy based on experiential learning. According to Kolb, experiential learning is “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combinations of grasping and transforming the experience.” However, applying experiential
learning to creative disciplines fronts the fact that “the process of making has a solitary component” (Sutton, 2013) and this isolation can distance people and defeat proximity. But as Sutton underlines, the process of making “is immensely helpful to engage with others in a feedback loop, a conversation about the work in which the maker shows, speaks see, listens, and is listened to, a gathering of makers, each taking turns to be on the spot, showing their work and sharing the ideas behind it. This is the forum for understanding what was made and why. It is the conversation known as critique”. In design teaching and learning, the critique is the space where the work is shared, and questions are answered. This space of critique is necessary for true design reciprocity, and the space of critique is only possible through proximity which comes back as a crucial condition for design knowledge exchange. This proximity can be developed by art and design higher education and institutions in multiple ways: by engaging their students and scholars with local communities and diverse traditions of making, by supporting off-campus academic initiatives, by promoting art and design relevance within a global context through design research.

2. Three case studies: the USA with Italy, Guyana, and Japan

This paper is an empirical observation of the pedagogical process through which distant design cultures have used proximity as key for a fruitful exchange. Tokyo, Rome, and Guyana’s rainforest are the contexts in which those experiences happened through the setting of international collaborative art & design courses. In the following paragraphs, those experiences will be analyzed and will inform on how proximity can enhance learning and teaching within multicultural pedagogical frameworks. The case studies will specifically focus on three layers of cultural interaction in which various parameters contributed to ensuring a rich and mutual learning experience: methodological, environmental and social proximity. At the foundation of each of those examples, there is the idea of “reciprocity,” between US students, foreign realities, and local partners.

2.1 Methodological proximity

In 2016 and 2018, 13 undergraduate senior students from the Industrial Design department of Rhode Island School of Design (RISD) travelled with their professor to Tokyo, to engage in a 3-week intensive bike building workshop. The course was organized in collaboration with faculty and students of Tokyo College of Cycle Design (TDC), Japan’s first college focusing on bicycle education and the Japanese tradition of bicycle building. The workshop was aimed at each of the RISD students to practice the traditional Japanese, brazed Chromoly steel, handmade bike building process via an apprenticeship approach to learning and end their program with a full build experimental bike frame. In Tokyo, proximity happened on a methodological level: through the conjunction of the precision -and rigidity of the Japanese traditional local craftsmanship and the looser creative practice of RISD’s students. The immediate skill acquired by RISD’s students was the ability to design and build a bicycle
custom fit to their body. But the more broadly transferable skill students learn through guided instruction by the Japanese team was the discipline and focus of a precision-oriented process of making. Vice versa, Japanese students and faculty were challenged towards more explorative approaches positively disrupting the local craft canons. The result was an expanded methodological experience in which both designers developed an inherent synergy between contemplative and creative powers, illustrated by the difference between Japanese and western design. Daily self-reflective practices led by both the American and Japanese faculty, such as meditation and the creation of a process journal based on principles of Insightful Ideation, helped all students to increase their receptivity to intuitive and strategic thinking and cultivate a heightened sensitivity to precision, a careful consideration to details, and the simple manifestation of beauty within efficiency.

As Maturana and Varela (1992) assert, often knowledge and cognition have relevant implications, in particular on a sociological and ethical level, and the reality can be built through the action of coexistence. Along with the workshop, a new pedagogy was created. As Maturana and Varela discuss that the world that we know—and so our ways of learning, too—is not pre-given but enacted, and the learner should focus on how our action relates to the world we create.

Figure 1. “Tokyo: bicycle design and making” course offered by RISD Global in summer 2016 and again 2018. A RISD student instructed by a TCD faculty. Photo courtesy by Khipra Nichols, RISD faculty teaching the course. Tokyo, summer 2018.
2.2 Social proximity

In 2017 and 2019, a group of 12 students from different art & design departments of Rhode Island School of Design (RISD) traveled with two faculty to Guyana for 4 weeks to explore the artistic, cultural, economic, and scientific role of biodiversity in today's society. Guyana, a biodiverse English speaking Caribbean nation, located along the northeastern coastline of South America functioned as a fertile ground to experience biodiversity and nature and wildlife conservation from multiple perspectives, from natural and social sciences to humanities, design and visual arts.

This course provided RISD students with the opportunity to engage with local designers and scientists, participate in conservation science field research and have rich cross-cultural interaction. Across the entire learning process, RISD students collaborated with local indigenous community members and stakeholders to focus on critical conservation challenges, exploring the problem in depth and collaborating to produce art and design projects aimed to inspire conservation action. Skills and new knowledge gained by the local communities included collecting and analyzing scientific data used to study and monitor wildlife populations; observing, sketching, and photographing wild animals, plants, and landscapes. RISD students were also expected to create an archive of photographs, notes, sketches, sound recordings, and videos that will be used by the Amerindian community for future inspiration.

Proximity in Guyana happened on a social level, when design and biodiversity became a platform for social exchange. In the rainforest, Amerindian communities, natural scientists and art & design students worked together towards the democratization of artistic expression. Drawing, illustration, and new media merged and became a common language used to diffuse biodiversity values within the local communities. A new pedagogy based on social justice, experiential learning and sustainability taught students and local stakeholders on how to improve conservation policies through art and design. The new curriculum can offer inspiration for all higher education institutions interested in new approaches towards biodiversity, wildlife protection, and just human-animal-environment relations in the context of Guyana.
2.3 Environmental proximity

In the summer of 2017, as part of the Rhode Island School of Design (RISD) Global department’s summer courses offering, students travelled to Rome for a four weeks class. The title of the course was “Sensing the City” and students were invited to observe and listen to the built environment and respond to it with interactive solutions. The class strongly promoted an interdisciplinary approach touching on various disciplines, from product design and physical computing to performances and video narratives.

In Rome, proximity happened on an environmental level. Through a deep connection and interaction with the city landscape and its embedded behavioral patterns, students were challenged to respond with digital technologies and robotics to the legacy and tradition of a millennial city. While forced towards a close physical relation with the space, Rome’s hordes of tourists and labyrinthine structure, students learned and lived on their skin the cultural complexity of the Italian capital. In spite of studying about Rome and its wonders, students “felt” it, “flaneuring” around, self-reflecting on their perceptions and identifying any multisensorial elements belonging to that specific context. The process of environmental proximity contributed to reduce as much as possible the distance between the individuals,
the students, and their environment, Rome, fostering an experiential learning based on empathy and responsiveness to the external surroundings. This proximity granted also a more genuine dialogue between a specific culture and who is willing to experience it in a limited timeframe; without trying to understand everything or fully blending with the local context, students expressed their impressions and feelings through their interactive installations.

Figure 3. “Rome, Sensing the City”, course offered in summer 2017 by RISD Global. RISD students creating wearable devices that interact with local environment. Photo courtesy by Paolo Cardini and Diane Derr, RISD and VCUQ faculty teaching the course. Rome, Italy, summer 2017.

3. Conclusions

Fostering global proximity means aiming to a double beneficial effect. The most immediate, and tangible one, is clearly represented by the work and thinking produced during those workshops. However, the most meaningful, and yet hidden effect is reflected by how everyone involved in the proximity experience will reframe, and expand their practice and inquires in the future: a truthful global engagement that broadens perspectives, decenter experiences and reframe assumptions will allow a new generation of art & design leaders.

Through the analysis of the case studies mentioned above, we recognize that the idea of design proximity works well either in contexts of diffuse design, that performed by
everybody (Manzini, 2015) as we have observed in the Guyana course, as well as in the context of expert design performed by those who have been trained as designers, as in our Japan course. More than ever, higher education institutions have the responsibility to advocate for cross-cultural learning and educational exchange as a way to foster more responsible and sustainable ideas of the future. Design education within a global context must focus on sharing knowledge, practice, and expertise, with an open-minded perspective, through a multidisciplinary approach, and seeking meaningful reciprocity.

Design proximity can be seen as a pedagogical model to give students guidelines for a more conscious approach to the discipline. Moreover, a correct and careful application of the proximity principles illustrated in this paper can avoid reiterating problematic paradigms of cultural imperialism often present in western academia’s study abroad and internationalization practices.

Finally, the idea of proximity is intrinsically connected with principles of coexistence, tolerance and empathy. Fostering proximity means to sustain a more inclusive dialogue and better understanding of the rich and messy kaleidoscope of cultures our planet is made of. Closing with a quote by Arturo Escobar, inviting people to leave in proximity will hopefully lead to that “world where many words fit”.

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About the Authors:

Author 1. Valeria Albani is Associate Director of Global Learning at Rhode Island School of Design in Providence, US. With a master’s degree in communication and new media studies, her research and interests live on the intersection of globalization, diversity and cultural reciprocity.

Author 2. Paolo Cardini is Full Professor in Industrial Design at Rhode Island School of Design in Providence, US and his work ranges from product to interaction design with a particular interest in discursive and speculative design. His research mostly focuses on the interaction between artifacts, identities and globalization.

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Heritage and cultural accessibility: the role of design in the creation of an intercultural dialogue.

Marco Bozzola\textsuperscript{a}, Irene Caputo\textsuperscript{a, *}, Claudia De Giorgi\textsuperscript{a}

\textsuperscript{a}Politecnico di Torino
*irene.caputo@polito.it

Abstract | This contribution intends to present a reflection in the field of design for the enhancement of cultural heritage in terms of cultural accessibility, and the implications related to the reception and integration of communities and social groups nowadays excluded. Within this context, design skills can be made available as tools to generate mediation processes between these cultural multiplicities, encouraging actions to enhance diversity and activating a dialogue between people and cultures. Design can devise strategies, services and integrated communication systems to facilitate meeting and exchange between the heritage and the multicultural community that lives in a territory.

By mapping certain virtuous design actions (at different scales, such as graphic, product and strategic design), we aim to highlight new possible approaches in the design for the fruition of cultural heritage, according to which the design act presents itself as a “translation” of values and identities for new and existing communities that cohabit in a territory.

KEYWORDS | DESIGN, HERITAGE, ENHANCEMENT, INTERCULTURE, ACCESSIBILITY
1. Introduction

The current process of globalization does not only bring radical changes in economic and political models, but also determines a huge “human movement”, linked to wide-ranging migrations and important social changes.

Faced with these great events, it is necessary to be able to re-establish a sense of confrontation, exchange and encounter both on the political level and in the cultural debate. We are part of an increasingly multicultural society characterized by the interweaving of lives and histories, usually distant from one another, but prone to the same dynamics that shape the territory and the value of its heritage. Therefore, it becomes necessary to create communication channels able to give value to people’s experiences in relation to the territories they inhabit.

Human migration, as a paradigm of a global and multicultural world, is not a new phenomenon, but while diversity is now a structural reality, inclusion is necessarily a mindful action which requires conscious foundations. This social complexity was rarely faced with a reflection and planning that also involved the cultural sector. But why could it be so important to focus also on the cultural sector? The power of culture is the ability to create new and surprising meeting places: spaces which are open; that promote knowledge; that allow people to get to know the “others” and their humanity; that help to create connections and to construct a different image from the common visions often presented by politicians and by the media. It is possible to consider culture as a virtual space that “make visible and give voice to what often remains invisible or silent” (Vlachou, 2017, pg.8). It is necessary for all people to have access to the knowledge and tools that will allow them to reflect upon and understand the situation we are currently facing in order to develop programmes and actions that can address the concerns and needs of the current society, including those of the newcomers. It is not an act of “handout”: some newly arrived groups represent specific cultures that require to be recognised and to be supported in their efforts to adjust and rebuild their lives in the new society and culture – be it through language provision, educational opportunities, skills development, or access to arts and culture.

2. Research context

The skills of design can be made available as a tool to systematise this multiplicity, promoting an innovation respectful of diversity, comparison and encounter between people and cultures.

Within this scenario, cultural heritage obviously plays a fundamental role as vehicle of identity and potential tool for dialogue between cultures.

Cultural heritage, as an expression of belonging, is an interpreter of the lifestyles developed by a community and passed on from generation to generation, including customs, practices,
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places, objects, artistic expressions and values. Cultural heritage is often expressed as either intangible or tangible. As part of human activity, cultural heritage produces tangible representations of the value systems, beliefs, traditions and lifestyles. Therefore, cultural heritage is a wide concept, and – according to the definition given by the Italian Decree-Law n° 42/2004 “Codice dei beni culturali e del paesaggio” (Code of cultural heritage and landscape) – it includes artistic, historical, architectural, archaeological, and ethno-anthropological assets, but also book, archival, museum, natural or human-transformed, and environmental landscape assets. Tangible cultural heritage can be distinguished in three main categories: built environment (that includes buildings, townscapes, archaeological remains), natural environment (rural landscapes, coasts and shorelines, agricultural heritage), artefacts (books and documents, objects, pictures). As said, heritage is not only manifested through tangible forms such as artefacts, buildings or landscapes but also through intangible forms. That includes, for instance, cuisine, clothing, forms of shelter, traditional skills and technologies, religious ceremonies, performing arts, storytelling. Today, we consider the tangible heritage inextricably bound up with the intangible heritage.

In Italy, cultural heritage represents a significant asset both in terms of quantity and economic potential: taking as a reference the UNESCO World Heritage List, in Italy there are 55 sites of cultural and naturalistic interest, to which one must add the numerous intangible assets, also recognized and protected. In the report “Io Sono Cultura 2019” (I am culture 2019), published by Symbola and Fondazione Unioncamere, the direct economic value of the Cultural and Creative Production System in Italy was also carefully analysed. In 2018, it was close to 96 billion euros, or 6.1% of GDP, with the employment of 1.55 million workers (Symbola, 2019, pg.42). Moreover, “culture and creativity have a multiplier effect on the rest of the economy: the entire cultural chain produces 265.4 billion euros, 16.9% of the national added value, with tourism as the primary beneficiary of this flywheel effect” (Symbola, 2019, pg.10).

Reading these data, it is clear how a good planning strategy applied to this sector of analysis could have important repercussions also at an economic and social level.

This contribution intends to present a PhD research path in the start-up phase, which aims to identify certain methodologies and intervention tools, typical of the design discipline, for the enhancement of cultural heritage as a medium of identity and intercultural dialogue.

Within this context, design skills can be made available as tools to generate mediation processes between the said cultural multiplicities, encouraging actions to enhance diversity and activating a dialogue between people and cultures. Design can devise strategies, services and integrated communication systems to facilitate encounter and exchange between the cultural heritage and the multicultural community that lives in a territory.

This would allow the promotion of cultural accessibility and participation of all – including the categories at risk of social exclusion – and improve the interaction between indigenous and new citizens – creating synergistic relationships of openness and confrontation. This is
possible through exploration and construction of methods, tools, skills and innovative practices that make the cultural heritage (both existing and “imported”) accessible and available, also through the definition of languages and communication channels aimed at new audiences. Cultural accessibility is here understood as a dynamic and methodological process, not a design goal (Bodo, 2009).

An interesting repertoire of orientations and approaches developed by European museums in response to the multicultural society emerges from some studies carried out in recent years, some of which have been made available through online resources to draw upon for the identification of so-called “good practices”: such as for example the “Patrimonio e Intercultura” website, promoted by the ISMU Foundation - Initiatives and Studies on Multi-ethnicity; the Research Project MeLa* - European Museums in an age of migrations; the Compendium of cultural policies and trends in Europe, promoted by the Council of Europe in collaboration with ERICarts.

3. The role of design

The discipline of design has multiple and changing facets. One of its strengths is that of being a hybrid field whose design process needs to bring together and deal with many different disciplines.

Furthermore, within a structurally increasingly multicultural society, the pluralism of cultures and ethnic groups determines an increasing variety of audiences. A community that interfaces with different heritages and is made up of numerous actors who constantly shape socio-cultural contexts. In this reality in tumult and mutation, we therefore identify in the intercultural dialogue that process of open and respectful exchange between people and organizations with different cultural backgrounds and world views, designed to promote cultural diversity itself and the development of intercultural skills.

The role of design in facilitating the relationship between people (old and new citizens) and heritage can be structured in many ways. For example, through the creation of pro-active spaces: places that do not have a defined function, but rather remain open to several appropriation practices and uses; or through the development of communication strategies and exhibition practices based on strengthening the involvement of the visitors and their physical and emotional interaction with museum spaces; or also through the elaboration of new strategies for widening and strengthening the collection and museum content and communicating the plurality of stories which the related objects represent and embody; or even by creating new perceptions of heritage, for example by addressing the need to introduce temporary exhibitions in museum spaces or to bring “the museum out of the museum”, that is, to create design practices capable of bringing heritage out of places of pure conservation, where possible, thus making it a real shared asset.
4. Case Studies

Through a mapping activity of certain virtuous design actions (at different scale such as from graphic, product and strategic design), we wish to highlight new possible approaches in design for the fruition of cultural heritage, according to which the design act presents itself as a “translator” of values and identities for new and existing communities that cohabit a territory.

With the case studies that will be presented, we attempt to define a number of potential scenarios in order to design new forms of museums, exhibitions and design actions able to respond effectively to the challenges of the present age of cultural complexity and stratification.

Specifically, as said before, we will describe certain interesting examples taken from the world of communication, product, or even strategic design. Sometimes all these design fields can be interconnected and therefore the division will not be so drastic.

![Case study analysis](image)

*Figure 1. Case study analysis. How the different projects analysed are distributed in relation to the area of product, communication and strategic design (Credits: authors)*

A first emblematic approach is represented by the wayfinding system designed by Ruedi Baur for the Cité Internationale Universitaire de Paris (2004); this is an example of how the interaction between visitor and signage system may be able to shape the perception of a space, also in terms of inclusion and cultural hospitality through the expressive languages
adopted by Baur with André Baldinger. In this case, in an intercultural scope, one of the main characteristics of the project is the font they designed: the Newut. As a matter of fact, the Newut font has the peculiarity that the height of the letter is the same for lowercase and capitals. This means that some letters can be replaced by non-Latin alphabet – such as Chinese, Greek, Arab, Hebrew, Cyrillic – characters whose shapes are similar to our own alphabet. A random variable percentage technique makes it possible to create texts that can be changed slightly by inserting foreign symbols, yet still be legible. By exploiting what is defined as the paradigm of the “orthographic priming” – according to which when a person reads, the position and shape of the letters are not strictly codified – it is possible to give the text a totally visual dimension that goes beyond its actual contents.

This project was bitterly criticised by those who believe it wrong to annex the symbols of other cultures “decontextualized” and deprived of their real meaning. But the fact remains that this solution creates a dynamic and chameleonic design in which the elements of visual identity, such as signage, seem ready to fit into a rapidly changing world. This wayfinding system not only fulfils its primary function – to indicate all the areas of the university campus – but leaves visual messages that are part of the university’s complex, multiform and clearly multicultural identity.

Figure 2. Cité Internationale Universitaire de Paris, 2004. Details of the orientation system in which is visible the application of the Newut font (Courtesy: Ruedi Baur)
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Moving on to more case studies linked to the world of the product, the Hafa Collections project (1998-2001), coordinated by the architect and designer Milli Paglieri, sees the Piedmont craftsmanship, supported by Turin designers and Moroccan craftsmen, reinterpreting the forms of Arab living, recovering typical processing techniques of Marrakesh.

The collections were born in Italy, but changed over time, during their production. The interaction with the artisans, along with their processes and advice, modified and enriched the initial projects. All the collections aim to tell a story, and the different items become pieces of a story that is enriched over time with new elements. In 1998 the “Hafa Collection” was created: 12 Italian and Moroccan designers and artists have been urged to rethink furniture and furnishings in collaboration with skilled Moroccan craftsmen. By proposing apparently lost rituals, ancient materials and traditional processes, the creators have been able to find answers to many needs of contemporary living: the terrace environment, the space around the ceremonial of tea with low seats and tables, the numerous water outlets, and ambient light, typical of the Moroccan house, constituted in the designers' interpretation experiences of enrichment and contamination between the objects and western culture. In 2001 the project was enriched with the “Hafa Hammam Collection”: a collection by Milli Paglieri and Paola Navone, who tried to reproduce the atmosphere, the perfumes and the beauty rituals of the hammam (thermal complex similar to a Turkish bath) with a line of body and skin care products and a series of objects and accessories.
The meaning of Hafa is “end-point”: therefore, it describes a boundary to overcome thanks to a new approach to design and product. Evocative objects, full of references to the two cultures and immediately attractive. “Double” objects – simple and complex, spontaneous and cultivated because they are telling a population’s story and material culture, and another population’s design culture.

![Figure 4. Hafa Collections project, 1998. Selected pieces of the Hafa Collection (Credits: Lorenzo Prando, Riccardo Rosso, Guido Drocco, Elie Mouyal)](image)

Another interesting project, straddling the world of communication and product design, is the Encyclopedia of Migrants, that is an international project (2014-2017) supported by the Erasmus+ programme. It is based on a network of partners with different profiles (organizations, universities, museums, etc.) coming from France, Spain, Portugal and Gibraltar. The project was coordinated by the French organization “L’âge de la Tortue”, which works in the visual arts field. The initiative has had an artistic and experimental dimension designed with the aim to create an encyclopaedia both in printed and digital version, with approximately 400 testimonies directly made and written by migrants. The Encyclopaedia format was chosen in order to disseminate non-scientific knowledge, resulting from life experiences, with all the subjectivity that this involves. In this multi-volume, leather-bound book the care for layout and graphic design is visible and essential to the meaning of the project itself.

The main idea was to gather diverse accounts by migrants, which could be the source of a new knowledge, based upon the intimate and the individual. The most interesting aspect of this project is the idea that these life accounts are themselves interpreted as a heritage, to
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be protected, remembered and spread, just as in the interpretation of Diderot and d'Alembert when they gave birth to the first Encyclopaedia.

Figure 5. Encyclopedia of Migrants, 2014-2017. The three volumes that compose the encyclopaedia (Source: www.encyclopedie-des-migrants.eu – European cooperation project coordinated by L’âge de la tortue, at the initiative of the artist Paloma Fernández Sobrino)

Figure 6. Encyclopedia of Migrants, 2014-2017. Internal detail of one of the volumes (Source: www.encyclopedie-des-migrants.eu – European cooperation project coordinated by L’âge de la tortue, at the initiative of the artist Paloma Fernández Sobrino)
The project “Brera: un’altra storia. Percorsi interculturali nel museo” (Brera: another history. Intercultural itineraries at the museum, 2014), held inside the exhibition spaces of the Pinacoteca di Brera (Milan), was an intercultural museum program cleverly narrated through video editing tools, in order to keep historical memory of this virtuous example.

This was an experimental project for the enhancement of the museum’s initiatives in an intercultural scope, and it was promoted by the Ministry for Cultural Heritage and Activities, General Directorate for the Enhancement of Cultural Heritage, and the Pinacoteca di Brera.

With the awareness that the museum is a treasure chest that contains a multiplicity of stories, the idea was born to bring out what works of art can tell each of us in a different and shared perspective. Thanks to the gaze of eight museum mediators from Bosnia, Brazil, Egypt, the Philippines, Italy, Peru, Senegal and Hungary, visitors to the Pinacoteca were guided to interpret the complexity and richness of the museum’s works by discovering new meanings and unprecedented interpretations, until finding signs of contamination and reciprocal figurative influence.

The cultural and social relevance of the project lied in the promotion of different levels of accessibility: the development of a new familiarity between the Museum and “new citizens”, the promotion of regular visitors to new points of view on collections and, more in general, the construction of policies for access and participation aimed at an intercultural audience, not “segmented” on the basis of origin and nationality. Another strong point of this project is its narration through a video: this aspect of “historical memory” is often underestimated in the design of this kind of experience, however it turns out to be a fundamental element to give value to the project itself and to be able to take it as an example for the development of future actions, also structured on other realities.
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This project may be linked with **Collective Conversations**: an audience development project of the Manchester Museum, active since 2004, which consists in filming the interactions of people with objects belonging to the collections of the Museum. Indeed, groups of participants use the museum’s objects as a starting point for reflections, stories and narrations, often autobiographical; the videos of the “conversations”, made by specially trained museum staff, are currently visible on the Manchester Museum YouTube channel (https://www.youtube.com/user/ManchesterMuseum/about) and from the direct links published on the museum website. These Collective Conversations started in 2004, following an acknowledgement that the Manchester Museum’s collections had been relatively under-used by the surrounding communities and lacked important information regarding their history and community context. The project has gradually developed into a new operational model for the Museum to deal with issues of interpretation, documentation and display and to carry out a more inclusive work with diverse communities, by increasing physical, intellectual, emotional and sensory access and engagement through: involving a wide range of peoples in intercultural dialogue in a unique process of identification, interpretation and documentation of collections; piloting innovative inreach and outreach, recording and communication techniques; integrating the narratives into collaboratively-developed community exhibitions. In the Museum’s own words, “Collective Conversations” is a way to establish the museum as a contact zone, creating a new way of working.
On a larger scale and with a long-term strategy, we find certain projects developed by the Egyptian Museum of Turin – a reality that makes material culture a field of dialogue and constant promotion – among which “io sono benvenuto” (I am welcome, 2017 - in progress), created with the aim of bringing foreign citizens closer to the museum heritage displayed in the museum and create an environment of inclusion and hospitality. This event is organized annually on the occasion of the “World Refugee Day” and involves an extraordinary opening of the Museum dedicated to the performance of numerous musical activities within the exhibition spaces. Access is free for all visitors, in exchange for a small welcome message to be placed on the Welcome Wall. This is a way for the museum to belong to everyone, as the director Christian Greco pointed out:

“the museum becomes the place where all citizens, even those who have joined our community for a relatively short time, feel welcomed, learn about the immense heritage kept inside of our walls, and in doing so, they understand themselves and others better. This is the purpose of culture, to build bridges and break down barriers.” (Christian Greco, 2017)
Figure 9. Io sono benvenuto, 2018. One of the concerts performed inside the exhibition spaces of the museum during the event (Credits: Museo Egizio, Torino)

Figure 10. Io sono benvenuto, 2018. The Welcome Wall (Credits: Museo Egizio, Torino)

Another strategic project is the “Multaka: Museum as Meeting Point – Refugees as Guides in Berlin Museums” (2016 - in progress), in which Syrian and Iraqi refugees were trained as museum guides so that they could provide guided museum tours for Arabic-speaking refugees in their native language. “Multaka” (Arabic for “meeting point”) also aims to
facilitate the interchange of diverse cultural and historical experiences. The guided tours involve investigations on historical objects relevant to contemporary debates, in order to establish a connection between the past and the present. In the process, the guides incorporate the visitors into the process of observing and interpreting the objects. In this way, through the mutual dialogue and the consideration of their own history, the visitors become active participants.

Through addressing visitors in clear and simple language aimed at all age groups and using peer-to-peer communication, the “Multaka - Museum as Meeting Point” project attempt to facilitate refugee access to museums, and to help them find social and cultural points of connection, as well as increase their participation in the public sphere.

5. Conclusions

The case studies presented demonstrate the possibility to activate an engaging dialogue between people and cultural heritage, in which everyone is treated equally and everyone has the same opportunity to access culture.

Specifically, these projects were born to pursue different goals, such as the creation of new languages and communication methodologies; the production of new narrative visions and re-readings of the heritage in an intercultural key; or to strengthen the bond between migrants and local heritage.

Design is therefore configured as an essential tool in structuring these strategic actions for integration. As it is evident in most of the case studies, the role of design is expressed in its most concrete form, such as graphic or product design. However, through a necessarily multidisciplinary approach (in which design skills are combined with skills specific to the field of analysis), design expertise may be expressed not only in its most executive form, but can also emerge as an important coordination and systemisation tool of the design process in its overall vision. In certain case studies presented, such as the “Io sono Benvenuto” or the “Multaka” projects, the figure of the designer is not explicitly recognizable within the project path: however, it can be interesting to observe how the inclusion of this professional figure could bring improvements in terms of exploration of communicative languages (different and more plentiful than those currently developed) and in the creation of more effective tools for participation and interaction with the public, capable of being put into use even without questioning the spirit of the project itself, but rather strengthening it through the union of more than one point of view. Designers are professional figures that, in participatory projects, must be aware – on the one hand – of the goals of the institutional collaborators – and on the other hand – of the needs, interests, and expectations of visitors.

By moving away from traditional guided tours to dialogue-based forms of outreach, this intercultural approach can become a pivotal part of the educational methods employed by museums and cultural institutions. Rather than focusing on communicating specific content,
the emphasis is on facilitating a dialogue between visitors with their individual expectations and what is being presented in the museum.

Cooperation projects play an essential role in cultural accessibility, enabling people to participate in the everyday cultural life of a city or community.

In order to concretely explore the possibility that cultural heritage can represent a powerful vehicle for intercultural dialogue, it is necessary to start an articulated process, based upon a “contextual and correlated development of theory and practice, which provides solutions in interinstitutional partnership and continuity over time in the field of heritage education, in an intercultural scope” (Bodo, Cantù, Mascheroni, 2009, pg.14).

A few specific reflections can be made concerning the modality of public involvement. To enable people to participate in the everyday cultural life of a city or community, cooperation projects need to be developed. It can be essential to work with associations and organisations of people with different backgrounds in terms of regional roots, religious beliefs, political orientation and national, cultural and social interests, in order to re-examine and re-explore the current narration of cultural heritage.

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About the Authors:

Marco Bozzola, associate professor in design at Politecnico di Torino, where he teaches Concept Design at the bachelor’s degree in design and Communication. His research field is design for crafts and territory, design for cultural heritage and packaging design.

Irene Caputo systemic designer particularly keen on relations among cultures, and enhancement of territorial identities. She is currently a PhD candidate at the Department of Architecture and Design of Politecnico di Torino, with a research project on the improvement of cultural heritage.

Claudia De Giorgi full professor of Design at Politecnico di Torino. Her research field is the sustainable innovation in products, processes and materials. Head of MATto, innovative materials archive open to SMEs, and of national and international research projects on this topic.
Immigrant Cultural Acculturation- A study of Tibetan Clothing in India

Anahita Suri
anhita@unitedidesign.com
School of Fashion Design, Unitedworld Institute of Design, Karnavati University, Gandhinagar, India

Abstract | The pursuit of preservation of cultural identity and search for an individual identity has led me to study various migrant cultures and their influence on design. The vibrant and spiritual Tibetan Buddhist migrants in India have always fascinated me. This research paper is an attempt to present a new perspective on the complex acculturation process of the Tibetans-in exile in India and its relationship to the clothing and visual culture. The data collected are narratives from the Tibetans that focus on variables like cultural differences, intercultural communication and intercultural relations that influence their experiences as well as first hand observations of the life in Tibetan settlements in India. I aim to present the potential offered by Tibetan costumes as inspiration to be exploited creatively in a responsible way without offending anyone. This, I do, in a pursuit of positive cross-cultural adaptation between the two cultures.

KEYWORDS: ACCULTURATION, ASSIMILATION, APPROPRIATION, ADAPTATION, INSPIRATION.
1. Introduction

Myriad cultures form the warp and weft of the fabric of this world. The last century saw mass migration of people across geographical boundaries, owing to industrialization, globalization and political turmoil. These people took with them their cultures, costumes, traditions and folklore. The large flux of migrants around the world has sparked scholarly interest in acculturation, assimilation, appropriation, adoption and amalgamation.

The aim of this research paper is to understand the situation of the Tibetans in India, its correlation to Tibetan costume and culture in India (figure 1) and further, explore the potential of exploring elements from Tibetan clothing and visual culture to create something new and place it in a different context to make it contemporary.

Figure 1: A road trip through Ladakh, India showing Buddhist prayer flags against the barren landscape and Tibetan thangka paintings with visuals of deities. (Self-clicked images).
2.1 Cultural Exchange: Acculturation

Acculturation is a process through which a person or group from one culture comes to adopt the practices and values of another culture, while still retaining their own distinct culture. This process is most commonly discussed regarding a minority culture adopting elements of the majority culture, as is typically the case with immigrant groups that are culturally or ethnically distinct from the majority in the place to which they have immigrated. It can happen at both group and individual levels and can occur as a result of in-person contact or contact through art, literature or media. (Cole, 2019)

However, acculturation is a two-way process, so those within the majority culture often adopt elements of minority cultures with which they come into contact (Cole, 2019). This can include the uptake of certain styles of dress and hair, choice of food and music, etc. This research aims to explore this aspect of acculturation by focusing on clothing as an expression of culture.

Acculturation can take different forms and have different outcomes, depending on the strategy adopted by the people or group involved in the exchange of culture which in turn is determined by the extent to which the group believes it is important to maintain their original culture, and their willingness to establish and maintain relationships with the greater community and society whose culture differs from their own (Cole, 2019).

2.2 Cultural Exchange: Appropriation

Cultural exchange can either occur naturally through extended contact, or more quickly through cultural appropriation or cultural imperialism. Cultural appropriation is the adoption of some specific elements of one culture by members of a different cultural group. With the surge in population and growth of the fashion industry, there has been an increasing demand for innovative and individual fashion, from street markets to luxury brands. Exhausted by local influences, designers take inspiration from migrant cultures which they can exploit creatively. But unfortunately, the rich and vibrant Tibetan culture has escaped the fancy of designers in India and worldwide.

2.3 Cultural Exchange: Assimilation

Assimilation is the eventual outcome of the acculturation process, but the process can have other outcomes as well, including rejection, integration, marginalization and transmutation. Whether it is desirable for a given group to assimilate is often disputed by both members of the group and those of the dominant society (Cole, 2019).

Immigrant assimilation is a complex process in which immigrants not only fully integrate themselves into a new country but also lose aspects, perhaps even all of their heritage.
2.4 Cultural Exchange: Amalgamation

Amalgamation refers to a blending of cultures, rather than one group eliminating another (acculturation) or one group mixing itself into another (assimilation).

Today, many social scientists believe that integration, not assimilation, is the ideal model for incorporation of newcomers and minority groups into any given society. A person or group is encouraged to maintain their original culture while they are simultaneously encouraged to adopt necessary elements of the new culture.

3 Tibetans in India

Owing to the Tibetan uprising in 1959, about 1,50,000 Tibetan refugees, followed in the footsteps of His Holiness the Dalai Lama and fled to India. A second wave of Tibetan exodus took place in the 1980s due to increasing political repression. Even today, 3000-4500 Tibetans arrive in India every year in pursuit of cultural education and a peaceful life. All are given refuge in the little Himalayan town of McLeod Ganj- the seat of the Tibetan government-in-exile and home of His Holiness the Dalai Lama. Today, about 1,20,000 Tibetan refugees remain in India, spread across 35 settlements in Dharamsala, Karnataka, Odisha, Darjeeling and Sikkim. Besides, there are Tibetans located in scattered communities in various towns and cities of India (Thogmed, 2016).

Upon their arrival in India, the major priorities of His Holiness the Dalai Lama were the rehabilitation of Tibetan refugees, education of Tibetan children and preservation of Tibetan culture and identity. To realize these objectives, all Tibetan refugees were settled into a cohesive homogenous society and separate schools were set up for their children with their own curriculum. The Department of Religion and Culture was set up under the Central Tibetan Administration to preserve and promote Tibet’s spiritual and cultural heritage (Paljor, 2017).

These people brought with them their culture, costume, cuisine and traditions. A walk through any of these settlements leaves you with rich visuals of Tibetan women in their chuba (long dress), pangden (striped apron), Buddhist monks in their chogo (red and yellow robes) and colorful prayer flags fluttering at every corner. The streets are lined with stores selling Tibetan jewelry and souvenirs and dotted with fabric stores and tailoring shops to cater to the needs of the community.

These people upon their arrival struggled to adapt to the dominant Indian culture, due to the vast cultural difference in religion, rituals, language, clothing and food habits. Their willingness to assimilate was low as they were introduced to India as asylum seekers rather than free willed migrants, leading to negative inter-cultural sensitivity and culture shock. This led to emotional expression and responses of hostility, anger, negativity, anxiety, frustration, isolation and regression. Combined with low economic standing, they preferred
to be clustered together, in large part due to a requirement to share resources in order to survive.

The Tibetan people’s desire to assimilate is also disrupted by negative intercultural communication, institutional and interpersonal roadblocks that manifest from racism, xenophobia and ethnocentrism.

However, the second and third generation migrants engage more freely in the process of acculturation in order to reduce social friction. The new generation Tibetans develop better socio-cultural skills, move out of their settlement to attend school/university in various parts of India, get jobs and try to blend in with the existing fabric of the society. But this is difficult as they are culturally and visually distinguishable from those culturally native to India. They are also afraid that of losing aspects or all of their heritage due to immigrant assimilation.

Most young Tibetans are educated in India and according to Mrs. Pema Gyalpo, younger sister of His Holiness the Dalai Lama, even though their cultural point of view is influenced by this environment, they are keen to preserve their identity (Hampton, 1985).

Figure 2: Tibetan prayer flags at Pemayangtse Monastery, Pelling, India, Enchey Monastery, Gangtok, India and Khelechopari Lake, Pelling, India.
4 Tibetan and Indian Habits

Due to scarcity of water in the Tibetan plateau, Tibetans considered washing and bathing to be an unhealthy, harmful practice. As a result, many Tibetans would often be covered in a layer of greasy yak butter and dirt, their clothes caked in dirt and their hair matted. When they did wash, they rinse their face and hand in yak or goat milk. To protect their skin and beautify themselves, women applied a salve made of boiled curds. Some people went through their entire life without ever taking a bath. This made them the target of negative criticism by Indians who wash and bathe every day and led them to change their lifestyle. Most Tibetans have bright red cheeks—the consequence of high altitude, sun and winds. When they descended to the low altitudes, their skin became pale yellow. This further strengthened their dislike of life in India (Hays, 2008).

The most oft-cited problems for newly migrating Tibetans in India are the language barrier, their dislike of Indian food and the warm climate, which makes Tibetan clothing uncomfortable. Some also fear that their Tibetan culture is being diluted in India. (Thogmed, 2016)
5 Tibetans Emigrating Tibet Today

Within Tibet, Tibetans are losing their culture due to Chinese suppression. Significant cultural gaps exist between recent Tibetan emigrants and India born Tibetans. A prejudice of sorts against newcomers (post 1990s arrivals) exists in the Tibetan settlements (Martini, 2001). On the other hand, the Tibetan diaspora faces a threat of disintegration as many of the new generation exiles have started moving out from the existing Tibetan settlements and their urge to move to the west makes the situation worse. Moreover, Tibetans already settled in the west are in danger of assimilating into the western culture and lifestyle. Therefore, Tibetans fear that Tibetan identity will be wiped out completely and believe the only hope of keeping the culture alive is by those in exile. Hence, there is a resistance to assimilate into the Indian culture (Paljor, 2017).

6 Tourism in Tibetan Settlements in India

The past few years have seen a surge of tourists in these settlements, as a result of more awareness of different cultures, more disposable income and a desire to explore new places. Symbols of visual identification of these cultures - prayer flags, prayer wheels, thangka paintings, singing bowls and cuisine like momo dumplings and thukpa soup - have made inroads into popular Indian culture.

However, there has been little or no cross-cultural adaptation of clothing cultures between the dominant Indian clothing styles and immigrant Tibetan clothing styles. Tibetan clothing is not available in markets outside their settlement. Even though the Tibetans disperse to the Indian plains for trading of woolen garments, their costume vocabulary remains untouched. Fashion and accessory designers have overlooked the rich inspiration offered by these beautiful wool and brocade clothing and silver and turquoise jewelry.

7 Tibetan Clothing

Tibet, though small in size, bears silent witness to their rich culture in the form of their attire and accessories. Unlike today’s world of fashion, Tibetan attire and accessories, carry great significance to the culture and speaks volumes about their history, personal beliefs and the personality of the individuals wearing them. (Tsering, 2019) Tibetan costume showcases the beliefs of the Tibetan people. Old men love to wear clothes painted with suns and moons, which signify good fortune, happiness and longevity. The use of animal leather and the original colour of the wool shows the wearer’s respect for nature. The costumes reflect the simple and pious attitude of the Tibetan people. (Meiling, 2018)

While influenced by neighboring cultures from China, India and Nepal, the Himalayan region’s remoteness and inaccessibility have preserved distinct local influences and
stimulated the development of its distinct culture. Tibetan clothing is governed by the special environment and climatic conditions they live in, their animal husbandry and farming lifestyle, and lastly, by style and fashion. (Hays, 2008)

Tibetans are usually conservative in their clothes. They wear long-standing and unique Tibetan clothing together with vibrant coral, amber and other precious jewelry plus luxurious and beautiful gold and silver ornaments.

All in all, the clothing and accessories worn by the Tibetans speaks volumes about their love for expressing their culture and history through their art and clothing (Tsering, 2019). The Tibetans love of colour is evident in the way they decorate their clothes and homes (Hays, 2008).

The Tibetan traditional costume was added to the national intangible cultural heritage list in 2008. During the fourth China Tibet Tourism and Cultural Expo, held in Lhasa in 2018, models dressed in contemporary Tibetan clothing presented a potential opportunity to meld tradition with contemporary fashion. Li Mei, President of the Tibet Ethnic Dressing Culture Institute said, “the way people’s life has changed, so traditional costumes should also evolve to meet their new demands.” The institute which was inaugurated in 2018 September, aims to study the long history and culture behind the clothes, collect all existing patterns of Tibetan costume, invite experts to create innovative designs and help local apparel companies to grow (Meiling, 2018). Chemi Dolkar, an art and design teacher at Tibet University in Lhasa said, “People can learn more about Tibetan culture through this apparel. It is the most direct way” (Meiling, 2018).

Tibetan clothing is mainly categorized into the following, (Hays, 2008)

7.1 Women’s Clothing

The costume in adulthood rituals and that for unmarried females are quite different, which is a feature of Tibetan costume system. Usually, ceremonial clothes are much more gorgeous and solemn than ordinary clothes. Ordinary clothes worn by Tibetan females are long robes without sleeves, a silk/ cotton blouse underneath with woolen/ cotton pants and wide belt around the waist. Sometimes they wear jewelry symbolizing auspicious omen. In winter, they wear long overcoat that reaches over the knees or shawl made of yak skin, goat skin or sheep skin. Married women wear colorful striped aprons called pangden and slivers of white conch shells adorned with precious coral, silver and other forms of decoration in their hair. This is done to show the love and respect they have for their husbands. (19) Unmarried girls sometimes wear special costumes, implying the wealth of their family, so that wooers could estimate the dowry they would obtain. The illustrious women headdress, known as the bazhu/baguo, attracts the fancy of tourists.
7.2 Men’s Clothing

Men’s clothing: Tibetan men’s clothing is categorized into Legui (working dress), Zhuigui (formal dress) and Zhagui (warrior dress).

Legui (working dress): It varies with the change of four seasons within the year. In spring and summer, men usually wear waist-level short shirt made of cotton or brocade laced with silk, and a long gown with round neck and wide sleeves. They put the long gown around their waist and tie the two sleeves overlapped on the back of the waist. The drooping parts of the long gown right reach the knees and form a pocket around the waist to carry portable items. The waistline, crotch and trouser legs are all very wide. Clothes in autumn and winter are all made of sheep and cow leather or man-made tufting. Long gowns are made of wool or sheep skin. They wear leather cap and Tibetan shoes with leather bottom and woolen upper.

Zhuigui (formal dress): It is the dress for grand festivals and ceremonies. The materials used in Zhuigui are quite expensive with exquisite workmanship. The upper Zhuigui is divided into inner and outer shirts. The inner shirt is usually made of silk in white, purple or light-yellow colors. It is a kind of Chinese-style jacket with buttons down the front and high collar, and the front of the garment and collar is laced with golden or silver. Some are also made of satin with different patterns and colors. The length of sleeves of the inner shirt reaches the wrist. The material for the outer shirt is brocade with patterns of Yuanshou, Miaolian and other flowers. The style of the outer shirt is same as the inner shirt, but without sleeves. The trousers are made of silk. The accessories for male include primarily Gawu(a silver box)and broadsword.

Zhagui (warrior dress): Fox-fur hat on head, Pulu laced with marten or woolen Chuba, long sword around the waist, the carrying of amulet, rifles and pistols enhance the beauty of masculinity of the handsome warriors.

7.3 Monk’s Clothing

Monk clothing is simple and solemn. It is categorized into duiga (waistcoat), xiamute (monk skirt) and kasaya (patch worked wrap). In Tibetan costume culture, monk clothing is the most intact one that experienced the smallest change. When chanting sutras and praying, monks wear a huge piece of aubergine mantle Dagemu outside the Kasaya. Monk clothing varies in texture, colour and style according to the ranks and seniority. Ordinary monks could only wear duiga made of red pulu or wool. The ones wearing duiga and Kasaya made of yellow silk and satins are Living Buddha or eminent monks.

A Khata is a traditional ceremonial scarf given in Tibet. It symbolizes goodwill, auspiciousness and compassion. It is usually made of silk and is generally white in colour to symbolize the pure heart of the giver (Zingka, 2019).
7.4 Accessories

When it comes to accessories, the Tibetan folk pay keen interest in the way they project their rich culture in the form of art, clothing and accessories. Tibetans wear ornaments made of gold and silver as well as jewelry made of amber, agate, jadeite, pearl and ivory. Women wear earrings, necklaces, bracelets and finger rings. Men sometimes carry swords and wear earrings and bracelets. It is common to see women wear head ornaments made of silver, coral, turquoise, semi-precious stones and animal bones (Hays, 2008).

Tibetan crafting techniques like encasing, inlaying and wire drawing are used to decorate both, jewelry and religious objects like prayer wheels, barrels to hold rice for offering, sea snail shaped ritual horns, etc. The designs are derived from religious beliefs and convey special meaning. Most silver jewelry are carved with the six-syllable mantra, Om Mani Padme Hum, which is believed to have the ability to eliminate disease, prolong life and increase wealth. Pendants in the shape of Vajra (a ritual instrument for subduing demons) and amulets in silver or bronze with small boxes inlaid with pearls or precious stones containing clay images of Buddha, Tibetan pills, Buddhist paintings or photo of His Holiness the Dalai Lama are popular. Many handicraft and jewelry pieces feature dzi beads which are regarded as given by God (Hays, 2008).

Except for the lamas and for certain laymen who shave their heads, Tibetans wear their hair either long or in a braid (Migot, 1955).

8 Beauty Pageant

Miss Tibet beauty pageant have been staged in Dharamsala. The Communist Chinese government objected to this pageant because it was seen as a sign of defiance to Chinese rule and an expression of the Tibetan desire for independence. Buddhist leaders opposed it because it apes western culture and mocks Buddhist philosophy. In December 2007, Miss Tibet withdrew from Miss Tourism beauty pageant in Malaysia, after pressure from China to participate as Ms. Tibet-China. (Hays, 2008)
9 Tibetan Clothing and Culture as Design Inspiration

Designers worldwide have overlooked this vast treasure of inspiration for creating contemporary, innovative designs. But this changed when crisscrossed arcs of scaffold-hung prayer flags and against a backdrop with visuals of Nepal, Tibet and Bhutan, Etro presented their Fall Winter 2017-18 collection which celebrated the beauty of our sadly often mistreated Earth by acknowledging the power of diversity, transposing its main patterns to fashion. The eclectic and variegated pieces had mandala motifs matched with big colour blocked designs and juxtaposed with psychedelic patterns. The garments exuded a multi-cultural appeal (Leitch, 2017). (Figure 4)

10 Tibetan Clothing and Culture in Movies

Hollywood movies like Seven Years in Tibet (figure 5), Himalaya (figure 6) and Samsara have narratives set in Tibet and took the audience on breath taking and mesmerizing journeys.
through the untouched landscape, people and culture of Tibet, giving a glimpse of all the hidden treasures this country and culture has to offer. Bollywood movie Paap (figure 8), narrated the story of the struggle of a woman to join a Tibetan Buddhist nunnery. The vibrant colors of the monk’s costume and prayer flags against the barren mountain is a visual treat.

Figure 5: Seven Years in Tibet   Figure 6: Himalaya

11 Tibetan Clothing and Culture as Inspiration for my Design Projects

11.1 Project 1

My first project with Tibetan inspiration was as a Fashion Design student in 2005, where I used the visual imagery, elements like bell sleeves, metal buttons, enameled buttons and brocade fabrics to create a womenswear outfit (figure 9). The process strengthened my interest in this unexplored world and led to textual and visual research into the Tibetan culture and their struggles.

Figure 9: Inspiration pictures, sketch and final garment design. (Self-clicked images)
11.2 Project 2

The next project was my graduation collection titled, ‘In Search of Harmony’, drawing inspiration from the landscape of Ladakh, the prayer flags and the lotus flower- a symbol of compassion in Tibetan Buddhism. Made in khadi silk, naturally dyed with tea leaves and accessorized with necklaces and belts of hemp strings in colors of the prayer flags. As the tea dyed fabric fades away over time, it reminds one of the prayer flags that fade away in the wind, as the wind carries the prayers in all directions. The lotus petals inspired the vibrant pendants and brooches (figure 10).

![Figure 10: My collection, In Search of Harmony. (Self-clicked images).](image)

12 Tibetan Clothing & Culture as Design Inspiration for Design Graduates

I collected visuals from the personal albums of Tibetan friends in India and in November 2019, I conducted a mini project by sharing some visuals of Tibetan clothing among a group of fresh graduates of Fashion Design in India, to be used as inspiration for creating contemporary garment designs. The results are mostly visual, not conceptual and show the potential offered by Tibetan clothing to be translated into contemporary garments with a national and global appeal. Tibetan traditional costume with its bright colors, robe like design and use of striped fabric is given a modern, fashionable look. The graduates have used the striped pangden fabric in unconventional ways and used styles like cross over fronts. Combining elements like cross collar, raglan sleeve and colorful patterns with jeans and nipped in waist silhouettes appeal to style savvy customers while still preserving the key cultural elements (figures 12, 13, 14, 15).

Figure 12: Sketches developed by Sakshi Jain.  Figure 13: Sketches by Smriti Johar.

Figure 14: Sketches by Kajal Patra.
13 Conclusion

Tibetan refugee community in exile in India is considered as one of the most successful refugee communities in the world. They have managed to rebuild their lives in a completely alien environment achieving almost total economic self-reliance. Tibetan Administration in exile has succeeded in rehabilitating the refugees in a cohesive society creating an environment where Tibetans have been able to preserve their age long rich cultural heritage and identity. But the emigration, the uprooting has contributed to disruption of identities, low self-esteem and resistance to assimilation.

This research paper is an attempt to present a new perspective on the complex acculturation process of the Tibetans-in exile in India and its relationship to the clothing and visual culture. Design connects people and culture while bridging cultural gap. I hope to present the potential offered by Tibetan costumes as inspiration to be exploited creatively in a responsible way without offending anyone, with an awareness of crossing cross-cultural boundaries. This, I do, in a pursuit of positive cross-cultural adaptation between the two cultures by blurring the dividing lines.

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About the Author

Anahita Suri is a fashion educator, designer and researcher, with an interest in identity and cultures through clothing and visual symbols across the globe.
Making in Proximity: Design Policies for collaborative making cultures

Lina Monaco*a, Luca D’Eliab, Viktor Malakuczi

aEscuela de Ingenieria y Arquitectura, Universidad Zaragoza
bSapienza University of Rome
*752761@unizar.es

Abstract | The contribution reflects on how the proximity between the actors of originally bottom-up Making Culture and public administrations can stimulate a virtuous urban Culture of Making, that is economically sustainable and well distributed in the city. The article starts with an overview of the “economy of Making” today on a global and European scale, focusing then on the Italian context. In particular, making issues in the regional context were investigated with a general mapping and a series of interviews, highlighting misalignments between the makers’ initial objectives and the everyday reality of making. As a potential response, the contribution presents the partial findings of a European project that intervenes at the level of local policies to support the activities of design and distributed manufacturing and proposes a format and toolkit that analyzes the ecosystem of makerspaces in a city / region, to then formulate operational proposals to support for innovative activities with an economic and social impact.

KEYWORDS | COLLABORATION, FAB LAB, POLICY, INNOVATION, WORKSHOP
1. Introduction

Building on a project currently underway within the Interreg Europe program, this contribution reflects on possible ways to improve activities in makerspaces, the virtuous places of doing where citizens connect to productive resources and to other citizens with the same willingness to create tangible projects - be they single objects or products destined for the market.

As extensive literature demonstrates (e. Anderson, 2012 and Gershenfeld, 2005), makerspaces have the potential to bring industrial processes back into urban areas and into the hands of citizens by making them independent of mass production. These spaces offer specialized equipment and skills, so as to allow the performance of innovative activities to a transversal audience, making them able to respond to the problems of their immediate habitat - potentially with design solutions of various usefulness and worldwide diffusion thanks to the online community of makers.

The Research project object of this article starts from the observation of a problem related to the management of makerspaces, which rarely reach the theorized potential. Today, after the "pioneer" phase of the maker movement, self-organization, enthusiasm and in many cases, voluntarism are giving way to the growing need to establish economically sustainable models, drawing the attention of both the scientific community and policy makers. In fact, the project focuses on policies intended both as internal policies necessary to guarantee effective functioning, and as external policies to be implemented at the level of local or regional administrations.

2. Economy of Making

The evolution of Hackerspaces, from places of diffusion of a technological culture to Makerspaces as potential places of widespread production in the territory (Menichinelli, 2016) has brought traditionally informal DIY spaces (in all their forms such as repair cafes, fablabs to name a few formats) at the center of a new debate on the resilient city.

Most of the scientific literature is concordant with recognizing in Making Practices, intended as the combination of digital fabrication technology and open design, a revolutionary potential to define more resilient models of development. Such potential was welcomed as a response to the 2009 financial crisis, and has been theorized in models of diffuse capitalism, such as the third industrial revolution, and social innovation. Such “revolutionary” models have been progressively substituted by re-mediation practices as in the case of industry 4.0 or redirected toward less open practices as urban living labs.

Significant example is Barcelona (Spain) model of productive city, that in response to youth unemployment exceed 50%, and the traditional idea of the city as a place of consumption "products-in thrash-out” prosed a paradigm shift based digital manufacturing of the "data-in
data-out" type, (Gershenfeld, Gershenfeld, Cutcher – Gershenfeld, 2017). Such a top-down model based on a new infrastructure of Living Labs as places of open innovation boosted by private-public partnerships, is balanced by Fab Lab, hacker spaces and makerspaces as bottom-up workshops of social innovation. Barcelona experiment is represented by Barcelona Laboratori initiative developed by the city council to encourage innovation through public and private collaboration between the arts, science, and technology; (Capdevila, Zarlenga 2015) with specific claim “For the first time, peer to peer relations between City council and citizens is the main principle that is helping to Barcelona Laboratori to involve users [...]” (Barcelona Laboratori, 2012)

This model of "self-sufficiency 4.0" promoted in the plan for the Barcelona Smart city in 2014, although it was superseded by subsequent city administrations, had two fundamental effects. On the one hand, the institutional recognition of digital manufacturing laboratories as places of culture is comparable to libraries in terms of representative role and type of use. The distribution of makerspaces (ateneu digital) in each district was, in fact, included ten years later in the current plan of "Barcelona Ciudad Digital" [1], integrating the informal network of self-managed spaces of bottom-up type into a new top-down cultural infrastructure (Capdevila, 2014)

From 2016 to 2018, it is possible to recognize a shift of the European perspective over the maker movement, from the civic role of commitment and engagement to a local economic booster role.

According to the Science for Policy JRC, stable policy and practical solutions to address new work challenges are more marginal in politics than in media coverage (Rosa, Guimarães Pereira, and Ferretti 2018). Regardless of the attention on EU and national levels, maker economies are relevant mainly on the metropolitan, urban and community scale, ranging from open innovation in manufacturing (as in North Italy example) to the innovation as cultural challenge (as in southern Europe cultural heritage applications).

Local and regional Public Administrations (PA) assume the role of fostering Maker economies with specific policies and programs to consolidate existing bottom-up communities or to seed them creating top-down public living labs of entire networks, thus elevating a new infrastructure model demonstrated in Barcelona to a European level. Among these there are notable examples: the French Fab lab network, the Italian MakER network of bottom-up labs in the Emilia Romagna region (Cattabriga, 2020) or the Fab Lab Lazio network of laboratories.

Meanwhile a closer analysis of the most relevant digital platforms highlights the current state of difficulty facing makerspaces. Between 2005 and 2018 there was a trend that saw the global number of fablabs doubling every year and a half (Gershenfeld, Gershenfeld, Cutcher – Gershenfeld, 2017), while 2020 data shows a contraction in the absolute number of laboratories: 1027 active fablabs in 2020 (fablab.io [2], October 2020) compared to 1120 fablabs in 2017 (Fasoli, Tassinari, 2017) and only 991 active Hackerspaces in 2020
(Hackerspaces [3], October 2020) compared to 1331 active Hackerspaces in 2017 (Niaros, Kostakis, Drechsler, 2017). This crisis is confirmed by a report from the Joint Research Center (JRC) which, circumscribing the European context, highlights a reduction in the trend of increasing the number of Hackerspace and fablabs since 2015 (Rosa et al., 2017).

3. Making issues in the regional context

To understand the recent phenomenon of maker spaces’ decreasing numbers, we have developed a field investigation on the territory of Lazio region. The study was developed on 2 steps:

- Static snapshot: obtain an overview of the “maker culture” in Lazio, showing number, localization, openness and specialization of fab labs, maker and hacker spaces, through their digital presence and activity.
- Dynamic image: in order to evaluate the evolution of each maker community, in relation with their local environment, human and skills capital and proximity relation ability, we have developed a data triangulation based on institutional documentation, web platform presences and interviews.

3.1 THE MAKER SPHERE SNAPSHOT

The first analysis has found 53 maker labs, in which has been recognized: 21 Public laboratories with open users (Pub-O), 3 Public laboratories with referenced users (Pub-R) and 23 Private laboratories with referenced users (Priv-R).

In order to obtain homogenous data, a survey campaign has been developed involving all entities by means of e-mail and phone call to complete missing data. This first level of investigation recognized six categories of investigation in the context of Making that they explored respectively; the technological system, the range of services, the inclusion or relationship with a specific business network, the level of openness and sharing of projects, the company setting in relation to customers and the type of involvement in the projects developed within of its own structure (Figure 1).
The table above shows the preliminary information retrieved from the internet and the feedback given to the specific questions made via phone calls by the laboratories which have been divided by their assets in three main columns (Pub-O, Pub-R and Priv-O). Coloured dots represent all positive answers given to the questions reported on the left side bar.

3.2 Maker COMMUNITY evolution

In order to evaluate social value and proximity impact of Lazio Maker Community, have been developed a interview campaign, to key person selected for their representativeness and relevant in cover special observation roles over maker realities in their environment.

The preliminary interviews have identified several realities with the most complete profile and in extremely heterogeneous relationship with each other. Among these, initiatives such as FIRAS, as an innovative startup that proposes itself as a real factory for the production of totally digitally produced components, and Gulp 3D, a small private business in close contact with the local community, have been investigated the most; the manufacturer of 3D printing materials MakeAShape as an activity between public and private as it is affiliated with the FabLab of Frosinone, followed by the association FabLab Lazio, whose coordinator and technical manager propose themselves as representatives of the entire network Regional FabLab, and the Fondazione Mondo Digitale initiative, for their open relationship and verticalized approach on digital manufacturing education. Those interviews were structured according to anthropological investigation methods, characterized by low structured
questions (the discourse flowing fluently through questions), long duration (always more than 45 min) and holistic evaluation (including non-explicit commented context).

Through an informal chat, the topics of which were prepared directly by the interviewees, the questions posed verticalized on the theme of the identity and role of the maker within the city (how it identifies as a service or service provider), and the contact of support of PAs (whether they are supported or not) and of project management when approaching a different clientele.

These interviews highlighted 3 main problematic areas:

- a widespread misalignment between digital and physical identities: community activity and face to face design development do not correspond to Open-Source design and sharing practices. In commercial relationships, many clients of the makers come from other regions, rather than from the same territory, even if initially they have established their lab after a local market study;
- regardless of the physical territory, there is a robust community characterised by strong, interdependent personal and professional relationships that do not correspond to a synergic vision of a new production/distribution model. In fact, digital craft is not considered as a relevant alternative for mass production among the interviewed labs;
- the FabLabs founded by public institutions are shifting their cultural objective: from spreading digital culture and open innovation to economy booster and project incubator, with an increased focus on intellectual property.

In order to pursue a resilient development model, new governance models are therefore necessary, capable of protecting makerspaces as places of physical materialization of the sharing and co-design practices of a consolidated digital community, in which sharing of technological tools and practices are concentrated. Incubators of new generations of urban entrepreneurs are active "for" and "with" the local community in order to collaboratively achieve common goals that are useful for society (Smith, 2016). In this scenario, the Urban Manufacturing (UM) project was born, funded by the Interreg Europe program, proposing a method to connect administrations and the maker world.

4. Urban Manufacturing Policy Toolkit

The goal of the UM project is to make both the shared creative space and the project and the adjoining innovative potential increasingly accessible and usable, overcoming those physical and social barriers that divide those who supply from those who use certain processes (Seravalli, 2014). To do this, it is necessary to consider in an increasingly precise and strategic way the needs of the local community to ensure better involvement and concreteness of the proposed solutions. To be truly effective, social innovation policies must
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directly involve society, directly confronting the needs of citizens, so that the design and production activities can be identified as truly open and collaborative (Fleischmann, 2016).

UM through its network of 8 Universities, makerspaces and regional administrations, develops a format capable of guaranteeing public administrations a picture as clear as possible of the potential of the Maker economy, facilitating an entrepreneurship able to face the new ways of living and work in urban settings at the political level.

The format proposed by the UM project is structured in two phases. The first Investigation defines the necessary foundations to facilitate the work of makerspaces through three guided workshops: Policy Clinic, Makerspace's Ecosystem and Makerspace Design. In the second Evaluation phase, the results are reviewed in 5 sessions by another member of the partnership acting as external auditor, drawing on the skills and experience accumulated by the UM network.

Investigation Step 1: Policy Clinic

Framed as a thematic seminar, the first step strategically sets the initiatives that foster innovation, using best practices in their urban centers. The Policy Clinic suggests a limited time window, which allows different stakeholders and the Public Administration in different local contexts to approach under a specific agreed thematic topic. In this first step it is necessary to frame the actions undertaken by other neighboring and non-neighboring makerspaces (at least 3), in order to collect useful information according to pre-established templates. This allows you to work around 3 specific issues such as the type of challenge to be faced, the particularities of the case studies (makerspaces) visited, and the type of action one would like to undertake.

Investigation Step 2: Makerspace’s Ecosystem

Therefore, assuming the inclusion of a project that looks to its audience, 4 fundamental phases follow in the development of the ecosystem:

Identification (emerging): by sharing different types of information, we identify the presence of measures to support the skills encountered, the presence of Makers in the local community, useful infrastructures and meeting events.

Growing: given the pre-existing situation, the survey shifts its lens to the Administration and its degree of openness to new technologies, to develop a vision of an "innovative city".

Support (sustaining): the quality of the infrastructure is questioned, what process the value chain follows within the city network and which other makerspaces collaborate on the initiative.

Exceeding: through the enabling technologies and the network thus developed, the new industrial policies of the city are developed together with the ecosystem of makerspaces together with the contribution of policy makers, defining thematic areas for making in the city.
Based on the involvement of the Administrations, the steps assume more or less relevance within the process, at the cost of considerable care in controlling the results and possible repetitions of the process.

Investigation Step 3: Makerspace Design

Through a template, the logistics of the available spaces are organized via a small group of space managers that guides the activity through 3 steps together with a member of the Administration, who will then be able to better understand the nature of the activities carried out and any support needs:

Empathy (empathise): participants identify with randomly generated profiles taking into account: social aspect, starting skills, availability and object of interest.

Definition: needs are defined on the basis of the following parameters: Accessibility, Atmosphere, Collaboration, Community, Creativity, Instrumentation, Experience, Innovation, Space.

Setting (create): based on the needs explored, the participants hypothesize the ideal organization for the space, as well as the most desired equipment.

Evaluation

The last phase involves one or more external figures from the 8 European cities that are partners of the UM project, who are able to contribute with experiences similar to those addressed. This confrontation phase is structured over two days. In the first, divided into two sessions of 2 hours each, external guests analyze the reports formalized during the previous steps and discuss useful information.

The second day the new policies are discussed, examining and refining in terms of feasibility the immediately following steps useful for their implementation. In order to address this work, in this 2-hour session at least three policy proposals are formalized which can then respond to the needs of the average user in a subsequent session, taking into account their perspective on the policy, the points of contact with the latter and the effects that the new policy will have on his experience.

In the last session, the roles of the participants are defined by appointing the coordinator, the approval process, the timing, and the origin of the funds (or budget allocated) that will support the project.

5. Establishment of new awareness of local production potential

As part of the UM project, which is still ongoing, only some of the activities (such as the Policy Clinic) have been completed by each partner at the present time. The Lazio Region,
the only Italian partner of the project, has identified problems regarding the commercialization of ideas: although the basic infrastructure has already been established and funding programs exist, so far, the transfer to the market has not been satisfactory. In response, the Policy Clinic workshop identified some possible strategies, for example facilitating the productive exchange of knowledge through “challenge workshops”; establish ways of sharing data and local issues, as input to work in makerspaces; differentiate innovation initiatives according to the gap between more and less urbanized areas; making the access of small businesses to regional makerspaces more fruitful through planning aid.

This last objective, particularly relevant for our discipline, refers to the ability to create a coherent and meaningful strategic vision (Design Driven Innovation, as described by (Verganti, 2009) for the company, in addition of course to the ability to improve quality of products and services already existing or designed by other figures. To put this policy into practice, a program of "Design Angels" has been established, i.e. young designers and researchers who will help a series of small and micro enterprises to achieve product innovations and process at makerspaces The activity, scheduled for 2020, has been re-planned considering the health emergency.

In addition to a static mapping, the Research intended to initiate continuous monitoring of regional makerspaces, in order to be able to measure the impact of the policies implemented and to be able to establish new programs according to the needs expressed. The collection activity involves different types of spaces including FabLabs, Hackerspaces, Makerspaces, Coworking, but also company workshops, entrepreneurs and small artisans dedicated to a more referenced audience. To understand who the users are, other questions investigate the degree of openness or audience selection and control, design assistance services, inclination to co-design, and consulting services.

After an initial analysis of the completed questionnaires, a second level of Research of a sociological type, investigated some issues through unstructured interviews. Various initiatives are facing a period of readjustment of their business models, reassigning machinery, however present and potentially active, to different uses and services. The picture obtained of maker entrepreneurship confirms the state of crisis already found in the study of global FabLab and hackerspace communities, highlighting a substantial parallelism between the fate of makerspaces as cultural places and digital manufacturing laboratories as professional spaces.

6. Conclusion

Although the European Urban Manufacturing project (basis of this article) is still in a work in progress state, the activities carried out have already led to some interesting observations. First of all, the extreme heterogeneity of makerspaces is evident both among the members of the partnership and within the examined regional territory; in fact, the workshops held suggest an equally heterogeneous variety of policy interventions. A recurring element is the
need to better connect technical knowledge - virtually spread by the global Makers community - to design knowledge, a field of Design, which will be introduced as a catalyst in a series of small and micro enterprises through a new regional program specifically established.

However, there is a further front inherent in makerspaces as places for the diffusion of technological culture, which overcoming the logic of DIY and referring to co-design models goes beyond mere production. Design education, which in this context becomes transversal and transgenerational, indirectly assumes the role of training more aware citizens, connected both to the creative resources and to the problems of the territory, transforming them from consumers to proactive agents able to propose new solutions.

Notes

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Author contribution statement:
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About the Authors:

Lina Monaco Lina Monaco, is PhD candidate from University of Zaragoza, developing a research between urban studies and design, studying the role of digital art, citizen science, and digital fabrication technologies in defining a new model of citizenship toward city resilience.

Luca D’Elia is a PhD student of the PDTA Department at Sapienza University of Rome. His Research activity is focused on digital fabrication technologies and co-design processes through the Makers community.

Viktor Malakuczi is a researcher and lecturer at Sapienza University of Rome with research interests in Computational Design, Digital Fabrication and Interaction Design, both for products and environments.
Making practice as narrator of changing social worlds—Textiles and the Scottish Borders, in the 21st century, but based firmly on the past?

Britta Kalkreuter
*Heriot-Watt University
*b.kalkreuter@hw.ac.uk

Abstract | The paper explores a variety of actors in the historic and contemporary textiles industry of the Scottish Borders with a specific focus on the region’s collective understanding of place. It uses ethnographic, material culture based and archival probes into past and present textiles practices from education to industry and archive. It does so in order to explore current and past manufacturing activity in Scottish Borders textiles not just as economics or object based, and in its respective significance for the life worlds of makers past and present. In a dialogical construction of heritage narratives in the Scottish Borders, the paper provides some evidence on the nexus of heritage and innovation with some insights for other design actors keen to compete globally from a local position.

KEYWORDS | HERITAGE, INNOVATION, PLACE, LIFE-WORLDS, CRAFT
1. Tradition and geography

1.1. Textiles in the Scottish Borders

Textiles traditions in the Scottish Borders have left indelible footprints on the built environment and the archival collections of the area, and textiles occupy much affectionate space in the region’s collective understanding of place. A strong perceived link between the Scottish Borders’ geography, community and industry feature prominently in the marketing copy of many local textile businesses and the tourism agencies, with rather nostalgic notions of a manufacturing heritage linked to a unique place, exceptional traditional skills and a niche economy dominating narratives; as is often the case where heritage is used as a selling point, the historic and contemporary realities of textiles in the Borders present as rather complex and at times contested (Varutti, 2015, p1038), however. This paper reports on ethnographic, material culture-based and archival probes into historic and contemporary reality of textiles making in the Scottish Borders. It does so against the backdrop of the region’s continued relative success in the cloth related design industry, and in awareness of a strong and at times nostalgic attitude towards its fabric manufacturing heritage. The focus of research is on exploring current and past manufacturing activity in Scottish Borders textiles not just as economics or object based, but in its respective significance for the life worlds of makers past and present.

1.2. Heritage as practices that design a future

This papers’ research looks at just one area and discipline but seeks to provide insights into opportunities and challenges for a wider field of designer-makers, micro-entrepreneurs and international corporations. It hopes to contribute to our understanding of how inciting heritage for design or manufacturing may be convincingly linked to a specific area of praxis, in what one might term a culture of geographical proximity, and how this might position local businesses trying to weather the challenges of a global design industry.

The paper thus considers Heritage as a construct of the past as well as present and imagined futures (Smith, 2006), and it is interested in shining a light on how successful innovation might come to an industry that is known to project its tradition, and that tradition’s link to a particular geographical place. In doing so the paper aligns with Rodney Harrison’s view that

“‘heritage’ has at times very little to do with the past but actually involves practices which are fundamentally concerned with assembling and designing the future” (Harrison, 2015, p35);

And by considering voices, documents and projects from across education, industry and the broader archive of historic expression, the research shares in the ‘new heritage’ paradigm proclaimed by Cornelius Holtorf (2013). The research further believes in Harrison’s ontological politics of heritage, where “dialogue of heterogenous human and non-human
actors” becomes a form of “futurology” (2015, p.35); a discipline, this paper posits, that most good design will be wise to associate with.

2. Some perspectives on education, place and labour in the Scottish textiles industry

2.1 Textile Education in the Scottish Borders

In its various incarnations, the School of Textiles and Design of Heriot-Watt University has played a central role in the textiles industry of the Scottish Borders over almost a century and a half. It was opened with strong industry backing as the Galashiels Combined Technical School in 1883/9 to serve as “the main important institution in the training of recruits for the industry” (Pattison in Silverman, 1946/ reprinted 2013, p.129), but has since grown into a highly regarded provider of design education well beyond local manufacturers’ needs. In adaptation to an internationally changing industry the institution added clothing manufacture and knit disciplines to its core around the time of its name change to the Scottish College of Textiles in 1968, majorly expanded its research portfolio into technical textiles, heritage studies and sustainable design since 2000, and more recently broadened its curriculum into interior design as well as digital manufacture and more (HWU 2020).

In the current climate of textile related design and production, barely a two-digit number of graduates find employment locally or start-up lasting businesses in the region, when in 1938 a large proportion of some 8000 thousand Borders weave industry workers had enjoyed day release training at the college at some stage of their working lives (Pattison in Silverman, 1946/ reprinted 2013, p.101). Yet, the School of Textiles and Design has steadfastly resisted a physical move away from its semi-rural location, and while local economics and political pressures played a role in this, much of the narrative surrounding the loyalty to the physical location in Galashiels continues to be its position at the heart of the Scottish textile industry. The School’s website to this day starts with its history as one of the oldest textiles teaching schools in the world (is it indeed the second oldest, pipped by a few months by Philadelphia, USA) (HWU 2020), when history is not de facto all that central to its current remit, reach or curriculum.

2.2 Perceptions of the Scottish Borders as a heritage place for the Textile Industry

A parallel emphasis on attachment to place can be witnessed in the Scottish Borders Textile industry itself. Its origins lay in a domestic handicraft industry that flourished into a woollen manufacturing centre thanks to a “plentiful supply of soft water” for scouring and finishing wool, and a good supply of labour, fed by tradition and training in the industry. (Pattison in
Silverman, 1946/ reprinted 2013, p 111-2) While by as early as the 1930s only a small percentage of wool fibres were still produced locally, the ample, soft waters of the River Tweed and its tributaries have retained a special status in the manufacture not just of wool, but increasingly the luxury fibre of cashmere (Johnstons, October 2019).

A skilled workforce, however, has more recently become a cause for concern to such a degree that Government action plans have been drawn up (Skills Development Scotland, 2019) and significant private (Textiles Scotland, 2019) and public (Hawick News 2015) resources have been diverted into rural skills development for the textiles industry in a bid to stem the gradual death of skills as the trained workforce ages. Not all initiatives have so far proved successful in terms of attracting long term recruits from the local community, despite significant unemployment in the region (Arnaud, 2019).

The Scottish Borders have in that sense become a place of some concern as business need to balance their attachment to real (water) and imagined (skilled labour) heritage narratives that connect textiles to the Scottish Borders as location.

2.3 Perception of uniqueness in the Scottish Borders Textile Industry

Rare craft skills and the limited edition or luxury production that almost inevitably follows are very key marketing currency in a fashion industry that increasingly bases quality on provenance, but the extent to which actual practices relate to such heritage varies markedly:

In the Our Story section of their website, the famous textile company Johnstons of Elgin declare pride in their “rich Scottish heritage” as “all stages of our manufacturing processes continue to take place in our own mills, deep in rural Scotland”, with “many members of those communities becom[ing] our employees. (...) Providing high-quality jobs in our local areas is part of our mission. Over one hundred of our team members have been with us for over twenty years” (Johnstons, August 2019).

In a post titled ‘Modern Heritage’ the company interviews Company Chairman (sic) Jenny Urquhart and intern Sophie George who are both female heirs to the family business founded in 1779 (Johnstons, December 2019). Heritage for them first relates to values rather than practices as they mention support for the local community by providing meaningful employment, in an interesting inclusion of Scotland into a scenario more commonly associated with crafts of the Global South (Greru and Kalkreuter, 2017, p156). Modern heritage, the heirs of Johnstons continue in their marketing blog, also means continuing a philosophy of craft paired with innovation that started with novel fibre processing some 200 years ago, more recently introduced whole garment technology and currently considers co-bots to assist humans in the involved quality control process of such luxury products (Johnstons, December 2019).
While the actual effects of such automised production deserve closer scrutiny in a separate study, the company can claim some such adherence to values as it remains the biggest employer and provider of apprenticeships in the Scottish textile industry.

In contrast, Stephen Rendle, whose Lovat Mill in the Scottish Borders town of Hawick produces woven cloth for Chanel and Ralph Lauren, Paul Smith and Dries van Noten, points out that his company

"keep things deliberately small here – just 220,000 metres of fabric a year with 21 people weaving 24 hours a day – to make sure that we create something really special" (Doig 2017).

In doing so, some production realities more often associated with the industrial revolution persist in the Mill, with less relevance to the expectations of a modern workforce, perhaps: Weaver Andrew Walton gives creed to Harrison’s assembly of heritage in dialogue by various actors when we learn that he

“recently switched from night to day shifts so that he could train a young apprentice in the craft” (Doing 2017), but posits at the same time that “the best thing about coming to work each day is knowing you’re doing something to keep this industry alive. It’s part of our heritage” (Doing 2017).

The practice of keeping looms running overnight is used as a practical way around the limited production narrative for provenance conscious fashion that is at the same time surprisingly cloth hungry as luxury label have become more accessible: a special cloth is produced in large scale quantities, by just 21 weavers, by maximising limited production facilities working day and night. But at the same time, in order to remedy a projected future lack of trained workforce (Arnaud, 2019) and to satisfy expectations of that modern workforce as well as contemporary training laws, the heritage practice of working day and night is in part suspended here in order to retain industries for the future.

2.4 Textile Labour in the Scottish Borders-life worlds through the artistic lens on archive material

Changing work patterns have been at the heart of the Scottish Borders Textiles industry’s success before, and it is of interest how a darker side of the industrialisation of the woollen cloth industry in the Scottish Borders has been explored by artist Joe Magee during a residency in the Heriot-Watt University School of Textile and Design’s Textiles archive in Galashiels in 2011. His research into archival artefacts and documents, and with reference to E.P. Thompson’s seminal paper on *Time, Work-Discipline and Industrial Capitalism* (1967), was published under the title “SLEEP NOW, AND AWAKE IN HELL” in 2012. His series of silk screen prints and accompanying text traces Jean Pattison’s society of ‘domestic handicrafts’ (in Silverman, 1946/ reprinted 2013, p111) and sheep farms in the Scottish Borders as they are transformed by mighty, water-powered mills and their capitalist demands. It is an
erawhen ‘clock-time’ became an instrument of control as it was “replacing earlier, collective perceptions of time flowing from the shared wisdom of human societies” (Magee in Harley 2012). The artist focuses on Thompson’s link between puritanism and industrial convenience, and a degree of equating looms that never rest with economic success rather than capitalist exploitation, persists in some heritage narratives of Scottish Borders Cloth as seen in the Lovat Mill quotes above. A life-world that is far removed from contemporary ideals continues to play a part in some heritage narratives seeking to ensure the very survival of the industry here.

2.4 Notes on production practices in the Scottish Borders industries from archived newspaper clippings

Concerns about the life-worlds of workers are not a new feature in this heritage industry: At the time of the worldwide recession of the 1930s staff at the Scottish Woollen Technical College in Galashiels pasted clippings from local and national newspapers in large leather-bound volumes that are still kept in Heriot-Watt University’s archives. The meticulous collection demonstrates a keen awareness of the transformational changes that were sweeping an industry just a decade after prosperous times for Tweed fabrics had seen their institution recognised as a National College in 1922. Representative of the many commentators bemoaning a decline in business is one who writes that looms now only work “30-34 hours a week” as “few repeat orders for the spring season of 1935 are being received” (Peeblesshire News, 28.12.1934). Some 10 months earlier, the same newspaper had reported on a public lecture by the College’s own Emeritus-Principal that was headlined ‘Some Plain Speaking’. In the article, Dr Oliver blamed a “Slavish Adherence to Tradition” for a lack of competitiveness, as weavers who used to service two looms when their mill was in the blanket trade now is responsible for just one dobby loom producing fabrics for clothing, with much time lost just watching mechanised production take its course. Aware of the danger of seeming unsympathetic to advancements in workers’ rights, he adds that “‘Made in Scotland’ is not an empty commercial formula”, but that time gained through technological advances and change in business must be filled with productive work in tough economic conditions (Peeblesshire News, 05.02.1934). To Oliver, adherence to tradition is not a goal in itself as he lists some very real dangers of valuing it over progress and adaptation; and changes in life-worlds have very real consequences for an industry.

In the same volume of 90 year old news clippings, many interesting perspectives on adherence to design related traditions have also been gathered:
3. Some perspectives on local heritage and global style in the Scottish Borders textiles industry

3.1 Design and the Scottish Borders textiles industries in historic newspaper clippings

The Border Standard newspaper ran a full-page article on the Scottish Woollen Trade in March 1934 to present ‘Findings of the Scottish Committee of the Council for Art and Industry’ (Border Standard, 24.03.1934). ‘Designers [are] urged to visit fashion centres’ in the subtitle of a piece that makes a series of recommendations based on a large scale consultation exercise amongst ‘representative’ local mills, some London Industry and Design Specialists and the Scottish Woollen Technical College; it makes very interesting reading to the present day with regards to how it sees the balance of heritage and innovation in the Scottish Borders industry, and why:

The report seeks to counteract “an unconscious tendency to obsession by the limitations of the machine” and recommends that technical training should always go hand in hand with design and colour education. Sir Steven Bisland confirms in his report that a strong link to place and proximity exists in the industry of the 1930, as 130 small scale firms make up the Scottish Woollen Industry, often run “on a craft basis, in which successive generations of the same family had been connected, both as masters and men”. On the question of design, the report noted an advantage in location “where the designer was in contact with the beauties of Nature, and could get his inspiration from them”, but recognised that the depression-affected export trade now was in need of new ideas.

The same report was reprinted in several local and national newspapers throughout 1934, as publishers pressed upon its textiles ‘born and bred’ readership that a slowness to produce ‘novelties’ was to be counteracted by

“designers (…) mov[ing] about more at fashionable resorts, at restaurants, and race courses”, as “the industry was failing to benefit by the opportunities which existed for the development of the human side of the industry” (Peeblesshire News, 24.09.1934).

In an address to the annual dinner of the Edinburgh Borderers’ Union in February 1935, another local industry insider, Thow Munro, put this apparent reluctance to look beyond the industry’s heritage less delicately when he quipped:

“Had the Border manufacturers been progressive and up to date? Within the confines of their own knowledge they had. From the point of view of producing beautiful goods suitable for every market in the world at an economic rate nobody had been better than they. But from the long view, and the realisation of present day conditions, they had not done well. They had failed to observe the great change that had taken place in the very clothing trade in this country and in every other country” (Edinburgh Evening Dispatch, 9.02.1935).
Munro here portrays the community of textile manufacturers in the Scottish Borders as rather insular and blinkered as they mistake their proud and tested traditions for a heritage that is fit in terms of Harrison’s ‘futurology’.

While these historic critiques refer to the dangers that ready-made clothing, shifting centres of fashion and increasing protectionism posed to cloth manufacturers of the 1930s, if they stayed too closely wedded to their traditions of make and location, such perils are never far away from 21st century businesses either as they charter their course through heritage and innovation:

3.2 Design collaborations in some Scottish textiles industries of the early 21st century, seen through the Scottish Book

The last part of this paper will briefly consider some contemporary design collaborations with local textiles industry, showcased in the aforementioned *The Scottish Book*. A limited edition of 1000 of this publication was printed in 2012 to

“celebrate the expert, the industry and the project, to showcase the work of inter-disciplinary teams, individuals and the cross pollination of knowledge and expertise from across education and industry in Scotland.” (Harley 2012)

Even before opening the book one is struck by its heritage exterior, as, in the words of a photographer who contributed to it,

“each copy is individually hand-aged with carbon paper, creating the idea of a lost record, rediscovered in some forgotten underground store.” (Brown n.d.)

The publication was supported by Heriot-Watt University, South of Scotland Business Solutions, The Scottish Funding Council and the European Regional Development Fund as its foreword declares that

“the demand and opportunity to maintain a global position of a traditionally based industry underpins the contemporary psyche of the Scottish Borders” (Harley, 2012).

The book reports on a large number of projects that met with mixed fortunes as far as longevity is concerned, and amongst the casualties of the requirement to show economic viability once public funding ends one ironically finds the STA(r) Multimedia Archive. It was conceived to provide access to the heritage of Scottish Textiles and help promotion of innovation that sought to provide knowledge-rich archives of textile design artefacts to provide a cohesive, usable and flexible access point to heritage and innovation (Harley 2012). The STA(r) archive was a project of the now dormant Scottish Academy of Fashion (HWU, 2011), and how the book reported on the same Academy’s collaboration with Scottish stalwart Mackintosh will conclude the exploration of changing making practices in the Scottish textiles industry:

Students from Edinburgh College of Art and Heriot-Watt University were asked to ‘collaboratively research’ the ‘Scottish heritage brand Mackintosh to realise new approaches
Making practice as narrator of changing social worlds—Textiles and the Scottish Borders, in the 21st century, but based firmly on the past?

to design’. ‘Expertise and skills’ of the brand were tracked in the company archive and soon highlighted its ‘industry standard hand-made manufacturing process’, before students produced toiles that sought to innovate silhouette while the manufacturing remained traditional and executed by the traditionally trained staff at the factory. The innovation here then consists of a separation of heritage rich industry production know how from the outward looking fashion sense of a younger generation of designers. These designers might be seen as unencumbered by too practical a knowledge of the Mackintosh tradition, and hence less vulnerable to the ‘unconscious tendency to obsession by the limitations of the machine’ that Sir Steven Bisland and the Scottish Committee of the Council for Art and Industry recommended some 80 years prior, as reported in the local press, as above (Border Standard, 24.03.1934). The Mackintosh brand has established itself in its own words as a “luxury name that combines updated technology with traditional techniques, heritage and craftsmanship, and seeks designer collaborations that highlight the collaborating designer’s focus on “authenticity” and “unique savoir-faire” (Mackintosh 2018).

In marketing a more recent collection as Jil Sander+ crafted by Mackintosh, this casual separation of innovative design inspiration and heritage craft of making is even more explicit (Mackintosh 2020).

4. Heritage as curator of an industry’s future

This paper has proposed some perspectives on the historic and contemporary reality of textiles making in the Scottish Borders through ethnographic, material culture based and archival case studies. In doing so it was able to link the region’s continued relative success in the cloth related design industry to an understanding of heritage that is constructed from the past as well as present and imagined futures (Smith, 2006).

It highlighted instances where such heritage had less to do with an actual past based on location or tradition of skills, but instead involved practices which were fundamentally concerned with assembling and designing a viable future (Harrison, 2015, p35). The wide scope of the case studies from across education, industry and archive allowed the research to align with Holtorf’s ‘new heritage’ paradigm (2013) and tested Harrison’s ontological politics of heritage for current textile businesses and their employees in the Scottish Borders, where dialogue between employees and technology, human and non-human actors becomes a form of “futurology” (2015, p35).

It is this nexus of heritage and innovation that most good design will be keen to explore further and associate itself with in a bid to compete globally from a local position.
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Making practice as narrator of changing social worlds—Textiles and the Scottish Borders, in the 21st century, but based firmly on the past?


About the Authors:

Britta Kalkreuter studied at Trinity College, Dublin and Cologne University, where she gained her PhD on style transmission in medieval architecture. Her research focuses on heritage in Europe and Asia, with a particular interest in making cultures and processes of innovation.
Multiple narratives for multiple visions: engaging citizens in building future scenarios for their city through participatory design and storytelling

Davide Fassi\textsuperscript{a}, Annalinda De Rosa\textsuperscript{b}, Francesco Vergani\textsuperscript{c}

\textsuperscript{a} Politecnico di Milano
\textsuperscript{b} Politecnico di Milano
\textsuperscript{c} Politecnico di Milano
*francesco.vergani@polimi.it

Abstract | The paper presents a context-based and cross-disciplinary research, reflecting on how a participatory design (PD)-driven approach, embedded with narrative structures, could stimulate citizens’ ability to envision plural understandings of their own city. The project is focused on the city of Ivrea, recently named for its industrial past in the UNESCO World Heritage List as "Ivrea, industrial city of the 20th century", influenced mainly by Olivetti’s transformative action. The applied methodology demonstrates how the hybridization of PD processes with storytelling can trigger civic engagement and resilience within local communities, aimed at overcoming latent conflicts related to their past through PD-led activities. The co-creation of a common narrative dimension, shifting between real and fictional worlds and intended as an exploratory process, could engage citizens in envisioning future scenarios for their city, triggering their capability of analyzing and reframing past(s) and present(s) towards possible futures.

KEYWORDS | PARTICIPATORY DESIGN, STORYTELLING, COUNTER-NARRATIVE, PERFORMING ARTS
1. Introduction

The approach and findings presented in this paper are based on the research project "Tango-Down Athena – Theatre and Design as hacking means of the contemporary urban myth" (TDA), run by the Polimi DESIS Lab of the Politecnico di Milano University, in collaboration with CRAFT - Centro Ricerca Arte e Formazione Teatro, a theatre research and training centre, and endorsed by Cité du design research centre (France), Tongji University (China), and supported by “Compagnia di San Paolo” foundation. TDA is a cross-disciplinary project that explores, by means of storytelling, the idea of “myth” in relation to urban spaces. Through design-led envisioning processes, the project aims to explore the influence a myth can have on the transformation of contemporary cities, its imaginary and its identities, through the development of a counter-narrative (Fuad-Luke, 2013) that is able to activate new meanings for the local communities and to offer a balanced articulation of their own past(s) towards future scenarios. The paper presents the first two phases1 of the project, focusing on how the use of narrative methods triggered awareness and broadened envisioning capabilities within a wider and ongoing process of transformation.

1.1 Contextual condition

The TDA area of intervention is Ivrea, a city in north-west Italy. The context was selected in 2018 following the registration of Ivrea in the UNESCO World Heritage List as "Industrial city of the 20th century" for its industrial past, and influenced mainly by Olivetti’s transformative action. Thanks to the economic, social and cultural policy of Camillo and Adriano Olivetti in the middle of the last century, the city underwent a successful development model. The industrial area of Ivrea, developed between 1930 and 1960 according to Adriano Olivetti’s vision, proposed an alternative model to the 20th-century national and international experimentations of urban industrial areas, of the company town and industrial systems developed in large urban agglomerations. The area includes buildings for production, offices and study centres, but also for social purposes such as residential units, public services, and summer colonies, as well as centres for training and various cultural, sporting and recreational activities. Therefore, the company’s development affected the whole urban pattern, becoming a laboratory for spatial, cultural and social projects and ideas. For more than thirty years, Adriano Olivetti tried to apply and redirect the urban conceptions that were being explored in the national and international debate and entrusted to the most significant Italian architects of that period. His death in 1960 marked a break in the city’s

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1 The project is divided into four phases: 1) “Scientific assets” (from January to April 2019), a research phase on the definition of the relationship between urban myth and the urban model, analysed through scientific literature, some emblematic cases, and with a focus on the city of Ivrea; 2) “Co-design activities, community activation, urban installations” (from April to October 2019), a co-creation phase, involving local informal groups and associations; 3) “Theatre production” (from October 2019 to June 2020), the writing phase of a plot linked to the urban activation resources; involvement of design students for the spatial definition and realisation of the set; production and replicability, as well as in other contexts; 4) “Dissemination and communication” (from July 2019 to June 2020).
history, ending a period of commitment of the factory towards its own territory. The change in the factory's leadership led to a consequent change in its vision, which led in its turn to the slow but inevitable interruption of the former activities and the final fragmentation of its architectural heritage.

1.2 First mapping

The overall legacy of the city and its golden age was considered to be a foundation on which to build up a project concerning the notion of the urban myth and its potential for cities today. During the first phase of the project, the research team had to approach a relatively unknown context by getting in touch with places and communities and collecting data about Ivrea’s past and present using desk and ethnographic research. While framing the context with representatives of local organisations and informal groups of citizens, a far more diversified background emerged than expected, one that was filled with conflicting opinions and visions.

This phase highlighted the early interpretation of the context as the sum of overlapping geographies, linked to the city's different souls and identities and connected to the city's heritage and memories. The concept of overlapping geographies, introduced by the authors, has been conceptually devised to mean elements of territorial diversity that have changed over time. These different portions of the city are mainly the results of a series of cultural and historical changes which occurred according to the city's development over the centuries. The configuration of the territory and the presence of the Dora Baltea river generated a geographical distinction between the northern part of the city - the old town - and the southern - the modern town. The first is characterised by a medieval urban pattern, which once a year becomes the scene of the nationally recognised carnival. The southern part developed during the twentieth century thanks to the presence of industries (primarily Olivetti and, later, Montefibre). The main purpose of the UNESCO candidacy was to stimulate a relaunch of this area and, therefore, of the entire city, towards a functional regeneration that would boost Ivrea as an innovative technological and cultural pivotal point, as it used to be in the last century. However, the concept of overlapping geographies not only refers to the physical meaning of geography, but to a broader one, including social, cultural and human identities. In trying to allow local citizens to gain a deeper understanding of their identities and visions, a general sense of immobility and hopelessness emerged that connected the majority of people in the Ivrea community. This is mainly due to the myth of the Olivetti family as creator of a golden age that has now been lost, and has divided the citizens' perceptions of this heritage. If, on the one hand, this legacy is constantly re-proposed by communities as a unique and irreplaceable period in history, on the other hand,

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2 Relationships were established by first getting in touch with the experts who have been in charge of writing the candidacy report. This first step then led the authors to get in touch with people from cultural and administrative institutions in Ivrea.

3 Montedison Fibre, funded in 1972 and, for years, one of the largest Italian companies for the chemical sector.
it is somehow uncomfortable for those who are trying to move towards a future of possibilities that are disconnected from Olivetti’s past. Throughout the years these different visions have generated latent conflicts and difficulties in mutual recognition, which is of course crucial for defining a common direction for the future of the city.

This extremely rich set of differences stimulated critical thinking about how historical, cultural and social changes, if not metabolised, can produce frictions within communities. How is it possible to boost communities’ resilience towards proactive actions? How can PD approaches, tools and methods help to stimulate people’s capacity to act?

2. Objectives

The cross-disciplinary process of the project required the understanding of participatory activities to be opened up in terms of key methodological approach, thus researching how a PD co-creative process can trigger awareness within local communities. For the design discipline, this means to be able to cross borders in order to design systems, strategies, and experiences rather than objects, visuals, or spaces (Muratovski, 2015).

The project investigated diverse levels of engagement to tackle the contextual complexity, made up of controversies and opposed perspectives, conducting within this given situated context a social conversation towards a non-solutionism(-based) (Manzini, 2016) process. This required an in-depth understanding of the role of PD-based activities, not for creating an alternative future but for envisioning one while shaping a better present. In fact, PD and Design for Social Innovation (DSI) practices are not only necessarily meant to empower communities towards efficient, durable, scalable and replicable solutions, but also towards questioning/re-framing the public realm, possibly triggering the participation of citizens and other local stakeholders such as associations, administrators and policy-makers in the democratic debate concerning the public realm. This could only be done by not pursuing all-encompassing and definite solutions but by diving into the contextual complexity, which allowed the difficulty to create a common voice to emerge, when there is no sense of a shared community or a mutual knowledge to be recognised and undertaken. This voice is needed in order to support the proliferation of “a more favorable environment for the birth and development of a multiplicity of other projects, even though they do not contribute directly and immediately to the solution of a specific problem” (Manzini, 2016, p. 57). In this sense, design activities, including visions, “can increase the probability that new solutions will emerge and can help them develop in greater synergy” (Manzini, 2016, p. 57).

The whole process aimed at nurturing the ability of citizens to envision and gain awareness of what is possible in terms of inner human resources. The essential matter of the design-led part of project was how to connect people’s “active [and] agential role in changing the process of construction of social realities” (Kemmis & McTaggart, 2005, p. 573) towards a series of activities specifically designed for the reactivation of local communities.
3. Methodology

The Polimi DESIS Lab adopts a strategic and systemic approach to design and investigates the way design can support and trigger social innovation, combining creativity and visioning with the capability of engaging in co-design processes with a community-centred-design approach, particularly focused on the development of prototyping artefacts for the service and spatial design in urban contexts and towards the development of solutions for social innovation. Design artefacts, in the larger sense and beyond tangibility, are complex systems affected by – and affecting – a relational network of processes, interactions, bodies, things and ideas constantly in flux, where lives, societies and history unfold, in a world which is constantly becoming (Fox & Alldred, 2015).

TDA is a project that lays its foundations in direct contact with the communities of citizens and their context of belonging. By means of the practices borrowed from PD, an attempt was made to articulate a participatory path to highlight the potential citizens have as an active community able to act for their own well-being. Although the first phase of exploration of the territory brought to the surface the presence of a enthusiastic and diversified structure of identities, the inability to converge this pluralism into something truly proactive was also encountered. The research team aimed to trigger agonism (Arendt, 2013; Mouffe, 2000, 2007) within public spaces, that is the capacity of human plurality to establish a public sphere fuelled by a political and democratic dialogue to be then translated into concrete actions. In trying to articulate this proactive debate, it was decided to use storytelling and narratives as a tool with a transformative power to generate processes of change (Tassinari et al., 2017), and to funnel a shared vision of a hypothetical fictional world that overlaps the real one. This means reinterpreting what is familiar (real) through a process of abstraction (through the lenses of the fictional) to, then, return the uncovered meanings and understandings of their own resources into a new familiarity (Kemmis & McTaggart, 2005).

To stimulate an active debate on extremely sensitive issues for the community of citizens is a process that nevertheless requires a significant level of abstraction from the context. Letting people discuss their unfamiliarity with divergent issues is an extremely delicate practice. Starting from the structuring of a process of increasing awareness – which is typical of PD approaches – the project explored a correlation between places and temporality within PD, hence the added component of narratology. According to Jung (2014), narrative, as one of the ancient forms of communication, has its own way of delivering concepts and information, using archetypes as developed elements of the collective unconscious. The effectiveness of the use of stories as a practice for understanding, by means of PD, dormant needs and future scenarios, is to be found in its being a mental framework for the cognitive organisation of human experience (Bruner, 1991; Plowman, 1996). Furthermore, using storytelling and narratives as a tool for exploring and encoding the context has the exceptional ability to trigger a process of abstraction: people > characters / actions > events / places > scenes. This process of abstraction emerged as a challenging area of reflection for
the PD field due to its ability to bring democracy, agonism and politics to an enhanced and fictionalised surface where communities can feel comfortable in discussing present issues and future visions, and avoiding the fact of feeling too attached to reality. Transferring physical places and personalities to a fictional level of action is a way to support, by means of stories, the participants’ imaginative ability towards a broader design capacity, since “stories offer examples on how we can face and manage conflicts in everyday life and generate processes of change” (Tassinari et al., 2017: S3491). This transfer of elements between real and fictional worlds has also emerged as a useful strategy in other disciplinary fields. An example is what is defined as narrative embedding (Lane & Maxfield, 2005), largely employed in the marketing field, where the use of narrative and its peculiarities is applied in place of the collection of data and analysis in orienting individual actors towards the future.

The development of a parallel and fictional narrative world leads the researcher to perform the role of the narrator, carrying out a work of construction of the imaginary in which s/he tries to direct a process of awareness (through the production of knowledge) by a community of people. In order to trace all these elements, the research team provided participatory tools borrowed from game, service, and spatial design as well as narratology, philosophy and sociology disciplines. The whole activity was conceived mainly as a co-generated game and used devices such as cards and props to stimulate the envisioning capacity of the participants. All the elements were specifically designed to help the co-narration develop among the citizens, and provided a solid basis to trace all the insights and information useful for the research purposes.

4. Project

Starting with the objective and methodologies described above, the activity specifically designed for Phase 2 of the project focused mainly on:

- the creation of a community map of the city based on objective deductions and subjective memories/experiences related to local communities;
- the use of storytelling as a design discipline’s co-generation tool to funnel visions (in terms of stories) set in a hypothetical fictional world that can be later brought back to the real one to enhance citizens’ resilience;
- the definition of a toolbox made of characters, places, events and narrations as a basis from which to develop an immersive performative act (Phase 3 of the project).

The activity was conducted with four groups of citizens from Ivrea and the surrounding areas, as well as members of associations and informal groups, and experts in the cultural sector. The groups were also heterogeneous through the presence of participants of different ages, thus allowing for a more diversified interpretation of the territorial context. The activities were carried out in the spaces of the railway station managed by the Zac! Zone.
Attive di Cittadinanza, a well-established cooperative that collaborates with citizens through social and economic approaches together with conviviality and solidarity.

The co-design (or better co-narration) activity was set in order to guide participants between real and fictional worlds, through the deconstruction of narrative in its fundamental elements: characters, actions, places. The co-creation session of narration with local citizens was divided into two distinct activities carried out in sequence:

- Activity 1 “Building a common narrative world”: creation of a shared – both physical and conceptual – vision of Ivrea starting from the narration of subjective and objective memories of the participants.
- Activity 2: “What if... - Living the fictional world”: development of a possible future scenario within a fictional context, where participants are abstracted into another level in terms of temporal and spatial dimensions through storytelling elements. The process of abstraction is triggered by the introduction of a disequilibrium element (hacking) that generates an imbalance. The story, created by the interviewees, uses the narrative world of Activity 1.

The two activities led to the creation of a story-making toolbox made up of characters, places, events and narrations. The toolbox, delivered to the partners of the TDA project, will be used as a starting element for writing the interactive performance (currently under development).

4.1 Activity 1 - “Building a common narrative world”

The first part of the activity was designed to stimulate a greater awareness of place through different interpretative levels that are able to give back a community (and objective) map of the city of Ivrea. Starting from some recognisable elements, the group was asked to define a map through a joint discussion on the physical and mental perception of the places in Ivrea. In addition to defining spaces (thematic areas, borders and special places), questions were asked to identify characters and events that were particularly related to the memories and stories of the participants.

The development of the first activity was requested by the research group which set itself up as a narrator by defining a series of steps:

1. **Introduction (blank map)** - Participants were provided with a print depicting the stylised map of Ivrea showing only the river (the Dora Baltea) and the railway axis.
2. **Thematic areas** - Subsequently, with the use of stickers, the group was asked to provide further specifications about the location of places and thematic areas they considered fundamental to the recognizability of the city.
3. **Borders** - The identification of areas and places allowed the circumscription of Ivrea within a confined space. The shape of the city changed throughout the
activities conducted with different groups of people, as a result of the conception of the individual participants.

4. **Special places** - Individual participants were asked to identify two places each that were related to particularly important past memories and experiences.

5. **Characters** - As the final step of Activity 1, participants were asked to identify some noteworthy characters related to local people (real and imaginary) who could be matched to a series of archetypes.

### 4.2 Activity 2 - “What if... - Living the fictional world”

The second part of the activity aimed at creating a story in a hypothetical fictional world in which the city of Ivrea has faced a significant event that has shaken its sense of balance. Starting from the map co-created in the previous phase, the participants were called to imagine an alternative world to be used as a setting for the definition of a self-contained narrative arc composed of a set of characters, tools, places, unexpected events and actions. The activity was aimed at stimulating group awareness as to how to recover from a destabilising situation through proactive actions that would enhance the communities' resilience.

If in Activity 1 the participants were asked to take an approach more linked to their personal experiences and behaviours, in Activity 2 they were encouraged more to imagine solutions within a process of teamwork. Furthermore, the personification of a fictional character limited the participants' possibilities of action to specific characteristics and skills, adding a further level of difficulty in creating the story. Activity 2 was conceived as a role-playing game; all the events and the progression of the story were recorded on cards to create a complete story, from the first chapter to the epilogue.

Activity 2 was completed over several steps:

1. **Traces from the fictional world** - Participants were provided with three different boxes containing different prompts (1 photograph, 1 object and 1 newspaper article) from the city of Ivrea set in a parallel world. They were then asked to trace the fictional world through the description of social, historical and environmental characteristics linked to previous hints. The different prompts are connected to hypothetical future changes in terms of climate, social, cultural evolution.

2. **Alteration event** - The participants were presented with a short narrative of a change (identified through a natural disaster caused by non-human agents) which led to a change in the city of Ivrea. Here resilience is required and is closely related to the ability to “bounce forward” and “move on” after a disaster (Manyena et al., 2011; Manyena, 2006), conceived as changes related to floods, the energy crisis, desertification due to global warming, or depopulation.

3. **Creation of the heroic community** - Subsequently, participants were asked to draw character cards (some new and others generated in the first part of the
Multiple narratives for multiple visions: engaging citizens in building future scenarios for their city through participatory design and storytelling.

activity) connected to specific archetypes. All the characters together defined a heroic community, i.e. a team that had to act together to overcome the situation. Participants, associated with a specific character, had to act consistently with the skills of their game avatar to proceed in the story.

4. **The game** - The game consists in building a Hero’s Journey (Campbell & Moyers, 2011; Vogler, 2007) in which the community of characters is brought to face the change at places pointed out in the first part of the activity (special places). To move forward in the game, participants have to roll the dice and then draw a card from two different decks: the first contains tools to be used, the second contains unexpected events that change the course of the game.

5. **The narrative arc** - Even if the story was generated collectively each character was chosen to be the protagonist of a particular step of the game. In each step, the protagonist had to create a story chapter considering the characteristics of the fictional world created, the skills of the character card, and the tools found along the path. The group of participants had to outline a self-contained story structured in ten chapters, trying to combine characters, actions, tools and places.

![Figure 1. Graphics of the tools used in the activity. The blank map served as the board on which to play the game.](image-url)
Figure 2. The development of a story’s chapter by participants and other prompts used to create the fictional world. The picture was taken at Zac!’s spaces in Ivrea, on the 25th of October 2019 during the co-design session with citizens.

Figure 3. “Special places” and “Chapter” cards are matched to define the progression of the story. Each card had a blank space where to sketch a quick visualization of spaces and actions. The picture was taken at Zac!’s spaces in Ivrea, on the 25th of October 2019 during the co-design session with citizens.
5. Results

Both the contextual conditions and the expected outcomes were somewhat challenging and therefore interesting to explore. First, the project location was atypical for the Polimi DESIS Lab: the research team had only a previous indirect knowledge of the context and its inner dynamics. This meant that the risk of a superficial commitment was high during the ethnographic exploration and in providing networks and activities, and also because of the short duration of the project. In this specific case, the character of the expected design outcome – a potential social change powered by the co-creation of alternative narratives – and the consequent lack of traditional tangible outcomes of the project’s goal challenged the research group, raising questions both about the effective agency of the project’s design innovation and the difficulties connected with such an open-ended, ephemeral outcome.

A central challenge for PD today is to embrace a cultural and humanistic re-balance, able to question not only viable solutions, collaborative knowledge construction and systemic change, but also the human action of inhabiting. This challenge means actively exploring alternative ways to tackle the context-based design process, where the interaction between people and the environment is a primary issue, intertwined with an attention towards temporality which is not only about reflecting in terms of short-/long-term effects and impacts, but rather moving from a linear and univocal interpretation of the temporal dimension, to a resilient and open-ended way of expressing different visions and voices, which are more related to the human (and non-human) dimensions.

Working with a community of citizens rooted firmly in the history of the city provided a double level of interpretation. On the one hand, it helped to cement our understandings of the territory, while on the other, it allowed us to test a series of approaches related to the theme of resilience. The idea of splitting the activity into two parts helped the participants experience a conceptual and emotional swing through the initial development of a sense of control, and the subsequent annihilation of the same with the consequent need for reconstruction. Activity 1 helped the formation of the teams take place in a relaxed atmosphere through personal emotional experiences, while the story making-focused Activity 2 unsettled this apparent sense of control, stimulating the same teams to act towards a possible solution. The participants were themselves associated with the experiences of their game avatars, even if on a purely fictional level. The activity allowed the research group to effectively test, even on a limited sample, the capacity for resilience of urban communities and their attitude in dealing with situations of potential uncertainty. At the end of the activity the participants were agreeably impressed by the challenge as they were initially unaware of the second part. Even if tested on a purely fictional level, most of them expressed a sense of satisfaction in understanding the number of actions individual citizens can undertake in a team. In their opinion, the activity also served to help them empathise more with their own territorial and social context, which was all-too often criticised. The objectives of the work have been effectively verified, triggering different
points of view in the community about the role they, as citizens, can play in improving their condition.

All the elements traced through the activities will now build the foundations of the interactive performance to be staged by CRAFT association. It will be interesting to observe how a PD co-creative process, its methodologies and approach, as well as the deconstruction of narrations, will then be reinterpreted by the peculiar language of the theatre, where the individual plot-spectator relationship owns, potentially, endless interpretations.

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Multiple narratives for multiple visions: engaging citizens in building future scenarios for their city through participatory design and storytelling.

About the Authors:

**Davide Fassi** Associate professor in design at the Politecnico di Milano. He published “Temporary Urban Solutions” (2012) and “In the neighbourhood” (2017). His research investigates the relationship between space and service with a community-centred approach. Awarded with XXV Compasso d’Oro in 2018 for “campUS – incubation and settings for social practices”.

**Annalinda De Rosa** PhD in Design. Research Fellow at the Design Department and Adjunct Professor at School of Design of Politecnico di Milano and at Università Cattolica del Sacro Cuore, Milano. She is part of the Polimi DESIS Lab within the international DESIS - Design for Social Innovation and Sustainability - Network.

**Francesco Vergani** PhD candidate in Design at the Politecnico di Milano. He collaborates in research activities dealing with space and service design projects related to the reactivation of local communities in urban contexts. He is part of the Polimi DESIS Lab.
New Technological Space for Tourists. Design as a Trigger of Experience, Osmotic-Membrane Interface, Know-How Provider and Social Engager

Luisa Collina, Ilaria Bollati, Claudia Mastrantoni*, Umberto Tolino

*Politecnico di Milano, Design Department
*claudia.mastrantoni@polimi.it

Abstract | Milano is considered the liveliest and creative metropolitan area in Italy. It is now involved in four current tourism migratory fluxes toward the city, and it is opened to welcome a wide range of new Metropolis actors: professional, professional travellers and tourist practices. Their needs are accessibility, adaptability, and inclusion. Are there any aids that can promote their experience and increase the link with the living spaces, usually taken for granted? Nowadays symmetrically, mobile technology and location-based services are an excellent novel opportunity for cities and their cultural institutions to reach a wider audience. In this essay we introduce a project designed to welcome tourists and citizens in an environment where analog and digital technology meet creating a multi-sensory experience. The final purpose, providing different stages of the process, is to demonstrate how Design can be a Trigger of experience, Osmotic-membrane Interface, Know-how provider and Social engager.

KEYWORDS | SPATIAL DESIGN, INTERACTION DESIGN, TOURISM, CULTURAL COMMONS, USER EXPERIENCE
1. Who are the actors of the new metropolis?

“Cities are complex systems, with emerging qualities which cannot be reduced to static understandings or representations” (Lupi, 2013, p. 1). Talking about cities, from their planning to their living, means activating fields of dialogue with more and more connotations. It means taking into account not only the urban morphology and architecture, but even vibrant and ever-changing networks of human flows. In this sense, the Urban fact, as defined by Aldo Rossi at the end of seventies, becomes matter of the man and, nowadays, it is rapidly changing (Bollati, 2014). It is being intensively reshaped by unexpected dynamics:

“on the one hand, the rise and growth of the digital economy has deeply modified the relationship between the urban fabric and its resident community, overcoming the conventional hierarchy based on manufacturing priorities; on the other hand, contemporary society appears to be discovering new labor conditions and ways of making things, crafting new synergies and connections” (Trimarchi, 2019, p. 1).

Today, cities compete for liveliness and quality of life (Morea, 2019); (Hall, 1998); (Richards & Palmer, 2007). In this regard, in 2018, during the first Domusforum, The Future of Cities was discussed, emphasizing the cities’ complexity in terms of architecture, economy, social sciences and citizens’ emotions. The proposed analysis based on a survey commissioned by Domus and executed by Nielsen, gathering and measuring of consumer data, showed Milano as the liveliest and creative metropolitan area in Italy, with high quality of urban life and urban atmosphere. Thanks to its smooth, permeable, versatile and flexible urban backbone, Milano is able to encourage new flows of ideas, contents and experiences reciprocally fertilizing (Bollati & Collina, 2020). It is able to be adaptive, to make space inclusive and to make time managed, becoming more and more appealing. It’s no wonder that today is involved in four current tourism migratory fluxes toward the city and it is opened to welcome a wide range of new Metropolis actors: newcomer, traveler, globe trotters, o city user (Domus, 2017). Therefore, it aims to be attractive for workers, residents and tourists “to effectively respond to the complex need for an eloquent representation of the self” (Benincasa, Neri, & Trimarchi, 2019, p.10).

2. Tourism: an evolving concept

The concept of tourism can be defined from various points of view, one is connected to person who travels to a country other than that in which s/he has his/her usual residence but outside his/her usual environment for a period not exceeding one year, and whose main purpose of visit is other than the exercise of an activity remunerated from with the country visited. This definition shows tourist’s activity as a search for something different in comparison to the usual practice, and it is also unavoidably linked to the territory and temporally defined. Therefore, tourism is about traveling to reside in places outside a usual environment for short periods of time, however the purposes for tourists can be various. Not only pastime but it is motivated by reasons of health, leisure and even business, it
represents one of the major business of Cities and Countries, contributing to their image (Tornatora & Amaro, 2019). It allows to experience and to know new, varied and different realities.

Tourism has deep historical roots and a long history. It assumed economic connotations since the end of the XIX century and a mass dimension in the sixties (Bellini & Pasquinelli, 2017), often meaning a reduction of the knowledge to a simple information. As mass tourism, it has been described as *hit and go*, where the local identities vanish due to the process of globalization. A merchandized tourism able to transport large numbers of people in a relative short time span to distant parts of the planet, but not able to ensure the right quality level of knowledge experience.

Just in more recent times new tourism paradigms have emerged, more attentive and sensitive to environmental sustainability, cultural and socio-economic conditions of places of destination. We are witnessing the increasing interest of tourists in heterogeneous contexts, which successfully combine the tourist practice, creativity, subjectivity, the spontaneity of places and non-traditional sectors such as food, craftsmanship, sport, subcultures, music, art, productive and rural industries (Richards, 2011). A new desire to see, even thanks to the new technologies, pose new questions about the sense of places and visit, mixing more and more real or imaginary knowledge of a destination; tangible and intangible experience. A city, in this process, becomes a ‘places of the mind’ and its visit is not just a roster of places and cities, structured by tourist guides which impose things to see into the places and cities – buildings, artworks, environmental – forgetting about many others. It is a personal and shimmering collage of tips, information and suggestions offered by different sources such as book guides, websites, blog, friends, locals and other tourists experiences. The role of the tourist changed, having the opportunity to an active protagonist and planner of his/her own itinerary. The idea of personalization and the possibility to feel part of a place become components worthy of consideration when designing experiences.

### 3. How can technologies support our urban visit experience?

Technological advances and digital transformation are deeply influencing our lives, impacting our habits and uses, as well as on how we perceive our surroundings (Castells, 2000). Since they simplify our everyday life and our tasks, we are used and often even addicted to a technology that provides answers to our needs, while creating them (McLuhan, 1964). Expanding this point, we can say that we witnessed a change of role: technology quickly shifted from being oriented to problem-solving to satisfying or raising needs (Hassenzahl & Tractinsky, 2006). Embracing a user-centered perspective, technological changes made the access to information diffused and smooth, broadly reframing our literacies (Jenkins, 2006).

Mobile technology and location-based services are an excellent novel opportunity for cities and their cultural institutions to reach a wider audience (Proctor, 2011) and to enhance
traditional cultural consumption. Technology, whether one likes it or not, is becoming ever-present in our everyday life and they are gradually causing changes in daily habits. It multiplies the possibilities of reading, interpreting and participating the cultural asset. Technology offers new urban narratives (Trocchianesi, 2018). This seems particularly true in the context of tourism, where digital has more and more become strong support of the tourist experience.

According to Gartner (2010), in last years people have been accessed the internet mainly through mobile technology since “today’s tourists are now a large percent digital native, born and bred in virtual worlds” image (Clay & Ruth, 2019, p.144). The location-aware systems are able to provide additional information, give directions, and customize the offer, delivering therefore an individualized content, and thus enhancing the tourist’s experience according to his/her personal and particular interests. Mobile devices are changing the way people enter in contact with the city knowledge, its habits, and culture. These technologies enable tourists to connect with others, search data, and create personal and shareable contents (Gammon, 2008; Burch, 2008).

“The capability to add social engagement is a chance to involve communities with a different active approach in generating cultural contents. Digital resources are a great opportunity to connect anytime and anywhere allowing online interaction; multiple tasks could be performed quickly and easily allowing a deeper understanding of a subject, works of art, and cultural heritage in general” (Ceconello, 2012, p. 1)

Therefore, the tourism success of a city “will depend solely on their abilities to communicate their real as well as their virtual offerings properly to the public” (Clay & Ruth, 2019, p.144) and the current situation opens up space for change and innovation. The city’s information conveyed through the web has greater impact to tourists’ choices. Technological and mobile devices support tourists—visitors at all stages of the journey: organization, arrival, planning of activities and return home, as regards the demand, needs or wishes. Social networks allowed a direct and easy access to useful information for the visit. Moreover, as mentioned above and according to some studies, travelers tend to rely more on information received by other tourists rather than those supplied by tour operators; since direct experiences are considered as a guarantee of neutrality and truthfulness of judgment and not conditioned by particular interest (Spasiano, 2016). Tourism therefore produces and unearths new social rituals to which it is possible to adhere and belong (Cipolletti, 2014).

4. A multimedia living room for newcomers, travellers and city users

Design today faces complex problems and situations. It has a holistic approach (Buchanan, 1992), and therefore, more and more seemingly separate areas of intervention are overlapping and intersecting. Design is changing from a single craft-oriented discipline into
one that is more robust and multidisciplinary, connected with social environments, products, services, systems and brands (Friedman, 2002; Muratovski, 2010). Disciplines such as the design of spaces and services often require interactions in the various stages of the project. Service Design, which always combines the design of tangible and intangible aspects (Meroni & Sangiorgi, 2011), in a hyper-connected, digital and ephemeral world like ours, needs more and more tangible, secure, stable, and physical aspects.

In this essay we introduce a spatial and service project, the YesMilano Tourism Space, designed to welcome tourists and citizens in an environment where analog and digital technology meet creating a multi-sensory experience.

The project’s proposal has been started from a scientific agreement between the Chamber of commerce of Milan, Monza Brianza Lodi and Politecnico di Milano, Design Department. The project’s aim was to work with a shared approach between these two public institutions and dealing with the need of the Chamber of commerce to design an innovative experiencing space, giving a prospective of an engaging place for tourists arriving in the City of Milan. The space, that opened in December 2018, is an emblematic and strategic project not only for the Chamber of commerce but also for the city of Milan. It’s located in a historical building in the city center, Palazzo Giureconsulti in Piazza dei Mercanti, and due to the importance of the building, its architectonical and cultural heritage, several figures have been involved during the research process such as the Superintendence of Cultural Heritage of Milano, that supervised and validated the project.

Which are the needs in a City we don’t know anything about yet? Which services do we make use? Are there any aids that can promote our experience and increase the link with the living spaces, usually taken for granted? Every one of us has been a newcomer, tourist or more in general traveler in life. These are the questions which guided the action research process (Muratovski, 2010) and designers into the realization of the space.
Enabling narratives through new technologies stratification is a “model which involves the citizen, the tourist and the city user in an immersive experience; it asks for their active participation and aesthetic, cultural and playful involvement” including “screen-facades that became multimedia metaphors of explicit (visible on/in buildings) and implicit (as augmented reality by tag, app, QR code and so on) narratives”. (Trocchianesi, 2018, p.140)

The space, as result of a multidisciplinary approach, is configured with a high dualism between analogic and digital: two touch-screen mirrors guide to the discovery of a hothouse filled with ideas for tourists in the city (fig. 1), they reflect the richness of the environment, expanding it and playing with the filtering lights from the large glass surfaces, when activated by human presence, they turn into display surfaces and reveal dedicated visual stories; a big interactive monitor, like a hanging picture, welcomes the tourist with colorful and changing patterns (fig. 2). Starting from the images of the city and its surroundings, the tourist is called to recreate new visual configurations and chromatic blends. By selecting a tourist route and / or photograph of interest, it is able to transfigure it while maintaining the starting polychrome DNA. The combinations are infinite and can be turned into a gift as a souvenir of the experiences to be sent by email.

Figure 1-2. Two touch-screen mirrors guide and a big interactive monitor, like a hanging picture, welcomes the visitor with colorful and changing patterns.
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Figure 3-4. Images of the space during the night: magic lantern changing the projections on the inner walls.

In the evening, once the space is closed, the YesMilano Tourism Space turns into a multimedia magic lantern (fig. 3-4) changing the projections on the inner walls as well, just touching the skin of a window from outside (fig. 5-6), projections created ad hoc permeate the ceiling and walls, showing through the large glass surfaces. They invite the passer-by to interact with the transparent skin of the historic building. With a touch the contents can change, offering the possibility of sensorial immersion in a new dimension of knowledge and experience. In this sense, the accessibility which denotes that these spaces are open to all, should be understood as permeability, being able to “enter a space” without hesitation and effort. (Poot et al., 2015).

Figure 5-6: Interactive outside skin windows.

A stylized map of the City suggests itineraries to follow and is flexible and passable to analogue interaction. The tourist can in turn propose itineraries for visiting the city, through the playful and analogical use of colored threads.

YesMilano Tourism Space turns into the living room of today’s tourist and citizen, a warm environment, with a strong visual character, equipped with tapestries, custom-made wooden furniture and design objects (Bollati & Collina, 2020). The domestic atmosphere welcomes the tourist and invites him to digital and non-digital interaction. Some other partners took part in the project like publishers, furniture brands and cultural institutions present in the city.
5. Design as a trigger of experience

“The great struggle of travelers used to be to know the facts of the countries they travelled through. Nowadays, our phones have made factual knowledge ubiquitous and unhelpfully overwhelming. What we need isn’t ever more facts, but experiences that are curated in accordance with our own inner needs” (De Botton, 2013, cited by Cipolletti, 2014, p.93).

The purpose, providing different stages of the project process, is to demonstrate how Design can be a Trigger of experience, Osmotic-membrane Interface, Know-how provider and Social engager; how Digital has become strong support of the tourist experience, activating fields of dialogue with more and more heterogeneous connotations? The project yearns, starting from existing processes, forms and case studies, a systematization in innovative models, feeding theoretical reflections with an empirical experience.

Some of the most recent technological transformations are inherently linked to the way in which communication advanced and evolved through time. Communication is nowadays more and more diffused, constant and global than ever before, and it happens between people, people and objects, but also among objects themselves (Evans, 2011; Evans, 2012).

Moreover, it is featured by the overlap and commixture of what we were used to consider polarities: the boundaries between tangible and intangible, hardware and software, private and public are indeed blurring (Loukides & Bruner, 2014). Users are the starting point of Design, and Human Centered Design in particular. The analysis of their habits, gestures, rituals, needs, and aspirations plays a key role in the design process, since it allows designers to conceive modern solutions and proposals that combine digital and physical aspects in an aesthetic context. Contemporaneity sees a designer who can manipulate novel sensitive objects that become active subjects according to the way in which their behaviors are engineered and programmed within a digital and physical design schedule. Knowing how to manage sequences of contents, being sensitive towards graphic trends, their communicative effects, the behaviors they suggest and how the different objects on stage interact and dialogue as part of a complex system, requires designing contemporary artefacts and systems assembling a multiplicity of fragments in order to obtain a unitary set of meaning.
The programmatic function of this practice invokes a user-centered approach capable of precisely imagining the experience of fruition. In fact, it is relevant to note that at the center of the process of designing interactivity there is interaction rather than interface (Montefusco, 1992).

Inside Yes Milano Tourism Space, the technological equipment is not displayed, but its effects are felt. The technological presence, in terms of device machines, is reduced, increasing the “sensitivity of the environment”. The space is not complicated with technology. The technical components are not highlighted. The emphasis is, instead, on the technological consequence and interaction results. The analyzed project is based on the use of “natural interfaces”, interactive systems which react “without the use of technological intermediaries but through traditional methods of communication” (Cirifino et al., 2011). This fact is also supported by the growing attention that is drawn on researching the user and his/her practices (Kuniavsky, 2003), natural behaviors and needs, when developing complex spontaneous systems.

Moreover, the project follows the direction of an aesthetic that includes variation and dynamicity, as well as on contents that imply stratification and the possibility of reconfiguring themselves over time (Manovich, 2011). The space is therefore designed in narrative way. It allows not only an informative experience but even an evocative one. Each tourist is able to recombine the provided contents and information in a completely personal way. The result is different touchpoints with which the tourist can relate at different levels and at different times, when experiencing the city.

Between accelerations and interruptions, the ongoing digital evolution is reshaping users’ habits (Turkle, 2011), deeply affecting design processes. Designing contemporary systems means indeed dealing with a technology that surrounds us, being almost omnipresent and increasingly pervasive (Kuniavski, 2010), but also human. Looking at being enabling and accessible, technology is aimed at making contemporary services increasingly smart, using sensors (embedded technology), network connectivity, and the power of data computing (Anderson, 2012) for improving users’ daily life. Considering how electronics and information technology can be enabling, pervasive and accessible, as designers we are more and more inclined, but also encouraged, to imagine smarter and hybrid experiences that are articulated between physical and digital dimensions (Ishii et al., 2015; Krishna, 2015), consequently influencing users’ behaviors and habits. Especially the trend of embedding technology triggered the desire to experiment and design UX experiences where the distance between the user and technology as “the artifact” is reduced and made inherently seamless.

6. Conclusions

In this essay, Design enhances technology, assists in making it accessible and increases the value of learning and emotional experience. Design involves also human dimensions,
sometimes ephemeral. Thanks to the use of natural user interfaces (Cirifino et al., 2011), it can combine Technology (tools) with Art (language) and Territory (substance); novelty and familiarity (Bianchi, 2014) as well as new and traditional forms of communication, the emotion of surprise and the importance of feeling comfortable. A final output of the project is also to be able to reflect starting from a specific context, an abstraction of replicable approaches able to face several fields of interest.

If tourism is to be considered a system of relations between people and places, between people themselves as socializing subjects in contexts where the tourist practice is possible, and between the individual, their experiences and desires, then the specific organization of a site may be responsible for producing and suggesting the separation or involvement of the interrelating elements. The study of these relations makes it possible to understand the articulation and consistency of a tourism space, in regard to the quality and roothold of spaces with respect to the existing fabric, with significant effects on the rhythm of cohesion and upheaval of places, in contexts of day-to-day life.

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About the Authors:

Luisa Collina, Full Professor, Dean (since 2016) of the School of Design at Politecnico di Milano and Rector’s Delegate for external relations of the University. Her main interests concern interior and service design for welcoming and inclusive cities and territories.

Ilaria Bollati, PhD in cultural economics, Research Fellow at the Politecnico di Milano, Department of Design. She is engaged in project crafting in the cultural system. She works on research issues concerning audience engagement, cognitive accessibility of cultural spaces, immersive cultural experiences and exhibitions.

Claudia Mastrantoni, PhD Candidate in Design at Politecnico di Milano. Her main interests concern spatial and service design for public interiors, spaces for hospitality and exhibitions.

Umberto Tolino, Associate Professor at the Design Department of Politecnico di Milano, startup founder and member of the board of directors at Fondazione Politecnico di Milano. He mainly investigates Interaction Design processes applied to the communicative artifacts and Digital Innovation.

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Placemaking through Creative Practice: Enabling Change and Empowering Future Change-makers

Cheryl Giraudy\textsuperscript{a}, Saskia van Kampen\textsuperscript{b}
\textsuperscript{a}Ontario College of Art and Design (OCAD) University, Canada
\textsuperscript{b}San Francisco State University, United States of America
bsaskia@sfsu.edu

Abstract | Toronto, Canada experiences both the benefits and challenges that come with rapid urban growth. Challenges include increased racial and economic inequities; lack of affordable housing; loss of community space in redevelopment, and marginalization of citizen voices across planning processes. There is a zeitgeist of Toronto as an emerging world class city based on economic, cultural, and environmental qualities, yet it struggles to ensure inclusion, access, and social justice for all its citizens. Design Manifesto 2020 (DM2020) explores community-driven placemaking across the metropolitan area as it gathers stories of lived-experience in creating spaces and places. How can we learn from successful local initiatives to foster creative solutions elsewhere and further, how can we impart the process of community engagement as an ethical tenet of design praxis and pedagogy? This paper takes a mid-project look at the narrative inquiry process of storytelling and its potential for greater inclusive community-based placemaking.

KEYWORDS | COMMUNITY PLACEMAKING, NARRATIVE INQUIRY, INCLUSIVE DESIGN, DESIGN ACTIVISM, DESIGN PEDAGOGY
1. Introduction

“As both an overarching idea and hands-on approach for improving a neighborhood...placemaking inspires people to collectively reimagine public spaces as the heart of every community” (Project for Public Space, 2020).

Placemaking is a collaborative and powerful tool for community-building. It can be driven top-down by politicians seeking broad development goals, or bottom-up with grassroots activism in fostering ad hoc solutions. At the core is the value-added concept of employing a community’s strengths and aspirations to reflect its unique identity in shaping the public realm (Stewart, 2018). The US-based non-profit Project for Public Space (PPS) implements placemaking by animating the public sphere, positing that systemic neglect of places leading to marginalization of neighbourhoods demands system change through locally driven transformations (Project for Public Spaces, 2020).

In Toronto, neighbourhoods are experiencing the negative aspects of large-scale urbanization. Indigenous, Black, Youth, LGBTQ2S, Newcomers and other strong communities want a greater say in planning their communal spaces. Historically left out of mainstream planning discourse, the communities have also been systemically ignored by sectors developing and influencing city building processes. The result is a list of exclusions including forgotten densities, lack of affordability among other lived realities (Pitter, 2020). Toronto Foundation’s Fallout Report (2020) on COVID-19 states the virus creates an even greater risk with challenges in respect to health services, food security, employment and stable housing (Ayer, 2020. p.9). Robust placemaking policies and plans based on community need, immediate and longer-term, will need greater ‘resilience’ for existing and new challenges to come.

Figure 1. View of Toronto from western edge of Greater Toronto Area and Lake Ontario. Image highlights the city shoreline, the renown CN Tower and built-up downtown core with offices and condominium towers.

Toronto (figure 1) is awakening to its role in decolonization, and reconciliation with Indigenous communities amid a national call for nation-to-nation dialogue.
The city is learning Indigenous principles of placemaking among many other first nations’ cultural and creative practices. Urban Indigenous youth are emerging place makers engaging ancestral knowledge for ‘connection to place’ (Hood, 2017). It is a poignant moment to understand how connection to a place has meaning for communities seeking equitable opportunities to participate in growth. Design Manifesto (DM2020) considered this opportunity in developing its research project for capturing how Toronto’s six historical boroughs are faring with community-based placemaking and with a view of sharing the collected placemaking stories back to the city. The two-year research project was launched in January 2019 as part of the annual Toronto DesignTO event with a public forum at OCAD University. After the city amalgamated in 1998 to become a single municipality of Metropolitan Toronto, there remain six geographic regions based on the prior boroughs of Toronto, East York, York, Scarborough, North York and Etobicoke (Toronto.ca). The initial framework for listening to citizen stories for the design of community space was based on these geo-political boundaries but has since shifted to a framework for learning about the critical economic and social boundaries that actually influence or impede community placemaking. Over the last decade, three distinct economic boundaries (figure 2) as reported by Hulchanski (2007) have now emerged, and these have a profound effect on community placemaking success.

Figure 2. Map of Toronto showing six former municipal boroughs, three emerging economic cities, and an ineffectual transit system which isolates much of Toronto’s population from the city centre.
City #1 has the wealthiest neighbourhoods (Toronto, Downtown) and City #3 comprises west (Etobicoke), east (Scarborough), and north (North York) regions supporting the fastest growing number of newcomers with 50% of overall city population. These larger areas include a car-oriented middle-class, less efficient public transit, and densification of older neighbourhoods. City #2 surrounds the downtown (includes York, Mid-Town, and East York) where the once middle class and upwardly mobile is now splitting into either City #1, or #3. As a result, Toronto, while more diverse, has also become more economically divided (Hulchanski, 2007, p.2). Expensive high-rise developments engulf central and mid-Toronto neighbourhoods. These have been isolating older social housing communities and the research has heard from residents concerned for falling behind the urbanization curve. The new realities of Covid-19 pandemic and other challenges yet to come highlight that community-based placemaking matters, if only to confirm community identity and reinforce ‘connection to place’.

2. A framework of inclusive storytelling

DM2020 is collecting personal stories in order to respectfully capture citizens’ account of their own lived realities in placemaking. This data collection method of narrative inquiry leads to discourse analysis (Gray, 2018). Stories of local placemaking actions are positioned in the research as case-stories. Participant storytelling also contributes to a broader discussion about community-building that generates collaborative responses to issues of the day. In forums and workshops both in person and online, case-stories, and the co-created outcomes of community events become the ‘research findings’. The qualitative data collection will ideally evolve a set of community informed planning tools for placemaking applications, and for design pedagogy and practice. In its second year, DM2020 continues to apply the narrative inquiry method and has welcomed over 100 citizens to date with seniors, students, art practitioners, community animators, and design activists sharing their experiences with placemaking across Toronto (figure 3).

The project also aims to understand participatory action research (PAR) and participatory design in utilizing storytelling as a generator for social change discourse. Participatory processes are not new, they have been the key approaches for design of technology, products, services and space. However, lessons learned from the collaborative approach with stakeholders or ‘end-users’ seem to be lagging in design industry practices, particularly in real estate development according to communities contributing to the research. They continue to ask why local voices are not registering in the final design of spaces that affect their daily lives?
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Figure 3. DM2020 Forum-East Scarborough Storefront. Community shares ideas and goals for placemaking with written and drawn ideas, sharing of stories, and group discussions.

Figure 4. Danforth Village Laneway Project. Changing an alley of neglected garages into canvases for mural artists. Photo courtesy of Bruce Reeve (2018).
Community placemaking in Toronto as elsewhere can result in ad hoc interventions for the empty niches in the urban fabric, or forgotten parks and thoroughfares. These are sometimes born out of frustration when neighbourhoods are neglected by authorities in managing public space. The solutions raise new questions for research:

1. What ad hoc solutions get city support?
2. What actions disrupt planning processes and lead to shifts in practice?
3. Do community projects need both public-private partnerships to be sustainable?
4. How do local projects foster greater equity in serving communities affected by systemic exclusion?
5. Is beautification a necessary first step in addressing neglected urban space (figure 4)?

Once analysed, case-stories gathered may help to answer these questions, and potentially guide creative actions across other urban contexts.

Participants invited to DM2020 events require two conditions: space (analogue and/or digital) for story sharing as ‘expert witnesses’ to their day-to-day experience (Lupton, 2017, p.32). Second, an audience willing to respectfully listen. Engaged interaction is not always assured and each forum results in various storytelling dynamics. Respectful listening empowers those sharing the stories with an understanding that shared knowledge will matter in making change happen and in better ways. Arendt’s seminal work The Human Condition identified that we are both affected by and effecting the world we create (Arendt, 1998). Identifying how the public realm can be more functional, accessible, liberating—communities strengthen connection to place equally as they establish their place in it. Shared experience stands as collective expertise for how to get things done and critically, for what should not be done again. Developers, governments and designers need to commit to leveraging community lived experience in shifting ‘design for’ to ‘design with’ people.

3. Participation in placemaking

The model of participation, well-established as civic engagement, gained both political and social traction with civil rights movements and civic activism in the mid-last century (Schneekloth & Shibley, 1995) but shifted towards the more practical approach for citizen engagement in planning new, or redeveloping older neighbourhoods in the 1990’s:

“…one that no longer viewed participation as ‘citizen power.’ The purposes of participation have been more modestly defined for information exchange, resolving conflicts, and to supplement the design/planning [processes]” (Sanoff, 2017, pp 9–10).

Participatory design, positioned as front-end activity in planning, requires community contribution and power sharing for effective decision-making. To achieve sustainable and long-lasting outcomes community action at front end of development, during
implementation, and importantly, at post-occupancy stages are needed. In this way, lived-experience can be validated as critical design knowledge. Community redevelopment rarely gets design feedback except through a maintenance complaints process.

Two decades into the 21st century, the participatory process is seemingly shifting from advocacy back to activism. In the North American context, it now responds to even greater racial injustices and economic disparities, with global pandemics and climate change posing further challenges. However, community voices will no longer be ‘silent’ (Cole, 2020). As large urban centres like Toronto brace for new urban growth, the resulting disruption will further marginalize established neighbourhoods excluded from planning decisions. Diverse, insightful Toronto voices like Desmond Cole, author and activist, and Jay Pitter, award-winning urban planner and place maker are affecting social and material change through participatory placemaking. Pitter is spearheading city-building projects for greater equitable public spaces in what she terms as ‘healing fraught sites’ (Pitter, 2020).

Genuine participation occurs when communities are “empowered to control both the agenda and the action” (Sanoff, 2017, p.8).

The Arts have a unique role in shaping public space, in ways that few disciplines can. DM2020 has revealed this to be particularly true for youth artists trying to make a difference by animating neighbourhoods that speak to their identity. Artmaking commands placemaking platforms including building facades, community centres, streetscapes, and digital space (Luger & Ren, 2017). A graduate in community development shared their story of trying to make a difference by bridging the gap between youth and powerful institutions. Taking jobs at various agencies including Parks and Recreation, the storyteller came to understand that major organizations were ‘hostile’ to urban youth—viewing them as potential ‘problems’ to be avoided, and discouraging their access to public space. It was clear that change was harder to achieve from inside the establishment where the storyteller felt their individual power systemically dismantled. As a result, the storyteller now opens up their home for creative gatherings with music, poetry readings...thereby making a welcoming space for youth to connect around the arts without fear of stigmatization and judgement. The arts drive both a discourse about the larger public realm, and equally foster moments of intimate placemaking where communities would not otherwise have a venue for creative expression. Case-stories gathered show meaningful placemaking happens by people desiring places that hold their creative dreams. This is a key distinction from placemaking driven by large entities, or top down by politicians with self-serving notions of planning legacies.

Grassroots placemaking can occur in both expected and unexpected ways. In 1995 Toronto got its first outdoor public bake oven and more have sprung up across public commons, offering ways for neighbourhood celebration. A guest place maker at the inaugural DM2020 event lives in one of Toronto’s 31 Neighbourhood Improvement Areas (figure 2). Disappointed in the neglected state of their local park (a space lacking in minimal garbage collection), they began the task of improving the neighbourhood with a welcoming place for
residents to gather. The need was not for another ‘bake oven’, but for a Tandoori Oven, as this better reflected the cultural make-up of the community. In revitalizing the park so too was the community revitalized, and surrounding neighbourhood treated to a diverse perspective on food. The park has become a hub for community markets, another of this place maker’s many accomplishments.

Asking who holds city power and how it might be shared is a good way to start a community development conversation and avoid, what Dave Meslin terms ‘intentional or designed exclusion’. Meslin, a self-proclaimed ‘professional rabble-rouser’ actively involved in challenging Toronto’s politics, joined the project launch as a guest panellist (figure 5). He characterizes the city’s planning invitations to the public as an example of designed exclusion. In his Ted Talk “The Antidote to Apathy” he speaks to how cities ‘discourage engagement’, using a typical City Hall Notice of Zoning Application as an example. Ads placed in local newspapers invite the public to information sessions about new building developments. The dense text on the half-page ads is ‘impossible to read’ and all pertinent information on how to attend meetings is buried at the bottom in small font or typeface. This, says Meslin, is an example of intentional participatory exclusion (Meslin, 2010).

Figure 5. DM2020 launch at DesignTO 2019. Panellists left to right: community activist, Dave Meslin; Chair, Thorncliffe Park Women’s Committee, Sabina Ali; Toronto City Councillor and panel lead, Kristyn Wong-Tam; Public art critic, Spacing Magazine, Sarah Ratzlaff; Manager, Centre for Connected Communities, Ajeev Bhatia. Photo: research Team.
Neighbourhoods are keenly aware of their political capital in the approvals process. Planning proposals have been thwarted because of concerns raised by residents. The reimagined aim of the participatory design process is to put community and resident voices on par with centres of control in decision-making and to avoid potential confrontation in advance of approvals processes. “This must be done very early on in the process in order to contribute and lead the preliminary development design ideas” (Ratti, 2015, p.17).

For Indigenous urban communities there remains as architect Calvin Brook’s states ‘... so little in the fabric of the city that acknowledges them” (Hood, 2017, p 48). New placemaking councils, local visioning exercises, and reinforcement of indigenous identity across the city of Toronto are being planned with the aim to respect indigenous knowledge in the development of spaces for gathering, storysharing, and cultural exchange (Hood, 2017, p.49). Community leadership in urban design is a means to accomplish buy-in for social change as new developments and revitalization become fully realized, but it must be given both respect and power to be effective.

There are success stories for projects undertaken with community engagement across Toronto that counter the many developments lacking in critical community-based placemaking needed for sustaining ‘connection to place’. A well-documented example is Toronto’s St. Lawrence Neighbourhood—a tri-level government partnership under what was then new housing policies of 1970’s that remains a model for engaged participatory design (Sewell & Jacobs, 1993). Recent revitalization projects for older social housing complexes are working with a mixed income solution and added social value in the form of new cultural and recreational facilities. This aims to bring greater diversity of land use and people together for stronger economic viability and increased standard of living. Regent Park (2009–present) redevelopment (figures 6–8) is such a case, however, the outcomes of these development models are not fully known (Moos et al, 2018). Given that communities were already highly mixed, revitalization projects may result in less diversity by reducing affordability; displacing long-time residents and newcomers, or by making gentrification attractive to upwardly mobile dwellers in ways that further exclude prior communities.
4. Role of the creative practitioner: A work in progress

Citizens aim to make change happen without formal processes but can run afoul of planning authorities. The planner-designer, historically delegated to facilitate community engagement, present their projects in methods that will foster approvals and expedite implementation. Bearing the mantle of best-educated in theory and practice, they interpret people’s needs and manage their expectations (Sanoff, 2017). Vital in making formal placemaking happen, they are also groomed for this leadership (Ratti & Claudel, 2015). Le Corbusier’s ‘urbanisme’ expressed in la ville contemporaine of 1922 was a colonial planning vision for eradication of ‘urban blight’ with ‘systemic development’ to improve a citizen’s quality and standard of living, all aimed to house the masses of future urbanites (Guitón, 1981). The ultimate orchestration of such a creative vision would fall upon the conductor—the architect. The designer’s ‘creative vision’ on behalf of the community remains strong to this day (Ratti & Claudel, 2015). A discussion should be formed around how designers shift from interpreter of communities needs to facilitator of inclusive design processes that aligns both development and community goals. DM2020 research partner Bryan C. Lee Jr, co-founder and design principal at Colloqate, a design justice firm based in New Orleans, USA fosters inclusive design of places to ensure racial, social, and cultural justice. Colloqate state that “For every injustice there is an architecture built [to] sustain and perpetuate it” (Colloqate, n.d.). Bryan inspires young design professionals to collaborate with social change makers in community orchestrated solutions for mitigating systemic exclusion.
“Injustice and inequity manifest relative to their respective contexts. We are attempting to grow the Design Justice field through organizing students, academic theory, and community collaboration.” –Bryan C. Lee, AIA (Colloqate, 2020).

Colloqate is shifting the designer’s role from ‘conductor’ to community collaborator in driving planning and design of urban space.

In respect of the art, the City of Toronto’s Planning division implemented a ‘Percent for Public Art Program’ in 1985, which secures one percent of gross construction costs for any new development towards public art. These guidelines ensure the program is applied in a consistent and informed manner citywide while controlling where and how it is manifested (Toronto, 2010, p.13). In this context, the arts practitioner can become an interpreter of planning aspirations, managing community expectations, while the community remains an ‘end-user’ rather than a co-creator. When the arts partner with endowed agencies to become “cross-sectoral intergovernmental partnerships for placemaking” (Zitcer, 2018, p.2), the impetus becomes how to attract visitors and investors rather than support grassroots placemaking through art practice (Eisinger, 2000, p. 322).

Across Toronto, from City # 1 to City # 3 there is an exponential rise in mixed-use tower development with the welcomed percentage of programmed art, but in what had been smaller scale, community-focused neighbourhoods (Nasser, 2019). Determining who is included and excluded from decision-making processes is an ethical act: “Those involved select and exclude aims and boundaries for any project; privilege ways of working at the expense of alternative methods” (Schneekloth & Shibley, 1995, p.13).

An outcome of exclusion in decision-making is not only the loss of creative alternative ideas, but disempowerment for those left out. Gentrification, positioned for economic and cultural revitalization and implemented under the guise of eradicating ‘urban blight’, assumes that where and how people live should be measured against economics and investment in urban growth. The planner, designer and artist remain the creative interpreters for development, caught between client/owner, builder, authorities, and the ‘end-user’ (Ratti & Claudel, 2015). The process still begs the question, for whom does all this benefit?

5. The young are alright: Empowering new voices

“Forgive no error you recognize. It will repeat itself, increase, and afterwards our pupils will not forgive in us what we forgave” (Yevtushenko, 1952).

As DM2020 continues into 2021 it becomes clear that younger voices for placemaking are determined to not only be heard, but to effect change. The project is learning how co-creating places with young place makers are vital for their survival. Interventions that humanize and animate forgotten urban areas buffer planned revitalization that sanitize and designs away spontaneous acts of placemaking. Case-stories identify how to make things happen at the margins of an expanding city. An example of a grassroot intervention for and
by youth is “Behind the Line”, founded by Artist Amir Akbari. The organization works with local businesses and community groups to develop creative programs and art projects that engage youth in challenging perceptions, raising awareness, and beautifying communities left behind as new development surrounds their neighbourhoods. Street art fosters spontaneous dialogue with passers-by, allowing nascent artists to share their work and stories, strengthening a community’s connection to place by the act of making art (figure 9).

Figure 9. Mural art by Behind the Line, a grassroots Toronto organization working with building owners to engage youth in creative practice and community-building.

The collected case-stories are growing in volume-informing opportunities for pedagogy at the post-secondary level. Social justice practitioners including Jay Wall of Rally Rally (Toronto) and Bryan C. Lee Jr of Colloqate (New Orleans), support the project’s push for NextGen practitioners to be more ethically and socially responsible when working on projects that aim to support communities. At a recent DM2020 design activism workshop (figures 11 to 14) facilitated by Colloqate, youth were asked to identify issues that emerge from shared knowledge in order to generate solutions to address the lack of empowerment in city planning. Access to, and quality of public space; weak intergenerational programming; and minimal resources to support education, and foster creative endeavours were the key issues identified. A recurring theme was the lack of respect displayed by those with privilege who control city finances, and social and recreational programs that impact youth.
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Figures 11, 12, 13, 14. Creative Practice as Protest Workshop (CPP). Clockwise from top: Founder, Black Futures Now Toronto, Adwoa Afful speaks about her work with anti-oppressive placemaking practices; Sticky Note exercise to help get to know one another; Brainstorming placemaking ideas; Founder, Rally Rally, Jay Wall share posters he and a participant created to raise awareness about pedestrian and cycling deaths in Toronto. Photos by: Nick Sagar, 2020.

6. Conclusions

DM2020 set out to engage, listen to, and learn from diverse citizens across the six regions of Toronto, and as the project progresses, it is listening more intently to NextGen voices and the social and economic issues that diminish their neighbourhoods. An online discussion is being organized due to safe distancing measures that will pair DM2020 with a youth mentorship group from north west Toronto. The event will seek to learn how this community has fared during the pandemic and explore their placemaking efforts for community-building and economic stability. Engaging youth in narrative inquiry as part of both formal and informal learning is how DM2020 welcomes and respects youth
Their lived experience is a catalyst for raising social awareness and fostering inclusive placemaking solutions for communities where they live, work, and play.

During tremendous urban growth, city governments are under pressure to implement expedient solutions. The collaborative placemaking model requires patience—a potential enemy of bottom-line outcomes. Diverse community voices, including voices of the very young, however challenging to hear for those of privilege and power, are important to inform, guide, and build upon, as ‘lessons learned’ that should not be repeated. Places also take time to develop and evaluate. The measure of success for a place should be gaged for equity and inclusion, including the humanistic qualities it supports and the respect it offers communities. To achieve this, it is necessary to have confidence in citizens’ capacity to conceptualize the design of places that reflect their collective need and creative dreams. Jane Jacobs, long time Toronto resident, acclaimed author and renown urbanist famously stated in her 1950’s Fortune article “There is no logic that can be superimposed on the city; people make it, and it is to them, not buildings, that we must fit our plans” (Fortune Classic, 2011).

Outcomes of DM2020 intend to highlight the ‘lessons learned’ from many case-stories gathered for transforming forgotten neighbourhood spaces into vibrant expressions of community identity. The creative artefacts of the work are yet to be fully realized, but the design of a shared-knowledge community planning toolkit, a checklist, or a roster of local-based solutions for inclusive placemaking are all under consideration.
References


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**About the Authors:**

*C. Giraudy, S. van Kampen*

**Cheryl C. Giraudy, B.Arch., MSc. OAA MRAIC** Associate Professor, OCAD University is an architect engaging inclusive design research and advocacy practice for equitable built environments and public space. She held position of Associate Dean, Faculty of Design from 2008-2013.

**Saskia van Kampen (MDES, RGD, AIGA)** Assistant Visual Communication, San Francisco State University, School of Design. Her research focuses on disrupting digital design practices and design studio pedagogy. She was Vice President, Education with Registered Graphic Designers.

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Proximity as space of opportunity: connecting people, productions and territories

Valentina Gianfrate*, Elena Formia, Flaviano Celaschi, Elena Vai

Department of Architecture, University of Bologna, Italy
*valentina.gianfrate@unibo.it

Abstract | The paper presents the work of the Advanced Design Research Unit (ADU), currently involved in the experimentation of new services and products, able to face territorial issues coupling a proximity approach with a global perspective, contributing locally to the achievement of SDGs of EU Agenda 2030. This approach applied to the research and educational fields allow designing new solutions for local/global challenges (new flows of people, light reindustrialization, urban voids emergency, resources’ scarcity) in more imaginative, inclusive and sustainable ways. ADU learning and research structure is based on a quadruple helix approach to connect R&I, enterprises, PAs and communities. The synergies between design education and the productive environment of the Emilia-Romagna Region is strengthened by the launch of the new Research Center for Interaction with Cultural and Creative Industries, to define research lines and open design perspectives oriented to guide the dynamics of a responsible and cross-sectorial society.

KEYWORDS | PROXIMITY APPROACH, PRODUCTION&TERRITORIES, RELATIONAL SPACES, SDGS, FRAGILITY FACTORS
1. Introduction and General Framework

The controversial relationship between design and cities is receiving great attention at an international level. This is due to external factors related to an interdisciplinary debate, but also to internal factors that deal with the design discipline itself.

In the recent past, the concepts of city and territory have profoundly changed. The idea of uniformity and identity in urban transformations has been superseded by a wider debate that involves many disciplinary fields, stakeholders, actors. The concepts of knowledge cities (Carrillo, 2004), intelligent cities (Komninos, 2002), innovative cities (Simmie, 2001), creative cities (Florida, 2003; Landry, 2000), and media cities (Mould, 2014) have been adopted to some extent as strategic visions for urban development. This happened in the same moment in which urban policies assumes a new perspective on knowledge-intensive industries, incorporating creative and cultural industries concept, which emerged as a promising growth sector with a strong urban orientation (Mould, 2014) and a tangible relation with the experience and transformative society.

On the other side, as previously mentioned, the design discipline itself has started to look at the urban dimension with different eyes, no longer only regarding its final form but the ways and processes through which cities and territories are intentionally transformed continuously. Earlier signs of this discourse date back to the 1960s, with great repercussion on the disciplinary debate. The writer and activist Jane Jacobs, in her seminal book *The Death and Life of Great American Cities* (Jacobs, 1961) wonders about the intellectualistic perspective of urban planning, leaning towards a more concrete vision of the city strictly connected with its inhabitants. Almost in the same period, the British architectural critic Reyner Banham (1971) described Los Angeles through the idea of “four ecologies”, associating the urban development of the Californian city to a living organism. This debate is strictly related to the emergence of a new vision of the design project, that, in the same years, started becoming critical, relativizing the blind faith towards progress and the unlimited growth that dominated the design disciplines before and immediately after the Second World War. The performative experiments of the 1960s and 1970s professionals in urban and non-urban areas (i.e. Riccardo Dalisi for the Traino district in Napoli, Giancarlo De Carlo with the Team X on participative planning, Renzo Piano’s living labs in Otranto, to quote just a few examples of Italian architects and designers), demonstrate the emerging need to look at cities and territories through a mature awareness of the relationship between citizens, people, and environment.

These approaches come back in the recent debate (Busbea, 2019), while, at the same time, the top-down approach of “urban mysticism” (Celaschi et al., 2018), that characterized the urban scale in the 1990s, has been gradually replaced by the care for the city as a living organism that needs constant vitality. This form of attention could be achievable through a widespread and capillary, temporary and convertible, design, which recalls continuous and small-scale mutations rather than radical change (Reale et al., 2016).
The designers’ action in the contemporary city subtends, indeed, various concepts, such as sustainable, participatory, co-designed, reusable, collective, replicable and scalable, technologically enabled; they refer to processes that encompass what is transient and temporary, recall participatory and small-scale activities, introduce a “light” dimension supported by new technologies. Designers know how to propose a strategy of transformation that is both gentle, effective and based on “continuity”. Strong, sporadic projects have been replaced by regular, low-key projects, which are transient but visible, sustainable and shared.

Among these plural factors there is one that is closer to the concept of proximity (Boschma, 2005; Hansen, 2015): portions of cities including peripheral and/or historical areas are increasingly assimilated to open labs where experiment strategies of social and economic regeneration at urban scale activate processes that can involve both the institutional structure and economic actors, but also empower communities, paving the way for innovative models of action and funding. Urban and peri-urban dimensions are assumed in many European cities (i.e. Barcelona, Bologna, Lisbon, Brussels) as experimental fields, where to highlight and compare different forms of relations and co-production.

The paper focus on the proximity approach carried out in the research and education fields of action of the Advanced Design Research Unit (ADU) and assumed as a combination of time, space/place and cross-media practices in order to promote co-design solutions to tackle territorial and global challenges (Hasche et al., 2019).

The main characteristic of this approach is to act in a capillary way through micro-interventions linked to the territory. This allows:

1. the institutions, to enter in contact with the factuality of disadvantages within the city meshes and to look at citizens in their life context;
2. the academic researchers, to directly collect qualitative data and focus on specific communities’ issues and real needs;
3. the citizens, to develop a strong political engagement and active participation to the local public sphere.

As conceived by the Pact of Amsterdam (2016), the quadruple helix approach can address the increasingly complex challenges in urban areas, enhancing proactive collaboration between Urban Authorities, local communities, civil society, businesses and knowledge institutions to move environmental, economic, social and cultural progress. One of the key issues is to consider the territory as a whole, to improve the connection between urban and peri-urban areas, with the purpose of preserving and providing a spatial and infrastructural continuity, increasing mutual relations between human being, spaces, and productions (resources, flows, services) which brings together the interactions of both the natural and cultural landscape structures and infrastructures. Promoting equity, social cohesion, and active citizenship and enhancing creativity and innovation, including entrepreneurship, at all levels of public realm implies the adoption of a systemic approach, considering not only the
different dimensions of urban issues (economic, social, environmental), but also taking into account all possible connections among different actors and systems, according to the 2017 European Commission Circular Economy Action Plan.

Territories are analyzed on the basis of their inclination and capacity to support new uses, densities and modes of interaction, multifunctionality and multiculturality, formal and informal expressions of public life, protecting their recognizability, and their consolidated heritage while generating new ones. This new heritage is assumed as the result of an open innovation process (Montanari & Mizzau, 2016) activated through co-design and co-realization initiatives, and represents the best result of the “talents” with which the various actors (public sector, world of research, formal and informal communities, local and supra-local entrepreneurial fabric) contribute to the transformations of urban contexts and share them through experimentation, useful to express the real potential of spaces, overcoming the temporary nature of change and generating permanent transformations of entire portions of the city (Gianfrate et al., 2018).

Fig. 1 Co-design methodology, Advanced Design Unit (ADU), Department of Architecture, University of Bologna.
2. Citizens as creative/creativity’s agents

In the contemporary realm citizens are considered more and more actors of the change and not just witness of the continuous transformation, thanks to creative experimentations and also to the unlimited access of social networks and data, using the web to create, assemble and disseminate sensitive, personal and geographic information provided voluntarily by all of us (Goodchild, 2007).

How much do the creative processes conducted by citizens modify the city and our local networks? On a global scale, at the beginning of the 2000s the role of activator of change was projected on the free-lance creative subject – falsely generalized under the name of the "creative class". In fact, this “class” was constituted by divided individuals– divided by their (precarious) living condition, in the (temporary) spaces in which they moved, and by the (reduced) times in which the city is experienced (Florida, 2003). Today, however, the ability to interact, plan and guide change has expanded to the whole community, addressed to citizen science. This phenomenon can be read with divergent lenses: on the one hand, it can be a declaration of the extreme trust achieved in the planning skills of the communities, through their participation in co-designed processes; on the other, it can be a denunciation of the inability of the political class, administrators, urban planners, sociologists, anthropologists to have an integrated, anticipated and systemic long-term vision about the transformations of cities, which therefore gradually leaves shares of responsibility and space for citizens to make the city by living the city (De Klerk, 2018). In both cases, the issues of governance and the centrality of citizen science respond to an ever-increasing need to redefine the identity of the city-community which, subject to its continuous transformation, loses the sense of belonging to itself, and to confine the depersonalization and alienation drifts that globalization has generated. The concepts of subsidiarity and proximity communities can partly give an answer when asked whether the city is a physical place or an idea that needs to be continually reshaped (Sudjic, 2016).

In Italy, a constitutional review law in 2001 introduced the principle of horizontal subsidiarity into the Constitution, favoring “the autonomous initiative of citizens, individuals and associates, for the performance of activities of general interest, based on the principle of subsidiarity” (Italian constitution, law n. 118, last paragraph). The new regulation recognizes that citizens are able to act independently in the general interest and provides that institutions must support their efforts in this regard in their specific territories.

Considering citizens as prosumers of the territory, their creative productions can be assumed as drivers for new rhythms and connections in urban life. This concept opens more fruitful options for creatives, makers and users (De Klerk, 2018) and define a new conception of creativity, artistic, cultural and technical production (Bianchetti, 2014; Bishop, 2012). Thus, the territorial identity and the site-specificity of creative processes could be enhanced also due to the opportunity to activate, trace and consolidate relationships with local productive and commercial networks (Evers, 2014).
The participation of mixed groups even in unconventional and disruptive forms (Goodchild, 2007; Bergevoet & Van Tuijl, 2016) can play a role in the reconfiguration of the urban order. Kevin Lynch (1964) describes these reconfigurations as new social forms and solutions which, if properly valued and supported, can contribute to the creation of innovative systems connected to the networks of local activities, stimulating projects from micro to macro-scale in an integrated and complementary way (Haydn & Temel, 2006).

The Advanced Design Research Unit of the University of Bologna is currently involved in the design and experimentation of new services and products, able to face territorial issues coupling the proposed proximity approach with a global perspective, contributing locally to the achievement of grand challenges (i.e. SDGs of EU Agenda 2030, RRI principles, etc.).

3. How to combine higher education institutions people, production and territories: the work of the Advanced Design Unit

Since its birth in the academic year 2013/2014, the Advanced Design Research Unit (ADU), through the Industrial Product Design and the Advanced Products and Services Design Bachelor and Master degree courses, feeds a circular network, designing a learning structure and process based on a quadruple helix approach able to connect research, enterprises, public entities and communities. The experiential learning and the development of an entrepreneurial mindset incentive the synergies between design education and the production environment of the Emilia-Romagna Region.

The exchange of design practices and tools within production systems has allowed companies and institutions to deal with research in order to anticipate new models and processes, but also future business scenarios with a direct impact on the social-economic environment. The rich network of relationships and the relational spaces (virtual and real) have the same importance of the products realized and led the construction of a dynamic observatory of local businesses, in order to open research scenarios, training and application of innovation models guided by design (Celaschi, 2016). On one hand, this observatory monitors the exponential growth of companies affiliated to the University, on the other hand it is a database for students’ internships to enhance the connection with the territory and the capacity to face local challenges with a global vision.

The synergy between this economic system and the Design cultures’ program of the University of Bologna has therefore become, in addition to a peculiar characteristic of the territory, an emerging opportunity to enhance design for proximity (Vai, 2017) in terms of:

- learning activity and internships in line with the most emerging innovative trends at local and regional level;
- consultancy and special projects connected to the specific needs at local level;
• linked initiatives to strengthen the third mission of the University;
• knowledge exchange among formal and informal institutions;

value co-creation thanks to the capitalization of collective intelligence and creativity expressed by citizens in specific or cross-sectorial networks, also in connection with the Regional Clusters Structure (www.retealtatecnologia.it/clust-er).

Fig. 2 Almare-night (night at the sea) is one of the scenarios and area of application of ceramic slabs with luminescent properties as outcome of the advanced design workshop with Target Group (rendering Advanced Design Unit).

Referring to the previously mentioned actions, the direct and constant relation with the real-life setting promoted inside the courses is part of the proximity approach, addressed to develop, among students, the ability to explore and mediate the different aspects of the territories of intervention. The goal is learning how to provide design responses applied to specific cases, understanding how to use methods and tools for competitor analysis, and conceptualizing product-service design systems, facing year by year higher level of complexity. At the master's level, the model for designing relationship with the actors and stakeholders of the local social, economic and cultural system is managed in a more structured way, with the creation of specific paths and through forms of convention for teaching both in class and inside companies. The results of these continuous collaborations
led to "special projects" in which the relationship between university and territory is managed thanks to the involvement of the Advanced Design Research team. The Workshop with Target Group on new scenarios and areas of application of ceramic slabs with luminescent properties, or the collaborations with Hera to transit their corporate academy to a wider learning network, constitute just few of practical cases.

Fig. 3 Almare-day (day at the sea) is one of the scenarios and area of application of ceramic slabs with luminescent properties as outcome of the advanced design workshop with Target Group (rendering Advanced Design Unit).

A further level of collaboration concerns the dissemination and promotion of the relationship between universities and stakeholders to enlarged communities through the organization of thematic workshops and events. The workshop’s model adopted at the beginning of each academic year is based on real challenges presented by local companies or local entities, short term to elaborate concepts-ideas-solutions in informal space outside the academic classrooms, to strengthen the students’ sense of entrepreneurship and sense of belonging to Bologna and its University. These initiatives create opportunities for growth through real synergies and collaborations. The workshops’ topics deal with the innovation of products, services and processes, digital humanities, interaction and, of course, advanced design. For example, at the beginning of the past Academic Year and in occasion of Bologna
Design Week, Via Zamboni became a living experimental lab within Le Cinque Piazze’s project, a co-design and self-construction workshop aiming to care for the university area, temporarily redesigning the public space, curated with and by the Fondazione Innovazione Urbana, the Department of Architecture of the University of Bologna, the Fondazione Rusconi, in cooperation with the Municipality of Bologna, as part of the activities envisaged in the ROCK project (Regeneration and Optimization of Cultural heritage in creative and Knowledge cities H2020-SC5-2016-2017 GA 730280) won by the Department of Architecture.

Fig. 4 Piazza Rossini Green. Unexpected grass square in the historical center of Bologna (Ph. Margherita Caprilli).

Another instrument of contamination and cross-fertilization between the Advanced Design Research Unit, the community of the Design Courses and the cultural and productive context is the Bologna Design Week, directly managed by the research team. It is the opportunity to spread the students’ projects in design talks and installations in the city in order to narrate the relationship between design, territory and manufacturing, to inform the communities of citizens and non-professionals about the last innovation and creativity productions and to open contaminations between different disciplinary areas. As an annual event Bologna Design Week transforms the city for one week into a “theatre of wonder”, experimenting the creativity of designers in site-specific, immersive and participatory projects at the urban scale.
These activities on field are supported also by Regional Authorities, triggering by the direct involvement of different actors, companies, and collaborative groups at the proximity scale, within a more complex and capillary system of elements, creating a network with existing infrastructures.

Following this objective and investigating a wider concept of proximity which implies a transdisciplinary approach, a new academic center named C.R.I.C.C. – Research Center for Interaction with Cultural and Creative Industries has been established in November 2019, as an evolution of an internal movement, born in 2017 called Thematic Action Group CCI, promoted by the Advanced Design Unit, which saw the participation of over 70 teachers and researchers from different departments and produced a first census of the training and research program offer in the field of CCI. The new Research Center for Interaction with Cultural and Creative Industries inherits this census and intends to be a relational space with a co-productive perspective and focus its activity on the triangle between CCIs: the use and diffusion of digital and enabling technologies, the ability to create new businesses and jobs, the aim to improve cultural and social development of the territory.

Fig. 5 An urban forest in Santo Stefano square was created on the occasion of Bologna Design Week 2018 as a temporary installation dedicated to the reflection of contemporary ecology by Mario Cucinella Architects (Ph. Federica Conti for BDW).

The aim is to explore how applied research can strengthen regional cultural and creative enterprises, in the fields of technologies for music, entertainment and audiovisual production, digital communication design, fashion staging, semantic web research, anticipation and future sciences applied to business, digital humanities, regeneration and
urban reactivation, the design of services, the contamination between contemporary arts and the production of industrially replicable value, the digital applications of culture.

4. Future research branches and conclusions

To face the multiple challenges of complex contemporary phenomena and to contribute locally to the achievement of SDGs of EU Agenda 2030 it is crucial, as previously described, to create new mediation systems and cooperative platforms between local institutions, research centers and citizen science.

As previously presented, the concept of Advanced Design defines a research and training approach that fits into a specific field characterized by the crisis of the relational system between knowledge production centers (universities, scientists and research centers), companies (goods and services), and citizens. This mutual incomprehension has progressively deteriorated the mediation structures, insufficient to keep together mutual perspectives and shared visions of future potentials. In a scenario characterized by inclusiveness, openness, responsible forms of innovation, enabling technologies and the search for sustainable solutions, these mediators appear not able to renew their objectives and facilitate the exploration of opportunities. On the contrary, this mediating area is full of opportunities: it is becoming the territory in which recover bi-univocal relationships between the involved actors in order to share the processes of ideation, creation, realization of the desirable, possible and shareable future. This is the objective of the first phase of exploration of the Advanced Design Unit: educational and research paths for product and service design have been consolidated and have accelerated the activation of multi-level relationships between companies, people and universities’ courses.

The launch of the new Research Center for Interaction with Cultural and Creative Industries open to a new phase in which the Universities’ role is addressed to a knowledge building more and more oriented to guide the dynamics of a responsible and cross-sectorial society, put in action research lines and design perspectives, overpassing the borders of specific circuits.

The C.R.I.C.C. will offer the opportunity to combine the approaches of advanced design culture(s) (Celi & Morrison, 2017) with the use of enabling technologies and data acquisition, allowing to create bonds between people, production and territories, following an open and continuously updated methodology that works at the proximity scale with a global perspective. As member and founder of C.R.I.C.C., the Advanced Design Unit will deepen, structuring and codifying its proximity approach further fields of investigation:

- Fragility factors and their impact on the context under consideration, and integration with SDGs and Research and Responsible Innovation Indicators;
- Availability and interpretation of sensitive data (big-data) and design of their social sharing. Working on the interoperability to facilitate the communication
among people and machines it is possible to create new services or update existing ones to improve the quality of life and people’s autonomy;

- Co-design and involvement of stakeholders and citizens in data analysis through forms of crowd mapping and crowdsourcing;
- Implementation of adaptive governance systems (Folke et al., 2005; Goodchild, 2007) that exploit the potential of the widespread network of subjects (citizens as sensors) to support central decision-making processes.

Cities and territories become design spaces: they can be interpreted as a creative potential for the community of designers, end users and actors with different skills, enabling them together with small/medium-sized enterprises to a new approach to enhance knowledge and awareness of the regional entrepreneurship and its production processes.

References


Proximity as space of opportunity: connecting people, productions and territories


Authors:

Flaviano Celaschi is Full Professor in Industrial Design at the University of Bologna, Department of Architecture (2013-present). He works on Design Driven Innovation and on tools and practices for the development of innovation within the organizations (companies, universities, research centers, public administrations).

Elena Formia is Associate Professor in Industrial Design at the Department of Architecture of the University of Bologna, where she is member of the Advanced Design Research Unit (ADU) and Director of the First Cycle Degree in Industrial Design and the Second Cycle Degree in Advanced Design.

Valentina Gianfrate, architect, PhD in Technology for Architecture, Senior researcher in Service Design at the Department of Architecture and Professor of Systemic Design at the University of Bologna. Her fields of expertise are: systems and technologies for CH-led regeneration processes, urban micro-design.

Elena Vai is a PhD student in “Architecture and Design Cultures” at the University of Bologna, where she carries out a research on time as a dimension of design and on events as prototypes of futures in the contemporary mutation of the relationship between individual-community-urban space.
Radius 100 model – Working multi-disciplinary theories, methodologies and design practice: An approach to social design beyond academia

Dr. Yona Weitz*, Arch. Sharon Koniak*

*aDepartment of Visual and Material Culture & M.Des Graduate Industrial Design Programme, Bezalel Academy of Arts and Design, Jerusalem.
bDepartment of Visual and Material Culture & M.Des Graduate Industrial Design Programme, Bezalel Academy of Arts and Design, Jerusalem.
*yonaweitz@gmail.com, sharon.koniak@gmail.com

Abstract | Radius 100 is a social design action seminar co-framing the “right to the city” with the motto “beyond academia”. The seminar aims at developing projects through focusing on the diverse experience of urban users in site-specific setting of 100 meter. A concept model discoursing multidisciplinary theories and methodologies and design practices is introduced as a platform for enveloping people & place with design-based projects. Four (4) core pillars guideline the model: (1) theory (2) methodology (3) design charrettes based on cross-disciplinary methods (4) applied tools. Divergent thinking and open inquiry are the fundamental values of the mode action enabling open-ended processes in building up projects for urban social sustainability. The project’s conclusion after its implementation in the past two academic years is that adopting the Radius 100 model as a design project skillset aspires to construct dialoguing research, social design methods and communities as a platform for social sustainable innovative projects.

KEYWORDS | SOCIAL DESIGN, OPEN INQUIRY, DIVERGENT THINKING, MULTI-DISCIPLINARY APPROACH, URBAN COMMUNITIES
1. Introduction to Radius 100 model's skillsets and toolkit

Radius 100 is a social design action seminar focusing on developing social design interventions through landscaping the diverse experience of urban users' site-specific settings defined by a radius of 100 metres. Social design focuses on applying design processes in identified opportunities within the social terrain so as to encourage relationships between people, communities and institutions.

By co-working with a wide range of stakeholders invested in social sustainability such as: academic researchers, design students, urban policymakers, local communities and urban cooperatives that drive sustainable design and art interventions as local activism a new form of co-knowledging design academia and beyond academia. In other words, working out an academic knowledge & design-based model of multi-disciplinary theories and methodologies can lead to new design practices for creating social design proposals (and their feasibility) for urban site- specific. The methodological model developed in this project offers therefore a new discourse for enacting communities 'right to the city'.

Divergent thinking and open inquiry are the fundamental values of Radius 100 model in building up multi-disciplinary knowledge, skillsets and toolkits. Four (4) pillars were developed in the concept model: (1) theory-core aspects in diverse urban themes, (2) methodology-mixed research & exploration methods, (3) design charrettes based on cross- disciplinary methods and (4) applied tools.

This lecture paper introduces the Radius 100 concept model by elaborating on each pillar’s value creation to an open social design practice by presenting a concept visualisation that analyses the different processes of the student’s projects that were conducted from 2017-2019. The varied components enabled the formation of open-ended processes and encouraged student’s creation of new and innovative social design experimentation.

Looking at the transition that occurred in the projects from model to social design as a viable design practice in situ assured the value of framing academic knowledge side by side student’s diverse, and at times negating, toolkits while also highlighting an opportunity for game-changing in social design projects.

From 2017-2019, the seminar’s model facilitated knowledge platforms and social design projects in urban social sustainability. A two (2) stage pilot was carried out: (1) 2017-2018 and (2) 2018-2019 (28 weeks in each academic year, a total of 56 weeks). The piloting of the model entailed an ongoing divergent and open process of implementing the step-stages of the model. The study process produced various proposals and products based on co- working and co-knowleging with art/design cooperatives and community members and through feedback meetups with municipal personnel. This many-layered development processes defined the components in the landscaping of the concept model.

The first stage in piloting the model’s framework was carried out in 2017-2018 envisioned within the Radius 100 concept of an art exploration residency in Jerusalem’s Mahane Israel
neighbourhood developed by the artist and urban activist Noa Arad-Yairi and her partner Yuval Yairi from artists’ and designers’ cooperative ‘HaMiffal’.

Co-working and co-knowledging with the cooperative community of ‘HaMiffal’ and community members of Mahane Israel neighbourhood allowed for the development of eight (8) projects by the students. The projects researched various socio-typology aspects in situ, which were translated into research in urban sustainability and social design proposals. Focusing on the people-place-design trialogue offered a knowledge toolkit that is also applicable to the ongoing urban activism (actual and potential) of the involved community. The themes that were explored touched on soundscape, walkability, urban community gardens and different aspects of the site’s gentrification.

The conclusions of the first year's pilot prompted in 2018-19 a wider engagement with the artists’ and designers’ cooperative ‘Muslala’, creative industries and with additional agencies empathic to the question of a ‘sense of place’. Five (5) projects were developed as a proposal for social design intervention in specific urban landscapes by communities and art/design urban cooperatives. The projects focused on the implementation of psycho-geographical street structures for senses experiencing urban space enacting urban visualisation installations by gamification and frames for community-based socio-meetups. In addition to the above projects, one (1) particular project adopted the Dérive method as self-documentary by focusing on the antagonistic life experience in the urban space of Jerusalem for those who are defined by a political agenda as marginal groups. This candid exposé added a knowledge tool of the ‘invisible communities’ to the capacity-building of ‘Muslala’s’ urban work.

The project’s conclusion after its implementation in the last two academic years is that adopting the Radius 100 model as a design project skillset paves the way for a viable toolkit that aspires to offer sustainable innovative projects and products in and beyond academia through dialoguing, co-working and building capacities for and with the creative class and creative agencies in social entrepreneurship in urbanism.

2. Concept Model

2.1 Theory

Theory is defined in the model as a methodological tool that structures research & exploration as a value drive for socio-cultural awareness and understanding when designing urban social design proposals. It is our academic conviction that adopting diverse bodies of knowledge adds a layer to exploring, gathering and analysing findings as comprehensive step-stages in applying Radius 100 model.

The co-framing of theory and design allows for dialoguing multi-disciplinary research knowledge with design intuition, inspiration and creativity. The ‘usability’ of theory as a key component aims to build up and validate the concept development stage of the urban social design proposals.
Theory as a component offers a cluster of theories such as urban theory, environmental psychology, field and senses-based theories, material data and global and local case studies. Theory is guided by the core vision of Lefevbre’s ‘the right to the city’, which presents a ‘call to action’ in reclaiming the urban life of the city as a social space where people uphold their responsibility, involvement and intervention as city citizens in the process of re-shaping urbanisation. The notion of the ‘right to the city’ echoes in latter theories in the demand for social justice and confronting spatial inequalities regarding marginal groups side-by-side and with the demand for a dignified access to urban life as basic but often negated human rights manifest.

Debord and Lynch adopt this meta-urban idea when articulating, at times manifesting, their theoretical and methodological claims of ‘Dérive’ and ‘imageability’ as tools for re-shaping and analysing urban socio-typological spaces. The theory of the ‘Dérive’ offers a method for urban exploration focused on spatial and socio-spatial relations as a strategic tool embodying the political thought of the ‘right to the city’. At the core of this method is a form of drift-walking in an urban environment in which one or more participants let their usual objectives, engagements and daily tasks go for a defined period and plunge themselves into a behavioural disorientation of their habitual axes so as to be drawn by unplanned social encounters, sensual-spatial attractions and varied ambiances of the terrain.

Debord emphasises that this method is not ‘mere exoticism’ but instead offers a critical analysis of the city. As a central method of the situationist’s movement, ‘Dérive’ is perceived as a metapraxis of psycho-geographically3 ‘collage’ mapping through a process of creative re-imagining the socio-typology of the city; i.e., countering and disrupting the standard typological representations of space so as to reveal fractures that signify an imagined proposal’s possibilities of what in latter theories would be defined as promoting bottom-up suggested interventions.

Another aspect of capturing a new notion in re-reading the socio-typology of the city is Kevin Lynch’s ‘imageability’. Imageability refuges, through a perceptual form of the urban physical environment, urban users’ mental maps of the city as a visual articulation of behavioural

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1 Such as analysing (a) the phonic identity of the city through sound-maps and designing soundscape for social designed spaces: ‘The soundscape technique uses a variety of investigation techniques, taxonomy, and measurement methods, sound-walks, questionnaires, interviews and recordings’ (Schafer, 1977) and (b) walkability as a multi-defined urban action regarding the various fields of physical environment, sustainability, accessibility, health and safety urban expressions and social & social justice concerns (Pak, Verbeke 2013).

2 Debord defines the praxis he suggests as ‘rapid passage’, while the translation favours the concept of ‘drift’ as articulating the core idea (Debord, 1956).

3 The effect of environments upon emotions and behaviour not as a recording or tracing but as an active intervention.
Radius 100 model: An approach to social design beyond academia

depth of field research, creative thinking & design inquiry as methodological steps in formulating social design and design as a praxis for advancing ‘proximity culture’ in situ when exploring people and places in Radius 100 site specific.

Four (4) main methodological steps are frame worked:

- Site-specific analysis by applying Lynch’s Imageability and situationist’s ‘Dérive’ drift walking.
- Mapping possible social design/design action interventions by applying field thick description, documentation and visual &/or sound materials.
- Working through experimental frames based on the reflexive and reflective evaluation of research and practice-based findings.
- Pitching social design/design implementation proposals to professional stakeholders, site-specific communities and artists and designers in urban cooperatives that drive sustainable design and art interventions.
Figure 1. Radius 100 Site exploration, Asaf Weinberg, Yaara Farber & Alina Ixanov. Department of Industrial design, Department of Architecture, 2019-2020

Figure 2. Shahed (Witness), Yusuf Rajbi. Department of Ceramics and Glass Design. 2017-20
2.3 Cross-Disciplinary Design charrettes

Adopting cross-disciplinary methods as a leading concept for design charrettes triangulates theory, methodology and applied tools with: (1) participatory research approach that emphasises bottom-up knowledge based on qualitative dialogues with creative class (urban activists), social and municipal entrepreneurship and local communities; (2) combined knowledge platforms via cloud for and by students that encourages knowledge crossing by sharing textual, visual and material concepts; (3) cross-disciplinary teams that offer various skillsets such as co-knowledge design toolkits, mutual team learning and innovative social design toolkits.

2.4 Applied Toolkits

The fourth component refers to applied toolkits, a component that combines the seminar’s theory-based field tools with students’ design-based skillsets formed in their affiliated departments. This component adds an additional frame to the cross-disciplinary design charrettes component.

Two (2) sets of applied toolkits are formed:

1. Visual/audio representation tools: photo/audio database, a cluster of design tools and different forms of spatial mappings. These diverse tools offer a frame for creative inspirational ideas and images in prototype modelling.

2. Concept visualisation tools: team-based toolkit (seminar toolkit & team members’ departmental skillset) articulating projects prototype proposals.

Figure 3. Initial sketch for community based event proposal, Asaf Weinberg, Yaara Farber & Alina Ixanova. Department of Industrial design, Department of Architecture, 2019-2020
Figure 4. Conceptual model of "Radius 100: Research, Design and Community" seminar developed by authors
Table 1. Open inquiry and divergent thinking based projects

<table>
<thead>
<tr>
<th>Theme</th>
<th>Selected project</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of place: Artistic material representation of counter-historical narratives of the dispossessed</td>
<td>Shahed (Witness), Yusuf Rajbi, Department of Ceramics and Glass Design 2017-2018</td>
<td>As a ceramic artist, Rajbi had a special interest in the material research of the historical (6th century) Muslim cemetery of Mamila. He pinpointed the ‘Shahed’, a small sculptural object placed on Muslim tombs as a witness to the oneness of God, as his material and artistic exploration. In the context of the specific site inquiry, the ‘Shahed’ embodies also a complex socio-political statement because of its narrative connection to HaMiffal’s Palestinian history. Rajbi developed a unique innovative design technical brief that placed the Shahed as a standing sculpture that carries the counter-site narratives of past and present of Palestinians and Israelis. As an artist, however, he allows the technical brief to stand by itself as an artistic process. Rajbi’s product was added to HaMiffal’s self-identity and was developed into a community-based workshop held at HaMiffal’s house.</td>
</tr>
<tr>
<td>Added value:</td>
<td></td>
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<tr>
<td>Developing a unique innovative design technical brief.</td>
<td></td>
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</tr>
<tr>
<td>Emphasising artistic materiality workshops as an aspect of proximity culture(^4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Sense of place: Socio-spatial site exploration | Walkability, Sharona Kremer, Yotam Oron & Yaron Marcovitz, Department of Architecture 2017-2018 | The project explored the theme of ‘Walkability’ through self-documentary-mapping of the daily routine in the neighbourhood’s spatial typology. The self-focus mapping unfolded the nature of the relationship that has been developed personally, interpersonally and publicly. The findings through the implementation of visual methodology portray the self-experience of the personal and social use of tangible space & place |
| Added value: | | |
| Proximity culture: In situ spatial and socio-spatial relationships | | |
| Experiencing the social use of tangible space & place | | |

\(^4\) Author’s note: This project presents a thematic challenge since by emphasising the materiality brief as a leading theme in the process of community-based social design, the politics of counter-historical and identity narratives were put aside by the artist.
<table>
<thead>
<tr>
<th>Sense of place: Soundscape, the sound of negating socio-spatial identity</th>
<th>Soundmaps: Vacant ‘Spirit of place’, Ismael Faroun &amp; Nagham Copty, Department of Architecture 2017-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added value:</td>
<td>Ismael and Narram analysed the ‘spirit of place’ in Mahane Israel’ neighbourhood by narrating soundscape in different locations. Their theme aspired to unfold and emphasise the strong negation existing between the concept of a vibrant socio-spatial urban typology and the non-voice that envelops the specific site space. This knowledgeable description offered another layer to the activist’s campaign against gentrification processes.</td>
</tr>
<tr>
<td>Sound maps as a spatial-political analysis tool</td>
<td>Analysing phonic identity in situ</td>
</tr>
</tbody>
</table>

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<tr>
<th>Community-based social design:</th>
<th>Real Life Encounters Facebook: The Material Museum of Storytelling Objects, Dor Gershovitz, Adi Lax Aviezer &amp; Tali Saquin Department of Architecture, Department of Industrial Design 2018-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added value:</td>
<td>The ‘Nachloaot’ community fashioned intensive personal and communal ties based on the digital platform of Facebook. An intrinsic social interaction was an ongoing cycle of object exchange. In the spirit of human sustainability, the project proposed an additional physical social platform for the engaged community by moving from virtual encounters to face-to-face meetings and by sharing personal narratives of objects through an architectural form of a museum-like ephemeral space in the actual living space of the neighbourhood.</td>
</tr>
<tr>
<td>From online to offline. Offering an additional platform for fostering and cultivating community proximity relations</td>
<td></td>
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<table>
<thead>
<tr>
<th>Psycho-geographic structures in urban place</th>
<th>Space of Silence: A Psycho-Geographic street scene, Eden Paz, Rasha Abu-Amir &amp; Gregory Kern, Department of Architecture, Department of Industrial Design 2018-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added value:</td>
<td>The project introduced a psycho-geographical object that triangulates vision-scape with soundscape and offers a momentarily ‘haven of silence’, i.e., an open-closed structure that invites urban users to pause and disconnect from the noisy and hectic surroundings of the street. The inclusive object introduces through its liminal space an experience of a blur of sight and sound that creates a diversified new outlook on urban space.</td>
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<tr>
<td>Engaging city citizens in experiencing a sense of place through the use of senses</td>
<td></td>
</tr>
<tr>
<td>Psycho-geographic structures in urban place II</td>
<td>Interactive Installation in Urban Space, Shira Kaufman &amp; Nadia Adler, Department of Photography, Department of Industrial Design 2018-2019</td>
</tr>
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<td>---------------------------------------------</td>
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<tr>
<td><strong>Added value:</strong></td>
<td>Nadia and Shira’s project focused on the social life of urbanism. Using the urban street as a platform, the project proposed an interactive installation based on ‘moving films’ that portray visual sequences of Israeli urbanism and nature habitat. The installation necessitates the participation of the urban user as the moving films screen comes to life only through cycling. The aim of the project’s apparatus is to encourage urban citizens to reclaim urban space as their own front yard by ‘staying in’ and not just passing through.</td>
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<table>
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<tr>
<th>Gentrification processes: Property-based, site-specific ‘right to the city’</th>
<th>‘Accumulation by Dispossession’: The use and abuse of community members’ ignorance, Merav Dahari, Department of Architecture 2017-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Added value:</strong></td>
<td>Meirav’s project on ‘accumulation by dispossession’ explored the different layers of the current gentrification process in the site, identified the stakeholders and uncovered the links between economical profit, legislation and the use and abuse of community members’ ignorance in this matter. The project heightens the future prospects of the community’s negotiations on its identity and day-to-day urban life and constructs a knowledge tool for community members in their struggle against ongoing gentrification processes.</td>
</tr>
</tbody>
</table>

The project development of each student or group of students reflects the nonlinear process evolving according to core themes presented by student’s site-specific project. Each project reflects a selected cluster of relevant toolkits applying the diverse bodies of knowledge (theory and practice) that discourse with their themes.

The projects vary in their themes and offer in-depth, site-specific case study analyses of an urban macro theory by concentrating on a theoretical baseline and applying a personal selection of methodological processes and different toolkits. The concept visualisation identifies the different stages applied in the process of each project.

All projects were presented to their potential urban stakeholders.
3. Reflective summary

The added value of the model work-process discussed in this lecture paper can be summed up by seven (7) main points:

- Applying open inquiry and divergent thought and methods for social design by integrating diverse, multi-disciplinary theories and methodologies, participatory research, design exploration and design practice. Discoursing academic-based knowledge with students’ design practice skillsets and toolkits ‘pushed’ students outside of their natural comfort zone and offered a new knowledge skillset for design.
- Creating innovative and/or new social design proposals by implementing multidisciplinary frames through the challenge of balancing all four parts of the model in the workflow.
- Encouraging and developing diversity through cross-disciplinary student work teams and team-based co-learning, and by developing co-knowledge in students carrying diverse and at times negating toolkits.
- Inspiring curiosity and passion for an additional knowledge-crossing framework for design (in our case, social design) implementation.
- Dialoguing urban cooperatives, activists and stakeholders and local communities with design academia for social design entrepreneurship.
- Emphasising bridging academia (the hub of creative class) with creative agencies by investing design strategies in a knowledge skillsets and toolkits.\(^5\)
- An unplanned value of the seminar was the identification of the effect of ‘human resource’. The makeup of the student’s team was instrumental for the content of the seminar, as it allowed sharing each student unique design brief and evolving beyond their personal perspective.

Looking at the different volume of the projects produced in the now three (3) years of the seminar reflects a varied range of themes. In the first year (2017-18), most of the projects were research-driven, analytical and focused on site exploration concerning urban sustainability issues, as the majority of the students were affiliated with the architectural department. Other projects in this year reflected a personal aptitude for art activism. In the second year (2018-19), the proposed projects focused on social intervention in urban and community spaces through objects, street structures and redesigning personal and/or local space. These proposals, though designed for a specific space, were not site-bound and could stand as a design brief for a social design intervention in other locations. In this current year (2019-20), projects are oriented at (1) community art-based objects for psycho-geographical

\(^5\) In the specific case of Radius 100, the knowledge skillsets and toolkit were applicable to the urban activism of the communities and the art/design urban cooperatives.
sustainability action, (2) a performance event promoting community’s proximity culture, (3) producing design products for community’s sense of space place and (4) uncovering site specific `s historical narratives as part of an in-depth sense of place.

The variety of the projects themes in each year posed a challenge in working with stakeholders and urban communities that were diverse and different in each project. Connecting with stakeholders is significant to the seminar, and also poses a challenge in terms of connecting relevant stakeholders to each project, and their involvement in the process. The common ground that encompassed all the projects was the definition of a site-specific urban space and co-working with activists and artists who engage in various ways of community action and know the city and its residents in depth.

The motto ‘beyond academia’ stands, therefore, at the core of the Radius 100 methodological model. The concept model and it`s components were constructed through a reflexive and reflective process with the defined stakeholders to a pilot engaged in the implementation prototype and dissemination processes of urban social design.

The 2017-18 projects were exhibited at ‘HaMiffal’, an historical Arab house in the site specific of the seminar that carries the complex identity of the neighbourhood and currently functions as a centre for art and art performance ventures promoted by groups of artists, activists and students of design. The research and the exhibition were carried out with the active involvement of ‘HaMiffal’ activists and community representatives. In 2018-19, the action seminar concluded in an exhibition at Muslala centre (a place for social activists and artists working in Jerusalem urban communities) and held a unique pitching presentation in front of various urban stakeholders (municipality and community). This current year is yet to be planned.
Figure 5. Space of Silence: A Psycho-Geographic street scene, Eden Paz, Rasha Abu-Amir & Gregory Kern, Department of Architecture, Department of Industrial Design. 2018-2019

Figure 6. The urban Garden, Mayar Kulgasy & nave Knafo. Department of Architecture. 2018-2019
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About the Authors:

Dr. Yona Weitz is a field anthropologist (Ph.D), a Researcher and a Lecturer teaching human based research for design (social design & design management) in the undergraduate Department of Visual and Material Culture studies and in M.Des, the Graduate Industrial Design Programme in Bezalel Academy of Arts and Design in Jerusalem.

Sharon Koniak is an architect (AA Dipl.) and design manager, teaches in the Department of Visual and Material Culture studies and in M.Des, the Graduate Industrial Design Programme in Bezalel Academy of Arts and Design in Jerusalem. Sharon joined Yona in 2018 as a colleague in the Radius 100 development process. Sharon is a member of "Craftivist", a group of designers who aim to engage with local communities through craft.

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Many special thanks for our students on our joint venture.
Rethinking User Experience of Parking Garage. Exploring Innovative Suicide Prevention Strategies Through Motivational Design

Sébastien Proulx*, Adam Fromme, Leila Akberdin, Maria Basile, Olivia Forsyth, Maya Jenkins, Abby Nelson, Claire Spicer

The Ohio State University
*proulx.12@osu.edu

Abstract | Suicide rates on university campuses are increasing. University parking garages, in particular, have become “hotspots” for these tragic events. In response to death-by-jumping attempts at these locations, authorities have installed preventative measures at the edge of higher levels of parking garages (structural barriers, help hotline signage, etc.). Although these coercive interventions generally are seen as effective in preventing suicide, collectively, they do not improve the quality of the user experience or provision necessary support, once potential jumpers return to a typical mindset. The shortsightedness of these approaches contrasts with design’s capacity to contribute to the development of environment geared toward people holistic well-being. In this context, a successful approach needs to go beyond suicide prevention and instead pursue a culture of care. This new approach, moving away from a coercive solution, may positively affect well-being perceptions of all parking garage users. Through a student-led workshop, we explored potential motivational designs (by creating somatic interactions, emotional reactions, and social engagement) to initiate a critical discussion on our current approach to context sensitive intervention.

KEYWORDS | DISRUPTIVE INNOVATION, CULTURE OF CARE, SUICIDE PREVENTION, MOTIVATIONAL APPROACH, CRITICAL THINKING
1. Introduction

Since 2000, there have been 58 documented suicides on the campus of The Ohio State University (OSU) in Columbus, Ohio (Zachariah, 2018). In 2017, there were six suicide attempts by jumping from the campus’s parking garages. Those incidents prompted the University to investigate parking garage security and led to more serious reflection on students’ mental wellness. In March 2018, University President Michael V. Drake commissioned the OSU Mental Health and Suicide Task Force. Since then, decision makers have restricted access to the rooftops, added barriers to prevent further falls, increased the presence of security foot patrols and campus police, and placed permanent signs in the stairwells of all multi-level parking garages featuring the University’s counseling hotline number. In design terms, the University’s actions are considered coercive (or direct) strategies to enforce certain modes of use, or to limit unwanted behaviors.

Figure 1. The Ohio Union garage with suicide fencing on top level and hotline signage

The University’s actions are commendable and understandable. No one could argue against measures that may prevent student deaths. However, these interventions do not directly address the first recommendation of the Mental Health and Suicide Task Force, which was for the University to embrace a “culture of care.” In this culture of care, suicide prevention would seek to address underlying issues from a community perspective—encouraging students, faculty, and staff to reach out to one another. Advocates of this type of person-centered community approach, such as Ulrich Beck (1992), would argue that chain-link fencing, police presence, and prominent signage are counter to a culture of care. To designers, such interventions may also be considered reductive within the scope of environmental design improvement that is possible to address a problem of this nature.
In response to these University measures, five undergraduate design students approached faculty members of the newly established OSU DESIS Lab, wanting to contribute their talent and creativity. These students believed that they could mobilize around the originality of their person-centered view on life matters and their capacity to facilitate collaboration and dialogue beyond traditional disciplinary boundaries to foster innovative and disruptive ideas for suicide prevention. Building on contemporary experiments in suicide prevention, the authors engaged in a Research-Through-Project (Findeli, Brouiller, & Martin, 2008) to examine an approach of place-making wherein experience design and motivational design strategies (Thaler & Sunstein, 2009) would address the parking garage situation and help establish the culture of care sought by the students. To examine the extent of design’s role in suicide prevention, the authors set out to explore how parking garages could be redesigned to reflect how environments can positively affect mental wellness. Although our approach is focused on indirect and subtle changes, it represents disruptive and critical perspectives on the actions suggested in the guidelines of the United States National Strategy for Suicide Prevention (Office of the Surgeon General, 2012). Those national standards can be considered efficient in many ways; however, the underlying evidence-based approach yields only incremental changes. Fixation on a proven-only approach, by definition, leads to a broad dismissal of alternatives and serves as a barrier to innovative thinking. As Mishara (2003) points out: because mental health and suicide are multidimensional and complex social problems, prevention demands innovative thinking and solutions.

In this paper the authors present and discuss a typology of indirect strategies induced from student-designed prototypes. Tasked with the challenge of developing novel motivational design strategies, we question current suicide prevention approaches. This paper reflects on how a design research endeavor may help change perspectives on complex social matters.

2. Background. The need for innovative thinking in suicide prevention

In the United States, more than 47,000 people died by suicide in 2017 (Center for Disease Control and Prevention, 2019). Deaths by suicide in the U.S. rose by 30% between 1999 and 2016 (Hedegaard, Curtin, & Warner, 2018). This makes suicide the second leading cause of death for people aged 15 to 29 (CDC, 2019). Further, college is a stressful environment which puts university students at greater risk. A report from the National Alliance on Mental Illness (2012) found that 64% of students who do not complete their college education do so because of mental health reasons. Another study by The Ohio State University Suicide Prevention Program (2015) found that 59% of students felt helpless. Sadly, many studies connect these (and other) mental health issues to suicide.

Although suicide is preventable, prevention must be considered a never-ending endeavor. No single factor causes suicide, nor does a single factor contribute to mental illness leading
to suicidal ideation and self-harm. Among the methods of suicide (hanging, drowning, etc.), suicide by jumping makes up a relatively low percentage of the reported deaths. However, the choice of method seems to depend largely on access and availability. In an interview with ABC News, Adam Kaplin, Assistant Professor of Psychiatry at Johns Hopkins Medical Institute, commented that “when people don’t have access to firearms and get it into their heads that they don’t think pills are going to work, they think there is something about the finality of [jumping] and think ‘If I just do this it will be over’” (Friedman, 2008). This observation seems particularly relevant for young adults. A longitudinal study carried out over 12 years in Norway revealed that 30% of those who committed suicide by jumping were between 15 and 24 years old (Sæheim et al., 2017). For university students, an unpopulated parking garage provides isolation, access, and availability.

Traditional suicide-by-jumping prevention efforts focus primarily on limiting access. Locations install structural interventions (barriers, safety nets, etc.) at the edge of higher levels to prevent access, and most studies support the effectiveness of these structural interventions, despite the notion that suicide-minded people simply will go somewhere else. For instance, O’Carroll, Silverman, and Berman (1994) found that the addition of a suicide-prevention fence at the Duke Ellington Bridge in Washington D.C. did not increase the number of jumpers at the nearby Taft Bridge. While one study by Sinyor and Levitt (2010) found that, although suicide rates at Bloor Street Viaduct decreased after barriers were installed, overall suicide rates in Toronto stayed the same; this study appears to be an outlier. A meta-analysis of the effectiveness of structural interventions (Pirkis et al., 2013) found that following the interventions, there was an 86% reduction in suicides by jumping per year at the sites and a 44% increase at nearby sites. This study also concluded that there was a net 28% reduction in all suicides by jumping per year in the study city. With this evidence, many city authorities rely solely on the effectiveness of structural interventions.

This access-focused approach is also common on university campuses. Cornell University posted security guards and installed fences and netting around university-owned bridges where six students died by suicide during the 2009–2010 academic year. New York University installed plexiglass barriers inside their library after two suicides in 2003 and installed floor-to-ceiling metal barriers after another suicide in 2009.

In design terms, these types of structural interventions are considered coercive (or direct) solutions—these designs force wanted behaviors or deny unwanted behaviors. Although this approach succeeds in meeting its targeted purpose, in implementing these barriers, most authorities do not seek broader success, defined through the lens of all parking garage visitors. From large help-seeking signage to tall black metal fencing, it is clear to all that these apparatuses are installed to prevent suicides by jumping. The bluntness of the installations shows that priority was not given to the broader visual or aesthetic qualities found through experience design. One notable example seeking to avoid this visual stigma is at the Golden Gate Bridge in San Francisco, California, where work recently started on a three-year project to install horizontal netting below the deck of the bridge. Although novel
in design, this solution comes with a cost that has risen from an already high $75 million to more than $200 million. Regardless of their visual appearance, structural interventions deter motivation to navigate to the location for suicide, as well as the impulse to attempt suicide at the location.

A few innovators have conducted experiments in search of alternative ways to address suicide. For instance, the South Korean Mapo Bridge, a notorious suicide spot in Seoul, was redesigned in 2012 with sensors and positive messages along the railing that light up as pedestrians walk past (see figure 2). This approach garnered mixed reviews, with some social work experts calling the idea naïve (Chung, 2012). However, epidemiological evidence demonstrates that the frequency of suicides at that location has dropped while on-bridge rescues have dramatically risen from 15 rescues in 2012 to 93 in 2013 since its redesign (Lee, Lee, & Park, 2016). Designers and city officials adopted a similar approach for the redesign of a six-mile stretch known as “suicide black spot” along the River Foyle, which runs through the city of Derry-Londonderry in Northern Ireland. Our Future Foyle is an ongoing project at The Helen Hamlyn Centre for Design, which partnered with Public Health Agency Northern Ireland to explore how design can be used to uplift an area associated with poor emotional well-being and encourage residents to help make the banks, river, and bridges a lively and lived-in place (Myerson, 2016) (see figure 2).

Figure 2. Seoul Mapo Bridge/Bank of River Foyle

Universities have also tried to implement indirect motivational solutions. John Hopkins University concealed the grades of first-semester, first-year students from graduate admissions and future employers on transcripts to reduce stress and anxiety for students. At Yale University, the readmission policy was changed in 2015 by the Yale College Withdrawal and Readmission Review Committee to make it easier for students to leave for medical or mental health reasons and then return to the University. However, the use of such motivational strategies by universities has only been found outside specific suicide hotspot locations, like parking garages.
3. Thinking about suicide prevention in a cultural of care

We may never have a clear answer to the complex question of why university students choose to commit suicide at parking garages. However, we can acknowledge that, from a design perspective, parking garages are notoriously neglected. They often are hostile, dark environments, that do not obviously demonstrate care for the well-being of their users. Garages are an embodiment what anthropologist Marc Augé (2008) calls non-place—places with no existential meaning. The experience of finding oneself in a parking garage is rarely memorable. Garages are spaces designed to serve a narrow function. The issue with such approaches to environmental design is that they negate humanity and the experience of finding oneself in that place. When in the garage, a person is reduced to a simple, rationalized, theoretical view. In such a context, a person has no anthropological “thickness,” no personality that may qualify a person’s experience while in the garage.

In contrast, a culture of care commands that all human experience be considered as valuable and worthy, even experience in a so-called non-place. From this perspective, the use of the parking garage is no longer a commodified task but a genuinely impactful part of someone’s daily routine. Here, designers’ interventions can shift away from coercive strategies toward motivational approaches. Design has the capacity to motivate the adoption of healthy, safe, preferred behaviors.

Motivation, as opposed to coercion, is a soft approach, in the sense that design interventions are not enforcing behaviors. For instance, Thaler and Sunstein (2009) show that high school students’ eating habits can be nudged towards healthier options simply by rearranging how the food is presented by the cafeteria. Their experiment demonstrated that placing healthy foods at the front of the display was enough to steer students’ choices away from the junk food placed in the back. Although often simple and subtle in form, motivational measures can have real impact. In the parking garage context, the realizations of the interdisciplinary design firm Integral Ruedi Baur Paris & Zurich are worth mentioning (see Figure 3). Integral is regularly commissioned to address spatial orientation issues in parking garages. Through playfulness or ludology, they show that design can address people’s emotional state and reduce anxiety (Baur, Braunstein, & Intégral, 2001) through desirable visual engagement. Such interventions mitigate the fear and discomfort associated with feeling lost.

Drawing from suicide prevention interventions in Korea and Northern Ireland and Integral’s work in parking garages, our goal is to explore similar motivationally focused solutions that may transform the aesthetic experience of Ohio State’s parking garage to support suicide prevention more broadly for the University community.

Figure 3: Examples of Integral Ruedi Baur interventions in parking lots. Source: http://www.laborirb.eu/projet/index/id/15/image/5/lang/fr

Methodology

To explore and rethink the user’s lived experience in the parking garages, a three-week design sprint workshop with second-year students from the Industrial Design major within the Department of Design at The Ohio State University was organized. The immediate goal of this activity was to create an initial range of novel motivational strategies. Sixteen students were divided into 8 teams and were asked to develop disruptive ideas using C-K theory (Hatchuel, 2003) as their methodological framework. The proposals they were asked to develop had to align with the idea of a culture of care. The ambition of this disruptive innovation sprint was modest. The goal was not to define realistic or implementable ideas but to allow the research team access to ideas from which it would become possible to reflect on the qualities of the prevention strategies generated from an approach focused on experience design and motivational solutions.

Students were asked to research existing strategies that address suicide-by-jumping problems. Each student started by finding two strategies, one motivational and one coercive. This exercise introduced the complexity of the topic, while allowing the students to open their minds to the scope of innovative solutions possible. This activity also allowed students to better understand the distinction between motivational and coercive approaches, which is not always clearly defined. In the second part of the sprint, students were paired in teams and repeated the process to arrive at what they believed to be a disruptive idea. Again, they were asked to generate one idea adopting the motivational approach and one adopting the coercive approach.

Results of the design sprint were examined using inductive categorical analysis to distinguish their core properties (Paillé & Muchielli, 2016). As suggested by Paillé & Muchielli, this method allows solutions to be classified in types according to shared properties. Given the focus of our research, the analysis focused on the motivational interventions, as they are the ones geared towards the activation of the culture of care expressed by the university administration.
The analysis identified three strategies: Beautification, Activation, and Transformation of Use. To further examine the extent of those intervention strategies and the nature of their impact, a follow-up group of five undergraduate students summarized the key principles of these strategies and further developed visualizations to represent each type.

To gain input on the value of each type of intervention as a suicide-prevention strategy, a focus group with three topic experts was organized. The focus group was composed of a Clinical Psychologist, a Suicide Hotline Administrator, and Students Resource Monitor. The goal of this focus group was to challenge and receive feedback on the intervention typology before we moved our exploration forward. The panel of experts was asked to openly react to the students’ concepts and share their professional opinions on the potential value and limits of each type of intervention. Their responses were later analyzed to precise the intervention categories and translate them into a typological model.

A typology of indirect strategies

Analysis of the design sprint activity and the focus group discussion led us to classify the various interventions proposed by the students into three different typological strategies: Beautification, Activation, and Transformation of Use. While there are some shared properties, each of these strategies presented specific perspectives on ways to activate a culture of care through place-making (Oldenburg, 1999). Moreover, each of these strategies demonstrates an ability to affect user experiences. Such experiences are threefold: somatic interaction, emotional reaction, and social engagement. Somatic interactions engage the user’s physical senses (vision, touch, etc.). Emotional reactions engage the user’s emotional expressions (joy, delight, self-worth, etc.). Social engagements foster connections to the community (exchange, cooperation, etc.).
Beautification looks to address the neglected status of a typical garage—a status which inspires impressions of darkness, dirt, and depression. This strategy’s primary aim is to seek significant improvement of the formal aesthetic quality of the physical space. Intervention examples would include applying color or graphics to the walls or floors, improving the lighting, adding an organic quality such as plants, installing or improving the seating, etc.

The Beautification strategy is the least engaging of the three since it relies primarily on passive emotional responses of garage visitors. This strategy also may overlap social engagement (the content of the wall graphics) or a somatic interaction (an interactive seating arrangement). However, this strategy seeks favorable responses from parking garage visitors that would be accumulated over time. Each time a user enters the garage space, they build a memory of it as a positive place. Due to the passive nature of this strategy, it may be considered a neutral intervention, nor solely relying on coercive or motivational interventions.

When presented with this strategy, the topic expert panel responded positively to the approach. One of them noted, “I like the softening [of a conceptual rendering], so it’s not so stark and prison-like.” Also, supporting that little interventions do help, adding that “anything to distract from their focus” will have a positive impact. Another noted that “30% of people don’t actually want to talk to anyone.” Added discussions reinforced that you...
cannot tell people what to do, but it is important to say that you are not alone, saying “distract, then connect.”

Figure 4. Example of student Beautification ideas (Pictured: Exterior of the parking garage covered in greenery to create a visually interesting wrap over the safety fencing on the upper levels)

**Activation**

Activation looks to address the individual user’s internal experience, by focusing on users’ feelings of disconnectedness and being “stuck in one’s head.” This strategy’s primary aim is to be responsive to individuals in the garage. While activation can foster each type of engagement, the purpose is to create an emotional experience. Examples include a participatory installation that may use light and/or kinetic-based sound elements that respond to the individual’s movement. While common elements (light, color, etc.) exist between the first two strategies, the key difference between Beatification and Activation is that now the materials are used within the space to acknowledge or respond to their presence/interaction. In doing so, it is for the person.

The Activation strategy’s focus is to change the behavior of the individual by creating an alternative activity (if even for a brief time). The aim is to increase the time spent in the intervention so that individuals may have time to return to a neutral mental state.
A topic expert panelist responded to this strategy by agreeing that “I think something interactive is good.” Another furthered, “the brain is connected to the body. It is all one.” and “It’s definitely a distraction ... anything out of the ordinary.” As the discussion progressed, the experts agreed that noise is a particularly good approach to helping people feel like they are not alone. Seeing that the conceptual solutions could reinforce a “web of connectedness” might help accomplish something that they do in therapy sessions, which is to get people to think about their future.

Transformation of Use

Transformation of Use looks to address the shared (or group) experience by addressing feelings of isolation and loneliness. This strategy includes solutions that interact with others, are inclusive and public. Examples can vary from constructing a greenhouse on the top level to hosting food truck parties or creating 24-hour study spaces.

Regarding suicide prevention, this strategy is the most direct. It generates interactions with others, so that users are re-focused towards an entirely new (and possibly unexpected) social activity. How the space is transformed is not as important as why it is transformed. The use needs to support opportunity for social participation or interaction. Several types of interventions can include a wide collection of interactions: cooperation (i.e., food trucks), direct exchanges (i.e., study spaces), accommodations (i.e., stargazing lessons), and even moments for light-hearted competition (i.e., playgrounds). By using the Transformation of Use strategy, the garage becomes a place for direct human connection as well as general visual activity, which may circumvent a suicide-inclined individual seeking isolation. Topic experts saw concepts from this strategy as providing “another beneficial barrier.” “Having things to do is cool, and playgrounds are a great way to activate a space—play is a really important thing for nostalgia.” However, they did raise some questions about the types of concepts they were shown. Given that “high lethal [suicide prevention help] calls are during
the day, but they get more calls at night,” the experts were interested to know how this space could be populated and at what times to ensure that someone is there to help.

Figure 6. Example of student Transformation ideas (Pictured: Top level of a parking garage with food trucks, sun screening, video boards and various seating configurations to create a social retreat from typical campus life)

A Critical Approach to Public Health Matters through Design

In a recent paper reflecting on the rise of social design, Alain Findeli (2017) suggested that the rise of designers’ concern for the quality of people’s experience of the artificial world has provoked a cultural shift in design practice. He suggests that with social design, the focus is on how people interact with their material and social environment. By considering the experience as important, designers are in a position to more holistically address and fulfill people’s needs and desires. Through experience design, or design for experience to be more precise, products are no longer end in themselves, but are merely parts of an ecosystem of touchpoints embodying services that looked to fulfill people’s needs or desires. The people these spaces serve are the ends in themselves. Incidentally, the quality of design projects depends on their fitness to users’ capacities, values, and biography; users’ understanding
becomes a crucial part of the design process (Proulx, Gauthier & Hamarat, 2020). This facilitates moving away from coercive-centric interventions (although coercion may remain relevant in certain situations).

Developing motivational preventive measures is a complex process that calls for the acknowledgment of diverse issues and forces. It is now widely recognized that context—the sociocultural reality in which people live—is a significant health determinant. Coincidentally, socio-cultural fitness must be considered important in the development of successful health and wellness strategies. Fitness is defined by how easily people can connect, appropriate, and understand the various touchpoints within which measures are at some point encapsulated. The development of socio-culturally fitted measures requires those involved in their design to account for the idiosyncrasies of social realities. Accounting for localized realities allows a more holistic approach to problematizing interactions between people and health measures. In other words, context awareness can emphasize quality or aesthetics of the user experience as a matter of concern, launching innovative ways to think about how to motivate people to adopt healthy behaviors.

One source of inspiration for this problem’s motivation strategy can come from understanding what fosters participation in public places. Through a series of collaborative design workshops with older adults, a recently completed study (Fromme, 2018) sought to identify key characteristics that motivate individuals to participate in public places. The resulting Age-friendly Framework for Public Places identifies four key design qualities that motivate participation: Approachability, Intuitiveness, Equitability, and Value. These qualities can be viewed as desirable characteristics that may be used to counter the coercive effects of structural installations. Additionally, Cox et al. (2013) identify approaches to prevent suicide-by-jumping impulsive behavior by (a) restricting access through physical barriers, (b) encouraging help-seeking, (c) increasing the likelihood of intervention by a third party, and (d) encouraging responsible media reporting. Intervention by a third party generally is interpreted as a police or security presence. However, by broadening these approaches to their intent, one can imagine their application to the various intervention strategies named in this study, such as using the top level of a garage for food trucks (and the people that come with them) to address impulsive behavior.

**Conclusion**

Upon completion of this research, one of the student researchers contributed this reflection:

“From a student perspective, this project offered an opportunity to explore how design can make a meaningful contribution to complex and wicked problems. Specifically, the outcome of our research taught me the importance of designing for intention and joy in the every day. I learned that the world we inhabit is meant to be thoughtful, caring, and intentional and the design of the built world should reflect that.”
This project sought to explore new strategies to address a pressing issue on the campus of The Ohio State University. We are trying to examine how to leverage design as a critical voice to suggest potential ways to activate a culture of care. Interestingly, we came to acknowledge that disruptive ideas can be those that no one will notice. By changing the prism through which the problem is being examined, we make ways for critical perspectives. Obviously, this research must be regarded as explorative. No claims can be made about the potential empirical impact of any of these motivational strategies for suicide prevention. But this type of work could be later initiated by refining the prototypes to a form that would allow comparing the difference between expected and observed somatic, emotional, and social behaviors.

Drawing on recent experiences that mobilized design to address social problems, our practical proposition is to engage designers to envision the design of a world less prone to suicide. From a scholarly perspective, we sought to contribute to the question of how design can have an agency in wellness and suicide prevention. In other words, we sought to provide evidence of the type of conceptual thinking that may arises from engaging designers in the development of measures contributing to the establishment of culture of care. The resulting student-designed prototypes provide an array of novel peer-directed motivational designs that validate this approach and contribute to this important discussion.

This project is connected to a larger discussion about the roles of evidence-based practice (EBP) and the design approach. It is necessary to acknowledge that EBP offers important validation; however, for time-sensitive topics such as suicide prevention, the implementation of this approach is relatively slow and provides incremental change. In contrast, the design process can supply forward-looking strategies that often are considered innovative by noticeably closing the gap between “the known” and “the needed.” This mindset of design thinking needs to be applied to broader conversations, such as the one addressed in this paper, where proven strategies are sometimes inadequate. More urgently, in addressing complex problems such as suicide prevention, both strategies need to work in tandem. This study shows how expanding from of the traditional strategy of coercive interventions to several types of strategies that include motivational interventions (applied to somatic, emotional, and social experiences) means that both approaches can share responsibility for the common goal: establishing a culture of care in addressing future suicides by jumping.

References


**About the Authors:**

Sébastien Proulx is Associate Professor and Coordinator for the Industrial Design Major at The Ohio State University. He holds a Ph.D. in Design from the Université de Montréal and is a founder member and currently Co-Director of the Ohio State DESIS LAB.

Adam Fromme is a Lecturer in the Department of Design and the College of Nursing at The Ohio State University. He holds an MFA in Design from Ohio State and is a member of the Ohio State DESIS LAB. Additionally, he serves as Co-founder and Principal of The Center for Inclusive Aging and Design Research.

Leila Akberdin is a fourth-year undergraduate student pursuing a degree in Industrial Design with a minor in Humanitarian Engineering at The Ohio State University.

Maria Basile is a fourth-year undergraduate student pursuing a degree in Industrial Design with a minor in Humanitarian Engineering at The Ohio State University.

Olivia Forsyth is a fourth-year student at The Ohio State University pursuing a degree in Interior Design and a Social Psychology & Personality minor. She is also an Interior Design Intern with Ohio State’s Facility Planning & Design Department.

Maya Jenkins is an MFA candidate in Design Research and Development at The Ohio State University. She holds a Bachelor of Arts in Communication Technology and New Media with a specialization in Human-Computer Interaction.

Abby Nelson is a fourth-year undergraduate student pursuing a degree in Social Work at The Ohio State University. She is also a Pre-Law student, minoring in Legal Foundations of Society.

Claire Spicer is a fourth-year undergraduate student pursuing a degree in Visual Communication Design at The Ohio State University.

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**Abstract** | In 2017 the City of Florence started to sketch out the application for UNESCO Creative City for the Craftsmanship, opening in 2019. The application was not selected by the Italian National Commission UNESCO. However, the challenge made it possible to put at the center the physical city and citizens. Contrary to what we thought in the past, the digitization of cities has increasingly turned out to be a not entirely democratic tool because it is often out of the control of its inhabitants. With the advent of the digital dimension, cities are constantly "measured" with different parameters to enter the rankings capable of expressing their qualities (technological equipment, quality of life...). Even this long path, in different aspects, began with a competitive spirit, gradually revealing elements of an extremely complex structure that led those who followed the candidacy to cross real data with the internal and external perception of the city. Often they did not correspond to the numbers of the smart city. The project involved a large number of stakeholders who related in different ways than usual, managing to define the elements on which the projects were developed. The experience, although not having had the desired result, was nevertheless able to highlight how consolidated but not clearly perceived values can be made to re-emerge and help design a new development model.

**KEYWORDS** | CRAFTSMANSHIP, IDENTITY, CREATIVITY, CITY, PARTICIPATION
1. Introduction

The expression creative city was first used by David Yencken in 1988 in the historic Australian literary magazine Meanjin, a name derived from aboriginal words. Yencken, professor of architecture and planning at the University of Melbourne, supports the importance for a city of not only being efficient and fair, but also promoting places for creativity and exciting experiences. The theme is then taken up by Charles Landry, as regards economics by John Howkins, and by Richard Florida who elaborates the concept of creative class. With these studies we begin to consider creative activities, not restricted only to cultural artistic activities but more generally to who economize with their own ideas. If it is the people who make the difference, in a Human center vision, the city, understood in its most generic definition, must be able to encourage creative activities through suitable places and initiatives. UNESCO in 2004, opens the calls for applications for creative cities by classifying them in seven categories: Music, Literature, Craft and Folk Art, Design, Media Arts, Gastronomy and Cinema. Creativity is therefore associated with artistic activities with a space for technologies (albeit not primary) and no reference to science, referring to the fact that creative activities are traditionally connected with an artistic and technological innovation closely related to the concept of culture.

If on the one hand, therefore, the concept is circumscribed, on the other hand it is placed side by side with a model of sustainable development ensuring that there is no overlap with the cities that are world heritage sites; for these indeed, the purpose is «the protection and the transmission of future cultural and natural heritage» (https://en.unesco.org) while the network of creative cities promotes cooperation between cities «that have identified the creativity as a strategic element for sustainable urban development» (https://en.unesco.org). It is not therefore, a recognition of the goodness of local creativity but of how it is capable of triggering actions among at a sustainable development that can be connected, even if only in part, with the starting creative sector. A way, therefore, of conceiving creativity and the cultural industry in a strategic sense, not only as a competence, and know-how.

2. The vision of the creative city

The research group headed by the Design Laboratory for Sustainability of the University of Florence, as a first action, tried to decline the theme of the creative city on the reality of Florence and, subsequently, identify which planning the path for the candidacy could have to contain. The three T’s identified by Florida - talent, technology, tolerance - turned out to be attractive and adapted to the urban reality we were working on, but the whole theoretical vision did not seem to help the path; in particular, it made us reflect the insistence on the concept of class. In short, we didn’t want in any way to favor the transformation of creativity into merchandise and therefore Benjamin Barber’s words sounded like a warning. However, if it is the ruling class that chooses a place, uses it, consumes it, transforms its image according to its own needs, the disputing sense of the operation could have been
precisely that of bringing out the people and their works which, despite being important for the city are not class and are not dominant.

According to Benjamin Barber, however, «culture is 'built by consumption' as much as by production. Consequently, through the 'creativity of consumption', the homogenization of the dominant culture can be colonized and re-transformed into cultural peculiarities» (Barber p. 382).

How to do so that the creative culture is original, identity, not dominated by the culture of consumption. Barber writes:

“...In fact, the restoration of a condition of healthy pluralism, where human values are manifold and the material consumption is only one in a cornucopia of human behavior, will require a social therapy that cures the civic schizophrenia that defines us, a civic therapy that restore the balance between private and public by giving our public civic Selves a renewed sovereignty over our private consumer Selves and placing the destiny of citizens before that of the markets. This implies a return of capitalism to its primary function as a productive and efficient system that addresses real economic needs not on the basis of supply (push) but demand (pull), and the restoration of democratic public life as a supreme system regulator of our worlds of life, of which the market is only one among many” (Barber 2007, p. 378).

By choosing to submit the application for Florence as a creative city for crafts and popular arts, the municipality intended, more or less implicitly, to attribute to the artisan reality the possibility of triggering virtuous projects with regard to sustainability in its forms - social, environmental cultural - and therefore to be able to re-propose an urban model where artisan production is a founding element, where creativity is a value and not a privilege, a tool to create better conditions for citizens and from a social point of view, environmental-cultural and economic.

But why is Florence a creative city? There are many different answers and not all of them can be expressed with the same clarity and determination. Among these certainly the fact that craftsmanship represents the meeting of different knowledge and disciplines, continuously contaminating itself with art, architecture, theater, literature.

Florence is a traditionally artisan city that founded this heritage starting from the Guilds of Arts and Crafts, on which the social and productive structure has settled, which, with their abolition of 1770, saw its powers transferred to the Chamber of Commerce, Arts and Manufactures (Gandi 1971). Today to the traditional processes are flanked the fab labs of the new makers, the new forms of social entrepreneurship that often combine traditional processes with tools for communication and digital manufacturing. The large and complex network of artisan businesses with a predominantly traditional approach operates on

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1 We can think of the artisan workshops project of the choreographer Virgilio Sieni
different knowledge, techniques and materials that materialize in the various production sectors: leather, wood, precious metals, ceramics, weaving, hard stones, flakes and gilding, all having an important role in restoration techniques (Tofanari 2015).

Once identified the reasons that allowed to positively evaluate the presentation of the candidacy, it was necessary to answer what are the objectives to pursue through the candidacy, why is Florence applying? Among the main purposes there is to bring out and share what exists in the field of artisan creativity through a path that involves the major stakeholders of this sector: from artisans, from trade associations, to schools passing through administrations, event organizers, and foundations.

3. The reality-Florence

Florence has worked hard in recent years to increase its reputation as a contemporary city, managing to address some of the most pressing issues of medium and large cities. At the same time to enhance its historical-artistic identity more and more current. Since 1982, the historic center within the walls has been registered in the World Heritage Site, one of the most prestigious and historically consolidated UNESCO awards. It is among the cities with the longest life expectancy and good health and social care services (https://www. Osservatoriosullasalute.it/ Osservasalute/rapporto- Osservasalute-2016). It is firmly at the top of the European Union ranking as Cultural and creative cities in 2019 for medium-sized centers (https://publications.jrc.ec.europa.eu/repository/bitstream/ JRC117336/citiesmonitor_2019.pdf)

It is the second smart city in Italy according to ICity Rank 2019 (https://www.ingenioweb.it/25527-le-prime-10-smart-city-di-italia-secondo-icity-rank-2019)

The Time magazine puts it in first place for the most loved city in Europe.


The complexity of the indicators of each of these categories is really high and the administrators know that each of these brings national and international visibility. From a census carried out on the basis of the candidacy, it was possible to verify that there is a high concentration of shops and artisan workshops inside and outside the historic city and that these must face important problems in relation to the economic stability of companies. But these problems, for most of them, are not solved by becoming self-promoters through new communication channels, not by becoming masters for largely foreign apprentices. There is therefore a resistance to transformation, a perpetuation of traditions not only in the manufacturing processes but also in the mentality that changes very slowly: even in the meetings the artisans have affirmed the attachment to their work as a discipline of doing and the reluctance to want to transform themselves in communicators or masters. This almost hidden artisan practice, certainly not exhibited, had to emerge out of respect for the artisan mentality, and in some way flank the reality of Florence, a place of the Renaissance as it is told in an effective, albeit simplified, way in The geography of genius (Weiner 2017).

How then to express the artisan identity of the real city?

At the time of the candidacy, Carrara, Fabriano were the only other Italian creative cities for the Craft and folk art sector. Definitely smaller cities and with simpler identities where it is
easy to combine the name of the city with one, and only one type of processing. In other areas we had Rome, Milan, Turin and Bologna which for many characteristics could be comparable to Florence. There is no doubt, however, that UNESCO's policy in recent years was to reward small towns to enhance their excellence within an international network and make them more recognizable and visible.

What visibility was Florence looking for? or rather what visibility did it need? If indeed Sheki or Baguito City they can express their artisan identity even with just an image but they are not known globally, for Florence the exact opposite was true.

Furthermore, precisely in comparison with the rankings compiled by the various bodies and institutions, this recognition was able to express a more real and permanent character: how little does it take for a city to rise or fall within the livability ranking? how many extremely serious but unpredictable facts can shift positions? and again: can the work of an administration and the commitment of its population really be evaluated as such volatile parameters?

And how much does entry into these rankings depend on the management of data that is outsourced? and for this: how great is the desire not to give up power in exchange for necessary and strategic services?

It is also in this sense that the candidacy was carried out to affirm historical skills and realities but at the same time capable of great innovative potential with an authentic and non-transferable location.
Craftsmanship as a strategy to regain sovereignty over the place between the modernity of a technological matrix and a past of great importance.

4. The concept of Territorial Identity

The competition of a territory is increasingly played on two different levels but decidedly complementary: the global and the local one. The first allows companies a strategy extended to the world scenario in the search for services, suppliers as well as markets; the second commits companies to find in the local context those elements that allow them not to “homologate” their business with those carried out in other parts of the world, taking root in the territory and assuming an identity that cannot be replicated.

The two strategic dimensions are absolutely and necessarily complementary, so much from having favored the creation of the term "glocalism" (Senn, 2007)

The rapid progress of globalization has resulted in strong competition in every country, every city and every region that find themselves "fighting" to win their own share of consumers, tourists, investors, students, entrepreneurs, sporting and cultural events international media, and for the attention and respect of the international media, other governments and people of other countries (Anholt, 2006). The need to cultivate the roots in one's own territory of belonging has once again emerged strongly: tourism has favored communication investments in the micro-territorial dimension and has produced, with the creation of sporting, musical events, festivals, etc. who in this context are encouraged to review their communication strategies to try to go beyond the dynamics of internal community services, towards a narrative that favors the promotion of new attractions.

In the commercial field, the 'good name' of the brand is a precious asset for producers, an asset that allows the company to compete and win with the other millions of almost identical products on the market. Applying brand concepts to land management means understanding that each location needs to manage its own internal identity and external reputation. Every place on Earth has its own reputation, just like companies and products, which can be simple, articulate, predominantly positive or predominantly negative, and this reputation influences how people perceive a country, how they behave and they react with respect to what this produces: German engineering, French elegance, Japanese miniaturization, Italian style, Swedish design and Swiss precision are all values that are transferred to the products arriving from those countries even if the guaranteed qualities since made in are nowadays purely symbolic.
Simon Anholt, an expert in places and perception, argues in Places: Identity, Image and Reputation, that public opinion very often tends to be superficial and therefore to work by cliché, by stereotypes. The image that others perceive is often quickly transformed into what is defined as "reputation". And reputation is about identity and values. It is therefore necessary to start behaving and acting in order to be able to influence the way in which one is perceived, as Socrates argued stating that «The best way to earn a better reputation is to strive to be what you want to appear»

On the basis of Aaker (2001) and Aaker and Joachimsthaler (2000), place brands have been defined as representations of place identity, building a favorable internal (public, private and civil society stakeholders) and external (tourists, investors, traders, migrants) image, leading to brand equity; that is, brand satisfaction and loyalty; name awareness; perceived quality; and other favorable brand associations (that is, positive image and reputation) attached to a name or symbol representing a country, city or region (Govers and Go, 2009, p. 17)

Places are definitely very complex “objects”. Often the mistake is made of treating the city or region as a product since environments develop in places that allow products to be brought to international markets, to market tourism products, investment opportunities, cultural offers, job opportunities and offers of international study programs. But places are also spaces where people live, where they move, where they educate their children, enjoy their work and free time and think that the awareness and reputation of all this can be influenced by the use of a logo perhaps it is a bit simplistic.

Does all this mean that logos and slogans and identities are completely useless? No, of course. Logos and slogans play an important role in supporting a territory which, by proudly referring to its origin, will increase awareness and its communicative strength. However, if it is not only the symbol that builds reputation, it is certainly the symbol that can become an icon for an existing reputation built scrupulously over time and it is the identity of a territory that is able to create added value for global competitiveness by helping to activate a virtuous cycle of development.

This ideal path, thus, has been followed for the preparation of the application, trying to build an authentic reputation by working in full respect of our own identity and not by
building from scratch something that has nothing to do with our own nature, but remodeling the purpose that it has, on the basis of a better and more positive perspective. The complex richness of the artisan culture and the lack of a solid reputation emerged from the major weaknesses: “Florence was able to apply for all categories”. This sentence is pronounced by one of the stakeholders who took part in the participatory path, reinforces what has been previously expressed: a complexity that goes far beyond the artisan sector, a perception not decidedly oriented towards craftsmanship (Anholt 2007). The sentence reveals what, following the failure, can be called an optimism and an overconfidence that has made the status quo judge significantly positive so as not to have given importance to the need for changes to achieve the goal and not to I have had goads pointing to this (Thaler 4014).

![Figure 3. Density of artisans and creative schools in the city](image)

5. Perception and Partecipation

There are various ‘image formation agents’ (Gartner, 1993) that influence the way people understand the world. The most important agents that form perceptions in people's minds are, of course, their own experiences (also called organic agents), followed by word of mouth about the experiences of colleagues, friends, relatives or otherwise connected contacts (called social agents).

We must never forget those who live in the places and their active role in the territorial management process: a good brand strategy should be built on the basis of the sense of belonging and shared objectives, factors that generate a link that is difficult to reproduce or imitate.

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2 It is worth mentioning the thesis of Eliana Dedda, Logo place. Territorial brand and procedural evolution in the visual translation of complex identities, Master’s thesis of the Polytechnic of Milan, School of Communication Design, year 2013-2014, supervisor Francesco Ermanno Guida.
The entities and institutions that work on crafts in Florence are many; just as there are fairs at national and international level. An articulated and complex fabric both from an institutional and product point of view. An artisan area was not chosen but artisan knowledge as a whole. If Carrara is a city of marble, if Fabriano is a city of paper, Florence is the city of goldsmiths, leather, straw, carvers and gilders, stone, ceramics, and fashion and the choice could not fall on a sector only by virtue of the calculation of the higher turnover. Therefore, choosing to nominate Florence not for an artisan sector but for all the artisans as a whole, was a choice that certainly didn’t facilitate communication with the evaluators but, precisely by virtue of the authenticity of the message sought, it appeared essential. Distinguishing what was and wasn’t perceived, what is the reality, occupied the first part of the time of the path; the second part concerned the definition of the vision and the mission of all the work. Re-starting from the net, knowing and sharing the existing was the first important goal. The role of the stakeholders is to be considered fundamental in all participatory processes. Following the classification proposed by Rossella Sobrero, the stakeholders were placed in a map that was able to summarize those involved in craft activities with different roles (Sobrero 2018).

Operational stakeholders are identified with the craftsmen; institutional ones with representatives of administrations, the key stakeholders represented by trade associations, organizers of events dedicated for the part of the training chain, the foundations, and with marginal stakeholders part of the training chain not included among the key stakeholders3. At least the 'operational' and the 'keys' have been seen to belong to the community of interest and purpose (Manzini 2018).

The key stakeholders have filled a form to collect information about their skills, the inclusion of their structures in national and international projects, the initiatives they promoted and in which they took part, the suitable spaces they had for activities to be played. Just from the reading of the documents and from some meetings with the artisans, a composite panorama emerged, consisting of small companies able to make important sales, which, above all, acted as custodians of a material culture of inestimable value, understandable only through the immersion in the environments and hardly returnable through simplified narrations. From what was considered a first census, the strategic role of creativity emerged. “Knowledge and culture are nodes of networks that feed a new tertiary social composition on the territories, widespread in the productive activities in the craft sector, involving the high education present on the area” (Bonomi 2014 p. 36).

One of the peculiarities of Florence, that has been highlighted, is that of having on its territory a very high number of schools dedicated to creative training (only 40 universities are American). Design students from the University of Florence, ISIA, Academy of Fine Arts and IED were involved in the final stage of preparing the application to give shape to the project proposals.

3 Rossella Sobrero divides the stakeholders into four groups: marginal, institutional, key, operational. Although the text refers to business contexts, however, the division between the stakeholders seemed to be able to be transferred to the reality described.
6. Project for the candidy

Joining the network of creative cities has no economic recognition, and membership in the network is subject to periodic checks which could also lead to the exit of members. It is an important commitment that involves the implementation of three local projects and three aimed at the international network. If the former mainly expressed, they were the first to express the wishes of the world of craftsmanship which saw a great opportunity to carry out even ambitious projects, with the second it was the whole city that put itself on the line that it shared with the other members of the international network what original contributions Florence could offer.

Among the requests of the call was to develop the application through a participatory process. The number of stakeholders involved was different, however it would be incorrect to say that a bottom up formula was applied: it was a formula that brought together some elements not only with interests but also with great planning but it was not a path that it started from the bottom and this is partly due to the structure of the UNESCO demand.

The candidacy, in fact, which must be presented by the mayor, was followed by the Councilor for productive activities who instructed the Department of Architecture of the University of Florence to structure it. Another point of reference was the Municipality Office dedicated to UNESCO World Heritage Site.

About 100 people representing administrations, trade associations, associations, artisan businesses, hubs and makers. The method adopted in these two meetings is inspired by Open Space Technology (OST - Open Space Technique), a tool that, thanks to an atmosphere of informal relationships and a solid structure of the works, maximizes the active contribution of the people who participate. Eight topics for discussion were discussed during the days from which the traces of the six projects emerged to which the students of the creative schools, as mentioned, gave shape.

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4 - The places of craftsmanship
What are the most significant places of Florentine craftsmanship? What are the places that, although less visible or known, have a potential to express?
- The actors to be involved
Which actors or categories of actors could it be strategic to involve in local and international actions?
What strategies to adopt for the involvement of the actors?
- Telling the past, acting on the present, design the future
How to foster a narrative that intertwines the past, present and future of craftsmanship in Florence?
How to relate the future with the artisan tradition of Florence? What are the most interesting strategies and cases?
- Relationships between different practices and knowledge
How has interdisciplinarity been and can it be an added value for Florence?
How can this added value emerge? What are the most interesting experiences?
- Awareness of the value of heritage cultural artisan and popular art
How to create greater awareness in Florentines of the value of cultural heritage linked to crafts and popular art? What are the most interesting strategies?
How to communicate this value also to those who do not belong to the local community?
- Feeling part of a city of craftsmanship
The decision to conclude the course with the contribution of the students was chosen for two reasons: the first was to represent the Italian and foreign students who are part of the urban community of the city and who characterize it, the second was to have a feedback with the young generation on the work done and possibly be able to change direction. Just as the artisans focused on the local dimension, the students gave international breath to the proposals by reiterating that citizenship is not by birth and that, at least in ambitions, it is a concept that has at least extended to Europe.

The six project themes that were proposed to the commission were the following:

- Mapping - Census and digital mapping of all the realities related to the world of craftsmanship in the metropolitan area - creative ecosystem. The result had to be that of creating a digital and "physical" map of the artisan ecosystem. The map is continuously updatable and digitally updated and where every stakeholder involved can add documents and information to contribute to the construction of a shared narrative of the metropolitan city. The goal has been pursued and today there is an active network where artisans of the old and new professions can voluntarily register and have a space available.

- Strengths of networking - bring out the creative ecosystem and event creation capable of representing it. Although Florence has been home to an international craft exhibition for more than eighty years, it was considered by many stakeholders that it is a formula that is no longer capable of satisfying the visibility and attention sought by artisans on its own. The proposals went from the Fuori Mostra to a physical place where to exhibit in conjunction with the city's attraction events. This was the hypothesis that prevailed and the creation of a pole that also achieves the objective of the second point is the path that the administration is following.

- Safeguarding Inheritance and building the future - the construction of a digital and material archive to collect all the corporate assets and put them in part for free consultation. This project, which from a physical point of view was linked to the previous one, among the three, was the most demanding for two reasons where the first was of an economic nature for the preparation for physical archive locations, the second, even more important that he saw the artisans willing to share not only with the competitor but with the world part of their identifying elements and in many ways unique.

How to foster a closer relationship between craftsmanship and population? What are the most effective tools and strategies to spread the identity of the artisan city among the population? How can craftsmanship be a vehicle for promoting new lifestyles, which make it closer to people's daily lives?

- Tradition and innovation in production
  What elements related to innovation can be strategic in the elaboration of local and international actions?
  How can the preservation and respect for the tradition of production processes be reconciled with technological innovation?
On international projects, the start was to highlight the many relationships that bind Florence to international networks of municipalities, from twinning to the most recent networks.

- Competitive Identity and Know How Alliance - starting from the competitive identity, the objective was the overlapping and integration of the UNESCO creative cities network with the existing networks to which the city of Florence adheres: twin cities linked by friendship pacts, the network of UNESCO World Heritage sites, the Unity in diversity network. The materialization of these bonds was given by objects that were built passing from one city to another until it was completed.

- "Creativity" in-residence - Combination and exchange between artisan enterprises of the network I unite with the aim of innovating and contaminating the different shop models. The Erasmus of craftsmen has been defined where the Erasmus model recognizes the ability to unite and increase the ability to understand others. Here too, on the model of residences for artists, dedicated in particular to performers, the administration is equipping spaces for artisans.

- Sustainability contest - Creation of a competition between the schools of the creative cities on crafts as a model of sustainability that generates a digital exhibition and a traveling exhibition between the participating cities. The competition is a way to promote a production model but also a socio-cultural and environmental one.

Projects therefore feasible so much so that the city, even though it has not entered the network, is implementing them; differently ambitious projects but above all projects that have tried to respond to the needs and desires of those who study, produce and work in the creative field of craftsmanship.
5. Conclusion

The candidacy for creative city cannot be said to have been a useless experience in the first place because the city is working in the right direction. But we must reiterate that perhaps the deepest reason that allowed it was the search for an identity that was independent of both the assessments of technological networks and the reputation of a Renaissance city and, consequently, a city with a significantly linked economy to tourism.

Logos and slogans can help raise public awareness, but identity is not just something to put in the corner of the advertising page or on business cards: only if local businesses, cultural organizations, tourism businesses and individuals, they will constantly engage in referring to the territory with pride, raise awareness, and can impact reputation.

From here and from the desire to tell not only the material but also and above all the immaterial, virtual storytelling paths will develop that will find fertile ground in digital applications that combine storytelling and information, tradition and technology.

So, strategy and substance first, then the rest.
References


The text was conceived together by the two authors. However, Eleonora Trivellin is attributed the first seven paragraphs of paragraph 3 paragraphs 1, 2, and 6. Susanna Cerri is attributed the last six paragraphs of paragraph 3 paragraphs 4, 5 and 7
Social networks as enablers of design cultures: An analysis of multiplex relationships among members of a creative hub

Sine Celik*<sup>a,c</sup>, Tu A. Björklund<sup>a,b</sup>

<sup>a</sup>Aalto Design Factory, Finland  
<sup>b</sup>Aalto University, Finland  
<sup>c</sup>Delft University of Technology, Netherlands  
* g.s.celik@tudelft.nl

Abstract | Triggered by the strategic use of filming locations for city branding, and with a specific focus on Istanbul, this research investigates the role of movies on shaping the image and perception of cities. It aims to consider how a city is depicted in different movies/genres and discuss how such representations affect the traditional image previously constructed through the cultural heritage and the built environment. Through the analysis of twenty-one international movies that were produced between 2000-2020, and were selected out of 3586 movies, the comparison of fictional layers with the traditional tourist attractions of the city were carried out. This research approaches Istanbul’s urban visual culture and its many meanings, through Lynch’s aspirations for imageability, visibility and legibility in the design and perception of urban environments. The findings underline the influence of the film industry on city’s branding processes and perceptions through representations and imaginary layers.

KEYWORDS: SOCIAL NETWORKS, INTERACTIONS, DESIGN HUBS, CREATIVE COMMUNITIES, INNOVATION
1. Introduction

Design cultures are defined as the emergent patterns during design activities that encompass vision and values, enable conversations and eventually shape the future of our existence (Manzini, 2016). Despite acknowledging the expansive discourse on the meaning of design cultures, Manzini (2016) underlines the lack of cultural dimensions within the debate on design that relate to environmental, economic, and social issues, and point out the serious limitations that prevent design cultures from being agents of change. To strengthen the change agency potential of design cultures, their essence needs to be examined from these perspectives. In this study, we explore the social interactions that enable designerly ways of thinking and operating, by taking a co-creation hub as a qualitative case.

One of the defining features of design cultures can be considered to be creative interactions it gives rise to and is shaped by. Creative thinking is a prerequisite of design-based practices (Perry-Smith & Shalley, 2003; Brown, 2008). Although creativity is often considered to be an individual merit, scholars argue against this Platonic view that suggests that creativity is a personal characteristic one is born with, rather suggesting it is an outcome of the interactions between the actors of a system (Albrecht & Ropp, 1984; Nemiro, 2002). It is defined as “the creation of a valuable, useful new products, services, ideas, procedures, or processes by individuals working together in a complex social system” (Woodman et al. 1993, p. 2). Indeed, the quality interactions can have a fundamental effect on creative output- For example, in his comprehensive study on the creative peaks of 41 artists from 19th and 20th centuries, Accominotti (2009) discovered that creativity occurred regardless of age, background or education level of the painters but was tied to their involvement in various art movements, which required them to come into interaction with other artists. The art movements that in a way functioned as communities, where ideas were openly discussed and challenged, facilitated the necessary interactions that trigger creativity of the artists.

However, human relationships are complex as there can be interactions in multiple natures occurring between two individuals. Each of these relationship natures form a different network within the same community. (Monge & Contractor, 2003). This refers to the multiplexity of networks, which is the multitude of relationship forms contained in a tie between two members (Cardillo et al., 2013). This means, for example, two people can design a product together and be friends at the same time. The extent of their interactions influence their creative output and, consequently, the narrative of the community they belong to. Social network analysis is a useful tool to investigate such layered social structures that are a result of these complex, multi-layered relationships (Knoke & Yang, 2008). Performing a multiplex analysis of networks provides a holistic interpretation of the impact different relationships have on each other.
The importance of providing possibilities for maximization of interactions is a widely acknowledged aspect of triggering creativity that forms the core of design-based interventions (Csikszentmihalyi, 1997). In professional environments such serendipitous interactions often need to be facilitated to form the necessary dynamics to maximize the potential. This is, in essence, what many innovation hubs aim to do – support creative connection across individuals and groups. Despite the unpredictability or serendipitous interactions, networks are affected by certain routines that are practiced within the community, as well as the operating mechanisms behind the community. Therefore, studying the networks through mapping multiplex interactions among the actors in a creative community helps understanding the favorable conditions and limitations towards the formation of a fruitful ecosystem, and aims to investigate how social interactions in creative communities enable rich design cultures.

2. Methods

The social network analysis presented in this paper derives from a dataset of structured interviews with 35 members of an interdisciplinary co-creation hub that consists of designers, researchers, educators, project managers and technical staff. This community of the Co-creation Hub (pseudonym) were asked questions regarding their collaborations and connections with the remaining members of the community from creative and informal perspectives. The nature of social relationships is defined through their content. Relationships that carry the potential to lead towards a creation of newness in form of knowledge or artifacts fall in the category of creative relationships. Informal relationships on the other hand are defined as kinship, friendship, sharing leisure time and having commonalities besides the professional work environment (Kratzer et al., 2005).

2.1 Research Context

The interdisciplinary Co-creation Hub that is subject to the network analysis presented in this paper is located within a public research university in Finland. Founded over a decade ago, the internationally acknowledged hub accommodates interdisciplinary project courses with challenges brought by industry partners, fostering collaboration across disciplines and between students, industry and academics. Throughout the years, based on research and experience, the premises of a re-purposed research lab building have evolved in a way to maximize interaction, hands-on experimentation, collaboration and research. In addition to a variety of prototyping opportunities, the building also offers flexible work spaces. The hub operates in a self-sustaining fashion, where members of the community share the responsibilities to keep the premises functioning.

The community comprises three broadly defined, interdependent categories of involvement. Teaching staff, who are also responsible for scientific output, technical staff, who are responsible for operating the prototyping facilities and organizational staff, who are
responsible for project management, communications and relationships with the other hubs in the network. Apart from these three employee groups, the hub also hosts community members who are not employees, but are involved in ongoing projects. This paper looks at the employees and guests and considers them as ‘regulars’ of the community. There are also students, visiting teachers and entrepreneurs who benefit from the facilities, but they are not taken into account in this paper, as they do not have a continuous relationship with the rest of the hub.

2.2 Data Collection

The collection of data consisted of structured interviews with 35 (n=55) members of the community, where sampling was focused on equal representation of each category of employment (teaching, technical, organizational), age group, gender and the years of involvement in the hub.

The interviews were conducted individually, and lasted from 28 to 95 minutes. The participants have received the identical set of questions, as well as a brief before the interviews, as none of them had prior knowledge about Social Network Analysis (SNA).

The interviews started with a set of introductory questions that focus on the role and the experience of the participant within the community. Later, the interviewees have been asked to identify the people they collaborate on a creative nature, as well as the people they have informal contacts with, having a list of people in the community in front of them. The participants were given examples of relationships that might fall under each category for inspiration. Additionally, the participants rated each relationship they reported on a scale of 1-5 considering its average frequency, duration and depth. And last but not least, the participants were asked to provide an example of a low-ranked (rated 1-2) and a high-ranked relationship (rated 4-5) for both relationship natures.

The reliability of participants’ ratings was analyzed through comparing how different sides of dyads had rated the relationship. This suggested consensus among the strength of the relationships. The answers were anonymized and transferred to Gephi software to create network maps in order to analyze community dynamics.

2.3 Data analysis

Social Network Analysis (SNA) is most frequently applied within the field of organizational management for seeking answers to various problems such as improving collaboration, finding influencers, leadership development, performance enhancement and integration of units (Borgatti & Foster, 2003). Despite being a mathematical analysis of relationships, SNA commonly provides visual material (network maps) that represents these relationships. However, ‘reading’ these maps and interpreting the meaning behind emergent patterns that describe how networks behave does not always require statistical approaches. When combined with the thematic analysis of the interviews (Bansal & Corley, 2011), the maps have the potential to provide in-depth insides that statistics cannot explain (Scott, 2012).
Therefore, in this study, we made use of a combination of analysis techniques in order to paint a complete picture. The relationships and their ratings collected with the interviews were transformed into maps with the standard tools and plug-ins available in the open-source software Gephi for representing and analyzing networks. In our study, we utilized the measures of degree, density, centrality and modularity. In addition to utilizing a variety of measures, we have also utilized two different force-directed layout algorithms that are available within Gephi software, Fruchterman Reingold and Force Atlas specifically, in order to achieve meaningful visualizations. The interdependency of creative and informal relationships among community members that form the base of the design culture within the community were analyzed using the network maps from three lenses of proximity - generational, disciplinary and physical proximity between community members. These three lenses of proximity derive from the interviews, where the participants underlined the importance of time, interests and contact repeatedly when talking about the drive behind their interactions regarding both creative and informal relationships.

3. Social Networks as Enablers of Design Cultures

Design cultures benefit from rich interactions that trigger creativity and enable knowledge sharing. We examine the characteristics and dynamics of creative and informal networks within the Co-creation Hub community to examine how these types of networks are shaped and interact in creative communities.

![Creative and informal networks](image-url)
First, it is important to describe dimensions of each network in order to set the context. The community consists of 55 regulars (who are represented as circular nodes in the graphs), who regularly visit the premises. All of them are actively engaged in the network, as there are no disconnected nodes in either of the networks. The average degree in both networks is 16, which means that the nodes are connected to 16 other nodes on average (29%). The highest degree is 42 in both networks, and the lowest is 1 in informal network, and 2 in creative network. In Figure 1 and in all the other images presented in the paper, the node sizes are defined by their degree (how many edges, or lines, are connected to them). Between the 55 nodes, there are 462 edges defined in the creative network, and 464 in the informal network, which makes the network densities comparable. Density refers to the ratio of the established connections to all possible connections in a network. In both networks this value remains around 0.310, which points out plenty of opportunities for collaboration and unrealized potential within the networks.

3.1 Generational proximity

Generations in this design community will be the first aspect to be looked at as a proximity parameter. Creative communities consist of members that have different levels of experience, and the hub is no exception to this. The actors in this network can be divided into three generational categories. Group 1 consists of people up to the age of 25, who are either researchers or working at the hub part-time during their studies (18.18%). The second and the largest group is those between 26-40 years old, representing more than half of all the nodes (54.55%). This group is highly diverse in terms of background and position. The third group are 40+ year old experienced staff, who are mainly involved in teaching (27.27%).

![Creative Network and Informal Network](image)

*Figure 2. Age distribution in the creative and informal networks*
The two maps in Figure 2 show the distribution of age groups and how they are linked to each other. The node sizes identify the degree of the nodes, whereas the color identifies the age-group. It is possible to see that (especially in the informal network) there is a generational gap between the members of the community. Nodes of similar age occupy the central area, while older and younger generations remain on the periphery. When talking about the older generations, who in this case have more experience, a peripheral role is not necessarily a negative aspect. This peripheral role enables an experimentation culture, where trials and errors are permitted, without the presence of highly central nodes who are powerful and highly experienced. When it comes to younger generations, the situation is different. Younger generations do not occupy a central role in the maps and they remain in the periphery in both networks, which can limit being an active part of the community. The richness of intergenerational knowledge exchange can be meaningful for design cultures, as generational values and awareness inform design decisions (Gamliel & Gabay, 2014). Actors that hold a central role should purposefully engage younger generations into creative and informal circles. One interviewee mentioned: “I believe in apprenticeships. I see X as a younger version of me in a way, I try to pass on every bit of my knowledge.”

Another aspect in relation to time is the years of involvement in the hub. Figure 3 shows the distribution of experience through the colors of nodes. The hub has a strong core group of people who have been a part of the community since their studies. The maps show that the majority of the nodes have been involved in the hub for longer than eight years, with some being highly central in the networks. Especially in the creative network, the lighter nodes remain on the periphery. One interviewee explained: “I have been here for a very long time. You could say that I grew up here. Of course, relationships change, but it is very hard to forget long lasting bonds, I feel somehow responsible towards them, as if we are on a mission together.”

![Figure 3. Years of involvement within the creative and informal networks](image-url)
3.2 Disciplinary proximity

The hub defines itself as an interdisciplinary co-creation hub. Between the 55 regular members of the community, it is currently possible to identify four disciplinary backgrounds, which are engineering, business and management, arts and design. In the hub’s context, engineering (industrial design, mechanical, electronical) is the dominant group with more than half of the community being engineers. Looking at Figure 4, the majority of the central nodes of both networks consist of a multidisciplinary group, although in the informal network similar disciplines are clustered more together. In both networks designers, artists, and those from business and management backgrounds occupy the center of the graphs with high degree nodes. Additionally, in both networks, it is possible to see that the engineers (red nodes) tend to stick together on the periphery. However, engineering knowledge plays a crucial role in technological innovations since it enables execution of tangible outcomes.

The artists on the other hand, are the best embedded group within the community. They enable diversity in the creative network by collaborating with multiple disciplinary groups. Additionally, artists are central to the friendship network, which points out high level of trust and sharing on a personal level. One interviewee stated:

“Everybody knows something else here. That is what I like about this place. And people are full of surprises. Together we make more than the sum of our capabilities. I am sure if I come up with, I don’t know, a crazy new idea, I am sure I can find enthusiastic people to join me right away. We can rely on the community.”

Figure 4. Disciplines within the creative and informal networks
Figure 4 also shows us the lack of collaboration between certain disciplinary groups in both networks. For instance, designers do not collaborate with engineers in the creative network except for a few central nodes in the middle. A common pattern is also visible in the informal network, as designers do not communicate directly with the large group of engineers that are on the periphery. Therefore, it is possible to say that the design culture of the hub would benefit a lot from channeling the unrealised potential. Artists of the community can function as the gatekeepers between these disconnected groups if their potential is operationalized.

3.3 Physical proximity

A final type of proximity at play in the hub is the physical proximity, or in other words the spatial layout that enables certain groups to be in contact. Although the building is especially developed in a way that brings disconnected actors together under informal circumstances, such as having open spaces for eating, meeting or relaxing, during the majority of the day the employees sit at a certain workspace. It could be argued that those who work in close proximity are more likely to engage into creative relationships, while remote work with regular meetings could also be enough to facilitate the necessary team dynamics.

![Creative Network](image1)
![Informal Network](image2)

**Figure 5. Spatial distribution of the creative and informal networks**

Figure 5 shows the distribution of nodes to workspaces. Each color represents spaces that employees use as workspace. The common spaces for eating, meeting and mingling are not taken into consideration. In this case, considering that the offices are designated to certain teams that work together on projects, it makes sense that people who share the same
spaces are clustered together in the creative network. However, the threshold is kept very low and there is plenty of flexibility in terms of work spaces. One interviewee remarked:

“Although our tasks are very different, we are good friends with X, and sometimes I just grab my laptop and go sit in their office for half a day. It helps me to gain new perspectives.”

What is interesting is that we see an even stronger clustering pattern on the informal network that suggests stronger friendships between the people who share the same workspace. Indeed, the situation in the hub points out the importance of daily encounters for getting acquaintance that also enables idea sharing and collaboration. This dynamic has potential to lead towards a mini-silo effect, where people are hesitant to step into each other’s designated work areas (Bevc et al., 2015). In fact, one of the interviewees stated:

“Group X sits somewhere else in the building behind closed doors, I feel uncomfortable barging in and asking what they are working on.”

The community in the hub is investing a lot of effort into disabling silo structures, but adopting rituals that bring the entire community together on a regular basis and keep them up to date on what is going on within other projects. Weekly community breakfast hosted by different project groups, bi-weekly staff meetings, regular research presentations, as well as the active use of common spaces are examples to such routines (Björklund et al., 2017).

4. Discussion and implications

Studies on social networks that investigate the dynamics of creative and informal relationships are often based on case-studies on organizational level (Borgatti, & Foster, 2003). A majority of these results point out the parallel development of creative and informal networks, as people commonly prefer to commit to creative collaborations with people that they have positive feelings for. In fact, already in 1973 Granovetter argued that close friendships are the best for innovation, since they provide ideal grounds for communication that consist of trust, values and matching objectives. However, the literature also suggests that close friendships can be a threat to creative relationships (Kratzer et al., 2006). The reason behind this is two folds. First of all, creative collaborations that have an impact require the community to be open to external information to be able to think outside of the box. In close-knit communities, it can be difficult to penetrate the friendship bubble, where foundations of creative collaborations are built on. It is important to enable the constant flow of new knowledge and skills into the community and facilitate the growth of creative potential. Secondly, strong friendships within creative communities can potentially hinder critical thinking, which is an important element for design cultures. Obtaining a critical mindset and being able to give constructive feedback on each other’s progress is a crucial element of progress (Kratzer et al., 2006). Therefore, design cultures must steadily question their openness towards external knowledge. Creating a community with diversity in age, experience and discipline can be a starting point.
In this paper, the underlying dynamics of creative and informal networks among the staff of a close-knit creative hub was explored, in order to see how these two different networks deriving from two different natures of relationships operate within the same group of individuals and lead to a rich culture that facilitates design, innovation and entrepreneurship. In the case of the creative networks of the Co-creation Hub, the majority of collaborations are initiated by more experienced actors, and they operate as a bridge between different groups of less experienced actors. This highly important role of gatekeeping is risky in terms of network resilience, as any change in the position of such individuals could have catastrophic results for the network and damage the flow of information between the rest of the actors (Celik, 2018). The co-creative design culture in this community relies heavily on agile ways of working, where responsibilities are easily shared and member’s trust in each other’s skills is very high. Therefore, it is important that the gatekeeping role should be mitigated by delegating connections to less experienced members, in order to create and maintain a healthy centrality balance in the network.

On the other hand, hubs often aim to create connections across diverse groups. In the current study, some clustering could be seen amongst the majority, whether in terms of age, tenure, discipline or primary working space. However, connections across all groups were frequent, and minority tenures and disciplines in particular had rich connections in both the creative and informal networks. Interactions amongst diverse groups can help to create novel perspectives through combination, with for example, generational norms and values having a high influence on the way we interpret the world around us (Del Conte & Celik, 2015). Design cultures that facilitate such diversity will benefit from the richness of different perspectives that arise from the knowledge exchange between different groups.

By providing a close look into the network structure of the Co-creation Hub, this study brings together two fields that are rarely studied in combination, social networks and design cultures, but also contributes to the field of design research from a methodological perspective by providing a mixed method approach where qualitative data gathered through interviews is used to interpret the quantitative data gathered through the social network analysis and provide multilayered results that shed light on both actor-level and system-level dynamics.

To conclude, we have observed that creative and informal relationships evolve in an interdependent manner in design cultures. Generational proximity is more important in informal networks, possibly because being in the similar phase of life brings more commonalities. We saw that in the creative network, older actors remain in the periphery and leave the stage to younger members only to intervene if necessary. However, we found tenure to be a better informant of generational proximity than age, as tenure refers to the openness of the design culture for new and less experienced members. Disciplinary proximity has shown slightly more relevance in forming informal relationships than creative relationship. There could be two speculations on this dynamic: either the need for
multidisciplinary collaboration in the creative collaborations exceeds the informal interests of members; or informal relationship have a longer history that date back to study times and hence they are stronger than relatively newer creative relationships. The study confirms that physical proximity does play a role in the development of both creative and informal relationships. Additionally, the study highlights rituals and mindsets that are adopted by the community members to enhance creative collaborations through abundant informal connections. Multiplex bonds between actors seem to eliminate the risks towards network operations by creating a safety net and therefore encouraging experimentation, which could be an inspiration to other design cultures that have similar goals.

References

City Branding and Fictional Layers: Reading Istanbul through Filming Locations


About the Authors:

Sine Celik is Assistant Professor of Network-driven Systemic Change at the TU Delft Faculty of Industrial Design Engineering. Her research focuses on the role of social dynamics when designing for and with complex societal challenges.

Tua Björklund is one of the co-founders of Aalto Design Factory, where she is currently a Professor of Practice and head of research. Her work revolves around understanding, teaching and developing co-creation efforts, turning ideas into improvements in different contexts.
Subversive Design. Designer Agency Through Acts of Insurgence

Seth Parker
seth.m.parker@gmail.com
Emily Carr University of Art + Design

Abstract | Designers working within Small-Medium businesses are habitually positioned to be cogs in the capitalist machine, working only to produce a visual output. This paper explores giving designer agency within these types of organization through the notion of Subversive Design; investigating how designers can influence the trajectory of businesses through the act of subversion. By examining instances of subversive acts within a consumer hard goods business, and the methods and results of those acts; breaking down how incremental design decisions transpired as a way of subversion. Through the creation of agency of designers to establish and drive design-led projects, we are able to investigate the direct impact of designers work within an organization. This subversive method embedded within design process permits designers to employ methodologies such as Transition Design, System Change, and Design for Resilience into their professional practice.

KEYWORDS | SUBVERSIVE DESIGN, BUSINESS OF DESIGN, DESIGNER AGENCY, DESIGN FOR CHANGE
1. Introduction

In-house designers, in particular, those working for small to medium-sized businesses in North America, are often categorized exclusively as production designers. These roles are created by CEOs or Directors who may not have a background or cognizance in design practice, and as such, perceive the positions from a conventional viewpoint where the role of design and the designer is understood as that of visual output. As a result of this, designers are often not given the opportunity, space, or agency to advance and disrupt businesses via much needed creative solutions, interventions or products. Through a descriptive analysis of design-driven projects situated within a small-medium enterprise (SME), this paper reveals how incremental design decisions transpired and acted as key sites of subversion. These subversive acts impacted not only the business but also the role of the designers within this SME — referred to as MARIC to maintain anonymity for the organization. These acts are considered as methods that designers may use opportunistically to push forward toward positive and needed system change. With the controlled scope of focusing on MARIC as a case study, the research acts as a preliminary definition and contextual groundwork for Subversive Design.

Focusing on means of affording agency to lower-level employees within SMEs, this paper explores the formation of Subversive Design — investigating how designers can influence the trajectory of a project through deliberate and enterprising acts of subversion. This exploration of subversion within design builds off the work being done within the approaches of Transition Design, Persuasive Design, and Critical Design which will be discussed throughout. Subversive Design exists in parallel to these methods, while concurrently working within the method’s established contexts to aid in the production of applied research.

The evolution of contemporary business models and operations has accommodated the adoption of design methodologies into executive suites across the globe. This shift has provided a spotlight on design education's approach to design thinking and its role in business (Cassim, 2013). The transformation, while predominantly to the advantage of the expansion of the design community through job creation and industry exposure, has been rudimentary - its impact focusing more on start-up businesses and institutions with extensive capital resources. The integration of design into the conventional process of business decision making is often limited to large, well-funded organizations and presented to executive and director level employees to embrace the design as a valid business methodology (Muratovski, 2015). This paper focuses on the context of small to medium enterprises (SMEs) that represented more than 50% of Canada’s gross domestic product (GDP) (Government of Canada, 2019) and 44% of the GDP in the United States (Government of the United States, 2019). Design Capitalism, which links economics and design in the grounding of future creative economies (Murphy, 2015) acts as a foreground for this research. It is building from this framework, and by applying the methodology of transition design, we begin to investigate whether “design-led societal transition” (Irwin, 2015), can be
used to reconceptualize lifestyles and systems to encourage economic growth through socio-political change utilizing concealed acts of positive insurgence.

A case study grounded on MARIC serves to illustrate and consider opportunities that arise when a small team of designers and non-designers are tasked to build on a company’s existing product portfolio. The preliminary research presented centres around the daily operations of this business, its social and cultural restrictions. By giving agency to designers at all levels within MARIC and affording them means to create and drive design-led projects, we investigate the direct impact of designers work within an organization. This triggering of designer agency was approached as Research through Design (RtD) as articulated by Cristiano Stormi, “In RtD, design is not what you look at but rather what you need to extend the ability to investigate and acquire new knowledge” (2015, p.74). Though the integration of RtD into contemporary business practices, aiming to establish a foundation of creative agency within the organization.

2. Subversion as a Construct

2.1 Archetypes of Subversion

In order to recontextualize subversion and apply it to design practice, we must look at the traditional definition of subversion. Subversion can be defined as “the overturning or abolition of an established or existing practice, belief, rule, etc., or of a set of these; the transformation of a state of things; an instance of this.” (“Subversion, n.” n.d.). From this definition, subversion can be understood as the intentional overthrowing of large established systems. In actuality, subversion also exists in the small moments of life; a public transit commuter jumping the faregate of a subway or a cashier placing only a portion of produce on the scale to lower the price for an underprivileged family. When observing the instances subversion exists in the everyday, we begin to decipher that subversion is often a nuanced act. Subversion provides a way of navigating the world that permits a subtle insurgence against power. Understood as a method in which individuals navigate any given system or situation, the dimensions of subversion and how it operates become more apparent. As a means of deconstructing the term for applied usage within design, I have identified three subversive archetypes tied to subversive acts. These three types subversion are an initial classification, additional forms or variances to these may be identified with further research.

1. Overt Subversion

Overt Subversion is a type of subversion that is most easily identified by the general public. These acts of subversion are instances in which an individual or group consciously and evidently subverts an established practice or system. This could occur in small instances such as a citizen blatantly ignoring a city parking by-
law, dumping garbage in a “no dumping” zone, or protesting governmental legislation. In the contemporary context we see this played out as strained political relationships in the United States triggering significant acts of overt subversions, be it through Donald Trump’s brash disregard for historical political standards (Zurcher, 2020); or Nancy Pelosi’s statement-making tearing of the President’s State of the Union (Kellman & Mascaro, 2020).

2. Inadvertent Subversion

An act of Inadvertent Subversion is one that is not easily identifiable without in-depth analysis. These are instances where the subverter is unaware of the subversion and its associated consequences; this could occur when an individual operates within their daily lives without realizing the implications of the smallest actions. For example, before rampant news coverage over the political views of its CEO, A patron to the fast-food restaurant Chick-Fil-A may be unaware of the political ties the ownership has to anti-LGBTQ groups, and by visiting these restaurants, the individual inadvertently supports the marginalization of a group of people. (Weber, 2013)

3. Covert Subversion

Covert subversions are ones that deliberately contravene established rules or systems in an attempt to overturn or advert the existing structures. This particular method of subversion is one that designers often actively invoke/use as a means to prompt and move their work forward. Not to be confused Persuasive Design that encourages behaviour/user change through the utilization of a design (Fogg, 2009), Covert Subversion occurs within the process of design and not through the use of the designed object. The implications of the design existing within the world may have repercussions that progress the original subversive ideals – but it is not markedly the interaction between the design and the individual that generates the change – it is creation and existence of the design that cultivates change.

2.2 Power Relations

Irrespective of archetype or context, subversion exists within structures of power and the attempted insurgency of that power. There is nothing to be subverted without the presence of an element of power — this can social, economic, political, religious, or structural power. Within these power relations, we can demarcate between two contrasting groups that I will refer to as Ascendant Power and Subservient Force. Each relationship includes the Subverter — the agent that is doing the subverting, and the Subvertee — agent that is a being subverted. The Ascendant power is the group or system that holds the dominant power; this can be represented as governments, economic structures, or social norms. The Subservient Force is more exclusively a group of people, often marginalized, that is impacted by the
Ascendant Power. Referring back to the Oxford English Dictionary’s definition of subversion, it is the Subservient Force is that which subverts the Ascendant Power; this is can be characterized as an overturn of power of political leaders. Within this dichotomy of power, the system, group, or individual that exists within/as the Subservient Power is relegated in some form — their power has been taken away or agency over their power was never afforded. This practice of the subservient subverting the dominant is the most common understanding of subversion due to the conventional definition (fig 1).

**Figure 1. Flow of Subversion; Subservient Power infiltrating Ascendant Power**

When reviewing the ways Acts of Subversion occur, there is a consideration that the process is bilateral. In some instances, the Ascendant Power acts as the subverter (fig 2). These occurrences are quotidian; represented and concealed through, namely, governmental policies and structures. A prime example of Ascendant Power acting as the subverter is the nature in which the Chinese government polices its citizens use of the internet, subverting the public’s free speech and access to information through digital censorship (Zittrain & Edelman, 2003). Many occurrences of subversion by Ascendant Power are not perceived as subversions as a result of common acknowledgment of power structures (governments), as a means to rule
These two power relations are important considerations when implementing subversion into design practice. It is important to note that these power relations are not simple connections and do not always operate as dichotomies and have been expressed above as a preliminary effort of defining power structures within subversion. Understanding how individuals/groups subvert existing structures informs processes that the designer can utilize when defining the scope of their project. The knowledge of how existing structures subvert, or are subverted, can assist to elevate designer’s comprehension of the scope of their work, identifying opportunities for subversive integrations.

3. Acts of Subversion: A Case Study

The below Case Study takes place from 2017-2020 during my tenure at MARIC. All projects were led by me in collaboration with creatives both in house and externally.

3.1 State of the Business

MARIC is rooted in decades of operations as an importer and distributor company – sourcing consumer products from overseas and bringing them to market in North America. The
company’s primary focus for the mass amount of its history has been through independent retailers and large box stores. Recently, in the last decade, the company stumbled into the online marketplace and became a first adopter on one of the world’s top eCommerce marketplaces. Through the happenstance success of eCommerce sales, the company witnessed rapid fiscal growth. This growth, however, did not translate to a reimagining of its product offering through design, development, or marketing. In the history of the company, there has been no initiative to position itself as a design-driven organization, despite consumer products being the sole revenue driver for the organization.

An extensive cultural and operational shift has occurred within the organization since the end of 2016, with the ownership acknowledging the shifting retail and e-commerce landscape. New executives were brought in to bolster this change, which occurred in a turbulent manner. During 2017-2018 the company witnessed a turnover of 80% of its office workers. The focus of the organization became about streamlining operations and leveraging warehousing and sourcing capabilities, as this is what brought the company success in the past. As a result, MARIC saw continued staff turnover, a reduced customer base, and a downward sales trajectory. Through the years of discomfort the product and design teams urged the executive leadership to invest in its design and product teams in order to deliver economic growth for the business, understanding that product design can increase not only the company sales but can translate as a reduction in costs as well (Guo, 2010).

Unfortunately, the pleas were not often met optimistically, and as a result, the design leadership turned to considerate and heedful covert acts of subversion in an attempt to progress the company forward while maintaining their values as a designer. While not always the case, there are instances where MARIC does invest in elements of design and product. Three examples of Acts of Subversion represented as Design-led initiatives that occurred at MARIC within the last two years will be discussed below. Established to support and embolden designer agency through Subversive Design, these initiatives investigate how subversive acts within contemporary business practices and nomenclature might influence the objectives and outcomes of interconnected industries while simultaneously informing the creation of resilient systems (Manzini, 2013). These acts are incremental activates that either partially or wholly embody passive insurgency through their process of creation.

3.2 Act of Subversion I: Applied Design Project (APD)

The primary activity in this case study of MARIC was the development and execution of an applied design project that brought together a local Design Academy and MARIC. This was presented to MARIC administrators as an opportunity for the company to explore new ways of acquiring new products. Traditionally, as a trading company, MARIC only sourced products overseas – offering no design ‘value’ to the local marketplace. This APD was a low-risk venture in which the organization could explore the processes and outputs of designing a product ‘from scratch.’ Low risk in this scenario is defined as (1) not requiring a considerable investment for new employee hires or product sampling, (2) not distracting the existing product and design team from their everyday objectives. Upon the sign off of the
collaboration, the APD formed as a five-month program established to design a new range of products that MARIC could manufacture overseas and sell to the Canadian market.

Participants:
- 2 Industrial Design Undergraduate Students (2nd + 3rd Year)
- 1 Communication Design Undergraduate Student (3rd Year)
- 1 Graduate Researcher (Design Manager at MARIC)

Each participant in the collaboration had a specific objective that they hoped to get out of the project. The list outlines the objectives of each participant and ranks them as a subversive stratum (fig 3).

Researcher Objective: (1) Explore how design can influence business operations and objectives. (2) Examine the potential for producing the designed product in Canada.

Company Objective: Acquire a new range of ‘designed in Canada’ products to sell and market.

Student Objective: Design a new range of shelving, or shelving adjacent products suited for small space living

Throughout the process of the project, members of the MARIC team attended critiques at the academy in tandem with Design faculty and independent industry designers. Established by the graduate researcher these critiques were situated to (1) provide direct feedback from industry and academy to the undergraduate students on the development of their design concepts, while (2) subversively assimilating an element of the design process into the genesis of MARIC’s company culture. In the end, a product concept was presented that won admiration from MARIC’s design team, sales team, CEO, and board of directors. The praise was so high that it was determined, for the first time in the company’s history, that an
exploration of local manufacturing was to be explored. While the viability of manufacturing the product in Canada dithered, it’s impact on the company’s thought process surrounding the notion of localized production was shifted permanently. Swiftly, the product developers, sales managers, and even the CEO were including goals of local production in their everyday work conversations.

3.3 Act of Subversion II: New Product Development

In mid-2019, a meeting took place between design leadership and the CEO. The team discussed the company’s forward trajectory and how they might capitalize on the business in the future. The design leadership recommended the company put a significant emphasis on the design and development of new products, instead of the sourcing and modification of factory products that they believed was the wiser and more secure route in the interim. At the close of the meeting, the leaders agreed to work on the modifications of an existing product line (new colourway and finishing). With the knowledge of the lengthy design and development timeline, the design leadership withheld a significant piece of information - they would also be tasking the small design team with an assignment to design bespoke products as a side project.

Back on the Design floor, the company’s three designers were presented with the subversive act of designing a new line of products for the company. They were not informed of the previous conversation with the CEO but were advised to work on the project only when free time was available for them to allow them to work on it. In the three months that followed, it became apparent that everyday projects that occupied most of their time could be completed in a faster manner, maintaining a high quality of work while providing the space for the designers to pursue the new bespoke design project. At the end of the three months, in addition to the colourway and finishing work, the design team provided the company with a new catalogue of custom designs that would be presented to new and existing customers.

3.4 Act of Subversion II: New Business Partnerships + Local Production

A by-product of the work done during Act of Subversion I, a comprehensive analysis of local production facilities occurred, to determine the feasibility of local production for the select range of product. As a result, a new relationship with an injection moulding facility was formed. This manufacturer produces utilitarian products such as flooring and packaging tubes for a cosmetics company but also operates with a value of sustainability; turning waste stream materials into new products and reducing transportation and carbon emissions. The discovery of this facility and subsequent introductory relationship led to many fruitful conversations within MARIC, ultimately resulting in the development of a nascent design project - a new range of eco-plastic products, produced using waste from local curb side recycling. To date, this new venture has not been discussed with anyone outside of MARIC’s product team. If successful, this partnership would define a new groundwork for MARIC to begin production in Canada.
3.5 Results

The projects and acts outlined throughout this paper are projects based on reflexive intuition by the design leader, trusting that in their experience as designers, managers, and researchers will attribute to a positive impact for MARIC. The tangible implications of these Design Subversions are only beginning to come to light; however, it is possible that these interventions act as instigators, or directly influenced the trajectory of the company. In the months following each of these acts of subversion the company has seen a dramatic shift in its outlook and business objectives including but not limited to:

- A large investment to attend an international design trade show and research trip to Europe
- Expansion of the product and design team twofold
- Awarding of “category captain” by a key retailer, affording full control of the retailer’s product section
- Securing a face-to-face design meeting with one of the largest global retail chains, redefining a once failing business relationship with immediate sales increases.
- Launching a new company mission which includes a call out to “engage with Canadian designers + artists through the continued development of originally designed product”
- Establishing short term and long-term company goals:
  1. Develop professional opportunities for Canadian artists and designers, supporting local communities and institutions.
  2. Produce products in socially and environmentally responsible ways and stimulate regional economic growth where possible by meeting the following targets:
  3. 90% recyclable packaging materials
  4. 50% of products made of sustainable materials
  5. 100% of suppliers to meet socially and environmentally responsible standards by 2024
  6. Investigate domestic production and assess the feasibility of a pilot program

4. Subversion as Design Practice

Design historically and primarily operates in systems of capitalism (Margolin, 1989), with designers working in house, as contractors, at an agency, working for for-profit organizations. The clients in these situations indicate their objectives, and it is the designer’s role to manifest an idea to suit the objectives. The design interventions illustrated above are subversive. Subversive design operates within these capitalist design systems and encourages the designer to continue to meet the project brief while lacing in acts for positive change. The designer must operate on high ethical grounds — this is a critical
component to the notion of subversive design, taking influence from transition design and its principles as described by Terry Irwin:

“Transition Designers learn to see and solve for wicked problems and view a single design or solution as a single step in a longer transition toward a future-based vision. Transition solutions might have intentionally short lifespans where obsolescence is a given because it is a step toward a longer-term goal.” (2015)

Subversive Design employs the future-base vision of Transition Design and applies its motives for solving these wicked-problems by introducing subversive elements into the design process. Subversive Design’s anarchist-like approach encompasses working in components of systemic issues into a design brief without the avert awareness of the client. The intent is not to change the project by producing an outcome that is in direct opposition to the client’s needs but to infiltrate elements of the design process/product that will act as small levers in a more extensive system. This method allows for design to continue to operate within the capitalist models while moving forward towards a more resilient economy. Within daily constraints of business operations, we are given permission - by ourselves - to act as design researchers in the field. As soon as a designer begin to insert particulars into their brief that are not widely known, they have given themselves permission to discover – finds ways to shift and open up new opportunities and – arguably – give a site for new knowledge to be revealed and shared.

“New knowledge gained in the frame of redirective practice can also bring greater authority to the application of one’s practice, this not least because of the support gained from other voices speaking similar messages, and other practitioners delivering projects informed by the same imperatives.” (Fry, 2008, p55)

The pursuit and development of new knowledge through Subversive Design can encourage the integration of design methodologies utilized in formal design education; encouraging the undertaking of wicked problems (Horst & Webber, 1973) within the industry. Methods of subversion permit the designer to bring their experience and knowledge from the lab (academy) into the field (industry), an occurrence that could bring much discomfort for new designers. As presented in the foreword to Design Research Through Practice, Ideo’s managing director Jane Fulton Suri describes the importance of confronting global problems in industry:

“Design research plays an important role in illuminating and tackling many complex problems facing the world today. It encourages and enables social change and challenges assumptions and beliefs about how we live, work, and consume. It raises questions that prompt us to consider other possibilities.” (Koskinen, 2011).

By assimilating Design Research into industry and businesses that are not privy to this type of knowledge creation, the scale of real-world impact for designers grows exponentially. In a report analysing the creative economy identified that 30% of respondents worked for an employer that did not have design as a core service (Association of Registered Graphic Designers, 2017). Organizations without design as a core service are the most susceptible to
the subversive integration of Design Research into their practices – constructing a condition for designers to augment the scale of their impact of their own fruition. This integration of Design Research within the applied context of working in industry allows for designers to work within critical spaces; consenting for the exploration speculative and prevocational (Dunne, 2006) work while maintaining integrity of a desire design outcome.

5. Conclusion

The research presented through the subversive acts at MARIC are rooted in business, and the results are reflected primarily through sales statistics or leads. These examples however illustrate a preliminary byproduct of designers taking agency over the context of work through means of betterment. This case study review only touches the surface on what subversion can accomplish when recontextualized and applied to design within SMEs; the abundant potential to transform subversion as a method within the design process is encouraging. Designers have the potential to impact their work by their own means, despite being constricted to the operations of a capitalist society; this impact can translate as influence beyond the scope of only their project.

In a world that suffers from ongoing natural disasters, novel viruses, social inequalities, and catastrophic environmental concerns – designers are posed to be in a position enact change. There is no singular solution or approach that will grapple with all of the problems in the world; however, a myriad of incremental and subversive movements that can be made through varying processes and disciplines in an attempt to progress forward. Designers often feel as though the work they do either directly contributes to these issues and that they have no agency to change any of the situations they find themselves or their work situated in. Subversive Design is an opportunity for designers to take agency of their work and ensure it is moving in a direction that fuels future generations.

References


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Abstract | Three quarters of the European population is concentrated in cities, with urbanization continuing to grow at high speed. In contemporary cities, living is more and more based on “mobile lives”. Young people live a significant evolutionary dynamic phase characterized by increasing both experiences opportunities and uncertainties. Starting from the design of interiors, a reflection on the development of the urban context is needed to understand, encompass and balance the ongoing social transformations and the lifestyle evolution. The overlapping, contamination and fertilization between different architectural typologies and functional solutions as well as new using ways allows the development of a new system called hybrid spaces. The paper investigates the emerging topic of care, highlights its potential relevance for the future generations and outlines the contribution that design, with a specific focus on the interior design approach, can offer to post-industrial society\(^1\).

**KEYWORDS** | URBAN WELLBEING, INTERIOR DESIGN, HYBRID SPACES, RESILIENT CITY

\(^1\) The paper is the result of a project titled City of Care. Wellbeing for a new human dimension in future Urban Environments, which is ongoing under the responsibility of the Authors.
1. Introduction

Cities concentrate three quarters of the European population, with urbanization continuing to grow at high speed. A United Nations report predicts that in 2050 more than 70% of the world’s population will live in urbanized contexts\(^2\). This will be accompanied by the highest level of migration due to climatic causes\(^3\) and to the perverse effects of globalisation and profit-driven economic policies based on inequality at the expense of cultural identities and people’s needs.

Health and wellbeing are critically influenced by the natural and built environment as well as by social relationships. In urban contexts, environmental changes, like air and water pollution together with transportation problems, are decreasing social cohesion and rising stress, also affecting physical and mental health. Studies on the long-term effects of growth in an urban environment show an increase in psychological disorders such as anxiety, panic, boredom, sleep disturbances. If health is assumed not merely as the absence of disease or infirmity but as a state of complete physical, mental and social happiness\(^4\), we understand how the individuals and communities’ life quality plays a key role in promoting and maintaining health status\(^5\).

As European cities are growing, they are progressively acting and introducing policies to become more sustainable and liveable, adapting to climate change, investing in a range of smart and innovative solutions, higher energy efficiency and stronger social cohesion and inclusion. In Canada, USA as well as in Asia and Africa similar initiatives are ongoing\(^6\). Starting from the design of interiors, that plays a fundamental role in the creation of spaces where people live, work, relate with others, all these issues call for a reflection on the development of the urban context able to understand, encompass and balance the ongoing social transformations and the evolution of the lifestyle. In a wide perspective, beyond the concept of smart cities, an idea could be supported promoting the notion of a resilient city, more accessible and inclusive for all people\(^7\).

\(^4\) Declaration of Alma-Ata, EU 1978
\(^5\) United Nations Sustainability Goals 11.
\(^6\) SC1-BHC-29-2020
\(^7\) https://www.ispionline.it/it/pubblicazione/beyond-smart-city-sustainable-city-22054
2. The city scenarios

In contemporary society, the ongoing digital revolution, the evolution of human relationships and the ease of mobility, coupled with a general decrease in travel costs, have deeply changed social practices associated with the persistence of individuals in the same place for long periods. Living is more and more based on momentary conditions related to new lifestyles dictated by working and personal activities, that often determine “mobile lives” (Elliott & Urry, 2010). We are living a “disruptive mutation” (Baricco, 2018), that is a total subversion of the use patterns of spaces and services capable of altering all the "solid" and archetypal conceptions that we had established. For these reasons, the diffusion of co-living and co-working experiences have increasingly exploited new sustainable practices combined with a progressive blurring of the boundary between the worksphere, the space for hospitality and living, a nomadic style finding its stage in the city. These social modifications impose a reflection on the new development of the urban context able to support the ongoing lifestyle evolution. As demonstrated by a research carried out in the Design Department at Politecnico di Milano, these social developments impose a definition of a new hybrid system of space-services characterized by the overlapping, contamination and fertilization between different architectural typologies and functional solutions as well as new using ways (Scullica & Elgani, 2019).

Focusing on the individual and community wellbeing as one of the most crucial purposes of architecture and interior design, it is particularly interesting bringing up indications from a psychological point of view, which seems to highlight the need to take account of an ecological dimension as a convenient approach to an individual’s discomfort. According to Hillman (1999), the way to improve people is to improve their city. In an increasingly global and multi-ethnic city, where individualism is exasperated, new and more supportive relationships need to be enhanced, symbolically recreating a "village" dimension. It is a matter of designing not only spaces but places, not just "objects" but relationships: the challenge is filling this gap at a methodological level and doing it with minimal resources.

A right to the city should be formulated as a right to a transformed and renewed urban life, to be achieved through a re-appropriation of times and spaces of everyday life, a new configuration of social, political and economic relations, starting from a new approach to the design of urban environments. Two key principles should be regained: the individual citizen identity and the consequent possibility of dwelling the city. The re-signification of the urban space should take account of the relationship between people and built assets, as well as of the environmental effects on the individual emotions and behaviour. Beyond a traditional architectural aptitude, focused on single specific aspects, a contemporary design approach would address space/service systems, aimed to achieve more complex, multifaceted experiences. A design approach can be an important element of connection between knowledge areas, experiences and research carried out in different contexts and with different types of tools.
2.1 Urban reuse

The urgent need to stop the systematic consumption of land, energy, built and natural heritage, calls for increased attention being given to the potential of existing assets for both housing and experience (Pileri & Biondillo, 2015). Potentially, some spaces, often characterized by relevant historical architectural features, can become an effective resource by providing hospitable interior atmospheres; according to a virtuous European approach, they could give support to initiatives addressed to “revitalize” neighborhoods, guaranteeing an effective protection to the territory.

Often, the need to reuse existing spaces, fostering the communities cultural development and raising social cohesion collides with a lack of specific administrative tools, with a consequent risk that best practices could result into gentrification process (Marini, 2015; Dal Borgo et al., 2016).

When acting in ancient contexts, the research of new values of character and atmosphere inevitably finds itself involved in the exploration of the authentic vocation of places, in a dynamic interaction between past and future. In present time, an excess of building destruction is the equivalent of a loss of memories and images (Giannattasio, 2017). A challenge for newly designed spaces to be really audacious can be grafting in the old, thus engaging in a continuity and dialogue with it (Truppi, 2011). Existing buildings, landscapes and cities are palimpsests of memories, theatres of private and collective lives that have developed over time. Research in environmental aesthetics shows that people generally prefer historical places to modern architecture since they create a sense of continuity with the past, embody the group traditions, and facilitate place attachment, intensified by awareness of the place history (Lewicka, 2008).

Places remember through their monuments, the architectural style of their buildings, inscriptions on walls, etc. (Lewicka, 2008). For people who reside there, the traces play the function of “urban reminders”, the “mnemonic aids” to collective memory. Memory and imagination make people live in a tangible as well as in an intangible dimension, both contemporarily necessary to put them in relation with their past and projected into the future. In this dimension, physical reality and the narrative capacity of places are especially important. Therefore, existing buildings take on a strong civic value, allowing people to keep their common memory alive.

Therefore, whatever the scale of intervention, design in existing contexts has to deal with the fascinating and challenging persistence of memory and with the meaning that people have given to places over time. Design in existing contexts requires a special sensitivity and a deep critical capacity in calibrating the intervention such that, at the same time, the materials as well as their associated values are respected (Anzani & Caramel, 2020).
In order to link research to practical needs and user demands, design processes should include relevant parties in urban projects, building partnership with stakeholders such as policy makers, users, business, and local communities.

2.2 Care in the urban contexts

Recent research questions the capacity of the Smart City to improving individuals' living conditions and, at the same time, discusses it from a democratic point of view, due to the possible exploitation of people sensitive data. Other characteristics could be emphasized to “go beyond” the concept of Smart City, that can positively shape its future: “resilient”, “flexible”, “circular” city. Resilience gained the attention of the United Nations, which launched the “Making Cities Resilient” campaign (MCR) through the United Nations Office for Disaster Risk Reduction (UNISDR)⁸.

Towards an advanced meaning of wellbeing in the urban contexts, the emerging topic of care highlights its potential relevance for the future generations and outlines the contribution that design, with a specific focus on the interior design approach, can offer to post-industrial society. Care involves an affective component, a benevolent predisposition to someone or something, a sense of respect and an awareness of the intrinsic value of objects and spaces. Therefore, the act of caring can become emblematic of a positive mode to address places. A strong appeal to civic responsibility seems necessary today, as there is an urgent need to protect against situations of abandonment and degradation, generated by administrative negligence and financial constraints, and in response to the sense of alienation that pervades contemporary society (Anzani & Caramel, 2020). In fact, design education and practice can generate a positive and sustainable impact on future communities if supported by specific tools based on a new interpretation of contemporary and emerging needs.

Flexibility is an environmental protection strategy as well as a way of taking care of individual needs. A circular economy concept is fundamental under different points of view. First, it refers to the economic cycle, which aims to the progressive limitation of waste and the reuse of materials, at the same time creating new industrial and job opportunities. Secondly, it refers to the holistic (circular) perspective, which highlights the interdependence between environmental, economic, and social plans, precisely within the framework of a circular economy. It worth considering that, for the first time, no. 11 of the Sustainable Development Goals has included cities among the key players of sustainable development. Besides, this is put in relationship with other goals, i.e., obtaining a quality education, promoting inclusive and sustainable economic growth, employment and decent work for all,

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⁸ [https://www.ispionline.it/it/pubblicazione/beyond-smart-city-sustainable-city-22054](https://www.ispionline.it/it/pubblicazione/beyond-smart-city-sustainable-city-22054)
and building resilient infrastructure, promoting sustainable industrialization and fostering innovation\(^9\).

The relations between external, environmental and design elements and internal, psychological dimension of the citizens and users should be taken into due account. A particular aspect of life quality which is often discarded as secondary, but has instead a strong valence for health, is sleep quality. This aspect of life quality is relatively simple to measure and assess; yet, together with other data related to social aspects and activities in social networks, it provides a strong insight on people’s conditions.

Considering that wellbeing can be measured through psychological and neuroscientific tools, a transdisciplinary holistic perspective should be adopted to approach the connections between happiness, meaningfulness, development, the protection of the environment, social inclusion and social justice.

As more and more nations are learning, economic growth alone is not enough to produce happiness and part of the unhappiness results from the enormous inequality in the distribution of global income. The need for a new humanism should consider that we are beings in which minds, bodies, environment and culture are connected at different levels. Dwelling as a basic human action joins people and environment: it begins with the possibility of controlling a portion of space and involves both the tangible dimension of physical places and their mental representation. The paper ambition is to promote knowledge and creativity as major cultural and institutional bases of human communities, to endorse care as a guide attitude to fragile, unacceptable and rejected aspects of individuals and communities, to re-launch an aesthetic, creative, design-based approach to urban and community relationships.

3. The needs of the young generation

Because of the limited power of local administrations, a top-down process cannot take place without a bottom-up participation, which pivots on the awareness and involvement of communities and individuals. Young people live a significant evolutionary dynamic phase. On the one hand, this creates increasing opportunities for experiences; on the other hand, it increases uncertainties. Indeed, young adults seem now particularly vulnerable as they report increasingly higher levels of depression and anxiety. Understanding young people’s needs for the future, with a particular focus on their personal satisfaction, could be a useful strategy to make them feel protagonist and to engage their great potential for social change. In particular, it is important to understand what meaning they attribute to their own wellbeing, and what possibility they have to transform it into action (Maggiolini, 2017).

Young adults’ generation is particularly meaningful because they represent the decision-making and active citizens for the future urban contexts. They are peculiar in that they

\(^9\) ibidem
The City of Care represent a transition generation between two ways of living and interpreting the world, separated by the advance of new technologies. Their way of reading and interpreting the world could reflect their position and therefore differ consistently from that of previous generations. This has repercussions on a personal and on a policy level. At the level of the individual this could define different ways of defining the best actions, in terms of policies, to reach necessary individual and social change. Developing cross-disciplinary concepts combining universal design of ICT with pedagogy for educational, communication and social purposes could complement and support a design approach. University city-campuses may offer opportunities for lifelong learning pedagogy and meeting points for research-based, multi-disciplinary and international student projects addressing the urban challenges.

Research proposals and bottom-up design processes with a profoundly multidisciplinary approach may involve students’ organizations, incoming students from Erasmus network, young workers and entrepreneurs involved through the alumni’s networks as well as through start-up incubators.

Figure 1. Involvement of young adults and design aspects in the City of Care scenario.

4. The role of interior design

Research in interior design at different scales of intervention spans over a broad field, including internal and external spaces, places, anthropic landscapes, thoughts and things. The starting point of a design vision is the human dimension with all its sensitivity and perceptive qualities. Within the design disciplines, contemporary challenges have led to an increased focus on the urban environment. Environmental and architectural psychology as well as the discoveries in the neuro-scientific field have made scholars, local companies and institutions increasingly aware of the opportunities offered by a human-centred design and
opened ever more stimulating perspectives to the design of welcoming spaces. The use of design practices, historically open to a dialogue with other disciplines, can be an important element of connection between knowledge areas, experiences and research carried out in different contexts and with different types of tools (Branzi, 2010). Aimed to seek innovative solutions in the project of development and growth of urban spaces, fundamental contributions could be provided by outlining specific characteristics of urban places related to living, working, travelling. A special attention should be given to healthy sleeping, dwelling conditions and personal relax time, which represent a relevant aspect in the everyday urban living across different people (students, working or occupied/unemployed persons) (Elgani & Scullica, 2020).

In the "city of care", this attention to younger people (age 18-28) could take place in two different ways: first, interior design should "cure" many of the meeting spaces, relationships, work, hospitality, exteriors and interiors, paying attention to the flexibility of the spaces (central theme today) to the technological equipment, (technologically "augmented" spaces) to the sustainability of the spaces themselves, and to inclusion, balancing, at the same time, the relationship between privacy and sharing.

In this regard, on the one hand, individuals need "relational" spaces in which to interact and exchange experiences, fundamental both for recreational-entertaining events and for work-related activities (this relationship is increasingly expressed by the term "bleisure" (business + leisure). On the other hand, more and more areas are also needed in which (work or entertainment and leisure) activities could be carried out in a private dimension. Every place of contemporaneity involves this type of "balance", especially in a context where "hospitality", "inclusion" and "care" of subjects are important elements, as highlighted here. All spaces must also be adequately flexible, not only for the different activities to be hosted, but also for the microclimate, lighting and sensorial components in general (Caan, 2011).

Second, beside a general orientation of interior design should guide the definition of all spaces (architectural and urban ones), it may be desirable that specific "spaces of care", according to the features defined above, would be created within different contexts in relation to specific places, in external and internal areas. Therefore, a more abstract spatial "model" should be studied and developed, to be then declined in different contexts and places, internal and external: from its presence in work spaces, to that within green spaces. A typology of spaces from which this model could take inspiration would seem to be that of "louges" with a high level of comfort (for services, furniture, materials, sensory components, microclimate, ...), where you can carry out activities in the name of "bleisure" in a dimension of safeguard and individual "protection". This type of space has long been synonymous with "exclusivity" and the prerogative of a few (e.g. airport or hotel executive lounges), but in the contemporary world the model must also adapt to less "exclusive" situations, involving a plurality of subjects, according to a more democratic approach.

The approach will obviously have to be declined in different situations, and to be reconciled in function of specific spaces with their different peculiarities, activities, services and needs,
always strongly relating to the users requirements according to a "human centered" approach. At different scales, technologies as an essential aspect should be used for the individuals, avoiding a "neo-mannerist" approach.

As pointed out in paragraph 2.2, sleeping and relax are relevant aspects of healthy conditions\(^\text{10}\). Many "relational" components of the sleeping dimension obviously reflect on the quality but also on the different sleeping experiences. From sleeping alone, in a “personal” and specifically dedicated functional space, to sharing this space with other unfamiliar persons (hospital rooms, airport lounges, hostels or spaces for work/offices), or with "partner" persons during recreational-relational activities, or with friends in different situations (night rest, work breaks, trips, ...). Of course, the project of spaces, equipments and furniture systems both in private and in public spaces is a very challenging theme for the Design process.

Another crucial topic is the increasing importance of green spaces and green areas in relation to very different types of spaces: according to the advantages that green areas can guarantee for the individual, not only the presence of particularly large spaces and green areas, of course, adequately equipped is hoped for, but the "contamination" of green areas with architectural artefacts and also with entire cities\(^\text{11}\) is becoming increasingly evident. Furthermore, the model must always adapt itself to the characteristics of the place so to be somehow representative of its culture, history, identity according to a "glocal" approach: an approach that today seems indispensable in an excessively globalized international context. In the development of the model, but also in its declination in different functional contexts, the participation of users in the design processes appears to be important according to a co-design approach (Rizzo, 2009) to avoid excessively "bottom down" choices and solutions and to make these spaces truly meet the needs of individuals.

\(^{10}\) [https://esrs.eu/](https://esrs.eu/)

\(^{11}\) as in the projects curated by the Stefano Boeri architecture studio for many architectural and urban projects designed and built in Italy and internationally.
5. Conclusions

Design seems to provide a key contribution to human everyday living in urban contexts, given its capacity to connect different knowledge areas and to propose reliable scenarios to improve dwelling conditions. A great responsibility of the design approach is stimulating a positive tension between spaces, times and new individual behaviours. It means identifying well designed solutions for the community, and not only for a single individual, also in relation to temporal structures and to ever more rapid and disruptive transformations (VV. AA., 2014). Building a welcoming and intimate dimension that can give care and comfort, even for a short time, to the individual is one of the most important challenges for the near future, whether it concerns collective indoor or outdoor spaces (Pimlott, 2018). Considering the topicality of this subject, an involvement of the final users in the design process, according to a co-design methodology, is unavoidable. A new humanistic approach seems to be more and more necessary for the design of spaces, service and technology in a contemporary and future urban context: in a more inclusive society, technology and economic development have to be considered as mere tools and not as final goals.

References


About the Authors:

Anna Anzani MPhil, PhD, Associate Professor. Research field: reuse through an ecological and transdisciplinary perspective, with a focus on psychological and anthropological implications of beauty preservation, the relationship between material and immaterial aspects of cultural heritage, creative memory in the design process.

Elena Elgani PhD in Interior Architecture and Exhibition Design. Since 2016 she has worked as adjunct professor at School of Design, Politecnico di Milano. She’s currently developing her research and professional practice with a focus on the system of hospitality, temporary architecture and new formats for future living.

Maria Renata Guarneri PhD, researching in the area of design and technologies for healthcare and wellbeing. Experience includes the participation to and management of international research projects with focus on lifestyle management in urban contexts, including the work environment.

Francesco Scullica Architect, PhD, Full Professor in Industrial Design. He carries out research, teaching and consulting in the field of interior design, focusing especially on hospitality and accessibility, and he is the author of many publications and researches in this regard.
The power of designing choices.

Raffaella Fagnoni
Università IUAV di Venezia
raffaella.fagnoni@iuav.it

Abstract | Design has gone viral, all of us today are aware of the responsibility that design has taken on the challenges and crises of our time. After some considerations on these issues, the paper introduces the work carried out by "La Scuola Open Source" and in particular the XYZ2019 experience, and it deepens its methods and processes. A different kind of attitude emerges, balancing a state and quality of "being close" (proximity) and a dynamic encounter that provides energy (collision). The paper identifies some possible paths that match this way of acting. Is a trend inversion possible compared to a past that is no longer repeatable? Inversion defines something that is in-versus, against the common thing. It seeks the novelty by changing the verse: the newness has a subjective concept that includes individual experience and the power to design choices. 1#Introduction; 2#The world has changed; 3#XYZ2019; 4#The Affective in Design; 5#Conclusions

KEYWORDS | SOCIAL DESIGN, MAKING/HAKING, INVERSION, PROGETTARE NEL CAOS
1. Introduction

Design has gone viral and “has swallowed the world” (Gerritzen&Lovink 2019, p.33) it is everywhere. Compared with other disciplines, in the last seventy years, it passed from a semi-handcraft professional activity to a discipline with multiple different declinations. Private and public schools have sprung up everywhere, directions and areas of application have grown, stressing out borders. And all this with the crisis and the decline of other parallel fields. Where designers were once known for their ability to shape stuff, creating visual feature and appearance of goods, nowadays they work on a lot of different specializations including material or immaterial application, artificial intelligence, services, organizations, government agencies, territories, and so on. Nevertheless, how many of them are aware of what they do, of the social responsibility they have, thinking about sense and content as well as a form? The topic of design responsibility has been always part of design culture, as many experiences and authors testify: The First Thing First Manifesto (Garland, 1964), the Real world of Papanek (1970) aware of sustainability, social justice, inclusion and people’s real needs; the focus on the human environment, the effort and designers’ role in the process of social change (Maldonado,1970); the designing to nurture and educate good citizenship (McCoy1993). The designers’ work requests to shift beyond issues of form and function to those of society and culture (Boradkar, 2004) also, as Mau, emphasizing the most positive side of capitalism, its ability to innovate in a socially responsible way, as a ‘massive change’ (Mau, 2004). Designers occupy a dialectical space between the world that is and the world that could be, they formulate a role as change agents and determine a course of action (Margolin, 2007, p.4-5) Despite the growing success of the responsible design movement, the industry is still perceived as often irresponsible, prioritizing profit and market share in the attention economy over consideration or accountability for harmful social consequences (Heller & Vienne, 2018, p.135 Kindle Ed.).

From the micro to macro, following the complexity of a multiscalar approach, new generations of designers adopt a systemic point of view, combining the detail with the big picture, investigating the physical and social, outlining critical issues and potential, experimenting the relational aspects between the form and structure of every kind of artefacts and situations. The “Emerging design” (Manzini, 2015) is a way of interpreting design and designing that is not yet mainstream, but that is expanding. It is a problem-based, solution-oriented design, defined not by the products, services, and communicative artefacts it produces, but by the tools and methods it uses. The focus of emerging design has shifted away from objects and toward ways of thinking and doing, becoming a means to tackle widely differing issues. It shifts from traditional, product-oriented design processes to a process for designing solutions to complex and often intractable social, environmental, and even political problems. (Buchanan, 1992; Cross, 2011; Manzini, 2016). “Design seems to become a lubricant for any social process imaginable” (Gerritzen&Lovink, 2019, p.14) but also the outcome of "Design as Collective Intelligence" (Di Lucchio&Imbesi, 2017; Frascara&Noël) combining the designers’ personal intelligence with the collective knowledge of the society.
2. The world has changed

Design has not changed: the world has changed, (Fagnoni, 2019) and Design has adapted itself to the different conditions, not necessarily limited within the confines of the formal definition of the product but extended as a driving force of human actions and activities in different fields of material and digital production. It is undergoing a momentous change (Margolin, 2015). The consumption collapse, in the era of the post-industry, post-metropolis, together with an unstoppable process of social and environmental ruin put us in front of the failures of the previous ones.

“In the most narcissistic age in the history of humanity, the human-centred design reflects an antiquated and anthropocentric vision of reality. It is time to remedy with a good dose of altruistic and allocentric design” (Antonelli, 2019, p.21)

Almost thirty years ago Katherine McCoy invited designers to break out of the obedient neutral servant to industry mentality (McCoy, 1993, 2019, p.140), and Mike Monteiro has reiterated the same concept, describing how design has ruined the world (2019). The conditions have changed and consequently the purpose of the design projects. Previously industrial design concentrated work primarily on physical products. Today many of the designers’ activities aim at the organisational framework, social problems, interaction and services. While during the last decades the territories and boundaries of the discipline have become frayed, the progressive transition from analogic to digital has transformed the design context. The radical changes we are experiencing, ecological, social, economic, technological, require now strong and decisive choices.

Design, as the discipline of making, always places the practical attitude ahead of the theoretical issue, and theoretical thinking always puts practice at the centre. This approach, certainly valid in the past, doesn't mean it could be the same for future designers (Fagnoni, 2018). As people who act, agents of change, they don't qualify as originators of chances through the possession of certain notional knowledge, but through operational skills, the ability to operate solutions. The Design professions are changing, adapting to the world that is progressively transformed. Laszlo Moholy-Nagy said "designing is not a profession but an attitude" and inspired by this statement Alice Rawsthorn titled her latest book (2018) offering a careful and current analysis of the new designer generations. Thanks to this attitude, they find themselves working in an independent way to face the great global challenges of our time, to which many of the systems and institutions that have organized our lives in the last century are no longer able to answer. (Fagnoni, 2019)

This happens by connecting with other’s knowledge, interacting with the territory and its inhabitants, through inclusive practices of listening and co-design. The awareness emerges that it is necessary to consume fewer resources, also from an economic point of view, and at the same time designing for the triggering of new economies. Given the magnitude and quickness of the changes in society and its organization, as well as the emergence of disturbing elements within ecosystems, it raises the need Design Culture to consider a
holistic approach, to create a ‘dialogic dialogue’ with the local context (Manzini 2016) to nurture the spreading of active citizens.


SOS is a private association¹, recently became a Worker Cooperative, whose members can be part of the staff, teachers and/or researchers. They define themselves as a community of digital craftsmen, makers, artists, designers, programmers, pirates, dreamers and innovators; a solidarity ecosystem for social, cultural and technological research and imagination; a space to the transformation of the existing. The founding nucleus, based in Bari, has expanded with a community of people scattered throughout Italy. A rich portfolio of educational activities combines who needs to learn something and who offers teaching about something².

As they claim on the website³, they aim to follow the founding principle of Plato’s Accademia: ‘a free individual should not be forced, as a slave, to learn any discipline’; they consider Design as a ‘catalyst to collectively redefine our relationship with reality’, envisioning things for how they could be, altogether. They organized their School’s structure to co-designing its teachings proposing openly, allowing anyone to evolve each of its aspects with time, based on learning by doing, do it yourself, opensource, hacker ethics. Learning from Nassim Nicholas Taleb (2013) they are building a model capable to adapt to mutations and making good of any erraticism and change happening.

Courses, lessons and workshops deal with a large range of contemporary topics, about design-related disciplines. They developed an original format called XYZ of which they steered 6 editions in different places. It concerns a methodological tool for knowledge sharing, an immersive, cooperative, multidisciplinary research and co-design lab. The focus is on crossing common problems to find connective solutions, inspired by the hacker learning process and principles (iterative, open, nonlinear, cooperative, informal, ethical). The XYZ2019 edition, named Comunità Eretiche, involved almost 100 people, among researchers.

1 Founding members were thirteen guys, their manifesto is available at the website: https://www.lascuolaopensource.xyz/en [accessed December 1st, 2020]. I knew them in 2015. Right from the start, they expressed themselves as a disruptive group. They have grown their program by working several handed, in a closed Facebook group. Each participant could share and contribute to edit the documents. Their first business plan has resulted in the actual SOS configuration.
2There are six thematic areas: teaching, research, care, hackerspace, communication, sustainability. The educational activities are available here https://www.lascuolaopensource.xyz/en/teachings [accessed December 1st, 2020]
teachers and designers working together with the inhabitants in the former convent, a disused complex of 6,000 square meters in Cerrito Sannita.

Table 1. XYZ groups Focus and Sense. [DCs Table title].

<table>
<thead>
<tr>
<th></th>
<th>focus</th>
<th>sense</th>
</tr>
</thead>
<tbody>
<tr>
<td>X team</td>
<td>Identity, Strategy Communication Design</td>
<td>X is a cross, the opportunity for a dialogue</td>
</tr>
<tr>
<td></td>
<td>Propaganda</td>
<td></td>
</tr>
<tr>
<td>Y team</td>
<td>Tools, Hardware and Software, Making/Hacking, IoT</td>
<td>Y is a fork, the opportunity for choice</td>
</tr>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Z team</td>
<td>processes, service design, governance, UX</td>
<td>Z is a road, a trip in divergent directions</td>
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Here, Guido Lavorgna and Raffaella Vitelli, with their local association Convento Meridiano, carried out an extraordinary undertaking: once obtained the thirty-year concession for the use of the convent spaces they proposed a project, thanks to which they won the fifth edition of the Culturability call - regenerate spaces to share. Accordingly, they invited La Scuola Open Source (SOS) to organize a research and co-design workshop.

The XYZ2019 goals were ambitious: to co-design the communication strategy and the visual identity system (X), to reorganize spaces and work on IoT grafts in the structure (Y), to develop a governance model, design services, and deepen the economic sustainability (Z) of Convento Meridiano: kindergarten, cinema, laboratory and space of possibilities; an epicentre of social and cultural transformations.

The SOS staff invited directly teachers or tutors and proposed an open call to pick participants. Confirming the importance of design’s aptitude rather than expertise’s, their selection criteria didn't relate skills or profiles, but the personalities. Some students, philosophers, pedagogues, engineers, designers, architects, economists, makers/hackers, service designers, participated. Sketches and notes below try to describe and model this experience, offering methodological thinking on the heuristic, experimental, intuitive, analogic practices, and tools used during XYZ2019. The coordination team proposes the overall plan. It allocates the goals throughout the laboratory to achieve the expected results. Starting from a shared input in a common meeting (1) the group (X, Y or Z) works in small subgroups with horizontal dynamics (2) involving internal and external actors. After each working session, the group meets again, share results and proceed with the progress achieved (3). The members of the subgroups learn, teach and produce by a mutual exchange relationship (4). They carry out small businesses useful also for other subgroups. As the days pass the subgroups are combining differently, often mixing their groups of original belonging. Everything happens in a fairly fluid way, based on skills, attitudes and interests. The work progresses through a continuous exchange flow and interactions that inspire self-training.
Figure 1. Processes and flows. An articulated relationships system assumes a chaotic behaviour when it does not follow strictly linear laws of evolution and development. Participants behaviours, after a certain time lapse, are atypical and almost unpredictable. Flows seem to lack a correlation between the subsequent steps; however, they are never random forms. [sketch: Raffaella Fagnoni]

Everything that was produced and shared during ten days of immersive and horizontal work, follows the wake of the ad hoc approach enhanced by the American counterculture in the '60s. Bennis and Slater (1968) indicate it as a new system of network relationships, more flexible and responsive. Adhocracy contrasts the model of pyramidal relationships with a rhizomatic one, proposing horizontal development and interchange. While the bureaucracy model follows the practice of imposition, that of adhocracy respects the practice of the proposition. The model of bureaucracy is autocratic, according to a vertical arrangement, while the approach of the adhocracy is collective with a rhizomatic development.
With the term rhizome, the Frenches Deleuze and Guattari define a particular semantic model to be opposed to all models based on the tree concept (prevailing in all disciplines). The tree model provides a hierarchy, a centre, and an order of meaning, arranged in linear order. Instead, according to the authors, unlike trees or their roots, the rhizome connects any point with any other point, and each of its traits does not necessarily refer to traits of the same gender, staking very different regimes of signs. Compared to centric or polycentric systems, hierarchical communication and pre-established links, the rhizome is an acentric, non-hierarchical and non-significant system. (Deleuze & Guattari, 1997, p.33)

The design process (ProgettarenelCaos) is based on people enhancement and their movement autonomy, taking advantage of coordinators and teachers that act as moderators, activators and synthesizers. They behave as leaders and steering an irrepressible flow that otherwise risks overflowing. The Chaos is not an uncontrolled disorder but a generative context. It appears as a kind of harmonious anarchy in which the individual subjects, following a stream of effectiveness, organize themselves by units and positions during the work evolution. They generally maintain the same role and disposition until they...
complete a specific work package. All the produced outputs are downloadable on the SOS webpages⁴.

Figure 3. The map designed to show the XYZ process. Group Z, Scuola Open Source

The development of the works follows a step-by-step process, during which XYZ groups and subgroups act and proceed with multifarious interactions and connections. They are designing in the chaos, as a generative process.

Measuring project results. Just like the most creative projects, also the XYZ2019 experience has results that are both tangible and intangible. The tangible ones can be directly verified by measuring the effectiveness of what has been done. The artefacts and services designed for the structure and local stakeholders remain as assets of the group that manages the Convento Meridiano who are using them.

Quantifying the intangible results is less easy, but we can monitor and observe them. This is a first attempt to take advantage of the experience gained and to explore them:

- the sense of empowerment of each member of the group;
- the immersivity in the local context;
- the higher performance in a mix of skills;
- the trust in people;
- the positive rebel attitude (as makers/hackers)

All the practices, to operate for tangible results, focus on human relations and obtain as an added result to the expected final outputs also the design of a community, since the developed relationships move between proximity and collision. On one hand, the state and the quality of being close, proximity, permits participants to share and integrate skills in the multidisciplinary group, with stakeholders and by living the place. On the other hand, the dynamic encounter between people and activities, that often collide, intensifies the energy. The affective and aesthetic components become a fundamental insight into an immersive designing mood.
4. The relevance of the affective

The state of "being close" highlights the affective component as the quality of projects and design processes. Empathy and attention to relationships make the results more effective. In general, the objects of design culture and also design activism are affective, designers provide intensifications that give materiality (Julier, 2019 p. 341). This affective component, however, does not only refer to the formal aspect of product design objects. As Norman stated some time ago, emotions have a crucial role in the human ability to understand the world and to permit learning new things (2005).

The emotional and sensitive component extends generally as an attitude of the project. We can also find it in the design of reuse and regeneration of spaces and situations, in place-making actions, in the staging of performances or other events, in the performance of contemporary design practices. Today many design projects come up with installations whose meaning is above all to raise awareness and make people reflect on the critical issues of our time in order to induce change. Figure 4 shows an example on the theme of human interactions mediated by new technologies in the framework of the Sencity Festival, Montpellier, 2018. The passage from a individuals' community to the connected community.

In similar cases design works in a process of co-articulation. Here objects function as a materialization of participation. They facilitate a performative engagement in public life without disembedding from the everyday. (Julier, 2019 p. 339)
The designer activist is working in a more open-ended way that goes beyond the materialization of the design. The implementation also involves a series of re-designs that doesn't necessarily mean that the design reaches an optimum point. Philosophically, of course, this has resonances with the notion of wicked problems (Rittel&Webber, 1973). The designers remain embedded with their public, their responsibility becomes a shared one, and one that gives space for the designers to usefully contribute their expertise while engaging users in taking on and continuing to develop results. (Julier, 2019 p. 339)

Design today plays such a dynamic role in so many areas. Historically, finding positive applications for new technologies was one of the key roles of design and will continue to be as technology is advancing at an unprecedented speed and scale. (Rawsthorn, 2018) A flow of new technologies promises to become part of our daily lives - quantum computing, neuro-morphing computing, including artificial intelligence, crypto-currency - and people do not always consider them positively. We frequently read stories about artificial intelligence, which, if poorly designed, can cause a considerable amount of damage. On the contrary, if we provide it intelligently and sensitively, it can help to solve problems. Designers will be fundamental in finding positive and beneficial applications for these technologies and have an incredible opportunity to identify them. The affective side takes on a considerable role in this dynamic. However, we need to balance these practices with those involving people. Here some paths to ride:

4.1 Inversion

Inversion is an exercise about shifting the constituent elements of a speech into an arrangement and overturns the normal syntactical structure. It can be based on a shift or a pass from one state to another. Anyway, it is similar to error understood as a possibility for the change of perspective. Many past philosophers, from Plato to Saint Augustine, from Descartes to Heidegger, challenged the idea of error in the search for truth. Error is one of the figures of thought involving practically all fields of human knowledge (Donà, 2012), adopted by pedagogues as a fundamental aspect of mental construction and an integral part of learning (Maria Montessori, Gianni Rodari, Loris Malaguzzi, Bruno Munari), an occurrence for important discoveries in scientific research (e.g. penicillin, Alexander Fleming, 1929). Inversion refers to something that is in-versus, against the common thing, against habit. By changing the verse, it seeks novelty, what is new in a subjective level, a concept that includes the experience and different from that of innovative, related to something that was not there before.

4.2 Craving for craft

Outside the maker spaces and fab labs, designers try to work hard to create authentic and craft-based processes. A craving for craft (Gerritzen&Lovink, 2019) diffuses practices hacking of the technical complex objects that surround us. The outlines of a novel post-digital craft appear. More than ten years after Sennett's book success (2008) good hands have regained
vigour, although electronics, computer science and artificial intelligence dominate and dematerialize customs and traditions. The good hands (virtuous, technically skilled) are also good hands (polite, doing right). These practices recover the culture of proximity between the local workers, the local economies and emerging designers.

The more interesting craft activities concern more developing products/services rather than producing traditional products because these activate alternative processes at the productive, social and economic level through the creation of startups. Through self-production, we enhance our traditions without losing them. Craft permits also to work with the local community. Even on an educational level, an alternative pathway exists. It starts with the analysis and choice of a problematic context. The following research phase evidences the peculiar aspects permitting to identify a project direction. Finally, a concept takes shape and a product/service of which a final model result.

4.3 Reuse and Recycle as Destiny

Reducing, reusing and recycling seems to be the only sustainable social strategies capable of expressing innovation, generating consensus and producing beauty. Recycle creates new value, a new cycle, another life. Recycle is an ecological action that operates pushing the existing into the future by transforming waste. It is not interesting to adopt recycling paradigm because it is an ethical action, good and right, but for the reason that today to recycle is to design. (Fagnoni, 2016)

4.4 Ecological Consciousness

Ecological consciousness is something that requires a radical rethinking of everything. First of all, of the term ‘society’, that must necessarily include also non-human entities: flies, cats, trees, oxygen. Social space has never been exclusively and totally human. We live in a biosphere, which today is becoming fragile and thin as a sheet of paper. (Morton, 2019)

4.5 Limit neoliberalism

Design schools have so far been directed to develop the ability to make beautiful objects accompanied by the illusion that they improve people's quality of life. They pursue the modernist illusion of progress, as in the famous historical film To New Horizons5(1940) which

5Produced by General Motors, the video documents the "Futurama" exhibit in GM's "Highways and Horizons" pavilion at the World's Fair, which looks ahead to the "wonder world of 1960." It narrates how Americans are always striving for "new horizons," and "new ways of doing things." and proposes an immense, miniature diorama designed by Norman Bel Geddes. https://www.youtube.com/watch?v=tAz4R6F0aaY [accessed February 13th, 2020]
presented the vision of an ever-better world, always growing with the unlimited progress of science and technology.

The typically neoliberal vision of the world largely denies the existence of any negative implications of industrial products and systems on the environment and people. The fundamental problem, from a design point of view, is that huge portions of industries are involved in both the creation and continuance of such myths, however defective they may be. Neoliberalism encourages the unlocking of future sources of value and how design cultures work within this. Likewise, a similar dynamic is the work in design activism. Much of the rhetoric in design and social innovation is directed at tapping into underused resources and freeing up their potential (Manzini & Jegou, 2005) thus there is also a future orientation in design activism. (Julier, 2019, p. 340)

4.6 Educating to Civic sense

Design is dealing with absolutely distant and different matters. This reality imposes today an exceptional commitment of intelligence, an adaptation ready to spread good practices if we aim for the power of designing choices. Yet, in recent history, with the latest reforms of the school and university system, the trend to lower the cultural offer to pursue educational success is gaining momentum. It focuses heavily on skills and less on theoretical disciplinary knowledge, in a sort of market between debits and credits. Certainly, the skills are useful, but it is unthinkable to reduce everything to kits of pre-set and repetitive formulas and models. In addition to basic skills, theoretical knowledge allows the development of critical thinking, emotional and creative intelligence, divergent thinking, the ability to autonomy and self-determination. These are not skills: they are knowledge that becomes part of learning and can be tools of emancipation.

The conference "Designing Civic Consciousness/ABC for the Reconstruction of Civil Consciousness" (San Marino, 2019) provided the opportunity to focus and debate on teaching, on the issues related to knowledge, democracy, and civic sense: that is the willingness to work for the regeneration of the social and physical quality of the context in which one lives. Its existence implies the presence in society of widespread mutual trust and a shared idea: the trust that if I behave correctly the same will be done by others. A shared idea of what is meant by 'correct behaviour'. (Manzini, 2019, p. 24)

4.7 Designing community

Community is a social group in which relationships, emotional ties, closeness and solidarity are the prevailing aspects. It consists of several units interacting with each other: territorial (the geographical, environmental, networked and structural features); social (people, relationships, institutions, services); economic (activities, forces, resources); cultural (values, norms, behaviours, meanings). More and more clearly, the solution of social problems becomes possible only by adopting flexible and decentralized modes of operation, in
contexts closer to everyday life and based on the promotion of mixed networks, understood as a system of co-responsibility between different subjects.

Designing the community means building a voluntary, light and open group in which the individuality of each one balances with the desire to stay or do something together. It means fluid communities, without which there is only the loneliness of the connected individuality, or the reactionary attempt to re-propose the closed and identity communities of the past which, even though they were so beautiful in the past, are certainly a past that will not return. (Manzini, 2019)

5. Conclusion

My purpose has been to take a trip, moving from the contemporary situation and exploring some directions, with the aim to investigate what Design we need and what Design we could teach today. We have the power to design choices and to nurture good citizenship.

We are facing a momentous change, that someone considers a planetary procession toward decay. The consumption collapse, together with an unstoppable process of social and environmental ruin, put us in front of the faults of the previous ones. The young generations are much more sensitive to these issues: they feel anger towards those who preceded them, thinking without any scruple only about their interest. The approach of La Scuola Open Source proposes a different vision for design attitude and design education. A new kind of institute, a young cooperative, opening new perspectives. The XYZ2019 experience offers an example of co-creation and co-design. Today, the activities produced by this workshop are carried out by local people. These practices are thriving in our times as a possible solution to bridge the gap between science, society, innovation and some contemporary human problems.

Two poles balance our life: a prosaic and a poetic part. The first one leads us to act by obligation; while the poetic frame integrates each aesthetic element in our lifetime (Morin 2019, p. 12). The wonder is the emotion of aesthetic feeling that spreads desire for sharing and intensifies enthusiasm (a beautiful word from Greek: en-inside- and théos-god-, the god inside). A more powerful and intense mood occurs, rather than a simple excitement, a feeling of energy overgrows us. Each goal seems easier to reach and every obstacle easier to fight. A contagious mood opens the chance of realizing ideas or dreams. I think the SOS guys have a terrific power of designing choices and to contribute to diffuse good citizenship.

Designers actions and practices take place at three scales: the individual one, the groups one and the institutions one. The first, the individual, is the level of People, where recombine distance relationships with proximity relationships. The second, the group, is the level of Place, where to organise places as nodes of networks and not as closed enclaves. The third, the institutions, is the level of Economy, where to address the crisis of neoliberalism with the economies of caring and reusing. Through their choices and their tactical creativity,
designers are able to act and spread out the culture of proximity to intervene on the most urgent issues. The more people will be involved in these processes, the more opportunities will be developed to turn what is preferable into what is possible.

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The power to design choices.


**Raffaella Fagnoni** is full Professor in Design at Iuav, University of Venice. Previously, at the University of Genoa, she was coordinator of the master’s degree course and of the PhD course in Design. Her research activity focuses on social and environmental design.

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The systemic approach and the use of new technologies to communicate cultural heritage and develop a culture of proximity

Marco Faccini *, Alessandro Spalletta **

*INAF Astronomical Observatory of Rome  
**ISIA Roma Design  
* marco.faccini@inaf.it ** alessandro.spalletta@isiaroma.it

Abstract | Today the individual is a content producer, who can share ideas and merge creations at a global range in the fastest way. Anyone is a manager of pop culture. Anyone can visit cultural places and interact with others anytime, anywhere in real time. Several Institutions in Italy are “disconnected” from the contemporary changes. This research project was thought to solve this contrast, taking into account the modern scenario and the contemporary role of culture in the social and economic environment of the cities. The research was focused on the development of networks to spread knowledge and create connections within public, the territory and the social-economic actors. Each module of the projects is designed on the basis of the “culture of proximity”: the public will be part of the project, interacting in several ways, becoming the content developer. Adaptive modules regard both architectural, design and technological aspects and several communication languages.

KEYWORDS | CONTAMINATION, SYNERGY, ADAPTIVE SYSTEM, OPEN GENERATIVE SYSTEM, MULTI-SENSORY COGNITIVE EXPERIENCE
1. Introduction

CULTURE: the way of life, especially the general customs and beliefs, of a particular group of people at a particular time.

HERITAGE: the history, traditions, practices, etc. of a particular country, society, or company that exist from the past and continue to be important.

PROXIMITY: the state of being near in space or time. *

*in Cambridge Dictionary

Usually definitions help to simplify and explain a concept, today, not these particular ones. Their meanings have never been more complex as nowadays. The “definitions” are so open to subjective interpretation and are so interconnected with several other concepts that it is extremely difficult to maintain a univocal meaning constantly. The fastness and speed of interactions and exchanges of data between subjects from every corner of the globe are challenging our understanding of the usual scenarios, they are introducing more complex realities and changing every moment the content of what we usually call Culture.

1.1 Cultural Proximity

In classical studies, cultural proximity has been connected with aspects like geographical distance, the exchange of goods or persons and the similarity of political systems.

As stated by Maznevski, Distefano, Gomez, Noordenhaven and Wu (2002), culture “is a group-level phenomenon, but it influences individuals’ perceptions, values and behavior, especially with respect to social interaction”

Cultural proximity can be defined and found in several areas of research.

With “cultural proximity” we can find define the term of the extent to which people perceive similarities or differences between two cultures (Babiker, Cox & McMiller, 1980; Wang, 2009). On the other hand, a different approach stems from Pool (1977) and Straubhaar’s (1991, 2003) work, presents cultural proximity as the notion that people naturally choose media that is culturally similar.

Babiker and colleagues (1980) developed an index that measured the perceived similarities between two cultures based on the following characteristics: “climate, food, language, clothes, religion, educational level, material comfort, family structure and family life, courtship and marriage, leisure activities, and intergroup conflict”.

One of the most known applications of cultural proximity or distance is summarized by Geert Hofstede’s (1980) cultural index (Kirkman, Lowe & Gibson, 2006). This index involves six dimensions: individualism, power distance, uncertainty avoidance, masculinity, Confucian dynamism and indulgence (Hofstede, 1980; Hofstede & Bond, 1988; Hofstede, 2015). These dimensions range from the closeness of social frameworks, acknowledgement of the
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inequality of power distributions amongst social institutions, adoption of preemptive measures to avoid deviant situations, and dominant as well as secular values in society (Kirkman et al., 2006).

In the last decades these indexes have been used to study, or to manage, scenarios in international trade and marketing studies, and also to explore audience predilection (Fu and Govindaraju (2010)). In examples, the results of the Fu and Govindaraju (2010) study contend that countries that are more culturally similar to the United States will also resemble Hollywood film predilection. Perceived cultural proximity was based on characteristics like shared language, food, clothes, religion and lifestyle (Babiker et al., 1980; Wang, 2009).

1.2 Pop Culture and a new Proximity

We are living in a rapidly changing world of communications, that has significantly shifted the dynamics of pop culture. Perhaps what’s more interesting though are the new relationships it’s created, between audience, publisher and brand.

New technologies allow us to manage an increasingly high amount of data (big data), to draw new relationships through the use of increasingly advanced processes, also thanks to the insertion of artificial intelligence. The speed with which we can generate new scenarios, expand our knowledge or keep in contact with everyone in the social world, gives us new and innumerable opportunities.

Everything changes in a bit also behavior towards culture and reality. These opportunities, these new “rules of engagement” modify, enhance, revolutionize the relationships between individuals, material and immaterial contexts and require new cultural paradigms.

In the last ten years we have witnessed the creation of new realities by information and communication technologies "The online digital world overflows into the offline analog world, with which it is mixing" .. "we increasingly lead our lives onlife ". (Floridi (2017), The fourth industrial revolution. How the infosphere is transforming the world.).

Daily life is divided between online and offline, the experiences we live are increasingly connected in a social life that takes shape, as our everyday physical life, in a way that we can no longer shoot down because it is part of our individual being and, at the same time, it is part of the collective life.

We speak of the fourth industrial revolution, of IOT (internet of things), connection between objects people and web, or at a higher level, according to the definition given by CISCO, we are now in the IOE era (Internet of Everythings) where the connection extends to all (M2M Machine to machine- IoT), M2P (machine to person - Data and Analytics), P2P (person to person - collaborations).

This was the backdrop to The Culture of Proximity study undertaken by BCMA members, Viacom Velocity – home of iconic pop culture media brand MTV. They set out to better
understand the fundamental audience attitudes underpinning this shift. The results are a clear

New centers of gravity: people have more power than ever. They also filter information in their social media feeds to see only what they want.

New intimacy: everyone is even “friends” with celebrities, messaging is just as personal as talking face to face.

New yourself: everyone chooses activities in real life that will give the opportunity to post something. The audience became the producer of the contents and the judge of the pop level they extend.

1.3 Culture vs Culture

The new globalized markets and their network entail new challenges for academics and industry practitioners. The cultural nuances are now of paramount interest, they may, or may not, determine whether enterprises rise or flourish in global, national or regional markets. The current study is mainly concerned with perceived cultural proximity, the extent to which people perceive their culture as similar or different to one another, and levels of interaction about the marketing implications of these processes. With the onset of globalization as well as the internationalization of businesses, trading and media, recognizing the role of culture in these transactions becomes paramount in order to gauge and better understand emerging target markets.

All these studies seem disconnected from the usual idea of culture we have, the usual definition. Museums, cultural areas, cities of cultural interest they can not be separated from the changes of the modern age, they can not be “closed” to evolution or new needs of the public, they need to embrace the contemporary age and the changes and challenges the era is providing us. They have to be part of new scenarios in order to answer the collective culture, to build new connections with their audiences and express their potentiality. and, on the other hand, everyone wants to be POP, also the museums.

Marketing, big data, social media what do they really mean for the classical culture?

How does a city have to change its own traditional activities to answer the modern age?

How can we tackle the challenges of marketing and cultural dissemination without loosing control? Without falling into stereotypes and easy shortcuts to engage the public?

Modern technology has given the opportunity to the "Places of culture" to be part of huge networks, to be interconnected with cities and other cultural hubs. Museums, "Science Center ", cultural heritage areas, cultural tourism stops are nodes of these networks. Each one emphasizes the participatory approach with the use of interactive exhibits, encouraging visitors to experiment and explore. These nodes are spaces where culture is available to
everyone. Thanks to modern technologies they create increasingly dynamic and engaging experiences that allow the public to be more than part of a passive audience.

The research project we have developed was thought to answer these questions and suggest multiple solutions to the needs of a Cultural Institution, taking into account the modern scenario and the contemporary role of culture in the social and economic environment of the cities.

Two leading institutions in Rome, one committed on the field of design and communication, the second on cultural heritage, astronomy and science communication, have merged their experiences and needs to produce a two-year research project.

2. First steps: understanding the Scenario

Although technological evolutions make it possible to quickly exchange information and data in many places with the biggest audience, there are difficulties connecting and communicating Italian cultural heritage.

The Italian cultural heritage is huge and so complex. It is composed of buildings, museums, libraries collections, material objects and abstract compositions, everything interconnected with the cities, the history and the social and economic life of the country. All these materials usually remain in an indefinite state in time and space, hibernated and distant from the contemporary development of culture, they are incapable of being fluid and in continuous transformation (BAUMAN- La vita liquida).

This is the local reference scenario that characterized the development of an interdisciplinary research project, "INAf Universe", developed taking into account the contemporary role that culture plays in the social and economic life of cities and the country system in which the use of technologies becomes a generator of new proximity cultures.

The research and exploration referred, in the first phase, to the area of Rome and its surroundings: a real, tangible scenario that allowed us to model the design choices starting from concrete references, represented by the elements of the system in terms of actors, places and relationships.

The contemporary cultural scenario taken into account is bigger and more complex than the local one, so the project started from the analysis of some cultural hub in Europe.
3. Objectives

3.1 Who is INAF?

INAF the National Institute of Astrophysics is the main one Italian Research Body for the study of the Universe. INAF is also the guardian of the historical astronomical heritage developed in the past centuries.

The first step to understand the strengths, the critical points and evaluate the "materials" to be used was to know INAF.

To understand INAF reality, a set of interviews to those who work within the research institute was organized. This allows us to understand the different activities INAF carries out in the field of astronomical research and its dissemination. We carried out a specific analysis of the means of communication that INAF uses, the contents and the media used to be presented to the various audiences.

INAF is the guardian of a heritage spread throughout the Italian territory in the cities hosting the Astronomical Observatories, represented by elements of the past, and historical places such as the church of Sant'Ignazio in Rome or the Casanatense Library. But INAF cultural value is not only connected to the past, INAF is involved in international research projects with high technological content in the realization or programming phase, projects of paramount importance to enrich scientific culture and knowledge. (i.e. the first images of Pluto or the first image of a Black Hole)

3.2 What are the needs?

INAF needs are related to the same needs that each modern research institutes pursue, the need to be recognized by the public and the wish to be connected with the public at large to disseminate the research that is performed inside the institutes itself.

Furthermore, because INAF is the guardian of a huge cultural heritage and plays a special role in the cultural environment of each city where an astronomical observatory is located, INAF needs to enrich its modern role of producer of scientific values, connecting the past and the future of astronomical research through its collections and the link with the historical places in the cities.

3.3 Which strategy?

This heterogeneity of contents and the complexity in narrating them was the first theme of the project activity of the working groups. The groups were represented by about 30 researchers, who through the design of the systems, responded to the emerging INAF needs with multiple strategies:
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- enhance INAF’s historical-scientific heritage on the local and Italian territory, starting from a flexible format, through adaptive actions capable of modeling the most effective communication strategies for the context of wintering;
- use advanced communication methods capable of reaching different audiences;
- intercept the different targets in the areas of everyday life, through the use of attractors specially designed as system nodes;
- choose advanced science and research themes, which will be capable of better explaining astronomical and astrophysical research.

3.4 Objectives

The objectives of the research have been defined and divided in two phases. The first phase of the work was dedicated to the Rome scenario, as a simulation context, then with the second phase, the project was extended to other Italian cities and Observatories.

A choice made because of the possibility of formulating strategies on a particular place like Rome and its "Astronomical" surroundings, full of opportunities and critical issues.

In particular:

- build a relationship between the astronomical places in the city, and the Copernican and Astronomical Museum of Monte Mario, in order to bring together different targets to enjoy the contents of the Museum and the surrounding area.
- identify "attractors" able to catalyze attention and convey messages more effectively (figure 1);
- take advantage of the characteristics already present in the area in terms of structures and services, to engage targeted design actions, for example by joining the nodes in the city but not connected, to quote Ezio Manzini "use the existing".
- Develop outreach interactive projects and the relative communication and advertising campaigns able to evolve in a short term inside the cities or the Observatories areas.

4. Methodology and development

4.1 First observations

The team was divided into working groups.

Researchers’ observations highlighted some critical issues used as project guidelines:
• a lack of connection between the places of astronomy present on Rome territory;
• poor knowledge of the cultural places connected with astronomy in the most tourist areas of the city;
• difficulty of INAF to communicate itself and the cultural resources present on such a territory so rich in cultural, national and international values.
• the need to review the narration of the Copernican and Astronomical Museum in terms of interaction, usability and communication;

**figure 1. Astronomical attractors**

The observation and mapping of the activities on web platform, digital channels, public events on the territory managed by INAF, has allowed the research to underline a cultural system that is not so much known by the public at large.

Through dedicated questionnaires and interviews, interesting data emerged on the subject of this gap and disconnection that affects the recognition of INAF by an heterogeneous target. An even more evident problem if we take into account that in the area of Rome and its surroundings several astronomical institutions are established.

There are the historical observatories of the Roman College and the Specola Vaticana, the modern research centres of Monte Porzio Catone and Tor Vergata and in Monte Mario the national headquarters of INAF and the Copernican Astronomical Museum.

### 4.2 A "lens" for each objective

The results of the first analysis have made it possible to obtain the requested info:

• identify and map the nodes in the area, represented by the places relating to astronomy and the places with the greatest tourist turnout;
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- highlight the elements defined as "attractors".

The attractors have been identified for their ability to be of high interest for the heterogeneous public and they were used, in the project, to convey the messages in a more effective and transversal way, through new AR technologies and network generation systems.

An example above all can be represented by Bernini's fountain of the Four Rivers in Piazza Navona; an important cultural attractor whose few know the relationship with the "world" of astronomy, which allows, through a dedicated App, to create alternative cultural routes to those known and proposed to mass tourism.

**Figure 2. the App ASTRO connected with cultural attractors. In particular the Four Rivers fountain. Bernini was a friend of one of the astronomers at Collegio Romano, A. Kircher, director of a huge museum, the Kircherian Museum. Inside the museum there was a strange monster, an armadillo, who inspired the image of the dragon at the basis of the fountain**

### 4.3 Project structure

The project was carried out in a systemically way, starting from common lines that connect the public, history, cultural areas and widespread astronomical heritage.

During the first phase of development, which was established in the Rome scenario, some project elements were hypothesized according to define the system logic and a flexible model summarized as in the following map (fig.3), consisting of:

- a variable relationship area based on the reference area, within which to build a connection network between the different nodes of the system;
- the museum / historical location of the city observatory (s);
• attractors designed ad hoc and located in strategic places in the area of interactions;

• an interactive itinerant exhibition module, connecting the observers, the attractors, the cultural sites, in which to show historical and scientific contents, current INAF international projects, and contents generated by visitors through proximity social tools.

**The local system**

The research was focused on the development of networks, cultural links between "places of culture", astronomical places (in particular the Copernican and Astronomical Museum in Rome), art museums and public monuments. It also wanted to spread knowledge and create strong links with a heterogeneous public, the territory and the socio-economic actors.

The "Human centered" approach, and the analysis of the targets with the "Personas" tool made it possible to understand
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- new tools,
- the routes the people plan and the services of the city with which they come into relation.
- the places where to intercept a differentiated audience, also if unaware of the cultural astronomical heritage available in the areas.

This systematic survey was useful to modulate the communication tools and where to set them, but also to select the most appropriate contents and engagement methods.

Starting from the structure and the elements of the system represented in the previous map, the research groups have defined, in addition to the common ones, different strategies to be applied.

4.4 System dynamics and its connections

The working groups involved in the project selected a certain number of activities and events to be provided to the public in cultural environments.

The architecture of the project involves several adaptive modules concerning architectural, design and technological aspects and different communication languages. It represents an organic system capable of adapting and modifying itself, through the direct involvement of citizens called to update the exposed themes and to reshape contents and interaction models.

In order to optimize the logistics and organization of the systems, as well as its sustainability, the nomadic strategy has been adopted.

The implementation of the adaptive system model in twelve cities has taken into account several activities in evolution according to the interests and feedback of the public involved. The selection or modification of the activities start from a dynamic and participatory experience.
The languages chosen to interact with the publics and to engage them in cultural heritages, are chosen from different cultural areas and selected for each event according to its effectiveness. 

Each module is designed on the basis of the "culture of proximity": the public will be part of the project, interacting in different ways and becoming the content developer. 

The method, used for the evolution and modulation of the adaptive model, is the direct feedback (figure 5.), a process whereby the result of an action of the system is reflected on the system itself to modify and correct its behavior. The citizen is no longer exclusively a user, but his contribution, through active participation, modifies and sets directions of the design changes.
After two years of research the working groups come with several solutions to answer INAF needs. Each solution was designed following the general concepts and the guidelines of the research. Moreover, the projects/events proposed have been designed to be realistically managed and economically balanced with the possibilities of a research institutes.

Each part of the proposed activities was not in competition with the others, but they all can be part of a set of activities developed on the Italian territory.
5.1 The projects in details

**ELLITTICA** is designed as a nomadic exhibition that will move for two years through the 12 cities hosting the National Institute of Astrophysics departments, following two parallel branches. An organic exhibition, constantly evolving according to the peculiarities of the cities in which it settles. The decisions made at each stage are irreversible and make the two exhibitions unique.
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**IMPACT** wants to subvert the traditional visual imagery associated with space, proposing it all in the negative, where everything that is black becomes white, giving life to an opposite imaginary made of brightness and colors that stand out from the eye and attract attention.
**AD ASTRA** A concept was developed in the Ad Astra monthly astronomical calendar, which associates the astronomical event (example "Swarm of Perseids", August) of the month to the appropriate instrument with which to observe / experience it ("Swarm of Perseids": Telescope). This systemic logic determines a cadence always different in terms of experience and consultation, both of the contents and of the astrophysical instruments, from outside to inside the museum.
MIRA is a network capable of bringing together the Observatories, the Museums, the events and the sites where the history of modern astrophysics was made into a Diffuse Museum for the city. The user is involved and immersed in the discovery of the network through space exploration, walking through the city and at the same time discovering the phenomena of astrophysics.

*Advertising urbano*
**Space On Stage** is a format of events and a new method of use museum that divulges scientific topics in a simple tone of voice and engaging and stimulates curiosity and practical understanding of the profession and tools through experience serial culture, founded on the link with the spectator and empathic involvement of it, dealing with storytelling techniques and the involvement of actual actors.
6. Conclusions

In conclusion, the research achieved several successes.

First of all, they answer to the fluid definition of cultural heritage itself. The activities, public events, exhibits proposed allow the public to be visitors and producers at the same time. The audience can be part of several experiences and interact with the projects and the other visitors both in the real and digital world. The experiences will promote the knowledge of astronomical cultural heritage and the diffusion of INAF messages to the public. They allow people to be in touch with the research institutes and be part of the modern research activities with dedicated citizen science projects.

Some projects have already been proposed to public call for cultural heritage funding and they are waiting to be evaluated.

Furthermore, the results of the research have been awarded with the PNA 2018 and the ADI design award “Eccellenze del design del Lazio”, while they have been selected for the “ADI INDEX 2019” and on the go for the evaluation of “ADI Compasso d’oro 2020” award.
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Towards a Design Observatory: crafting a distributed approach

Nina Costa*, Vasco Branco, Rui Costa
Afonso Borges, Raul Cunca, Ana Catarina Silva, António Modesto

*Aveiro University, Portugal
Faculty of Fine Arts of Lisbon University, Portugal
Polytechnique Institute of Câvado e do Ave, Portugal
Faculty of Fine Arts of Porto University, Portugal
*ndc@ua.pt

Abstract | As Design is gaining traction globally different observation models were developed to map the Design landscape. However, the application of these models in contexts with a slower maturation of Design culture and no institutional Design infrastructure can be difficult. With this challenge in mind, this paper presents a new distributed approach to support Design observation. It applies it to a case within the DesignOBS project - a project aiming to identify, map and interpret the Portuguese design landscape - and develops an online platform with the aim to create more efficient and engaging representations of Design practices and realities/contexts to multiple publics, including policymakers. The approach can benefit countries in a similar situation as Portugal, leveraging the participation of design actor-networks, encourage local initiatives, map the evolving Design landscape in collective manner, and hopefully constitute the supporting, resilient backbone to develop national Design policy.

KEYWORDS | DESIGN OBSERVATION, DESIGN ECOSYSTEM MODEL, REFLECTION-ACTION PROCESS, PARTICIPATORY PROCESSES, DESIGN SCHOOL NETWORKS
1. Introduction

Research studies undertaken by the UK Design Council (2018) as well as the Danish Design Center (2018) – two leading Design Centers in Europe –, demonstrate the potential socio-economic impact of Design, especially within the scope of innovation. Additionally, statistical evidence shows that Design plays a significantly important role in national innovation and productivity than previously recognized (NESTA, 2009). Design policies have been developed and are increasing in numbers worldwide as a result of the efforts undertaken to develop quantitative and qualitative measures for Design impact - ex. Design4Innovation (Whicher et al., 2018); Barcelona Design System (Calvera & Monguet, 2008); Design Scoreboard (Moultrie & Livesey, 2010; Moultrie et al., 2009). However, “we still need to be better at communicating who we are, and what we do” (Melander, 2019). Moreover, comparative analysis of different national Design contexts based on the application of existing ecosystem models may be ineffective since resources and conditions cannot be transferred (Raulik-Murphy, Cawood, Larsen, & Lewis, 2008).

When compared to other leading EU members, Design is rather misunderstood and thus underused in Portugal. According to the most recent Innobarometer results (European Commission, 2016), only 13% of Portuguese enterprises mention to use Design as a strategy in the business, whereas 49% of them mentioned that they do not use Design systematically (i.e. “uses Design as a central element in the company”: Denmark 21%, Germany 18%, UK 17%). The lack of an effective systematic representation of Design impact has resulted in the loss of investment in the discipline within Portuguese society (Quintela, 2019). Moreover, the rapid evolving nature of Design and its diffusion in multiple areas of practice and knowledge, has also added to the confusion of what the discipline is about. With the disappearance of the Portuguese Design Center (CPD) in 2013, there are no National Design Institutions – with the exception of Design schools – that are representative of the myriad of actors within the national Design Ecosystem. As such, a more integrated and resilient observation approach of the discipline is required.

The Design schools scattered around the country seem to currently be the sole institutional infrastructure, with national presence, that still remains active and relatively independent of governmental changes and external funding (ex. European incentives). Considering the current scant resources and the status quo of Design in Portuguese society, the project DesignOBS (Towards a Design observatory in Portugal) is being established by four national institutional entities scattered around the country, to collect, analyze, interpret and represent the Portuguese Design ecosystem. It partially emerged from the results obtained through the first REDE#01 meeting (Acronym for Reunião de Escolas de Design or Design Schools Meeting) with 37 Design schools (Borges et al., 2018). Whereas REDE focuses on Design education and research, DesignOBS emerged to interpret and represent the national Design Ecosystem, including its multiple agents and evolving forms of Design practices and realities.
Towards a Design Observatory: crafting a distributed approach

This study develops a new reflexive and distributed observation approach. First, it analyzes and compares European Design models currently used, and enriches the analysis with in-loco visits to key Design centers and interviews with their leaders. The lessons learned from the research are paramount to develop the reflexive approach for Design observation, enabling more participatory processes. It applies the new approach in a case with design doctorates and refines it according to the feedback from the design community. The distributed approach supports design actors – experts within their own context, namely the teaching/research staff of high education Design Schools around the country – to take initiatives and collectively shape the evolving representation of the Design landscape.

2. Literature review

2.1. Characterization of the Portuguese Design context

National Design institutions such as Design associations, forums and Design centers are either non-existent or lack a more valid representation of the agents involved in the Design ecosystem. The long-standing antecedents of design training started in 1934 with the Decorative School of Arts of António Arroio, teaching Applied Arts (CPD, 2000; Manaças, 2005; Almeida, 2009). The institutionalization of Design Education in the country began after the democratic revolution (post 1974), with the first design courses created in the Schools of Fine Arts of Lisbon and Porto. In 86, ICEP (Institute of Portuguese External Commerce) would launch the "young designer" contest that aimed to improve the relationship between Design education and the reality of industries (Castanheta, 2012). Additionally, in the 80’s, the Portuguese Design Center was created and aimed to promote Design and designers at the national level and launched multiple programs such as “Designers for industry”, supporting the infusion of young professionals in companies. However, the latest evaluation reports revealed that “there is still a profound ignorance in Portuguese companies regarding the discipline and its advantages” (Curado, 2013). Moreover, the lack of financial autonomy of the institution, several years of accumulated negative results – namely the poor connections established with SMEs – and a climate of austerity, sufficed to close the center (Curado, 2013; Quintela, 2019). In this context, when compared to leading European countries (ex. UK, Denmark), Design culture in Portugal still has room for improvement.

Additionally, there are still important weaknesses in the integration of Design in the Portuguese economy, particularly in the national industrial fabric, and the internal processes of maturing the strategic importance of the discipline are slow. The Innovation Strategy Portugal 2018-2030 proposed by the government emphasizes the infusion of innovation at multiple levels but does not mention “Design” once (Conselho de Ministros, 2018). Another governmental document also mentions the implementation of Design strategies for the “modernization and upgrade of industry, economy and the country” (PNR, 2019). However, no specific policies were developed. In recent interviews with Design practitioners, Quintela
(2019) mentions that “the adoption of public policy for the promotion of Design as an instrument for innovation in industry and exportation of national production, seem to be mainly driven by a set of external political and financial stimuli as opposed to internal processes of maturing the strategic importance of the discipline” (Quintela, 2019; translation from the authors).

### 2.2. International Design models

Countries worldwide have invested in the promotion of Design with the aim to promote the country internationally, raise awareness among local consumers about the value of Design and quality of products, and increase interests from local industry about the benefits Design can bring to business performance (Raulik-Murphy et al., 2008). These programs have evolved significantly in scope and complexity (ex. Design 2005! Saarela, 2000; Better by Design, New Zealand Design Taskforce, 2003 mentioned in Raulik-Murphy et al., 2008).

Meanwhile, Design has entered the European policy agenda (European Commission, 2013) and is already part of national innovation policies across Europe (Whicher, Cawood, & Walters, 2012). This in turn, gave impetus to the creation of several EU projects to accelerate the integration of Design into government and business strategies ex. SEE platform (sharing European experience in Design innovation policy), IDeAll (integrating Design for all in living labs), €Design (measuring Design value), DeEP (Design in European policies), EHDM (European house of Design management) and REDI (regions supporting entrepreneurs and Designers to innovate) (Whicher, 2016); and more recently, initiatives such as Design For Europe (2017), have created principles and guidelines to support countries, cities and regions to take more advantage of design-led innovation.

In this context, a growing interest in the development of Design models and metrics has also emerged to better compare performances between countries, at the international level (ex. Design scoreboard, Moultrie et al, 2008; Moultrie and Livesey, 2009) and map real-world situations, to understand the interactions between the multiple actors involved in the Design system. For example, Calvera and Monguet (Calvera & Monguet, 2006, 2008) developed the Barcelona Design System model, which partially departed from the Milan Design System model (Bertola et al., 1999). Design system can be defined as a theoretical model used to “visualize in only one map the different agents and actors that, within a land well delimited both economically and geographically, act, interact and establish relationships between them related to the professional practice of Design and so, have an economic impact” (Calvera and Monguet, 2008). They outline it according to three main axes, namely (1) offer, (2) demand and (3) culture (Calvera and Monguet, 2006, pp.19). More recently, Whicher has developed the European Design system (Whicher, 2016, 2017; Whicher et al., 2012) complementing previous models that integrated system failure theory (ex. Love, 2007; Raulik-Murphy and Cadwood, 2009 in Whicher et al., 2012). System Failure theory highlights the role of government intervention to stimulate supply and demand via actions, policies or programs, and tackle failures in the way actors of the system interact (Love, 2007). Whicher identifies Design’s role in the context of innovation according to three axes with nine...
components: (1) supply (research, education and Designers), (2) demand (users, support, promotion); and a third - different from the Barcelona’s model – called (3) “supply-demand” (funding, policy and actors). The two first axes are similar between the models, however the third reveals a fundamental difference: whereas Milan and Barcelona’s models emphasize the role of Design community to promote Design culture (i.e. practitioners and people working within Design culture promotion and production); Whicher’s model highlights the role of the government, in particular, policymakers, as an overall influencer/corrector of the Design system. As such, we may observe a two-way approach with complementary views. Milan and Barcelona’s models seem to adopt a more bottom-up approach to map and regulate Design systems. On the other hand, Whicher has a more top-down and institutional approach, integrating the role of other actors beyond Design systems (i.e. policymakers) to regulate systems demand and supply.

2.3. Research gap

Existing Design observation models are key to better observe and understand the importance of Design within innovation. However, these models present some limitations, especially in contexts characterized by a slower maturation of Design culture, and with no institutional infrastructure to promote the discipline.

Bertola et al. (1999) and Calvera and Monguet (2008) perspectives of Design observation are highly context dependent. They highlight local Design resources as key vectors for the construction of a Design identity and image. This perspective is effective within well delimited Design systems with a rich Design culture but may not work as well within more complex and different contexts. On the other hand, Whicher’s Design model has already been applied in multiple European countries to better inform policy and thus provides means for international comparison of Design performance within the context of innovation. However, the application of Whicher’s model may not be very successful in countries with limited availability of data for the indicators developed, such as the case of Portugal. Second, by adopting an inherent focus on policy making and policy makers, the indicators developed may not capture the entire spectrum of Design practices and realities, thus resulting in partial views of the Design ecosystem. Finally, the development of policies requires valid/reliable input to guide the creation of actions and programs. The inherent mechanisms to collect robust Design information are a challenge whenever there are no public institutions. This is one of the key tasks of the DesignObs project.

Bringing existing Design ecosystem models to observation practice in challenging contexts may require more embedded, networked “open” systems (Hobday, Boddington, & Grantham, 2012). Hence, we propose a new approach to support the Design observation process, while attempting to align our model with existing ones for the purpose of comparison. We build on the analysis of existing models, interviews with leaders of Design centers, and in-loco visits to international Design observatories to develop a distributed and
reflexive observation approach which could facilitate a richer representation of Design and – ideally – the creation of a more resilient national Design infrastructure.

3. Methodology

Based on the existing Design models and taking into consideration their limitations, the project DesignOBS was created to identify, analyze, characterize and represent the agents involved in the Design ecosystem in Portugal. The project emerged partially from a previous initiative called REDE, organized by 37 national Design schools and their representatives, in 2017 (Borges et al., 2018). During the meeting – mainly focused on Design education and research – numerous topics emerged which lacked important supportive national data about Design. To operationalize the DesignOBS project, an iterative process was put in place while taking into account the Portuguese context, characterized by a scattered and unarticulated Design community, a less mature Design culture and lack of national institutional infrastructures. We followed a three-step Design research process:

1. Development of a preliminary observation process based in particular on (i) the analysis and comparison of Design ecosystem models in use at the European level to better understand their advantages, limitations and complementarities; (ii) the interview and in-loco visits with leaders of key international Design centers i.e. Danish Design Center (DDC), Christina Melander, and Tokyo Design Center - to understand the data collection mechanisms put in place and main challenges faced by existing observatories; and (iii) the concept of reflection-action process proposed by Schön (1983).

2. Application of the approach on a preliminary (and manageable) case about design doctorates to create a “first portray” of the status quo of national scholarly Design research. The analysis of results led to the development of guidelines for keywords and calls for action which were presented and discussed within the REDE community (Costa et al., 2020).

3. Refinement of the iterative reflexive and distributed observation approach based on the results obtained in stage 1 and 2. The refinement of the approach reinforces the iterative reflection-action processes with and through the design community, leveraging additional interpretations of design-driven data.

Based on the literature review, we identified two main approaches in current models: whereas Whicher’s ultimate beneficiaries are intended to be policymakers to create actions and programs which could better benefit Design activity; Milan and Barcelona models seems less focused on guiding governmental action, but more on emphasizing Design as part of interweaving actions amongst business and culture, technology and craftsmanship, individual entrepreneurial initiative and teamwork undertaken by actors in (or in relationship with) Design systems (Calvera and Monguet, 2008; Bertola et al., 1999). These
two approaches take place in different levels of complexity and context (i.e. European arena versus a city), thus explaining their fundamental differences in their representation potential. The challenge thus lies in navigating both at the macro and micro levels of representation, while capturing the richness of Design in between those levels.

Additionally, the visits to Design centers (i.e. DDC and Tokyo Design center) and interviews with key leaders reveal important challenges that countries with a more mature Design culture still face. Key takeaways from the interview with Christina Melander included (1) the importance of lobbying about of Design to the government whenever there is no formal institution; (2) being able to capture the best cases of Design intervention within the public and private sectors, (3) a more compelling narrative construction about Design, so that it can reach publics beyond Designers; (4) coupling quantitative information taking into account the new ICT and social media services with those narratives whenever possible; (5) developing a national Design identity. Although quantitative studies about Design already show its inherent impact on the business bottom line (Danish Design Center, 2018; Sheppard, Kouyoumjian, Sarrazin, & Dore, 2018), it seems that “surveys are not very useful to make a connection between Design and economic values” and that “Design(ers) still struggles to articulate how it(they) create value” (Melander, 2019).

Since the initial challenge of the project was to create a national Design ecosystem map, we looked at the multiple components of Whicher’s model (2016) in the preliminary phase. Considering also the familiarity of the team members with Design education, the first topic studied was focused on “Design research”, one of the key vectors of Whicher’s model. To analyze “the number of Design doctorates and type of Design research undertaken in Portugal”, data from three different governmental databases was collected, analyzed both quantitatively and qualitatively. Results showed very important disparities in the number of Design thesis concluded, and dubious quality of information (i.e. some thesis are classified within “Design course” but are not about Design). The lack of curation and reliability of information collected through the sole institutional means available, thus jeopardizes the reliability of a map built through those means. The results of this study – which are explained in detail elsewhere (Costa et al., 2020) - were presented in the second REDE meeting with 55 representatives of 23 design schools in late October 2019. The event was key to develop the first calls for action in the scholar community; build awareness and discuss the flawed mechanisms put in place to collect, interpret and communicate information about Design.

4. Crafting a reflexive and distributed approach for Design observation

Considering Design as a reflexive, embodied and continuous process of discovery and actualization involves some skeptical orientation towards what appears to be an unproblematic “first portray” (i.e. example of Design doctorates in Portugal). Schön (1983;
1992) in particular uses the term “reflective practice” to emphasize the relation and interactions between action and reflection: an actor sees, acts and then sees again to understand the consequences of their actions. Design hence, puts emphasis on this iterative actor-driven process of understanding a situation through an attempt to change it, and then changing the situation through an attempt to better understand it. Moreover, it also looks at actors and their role in the design process as key to produce and reflect upon Design materials and forms (i.e. representations). Adopting this view as a lens and looking at the DesignOBS as a material artifact resulting from this iterative reflective practice is key to build a more comprehensive understanding of Portuguese Design.

Based on the previous stages of the research process and Schön reflective-practice theory, we propose a new approach to represent and interpret Portuguese Design ecosystem. Moreover, we also detail how DesignOBS observation model and representation will according to this iterative process.

4.1. Reflection-Action process

We combine two complementary approaches identified in literature (top-down and bottom-up) to build an iterative and continuous process to support reflexivity and action (Schön, 1983) while evolving representations of the discipline at the national level (Figure 1):
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First, we verified that Design information is scattered, and institutional databases are not very reliable as they do not focus solely on Design; and are missing an important interpretative component. Some inferences (“first portray”) can however (i) be built based on available data, (ii) be used to raise awareness inside the community and, in turn, (iii) leverage more coordinated initiatives/actions (Figure 1).

Figure 1. Observation process within DesignOBS, based on Schön (1983)
Second, we use distributed mechanisms and school-driven networks to collect information; and an open toolkit to support local observation. The current network of informants i.e. REDE, Design schools - are considered as experts in their own contexts and approaches, with connections with local businesses, organizations, labs amongst other actors in local Design systems. Moreover, they are currently the sole institutional and robust infrastructure at the national level. Identifying local networks is paramount for the project to expand, in a sustainable way, thus adding more intricate and detailed layers of representation. Having Design schools as champions of local Design systems provides traceable material, increases ownership of the data collected, and responsibility of the representation of the region, stimulates grassroot governance and self-organization.

4.2. DesignOBS as an evolving artefact of representation

DesignOBS (www.designobs.pt) can be interpreted as a cumulative, critical and evolving platform which aims to both (1) connect and facilitate dialogue amongst Design stakeholders, giving them visibility within the Design ecosystem; and (2) create more efficient and engaging representations of Design practices and realities/contexts, in three main topics: Design education and research, practice and culture. These topics as well as their content were created based on Whicher’s Design ecosystem model. They are used as guidelines to support the research but can evolve according to the feedback of the network and need for further developments.

The DesignOBS platform aims to be the direct visible result of the application of the iterative reflection-action process (Figure 1). Considering the lessons learned from previous observatories, the models used at the European level, and the national context, we propose to collect data via an open toolkit for Design observation distributed amongst an established Design school-network (REDE). The data collected has two main levels of input as shown in Figure 2.
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Figure 2. Objective (black) and interpretative (colour) layers of a Design Ecosystem Grid, Observatory’s model.

BLACK INFORMATION, THE OBJECTIVE LAYER: The first level focuses on collecting, extracting or producing quantitative and objective information (black dots in Figure 2), which will enable a rapid creation of maps representing the diverse Design realities across the territory. It makes use of more desk research, surveys; closed questionnaires as well as direct and participatory input from the schools, to collect information. For instance, the study about Design doctorates undertaken in Portugal (Costa et al., 2020) fits within this level. First, the aggregation and analysis of results from governmental databases enabled the elaboration of a “first draft”. Verifying disparities, the team searched for additional PhDs within other databases (universities which provide Design doctorate level studies) to complement and build up a more reliable map of Design doctorates. Another approach used was to ask directly to the school-network to “feed” the platform with the information available within their own institutions. Thus, they become active creators of the content on the platform. This process is being used to approach other research topics such as “characterization of Design companies in Portugal”. Databases such as SABI or AMADEUS can provide some information to facilitate the creation of preliminary representations, develop interpretations, calls for actions in the community/network; and advance other topics which require more in-depth, local and interpretative observation (Figure 1). Moreover, the objective data (i.e. archives, databases) is open to the community to build on, and make additional interpretations, producing new Design discourses (colored discourses in Figure 2).

COLOURED INFORMATION, THE INTERPRETATIVE LAYER: The second level of data collection builds on the first layer of information to inspire more interpretative, qualitative, and subjective discourses about Portuguese Design Ecosystem. It is also more complex, context-dependent and prone to emergence as it embraces the inherent characteristics and identity of the regions which constitute the territory. Thus, it makes also a more systematic use of
the school-network and participatory processes to evolve the observational toolkit and collectively shape Design ecosystems. For example, the “characterization of the Portuguese Design companies” can have both a quantitative denotation (ex. how many companies exist; percentage of exports, etc.); qualitative connotation (ex. how do these companies perceive Design and designers) as well as interpretative connotations (ex. design identity of a region). This level thus, is more subjective, embedded and more prone to emergence.

This data collection process and the organization of the different elements to be observed, already constitute a landscape per se (black layer of information), like the periodic table of elements, arranged according to their properties. Instead of metals or non-metals, gases or halogens, we aim to have schools, promoters, designers, museums, companies, government agencies, amongst other elements. This structure is aligned with existing design models for the purpose of comparison, but will evolve through time, and according to the emergence of other themes and topics, adding other emergent discourses about Portuguese Design (colored layer of information).

5. Conclusions and future steps

As Design is gaining traction globally different observation models are being developed to map the Design landscape and better inform policies. However, the application of these models in contexts with a slower maturation of Design culture and no institutional Design infrastructure can be difficult. With this challenge in mind, this paper presents a new distributed approach to support Design observation. It applies it to a case within the DesignOBS project and develops an online platform with the aim to connect Portuguese Design stakeholders and create more efficient and engaging representations of Design practices and realities/contexts to multiple publics, including policymakers. The approach can benefit countries in a similar situation as Portugal, leveraging the participation of actors-networks, encourage local initiatives, map the evolving Design landscape in collective manner, and hopefully constitute the supporting backbone for developing Design policies in Portugal.

This research also presents some limitations which in turn indicate directions for future research. First, the application of the approach is restricted to the case of Design doctorates within the first level of data collection (quantitative analysis). The application thus needs to expand to other levels and topics of research to reach publics beyond Design(ers).

Second, due to space limitations, the development of the observation toolkit mentioned in Figure 1 is a topic that goes beyond this paper. The focus of this study is to define and explain the objective(s) of DesignOBS and develop its observational approach. Future research should, however, make a thorough analysis on the multiple tools and methods to be used to collect the data, while taking into consideration the objectives of the project.
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Third, the expansion of the project to other socio-economic and cultural actors and institutions within Design ecosystems is paramount to gain structure and resilience. Given the short time frame and limited funding of DesignOBS project, the involvement of companies and other institutional entities, beyond Design schools is required. Thus, future steps include infrastructuring activities, to build up a network of networks scattered around the territory, enabling further connections amongst actors. Future studies should however, take into account the failures of past initiatives, centers and Design associations. This study constitutes an important step to advance Portuguese Design observation. It develops a new approach which integrates the top-down and bottom-up perspectives based on previous Design ecosystem models. It also puts forward a more embedded and participatory approach for Design observation and interpretation. Moreover, it may also contribute to Design practice, by proposing new mechanisms of observation for countries with a less mature Design culture and more fragile Design infrastructure.

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About the Authors:

Nina Costa Researcher based in Aveiro University, integrated member of ID+ research institute. She is currently the main assistant of the DesignOBS.pt project. Her PhD aimed to integrate PSS and service design approaches. Main interests are focused on service design, network analysis and mixed methods in design research.

Vasco Branco Full professor in Design at the Communication and Art Department of the University of Aveiro. Director of ID+ (Research Institute for Design, Media and Culture). Member of international advisory boards (The Design Journal [UK], I+DISEÑO [Spain], Cadernos de Estudos Avançados em Design [Brasil])
Rui Costa Designer, professor (communication and art department) and researcher (ID+). His PhD in Design is entitled Communication Design as Knowledge. His areas of interest are research through project and information representation. He is the co-PI of the Project DesignOBS: for a design observatory in Portugal.

Afonso Borges Communication and industrial designer. Professor at the University of Beira Interior; invited Professor at the University of Porto, and member of ID+ research institute. PhD in design, he is a researcher of everyday objects.

Raul Cunca Designer and associate professor at the Fine Arts Faculty of University of Lisbon. Member of several Scientific Committees, referee of the magazine i+Diseño. Developed design activities in different areas since 1986, collaborating with companies and institutions in Europe.

Ana Catarina Silva Teacher, researcher and has a PhD in Sciences and Technologies of Communication under the topic of design of the technical book in a hybrid editorial context. Her main research topics are editorial design, typography and design education.

António Modesto studied art and design at Faculty of Fine Arts of Porto University, where he is an Associate Professor. Beyond the academic activity, he researches and works in design and art. He has been an art director in his own design studio for more than 15 years.

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When a designer encounters an artisan:  
a parameter analysis investigation

Carla Paoliello^a

^a Centro de Investigação e de Estudos em Belas-Artes, Faculdade de Belas-Artes,  
Universidade de Lisboa  
*carlapaoliello@gmail.com

Abstract This research looks at the issues related to the design and its local dimension. It investigates potential parameters as tools of social, cultural, economic, and environmental impact through the analysis of Brazilian and Portuguese partnerships. We delimited (described and analyzed) different relations to understand these experiences. A theoretical framework was produced. It comprised the description and evaluation of twenty-five case studies. This stage goes beyond its theoretical limits. It verifies in practice the proposed evaluative parameters. We conducted interviews from a semi-structured questionnaire that reached the artificer, the designer and the entities that foster these partnerships. The indicators used proved to be efficient in assessing the social, cultural, economic, and territorial dimensions. The final considerations state that impact is a two-way street. Openness is important to exchange among the various types of knowledge. Complementarity practices (scientific and non-scientific) foster dialogue to signify the world. To make it better.

KEYWORDS | DESIGN, CRAFT, PARTNERSHIP, IMPACT, PARAMETERS ANALYSIS
1. Introduction

This research looked at issues related to the local design. It aimed to investigate design as a tool of social, economic, and environmental development. It produced a synthesis description of Brazilian and Portuguese partnerships. It delimited (described and analyzed) the relations existing in this process. It also identified the elements of “disengagement” and the impact of these meetings. The study defended the role of design as a promoter of life quality not only its economic aspects. We perceived it as a factor of exchange, a driver of collaborative practices. The major interest was in the interface with local makers and the products demarcated by regional characteristics. It is an expression of a collective, or a single artisan (Sennett, 2009 and Micelli, 2011). These productions carry within themselves the particularities of a specific culture.

The first questions that guided the investigation were:

1. What is the meeting point between the design and its local dimension?
2. How does product development occur from a partnership between designer and artificer?
3. What is the impact of designing with and not for?
4. How to analyse how much this hybridization benefits both parties?

We needed the deconstruction of power and authority. We need to understand that both (the designer and the artisan) have sensitivity and conscience in their doing. That was when there was a possibility of joint action. We analysed projects involving:

- the community and their local production unit. The artisan and their social, technical, cultural, and economic context;
- the designer as a facilitator. In partnership, he unveiled the existing reality. Individuality, he presented his universe;
- the entities or institutions that fostered these partnerships and orchestrated the objectives and goals.

The co-creation methodologies recognize all subjects involved in the making. They identify the history, quality, and lifestyle of each actor. They accept the materials and techniques used and the production space. They consider the local material and immaterial heritage. Finally, they value each one involved and recognized the value of civic engagement. By that, they allowed trust and self-esteem generation.
2. Design & dimensions of local making: approximations; designers versus artisans: differences

During the research, several texts helped to understand design as an improvement tool. The focus was on the process of the idea, conception, development, and production. Especially the one carried out collaboratively with local production units or with artisans. It is worth mentioning the definition by Miguel Arruda (2013) when he said, "design lives from the meeting between the designer, the producer, the materials’ manufacturer, the worker, among others".

This states the importance of teamwork. It also recognizes and respects the diversity described by Ezio Manzini (2008). These competencies are also in line with Boaventura de Sousa Santos’ speech. He defends the need to discover other types of intelligence / knowledge and to respect multiculturality. Another important concept was otherness. Gui Bonsiepe presented it as a “willingness to respect other design cultures with their inherent values” (2012, p.38). It is a concept that breaks with the developed and underdeveloped dichotomy.

The projects studied had collaboration and the idea of working in common as a basis. Richard Sennett in Juntos dedicates a compliment to cooperation. He defines it as “a skill, that is, an ability to understand and to be receptive to the other, in a way to reach a joint end” (2012, p.9). The term symbiosis also emerged. It is a beneficial and reciprocal association of two or more different organisms. It is a system of cooperation. In some of these social relationships, there is a tendency towards a vertical path. One in which an actor establishes with his partners a hierarchy, a power of the giver over the recipient. In other cases, relationships are more horizontal and hierarchies less defined. There is dependence, but it takes on a mutual character. The result is a collective responsibility.

In these last ones, it is important to drop issues such as domination and submission, superiority and inferiority, heteronomy, colonialism. It is important to confirm the concepts of collaboration, autonomy, respect, trust, emancipation, motivation, and empowerment. The purpose of this study was to perceive, understand, and measure the impact of the other in a bilateral and interpersonal relationship (designer + artisan).

The partnership involved underwent adaptation, metamorphosis, and integration processes. It is worth noting that the other is an obstacle. It forces one to look, to understand, and to admit the differences and the similarities. By becoming aware of each ones’ limit, they perceived the power that exists in the encounter. The relationships may be punctual or longer. They may be harmonious; they may become confrontations. What stands, as a result, is always another process of thinking and/or doing. Perhaps even another process of being.

It was thus believed that other parameters were necessary. They were fundamental to study the social, cultural, economic, and environmental change. To analyze the whole new structure created from design-craft development.
Therefore, another fundamental concept was the idea of local development. It explores and discovers local potentialities. For Ávila (2000, p.69), true development could only be achieved through the education of the community itself. The artisans have to take the process reins. In this scenario, where is the designer? The artisan community is no longer passive but has an effective, active, and proactive stance. How does the designer suit in this new context? We believed that he has the role of activating the flowering. He enhances the process of retrieving the elements, stories, and traditions that result in local differentiation. But it is also important to the local community to achieve a progressive reduction of external dependence. Autonomy is required as proposed by Gabriel Patrocínio and also by Ray Lambert and Ruth Flood for the Design Council.

2.1 The place of handicraft in Brazil

The study of handicrafts in Brazil started in 1950. Lina Bo Bardi and Aloísio Magalhães reflected about the Brazilian production. Both realized that they acted in society more as articulators than as creators. They also agreed that the development would come from the meeting of culture with the technologies generated in and for the national reality (Anastassakis, 2014). The design-craft binomial was likely born with them. It is from their texts that the understanding of design's role in Brazil begins.

At the same time, the federal government has instituted national craft development programs. Noteworthy is the emergence of SEBRAE - Brazilian Micro and Small Business Support Service. Today it is a private, non-profit institution. It aims to promote competitiveness and small business development. From the '90s, SEBRAE has been carrying out local projects to foster crafts from design.

2.2 The place of handicraft in Portugal

In Portugal, there is the Statute of Craftsman and Craft Production Unit. It is a document from 2001 that gives visibility, social enhancement, and a professional dignification to craft. This and the creation of the Artisan Charter and the Artisanal Productive Unit Charter were important processes. It is a process for Portuguese know-how recognition. We also highlight CEARTE, a Center for Vocational Training for Crafts and Heritage. It develops activities of vocational training, recognition and skills validation. It fosters entrepreneurship and innovation. Their targets are individuals, micro-enterprises, and other economic actors in the cultural, creative, and heritage sectors, in particular in the field of handicrafts.

2.3 More questions

New questions then arise: How to determine the value of a partnership? How is it possible to measure the quality of life? social and cultural equity? economic growth? the environmental valorization? Evaluation is a possible response. It is a mechanism of understanding and delimitation of the project/program or service scope. It questions the transformative
potential of a given action and its impact. There are two priority questions to check the policies:

1. What do you want to measure? 2. Why do you want to measure something?

The indicator will be the element capable of informing about the reality. It is the tool or instrument with which it will be possible to perceive the change.

3. The path traveled

To understand the dimensions of the Brazilian and Portuguese co-creations, we did a compilation of projects from the SEBRAE TOP100. We also used the research by Cláudia Albino (2017). The selection of the projects that were further investigated followed the criteria:

1. They had to be a source of evidence for co-creation. There was a respectful and horizontal combination of technical-scientific design knowledge and the skills of craft knowledge. (Santos, 2002)

2. They were emancipating partnerships (Freire, 1988 and Rancière, 2002). We prioritize the search for local identities (Cunca, 2019), otherness (Bonsiepe, 2012), openness to meet and exchange (Eco, 1991), respect for cultural pluralism (Appadurai, 1996). We also considered the beliefs, Operandi modes, and histories of the structured relationships (Bourdieu, 1989).

After discussing the Brazilian and Portuguese production, we made a list of the project's objectives. We reclassified these data into four dimensions - social, cultural, economic, and environmental. The result was an overview proposed as goals to design-craft partnerships. We also did a list of forty-six indicators that, summing up, aimed at:

- the quality of life and culture of the stakeholders;
- increasing added value to the product or service provided; and
- the potentiation of a more intense experience of the territory.

The result was the pre-elaboration of the form adopted in the interviews (Table 1). Through it, we tried to give voice to the research subjects. We understood their ways of seeing the world and reflecting on the impact and their practice. We exposed each side; spoke out the characteristics that focus on locality. It was an exercise of mediation the exchange and the interstices between professionals.

Finally, the sample investigated consisted of 20 Brazilian and 5 Portuguese projects. It is worth mentioning that both Brazil and Portugal are countries with complex geographies. Both have diverse cultural landscapes. The north is not the same as the south; the coast also differs from the interior. We gave sight to the material and immaterial heritage, to the intangible knowledge that rose when plurality encounters.
Table 1. The form used during the investigation

1. What was the reason to do a partnership with the designer (or the artisan)? □ yes □ no.
2. Was there an impact in your way of creating objects? □ yes □ no.
   If there was, please answer the following questions.

<table>
<thead>
<tr>
<th>Question</th>
<th>0 – no</th>
<th>1 – a little</th>
<th>2 – moderate</th>
<th>3 – quite enough</th>
<th>4 – don’t know how to answer</th>
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<td>3. Was it a collaborative process?</td>
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<td>5. Was there an improvement in the product?</td>
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<td>6. Was there a development of a new collection?</td>
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<td>7. Was there an improvement in the material used?</td>
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<td>10. Was there an improvement in a technic?</td>
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<td>11. Was there an improvement in production?</td>
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<td>12. Was there an improvement in the production place?</td>
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<td>13. Was there an improvement in the product’s price or delivery terms?</td>
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<td>14. Was there a formation on fair trade?</td>
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<td>15. Was there a transformation of your business skills?</td>
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<td>16. Was there a business improvement in its disclosure?</td>
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<td>17. Did you go to an event to present the partnership?</td>
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<td>18. Was there a cultural exchange?</td>
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<td>19. Was there recognition of your know-how?</td>
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<td>20. Was there recognition of the local identity?</td>
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<td>21. Did the “new collection” reflect the territory?</td>
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<td>22. Did it contribute to the improvement of economic benefits?</td>
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<td>23. Was there an improvement in living conditions?</td>
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24. From this experience, you have become more: (you can choose more than one characteristic)
When a designer encounters an artisan: a parameter analysis investigation

☐ accepted
☐ aware of your know-how
☐ accomplished
☐ curious
☐ motivated
☐ active
☐ critical
☐ innovative
☐ empathetic
☐ flexible
☐ strict
☐ focused on delivering quality services
☐ able to evaluate your production
☐ able to work in groups
☐ confident
☐ responsible
☐ autonomous
☐ open
☐ tolerant
☐ creative
☐ sensitive to environmental issues
☐ ethical
☐ satisfied with the partnership
☐ happy

25. Is there another contribution that the partnership has made to your profession?

4. Case studies and their particularities

In the cases studied, we noticed a social and human transformation. There was an improvement in the distribution of income and well-being. Also, we verified a reduction in migration from the locality to others, especially to the large urban centers. Twenty-five projects reaffirmed the identity of those who produce. They valued each participant, improved product quality, and promoted cultural redemption and local development. In the meetings, we perceived the construction of particular modes of engagement. There was the articulation of the “modern/scientific/western knowledge structures with the native/local/traditional knowledge formations” as explained by Santos (2006, p.540). The way of grouping the projects came from the figure of the “agent of fostering”. By fostering we meant stimulation. This agent was the actor who incited, articulated, and sought to realize the partnership. Thus, we defined four narratives: “Beginning with the local makers”, “Beginning with design”, “Starting from an entity”, and “With an academic foundation”.

4.1 Beginning with the local makers

We selected the projects from Espedito Seleiro (figure 1), Doutor Borracha, Bordana Cooperative, and Capuchinhas de Montemuro. We have selected them because of their narrative, their attitude of high inventiveness. We saw the peculiarities and reflections in their production, and all of them were open to personal, technical, and economic development. That is because they are in a continuous process to have more quality and more authenticity. A process that reaffirms their way of life, which reverberates their culture.
We could see it through their symbolic and identity dimensions. When these artisans approximated with design, their material and immaterial culture conceptualized. The exchanges reflect the experiences and the sharing of visions of know-how. The artisans looked for instruments to define other strategies of singularization.

Nonetheless, they also searched for product innovations and to insert their products in the market. They seek autonomy as well to assume the means of production and distribution. This is not a search for technical improvement, although in some cases this has also happened. But to reinforce aesthetic, artistic, subjective, emotive and symbolic conduct.
4.2 Beginning with design

The second narrative presented is that in which actions started with the designer. We studied the approach from designer Maria Fernanda Paes de Barrosem (figure 2) in three different cases. We also presented the work from the designer Marta Martins from Ecoarts in partnership with Vista Alegre. Jackson Araujo and Luca Predabon and the designers Alexandre Herchcovitch, Itiana Pasetti, and Marcelo Rosenbaum brought the concept of affective economy. Susana António is ahead of the Portuguese initiative "The grandmother came to work".

We understood that the proximity to craft puts the designer in the market from the territorial identity aspects. The locality is the support space of the experience. The production becomes more indigenous, relational and contextual, and with great historical reference. This is because symbolic values change the way of dealing with local resources and time. The designer starts to domain the production cycle and also the inseparability of the creative activity to the production process.
4.3 Starting from an entity

There are several initiatives, institutions, and entities that seek to foster the encounter of a designer with local makers. They enable the dialogue between scientific knowledge and the tacit one. We studied projects initiated by SEBRAE in the Brazilian states of Piauí (figure 3), Amazonas, Tocantins, Rio Grande do Sul and Minas Gerais. The partnerships from private entities were also accomplished as the ones from Loulé City Council, Instituto Supereco, Instituto Elos, Instituto Campana, and Aga Khan Foundation. They understood the projects as vectors for territorial development processes. Ones that have cultural specificities as a basis.

Some of the projects work to safeguard traditional knowledge. They prevent the disappearance of traditional techniques. They also developed proposals for market insertion. This partnership also gave greater visibility and prestige to the artifacts produced. They even increased the community’s sense of belonging with the awareness of their value and know-how.
4.4 With an academic foundation

There is a demand for interaction between teaching, research, and work with communities in some universities. We studied projects developed by the Federal University of Pernambuco, Federal University of Maranhão, University Center of Eastern Minas Gerais,
and Polytechnic Institute of Castelo Branco. The CEARTE (figure 4) with various educational institutions were also involved. Their action reinforced the academic contribution to a Portuguese region.

Figure 4. Schist Villages photographs and 'Sowing the Earth on the banks of the Zêzere River' by designer Vânia Kosta. Available from: Fonte: http://www.agriculturulusitana.com/pt/
http://dedalnodedo.blogspot.com/2015/05/agricultura-lusitana-i-semeando-terra.html

We noticed that the teachers' participation as advisors allowed the deepening of the issues discussed in the classroom. It is an inseparable theoretical and practical point of view. In the cases studied there was the empowerment of the students as actors of change in the real world. They found solutions to problems of local interest. As in previous narratives, there
was also the deconstruction of power. The teacher, the student, the artisan, and the technician were all collaborative subjects. They worked in partnership to create or improve a product. Each recognized their know-how. But they were open enough to influence and be contaminated by the other.

5. In search of the common

By analyzing these 25 partnerships as a set, common features became clear:

_All refer, by choice, to initiatives involving an artisan or a local production unit and a professional or team coordinated by a designer._

_There was an interest in safeguarding the know-how of those involved. There was also interest in renewing the way of being and thinking of each actor. Respect for cultural diversity was perceived. There were induction of capital gains and the strengthening of local identity._

We understood that doing is an integral and inseparable part of daily life. The use of co-creation methodologies is important because it recognizes each subject, each story, and each knowledge.

_Therefore, all case studies have a collaborative collective component. There were explicit principles of solidarity and democracy._

_There was the empowerment of a formal and/or informal network of production, marketing, dissemination, and distribution. There was also the increasing visibility of the developed project._

_The actions promoted emancipation and developed their management skills. They used a support system, which promoted and awakened business “vocations”. There was training, information, and financial support for improvement._

Finally, we realized that there is no separation between the production process and its territory. It is geographical, social, and cultural cartography. Yet, we also realized that each locality is unique, with its landscape and traditions. Each production unit is specific and presents its challenges, resources, and potentials. Each collaborative network organizes in its way. In short, we valued each meeting as unique even though all involved human and local development.

To measure the resulting impact, we focused on the actors involved. As we said, we did a questionnaire (Table 1). The verbalization of the individuals was an instrument to analyze each existing contribution. All the questions allowed us to infer meaning based on the experience of the subjects. We organized it into themes and categories. We reduced the impact to its essence. That is, we classified it into social, cultural, economic, and environmental impact.
As seen in the final percentages (figure 5), the results of the partnerships were positive, even in the least valuable items. There was also a greater awareness of know-how, motivation, sensitivity to environmental issues, sense of accomplishment, and happiness. These dimensions are under the components of well-being. Being part of a collaborative process is already an indication of an interest in personal improvement and openness to new experiences.

93,5% for local material improvement, cultural exchange, and know-how aware

83,9% for improvement in the process and the business enclosure, a new collection was made; identity was a value, participation in an event to present the partnership

80,6% for quality product improvement, and collaborative process

74,2% for the production as a territory reflection

Figure 5. Some of the final percentages.

There was no major difference between the Brazilian and Portuguese cases. In both cultures, it was possible to measure the result of the partnerships. And the development of the entire group involved.

6. Final considerations

In spite of the complexity of the proposed, the research pointed out important parameters. They were capable of constituting a new basis of analysis for future design-craft partnerships. The relevance was in the use of multiple views. The social approach to design was evident. It acted as a catalyst for plural interrelationships. The designer, at no point in the investigation, was only as an artifact producer. On the contrary, the design presented itself as an aggregating discipline. It was a network builder, qualified to collaboratively create. It reduced inequalities and assumed the role to build bridges between different kinds of knowledge.

Local production connected subjects to their historical-cultural particularities. Their encounter with design altered identities while safeguarded existing cultural heritage. It was also noticed in the cases studied the promotion of local economies and the sense of belonging.

Finally, it was important to understand that we are all artisans as already presented by Francisco Providência and Richard Sennett. That is because the designer can transform, make another evolve, but he also changes. The impact is a two-way street. It is important to be open to exchange among the various areas of knowledge. The complementarity of
scientific and non-scientific practices fosters the dialogue. It signifies the world to do it better. To be better, continuously.

References


C. Paoliello


About the Authors:

Carla Paoliello 1 is an Invited Assistant Professor in the Product Design course at the Fine Arts Faculty, Lisbon University. She is interested in the relationship between designers and artisans, regarding their know-how, cultures, identities and territories.

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